Information Selection and Opinion Formation in Political Campaign – Is it all about Cues or are Citizens Selecting and Processing Policy Arguments? The Case of Political Advertisement, Newspaper, Television, and Google in Switzerland.

Universität Bern
Wirtschafts- und Sozialwissenschaftliche Fakultät
Departement Sozialwissenschaften
Institut für Politikwissenschaft (IPW)

Zumofen Guillaume
11-206-950
Fabrikstrasse 8, CH-3012 Bern, +41 79 389 13 05,
guillaume.zumofen@unibe.ch
ORCID: 0000-0002-9047-9099

Supervisor: Prof. Marc Bühlmann, Universität Bern

Inauguraldissertation zur Erlangung der Würde eines

DOCTOR RERUM SOCIALIUM

der Wirtschafts- und Sozialwissenschaftlichen Fakultät

December 2022

The faculty accepted this thesis on the 15th of December 2022 at the request of the reviewers Prof. Dr. Marc Bühlmann and Prof. Dr. Daniel Kübler as dissertation, without wishing to comment on the views expressed therein.

Information Selection and Opinion Formation in Political Campaign – Is it all about Cues or are Citizens Selecting and Processing Policy Arguments? The Case of Political Advertisement, Newspaper, Television, and Google in Switzerland.

Zumofen Guillaume
Introduction to Doctoral cumulative thesis
Bern University (UNIBE), Institute of Political Science

The Logic Behind Political Campaign

Imagine that citizens would be all cognitively able, and would have the necessary time and motivation to select and process all the political information available to them. All citizens would form an informed and reasonable voting decision based on the comprehensive information at their disposal and then turnout to vote. Such citizens would match Dahl's (1989) enlightened participation in a democracy or Vowles' (2013) opinion that a fair and sensible choice can only be made after having regard to the full information available They would consult all political information, and weigh each and every argument and alternative when forming their opinions.

In this hypothetical scenario, the main (or only goal) of political campaigning would be to provide information to assist citizens to reach an informed and reasonable decision. There would not be selective informational diets since citizens would consult all political information, nor would there be heuristic cues to help citizens form an opinion as they would rely on systematic reasoning to cast their vote. Moreover, we could postulate that campaigning would become pointless since there would be no room for persuading and mobilizing as media reporting and/or information provided by the government would be sufficient for citizens to form an opinion. If this were correct,

then why do democratic votes and elections result in such highly competitive information-driven environments with voters facing multiple political opinions via campaign activities and media reporting, with the aim of persuading and mobilizing them?

Looking at the other side of the same coin, why it exists such a broad literature on mobilization and persuasion during political campaign (Borgeat 2022 for a review)? First, literature on mobilization states that political actors should focus on their core voters to ensure their mobilization (Albright, 2008 for an example). Second, theories on persuasion postulate that political actors should concentrate their campaign activities on persuadable voters that have no clear opinion yet (Hylligus and Shields, 2008; Mayer, 2008), while others claim that they can either persuade (i.e., convincing voters) or chase independent voters (Bernhard, 2012). A third strategy is for political actors to emphasize issues on which they have a reputation of competence (i.e., issue ownership theory) (Petitpas & Sciarini, 2018; Walgrave et al., 2009; Walgrave et al., 2014). In line with this strategy, they can either adjust their preferences to the electorate when taking position on issues (Abou-Chadi and Stoetzer, 2020) or ride-the-wave by focusing on issues that are on top of the electorate's agenda (Sides, 2006).

The answer to these two interrelated questions is a straightforward one: citizens information processing capabilities are limited (Lau & Redlawsk, 2006; Kunda, 1990; Steenbergen, 2010; Taber & Lodge, 2006; Zaller, 1992). That is, citizens do face cognitive, time, and motivational constraints that limit their ability and willingness to select and process all the necessary political information that would guide them towards an informed and reasonable voting decision. The availability of political information is no guarantee that citizens will consult or process this information as citizens become selective when they choose what political information to view and/or process (i.e.,

selective exposure) (Smith et al., 2008; Yeo et al., 2015 for a review). This can be a self-selective exposure in the case of citizens voluntarily taking notice of some information while ignoring other information, or a pre-selective exposure in the case of campaign messages, media framing, or algorithmic personalization (Zuiderveen Boregesius et al., 2016 for a review). In addition, the theory of motivated reasoning has clarified that citizens are motivated to ignore opinions that conflict with their own (Kunda, 1990), or even debate against them (Slothuus & De Vreese, 2010), to deliberately reach a biased evaluation of information (Bechtel et al., 2015; Jerit & Barabas, 2012; Taber & Lodge, 2006), or to psychologically impede the recalling of information (Lau & Redlawsk, 2006). Ultimately, citizens may not have time, for personal or professional reasons, to select and process political information, or may not be interested in politics in the case of an election, or in a specific policy in the case of a direct democratic vote.

In conclusion, these constraints obstruct the selection and processing of all available political information and create room for political campaigning via campaign activities and/or media reporting; and more specifically it creates room for persuading and mobilizing citizens. In other words, it is the limited information processing capabilities of citizens that generate political campaigning in a democracy.

The Mediatization of Political Campaign

Political information is defined as the entire supply of political content that citizens can discover "out there" (Van Aelst et al., 2017) and comprises information about political actors, institutions, and policies (Boudreau & MacKenzie, 2014; Lutz, 2006). This includes all campaign activities, and in particular political advertising, that political actors create with the aim of persuading and mobilizing citizens. The advent of mass

media, and more recently the Internet, has led to the mediatization of our society and has dramatically increased the supply of political information to citizens. On one hand, this extensive range of political information has been interpreted as a promising information revolution for an enlightened democracy (Hindman, 2009) where citizens have the opportunity to form a reasonable decision as to whom they wish to vote for based on full political information (Vowles, 2013). On the other hand, this has raised the debate in respect of how citizens are able to cope with the information overload considering their cognitive, time, and motivational constraints.

Although how an individual selects and processes political information remains an ongoing debate among scholars, it has been agreed that political information is formative in a democracy. Aaldering et al. (2017), and Kübler and Kriesi (2017) and posit that in mass democracy citizens rely upon mediated political communication to form an opinion about political institutions, political actors, and. In line with Esser and Strömbäck (2014), they emphasized the ever-increasing influence of mediatization on politics.

If we focus on political campaigning in Switzerland, we see that it has been asserted that Swiss citizens form their political opinions on information mediated by the mass media (Hänggli, 2020; Kübler & Kriesi, 2017). In most cases the media report campaign activities and political actors' messages relating to the campaign (e.g., interviews), while presenting policy arguments to take part in the political debate. In an election context, Bühlmann et al. (2015) stated that the attention given by the media to political parties roughly matched the political parties' voter share. In the case of a direct democratic vote, Marquis et al. (2011) and Tresch (2012) showed that Switzerland displays a flat media landscape and thus the media provides balanced political information during political campaigning. This implies that political actors (i.e.,

political parties in the case of an election, or committees in the case of a direct democratic vote) must run an intensive campaign to strive for more media attention.

Mazzoleni and Schulz (1999) emphasized that the political information that is reported also follows a media logic in that the preferences and interests of the media influences the media's coverage of a political campaign. Kübler and Kriesi (2017) defined this as an intrusion of media logic into the political process. The media is able to sway public attention towards an issue that may be politically "owned" by a party (i.e., issue ownership) (Alvarez et al., 2000; Bélanger & Meguid, 2008: Geers & Bos, 2017; Kriesi & Sciarini, 2004; Lutz & Sciarini, 2016, Petrocick, 1996). Scholars have proven that an issue's salience combined with competence issue ownership may alter citizens' opinions (Clarke et al., 2011; Lachat, 2014; Walgrave et al., 2014).Media coverage may also assist in choosing and emphasizing certain dimensions of a political debate (Slothuus, 2008; Vliengenthart et al., 2008). This framing effect increases the importance of some arguments while ignoring others. Thus, the media may contribute to the political actors' strategy to boost their most compelling arguments (Wirth et al., 2008).

The Internet has added a complementary layer to the already existing mass media environment which makes it more complex to study political information processing, but also more complete,. Scholars have identified a shift away from traditional mass media (i.e., radio, newspaper, and television) to online media (Xenos et al., 2018; Mitchell and Holcomb, 2016). Although the Internet has not completely turned the tables concerning the mediatization of political information[1] — with mass media mostly uploading their political coverage to this new information environment —

[1] With the noteworthy exception of social media.

, it has dramatically altered how people access political information. The Internet provides easy access to almost all the existing political information available worldwide (Schroeder, 2018). Citizens not only enjoy a high-choice information environment (Beam et al., 2015), but also benefit from the ability to self-select political information instead of having it passively reported to them (Hargittai et al., 2012, Neuman et al., 2012; Ruggiero, 2000). Internet users can express their interests and easily guide their information selection (Slechten et al., 2021). Vössing and Weber's 2019 study indicated that self-selection increases the value of the selected political information in comparison to passive reported exposure in a traditional mass media setting.

At first, this amendment to the information selection strategy promised a well-informed democracy (Hindman, 2009).It has also raised fears relating to citizens being able to process limited amounts of information at any given time. On one side, search engines have been used to overcome the problem of information overload (Newman et al., 2019; Trevisan et al., 2018). These search engines, and notably Google, assist citizens navigate through the whole supply of information (Lee et al., 2016; Pan et al., 2007; Scharkow & Vogelgesang, 2011). On the other side, the easily accessible and unlimited choices, with a higher degree of control has awakened the selective exposure and motivated reasoning literature. Sunstein (2001) has claimed that the Internet eases the construction of echo chambers filled with only congruent political information. This strengthens the risk of self-selective personalization (Zuiderveen Borgesius et al., 2016). Pariser (2011) has highlighted the reinforcement of pre-selective exposure and personalization with the rise of algorithms. The hypothesis of filter bubbles has stimulated research on selective exposure in an online information environment. Epstein et al. (2017) claimed that algorithmic personalization is a threat for democracy. However, recent studies have revealed that fears of self-selective and algorithmic

personalization are exaggerated (Flaxman et al., 2016; Fletcher & Nielsen, 2017; Haas & Unkel, 2017; Steiner et al., 2020; Unkel & Haim, 2019).

Information Processing in Political Campaign

During a political campaign, citizens must devote time and energy to process the necessary information to reach an informed and reasonable voting decision. The dual process models of reasoning have proven that two different political information processing strategies are utilized to reach such a decision (Eagly & Chaiken, 1993; Petty & Cacciopo, 1986). Citizens may opt for a comprehensive strategy involving the selection and processing of policy arguments. This systematic reasoning evaluates policy arguments promoted by political parties (i.e., in an election context), or the conflicting policy arguments about a specific policy (i.e., in a direct democratic vote context). Alternatively, citizens utilize heuristic cues they encounter in their environments that lead them to use a mental shortcut when deciding, but still reach a reasonable one. By using cues, citizens save time and effort since they set an opinion without going through the systematic processing of all policy arguments.

In their pioneering work, Lazarsfeld et al. (1968) postulated that the main objective of political actors running an electoral campaign is to activate latent predispositions. In line with this, Kriesi and Sciarini (2004) stated that electoral campaigns connect already existing policy preferences to political parties with the aim of crystallizing latent predispositions into a voting decision. An electoral campaign eases this connection because it increases exposure to political information for a determined period. The prevalence of (mediated) political information facilitates accessibility to latent predispositions (Chong & Druckman, 2007) and allows citizens to update their existing opinion through a learning process (Graber, 2004). Hence, citizens

learn about what political parties view to be their most pressing issues as well as political parties' stance on these issues (Arceneaux, 2006; Sides, 2006). With issue ownership in mind, political parties either focus their campaign on issues that they already own to activate latent predispositions or guide their campaign towards other pressing issues to prove their reputation on the issue and benefit from updating citizens' predispositions (Walgrave et al., 2014). The current literature on electoral campaign and information processing strategies asserts a prevalence of heuristic cues (i.e., mostly party cues) while still postulating an eventual systematic reasoning enhanced, for example, by competence issue ownership.

In a direct democratic voting context, scholars state that citizens face information processing with the relative absence of latent predisposition on the policy at stake, in comparison with an election context (De Angelis et al., 2020; Magleby, 1989). Although some citizens might be experts or be highly interested in the policy at the ballot, the vast majority lack reliable issue-specific political knowledge since policies can be complex, technical, new on the political agenda, or might have no direct link to their everyday life. On one hand, the lack of issue-specific political knowledge, combined with the previously mentioned constraints, has increased fears that citizens may not be able to reach an informed and reasonable voting decision (Achen & Bartels, 2016; Delli Carpini & Keeter, 1996; Lupia, 2016; Lupia & Matsusaka, 2004). In contrast, scholars have demonstrated that citizens overcome this political information vacuum either with policy arguments that support their systematic reasoning or heuristic cues allowing them to obtain a shortcut to a voting decision. In both cases, however, citizens are still able to reach a reasonable voting decision (Christin et al., 2002; Colombo, 2016; Colombo and Steenbergen, 2021; De Angelis et al., 2020; Kriesi, 2005). Furthermore, Boudreau and MacKenzie (2014), Bullock (2011), and Colombo

and Kriesi (2017) qualified the prior assumption of heuristic prevalence because they highlighted the seminal influence of policy arguments in direct democratic votes.

Is it All About Heuristic Cues?

The aim of this cumulative Doctoral thesis is then to determine whether and to what extent citizens select and process policy arguments during political campaigns in Switzerland. As previously mentioned, a few noteworthy and recent publications qualified the previous assumption that information selection and voting decision is only driven by heuristic cues, and motivated reasoning. Although citizens face cognitive, time, and motivational constraints, a majority might aim at systematic reasoning to inform themselves and reach a reasonable voting decision as it can be assumed that heuristic cues and systematic reasoning are not mutually exclusive. The objective of this study is not to compare the use of heuristic cues against systematic reasoning, but rather to measure whether and to what extent a systematic selection and processing of policy arguments takes place during political campaigns as this remains understudied.

To be precise, the objectives of this study is to determine whether and to what extent policy arguments in political advertisements influence voting decisions in an election, whether and to what extent mediated policy arguments in newspaper and television influence voting decisions in a direct democratic vote, and how citizens select political information on the Internet when facing a direct democratic vote.

Methodological and Measurement Challenges

To answer these different but closely related research sub-questions, this study has overcomed the inherent methodological and measurement challenges. These challenges have held scholars back and allowed this relative dearth of studies to result.

The current study will overcome these challenges with sophisticated methods of assessment.

First, the individual measure of campaign exposure remains a challenge. The mere availability of political information, and more specifically the aggregate measurement of political information cannot account for measuring the influence of campaign on voting decision. In contrast, this generates measurement errors that underestimate the influence of policy arguments (Scharkow & Bachl, 2017). Given the extensive range of political information available currently and the simultaneous consumption of this information on multiple platforms, the assumption that all citizens select and receive the same political information cannot stand. An individual, precise, and reliable measurement of campaign exposure is a prerequisite to drawing causal links between policy arguments and voting decisions.

Second, literature on campaign effect has often neglected the exact content of political information. The lack of a content analysis hinders the measurement of any campaign effect as raw campaign and media usage does not possess any explanatory power. Combining these two methodological challenges and/or gaps, scholars have recently emphasized the need of linking survey data with content analysis to accurately assess the influence of policy arguments that citizens select and process (De Vreese et al., 2017; Fazekas & Larsen, 2015; Scharkow & Bachl, 2017; Schuck et al., 2015).

Third, a pivotal distinction between an election and a direct democratic vote needs to be emphasized; we need to assess the latent predispositions at play in an election against the relative absence of prior attitudinal commitment in a direct democratic vote. On one side, studies on electoral campaigns cannot undercut the endogeneity that comes with latent predisposition and voting decision. On the other side, information selection has been understudied in direct democratic voting situations.

Considering that most citizens lack issue-specific political knowledge and a clear prior stance on the policy at stake, they not only lack predispositions to anchor their selective informational diets, but also rarely face cognitive dissonance at least at the beginning of the campaign (Festinger, 1957).It is the aim of protecting cognitive equilibrium that nurtures confirmation bias, defensive avoidance, and motivated reasoning (Knobloch-Westerwick et al., 2020 for a review). This lends credence to the theory of information utility in information selection (Garrett et al., 2013) in that citizens weigh utility against cognitive discomfort when selecting political information. If the expected utility outweighs the discomfort, citizens are more likely to set aside selective biases. Thus, latent predispositions in elections, and to a lesser extent in direct democratic votes, call for panel data to account for the individual time-invariant effect of predispositions, and the relative absence of latent predispositions require an appropriate model of political information selection in a direct democratic voting context to study how citizens process political information.

Finally, it is submitted that a study on campaign effects cannot ignore the shift from traditional to online mass media in our society. This high-choice and interactive information environment has awakened research on information selection in political campaigns with echo chambers and filter bubbles leading to fears of personalization. It is therefore critical to evaluate how citizens use this information structure to nurture their systematic reasoning, or to facilitate their search for heuristic cues.

Empirical Findings

To answer these research questions, I present three empirical research papers. These articles have been primarily designed with the objective of overcoming the four methodological and measurement challenges previously mentioned.

Zumofen, G., and Gerber, M. (2019). Effects of Issue-Specific Political Advertisements in the 2015 Parliamentary Elections of Switzerland. *Swiss Political Science Review* 24(4): 442-463. https://doi.org/10.1111/spsr.12333

In this study we assessed the influence of issue-specific political advertisements in reinforcing, activating, and mobilizing voters in the 2015 Parliamentary elections in Switzerland. It extends literature on issue ownership to issue-specific political advertisements. We linked the Select panel survey 2015 with the extensive Année Politique Suisse (APS) database to generate a precise individual measure of political campaign exposure and to circumvent endogeneity related to latent predispositions. To account for political content, three independent coders identified and classified issue-specific political advertisements. We ran multinomial regression models with two-way- and three-way-interactions between vote intention, and issue-specific policy arguments in political advertisements. Overall, we detected political advertisements had only a limited effect. Nevertheless, we detected a general reinforcement effect on highly contentious issues, an activating effect on issues not already owned by a party with a boost of competence issue ownership, and no mobilizing effect.

Zumofen, G. (forthcoming). Bringing Content into the Equation: A Supervised Machine Learning Method to Compare the Effect of Newspaper and Television on Vote Choice in Referendums. (Under review in *International Journal of Press/Politics*).

This paper compares the influence of newspaper and television on voter's decisions in a real-world direct democratic campaign in Switzerland in 2017. It links a national three-wave panel survey, with repeated and detailed individual media exposure and voter choice measures, with an automated content analysis (i.e., Wordscores supervised machine learning method) of a comprehensive collection of newspaper articles and

television formats presenting the political campaigns. I ran a panel model with random effects and two-way interaction to measure the influence of the newspaper's and television's content on voters' decisions. It detected that newspaper content had a positive influence on voters' decisions for those who read the newspaper regularly and thoroughly as well as that television content had a positive effect on voter's decisions, but only for citizens with low political awareness. These findings reveal divergent systematic reasoning processing depending on the format of the media, the intensity of the media consumption, and the citizens' political awareness.

Zumofen, G. (2022). What Drives the Selection of Political Information on Google? Tension Between Ideal Democracy and the Influence of Ranking. ***Swiss Political Science Review*****, 00, 1–19. https://doi.org/10.1111/spsr.12545**

This paper examines how citizens select political information from a Google results webpage when facing a direct democratic vote. A between-subjects experiment combined with a binary logistic regression measured the simultaneous influence of ranking cues and political information. It emphasized the important influence of ranking cues on information selection. Thus, the selection of governmental and quality media webpages depends on ranking. In contrast, only political information from a preferred political party motivates citizens to bypass ranking cues from Google.

Parallel to this paper, I investigated information selection in a direct democratic voting context further, with particular reference to Google. First, a co-written paper with Stadelmann-Steffen and Bühlmann not only elaborates on a model of information selection in direct democratic voting campaigns, but also reveals that citizens select balanced and/or discrepant political information more frequently than literature on

selective exposure suggestions.[2] Second, I used two cross-sectional surveys during two real-world direct democratic political campaigns in Switzerland to analyze how citizens exploit the high-choice and interactive online information environment. I exposed the participants of this study to mock Google webpages and ran content analysis in respect of what they typed in the Google search bar to obtain political information. I conclude that most citizens search for balanced, discrepant and/or neutral political information. In addition, citizens very rarely capitalize on the search bar to search for like-minded, or partisan political information.[3]

Conclusion

This Doctoral cumulative thesis examines whether and to what extent citizens select and process policy arguments during political campaigns in Switzerland. It adds to the body of knowledge on political information selection and opinion formation during political campaigns. Furthermore, it builds upon what is known in respect of the dual processing theory of reasoning, issue ownership, framing effect, (online) selective exposure, motivated reasoning, fears of online personalization (algorithmic), and debates about how cognitive, time, and motivational constraints hinder citizens reaching an informed and reasonable voting decision.

---

[2] Zumofen, G., Stadelmann-Steffen, I., and Bühlmann, M. (forthcoming). No, It Is Not All About Selective Exposure: Information Selection Strategy in Referendums. (Revise and resubmit in *Political Behavior*).

[3] Zumofen, G. (forthcoming). Generic or Motivated Search Terms: What Do Citizens Type in the Google Search Bar to Obtain Political Information. (Revise and resubmit in *Journal of Information, Technology & Politics*)

The empirical findings indicate that information selection and opinion formation in political campaigns in Switzerland is not dominated by heuristic cues. Although citizens are limited information processors, a portion of the electorate systematically select and process policy arguments. Therefore, these findings partly reject the hypothesis that citizens cannot perform their democratic duties. It reveals that citizens' enlightened participation in a democracy (Dahl, 1989) is not a complete illusion. It suggests that a portion of the electorate is not only systematically processing political information being received from the media (e.g., newspaper, television) to formulate a political opinion about a policy but is also systematically processing issue-specific political advertisements when activating their latent predispositions in an election. This selection of citizens is also motivated to exploit the online high-choice information environment to obtain balanced, discrepant, and/or neutral political information.

Implications

These studies have implications for several stakeholders. First, political parties should not refrain from utilizing issue-specific political advertisements to activate and reinforce their electorate. With competence issue ownership in mind, they should focus on highly contentious issues, and issues that they do not clearly own.

Second, political actors, should bear in mind that media format influences systematic reasoning. Hence, policy arguments in newspaper can specifically influence those who consume this media on a regular basis, and policy arguments in television are likely to influence those with low political awareness. Political actors should consider this divergent influence and thus the divergent systematic reasoning, in our multimodal media environment.

Third, political actors should not restrict their campaign to only heuristic cues as a proportion of citizens is looking for policy arguments to nurture their systematic reasoning. This is especially the case at the beginning of a direct democratic voting campaign when citizens are relatively unaware of the policies to be put forward. By providing policy arguments, a political campaign could not only better inform the electorate, but this may also have an influence on citizens' opinion formation via systematic reasoning.

Fourth, authorities and scholars should observe algorithmic personalization during political campaigns. Although citizens do not seem to exploit the high-choice and interactive online information environment to self-select only like-minded political information, they remain firmly guided by the algorithmic recommendations (i.e., Google ranking) in their informational diet. This does not mean that algorithms are a threat to democracy, but rather that higher algorithmic transparency is needed.

Avenues for Future Research

To conclude this introduction, I briefly mention three avenues for future research that could extend the empirical findings of this Doctoral cumulative thesis. First, direct democratic voting campaigns remain understudied. Considering the relative absence of prior attitudinal commitment to secure an information selection strategy, , it is essential to develop a specific theoretical framework for political information selection and processing, and opinion formation in direct democratic voting contexts. Although some similar selection and processing strategies than in an election might exist, they cannot be applied directly to direct democratic studies. Second, there is room for improvement in the operationalization and measurement of individual exposure to political content. Scholars should explore how online behavioral tracking, natural language processing,

and neural network methods could improve the reliability and validity of individual exposure to political content. Third, this thesis has demonstrated that a portion of citizens selects and processes policy arguments to form their opinion during political campaign and has proven that not only heuristic cues, but also systematic reasoning is at play in political campaigns. Further studies should investigate the relationship between heuristic cues and systematic reasoning to answer questions such as when will citizens favor one strategy over the other? Are these two strategies driven by individual-level characteristics? Or are they driven by policy-related characteristics? Does a relationship exist between them, are they mutually exclusive or, are they taking place in parallel?

Bibliography

Abou-Chadi, T., & Stoetzer, L. F. (2020). How Parties React to Voter Transitions. *American Political Science Review*, *114*(3), 940–945.

Aaldering, L., Van der Meer, T., & Van der Brug, W. (2017). Mediated Leader Effects: The Impact of Newspapers Portrayal of Party Leadership on Electoral Support."*The International Journal of Press/Politics*, *23*(1), 70-94.

Achen, C., & Bartels. L. (2016). *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton: Princeton University Press.

Albright, J. J. (2008). Partisans or Independents? Evidence for Campaign Targets from Elite Interviews in Spain. *Electoral Studies*, *27*(4), 711–722.

Alvarez, M., Nagler, J., & Bowler, S. (2000). Issues, Economics, and the Dynamics of Multiparty Elections: The British 1987 General Election. *American Political Science Review, 94*,131–149.

Arceneaux, K. (2006). Do Campaigns Help Voters Learn? A Cross-National Analysis. *British Journal of Political Science, 36*, 159–173.

Beam, M., Hutchens, M., & Hmielowski, J. (2018). Facebook news and (de)polarization: reinforcing spirals in the 2016 US election. *Information, Communication & Society, 21*(7), 940-958.

Bechtel, M., Hainmueller, J., Hangartner, D., & Helbling, M. (2015). Reality Bites: The Limits of Framing Effects for Salient and Contested Policy Issues. *Political Science Research and Methods, 3*(3), 683–695.

Bélanger, E., & Meguid, B. (2008). Issue Salience, Issue Ownership, and Issue-Based Vote Choice. *Electoral Studies, 27*(3), 477–491.

Bernhard, L. (2012). *Campaign Strategy in Direct Democracy*. Palgrave Macmillan.

Borgeat, Q. (2022). Hit the right target! The Role of Issue Saliency among a Party's Potential Voters as a Determinant of the Party's Issue Emphasis in Switzerland. *Swiss Political Science Review*, *28*, 209–229.

Boudreau, C., & Mackenzie, S. (2014). Informing the electorate? How party cues and policy information affect public opinion about initiatives. *American Journal of Political Science, 58*(1), 48-62.

Bühlmann, M, Gerber, M., & Zumbach, D. (2015). Wahlkampf 2015: Die Parteien in den Medien. *Newsletter 38*. Available at http://static.eurospider.com/spiderview-world/newsletter/IPW/chronik-on-newsletter-16-10-2015.html (last accessed: 21.9.22).

Bullock, J. (2011). Elite Influence on Public Opinion in an Informed Electorate. *American Journal of Political Science* ,105(3), 496-515.

Chong, D., & Druckman, J. (2007). Framing Theory. *Annual Review of Political Science*, 10, 103–126.

Christin, T., Hug, S., & Sciarini, P. (2002). Interests and Information in Referendum Voting: An Analysis of Swiss Voters. *European Journal of Political research*, *41*(6), 759-776.

Clarke, H., Sanders, D., Stewart, M., & Whiteley, P. (2011). Valence Politics and Electoral Choice in Britain, 2010. *Journal of Elections, Public Opinions and Parties, 21*(2), 237-253.

Colombo, C. (2016). Justifications and Citizen Competence in Direct Democracy: A Multilevel Analysis, *British Journal of Political Science, 48*(3), 787–806.

Colombo, C., & Kriesi, H. (2017). Party, policy – or both? Partisan-biased processing of policy arguments in direct democracy. *Journal of Elections, Public Opinion and Parties, 27*(3), 235-253.

Colombo, C., & Steenbergen, M. (2021). Heuristics and biases in political decision making. In: Redlawsk, David P. (eds.), *The Oxford encyclopedia of political decision making*. Oxford: Oxford University Press, online.

Dahl, R. (1989). *Democracy and Its Critics*. Michigan: Yale University Press.

De Angelis, A., Colombo, C., & Morisi, D. (2020). Taking Cues from the Government: Heuristic Versus Systematic Processing in a Constitutional Referendum. *West European Politics, 43*(4), 845-868.

Delli Carpini, M., & Keeter, S. (1996). *What Americans Know about politics and Why It Matters*. New Haven: Yale University Press.

De Vreese, C., Boukes, M., Schuck, A., Vliegenthart, R., Bos, L., & Lelkes, Y. (2017). Linking Survey and Media Content Data: Opportunities, Considerations and Pitfalls. *Communication Methods and Measures, 11*(4), 221-244.

Eagly, A., & Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt.

Epstein, R., Robertson, R., Lazer, D., & Wilson, C. (2017). Suppressing the Search Engine Manipulation Effect (SEME). In: *Proceedings of the ACME on Human-Computer Interaction, 1*(42), Issue 2.

Esser, F., and Strömbäck, J. (2014). *Mediatization of Politics. Understanding the Transformation of Western Democracies*. Basingstoke: Palgrave Macmillan.

Fazekas, Z., & Larsen, E. (2015). Media Content and Political Behavior in Observational Research: A Critical Assessment. *British Journal of Political Science, 46*(1), 195–204.

Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.

Flaxman, S., Goel, S., & Rao, J. (2016). Filter Bubble, Echo Chambers, and Online News Consumption. *Public Opinion Quarterly, 80*, 298-320.

Fletcher, R., & Nielsen, R. (2017) Are News Audience Increasingly Fragmented? A Cross-National Comparative Analysis of Cross-Platform News Audience Fragmentation and Duplication. *Journal of Communication*, *67*(4), 476-498.

Garrett, R., Carnahan, D., & Lynch, E. (2013). A Turn Toward Avoidance? Selective Exposure to Online Political Information, 2004-2008. *Political Behavior, 35*(1), 113-134.

Geers, S., & Bos, L. (2017). Priming Issues, Party Visibility, and Party Evaluations: The Impact on Vote Switching. *Political Communication*, 34(3), 344-366.

Graber, D. (2004) Mediated Politics and Citizenship in the Twenty-First Century. *Annual Review of Psychology, 55*, 545-571.

Hänggli, R. (2020). *The Origin of Dialogue in the News Media*. Palgrave MacMillan.

Hargittai, E., Neuman, W., & Curry, O. (2012). Taming the Information Tide: Perceptions of Information Overload in the American Home. *The Information Society, 28*(3), 161–73.

Haas, A., & Unkel, J. (2017). Ranking Versus Reputation: Perception and Effects of Search Result Credibility. *Behaviour & Information Technology, 36*(12), 1285-1298.

Hillygus, D., & Shields, T. (2008). *The Persuadable Voter: Wedge Issues in Presidential Campaigns*. Princeton University Press.

Hindman, M. (2009). *The Myth of Digital Democracy*. Oxford: Princeton University Press.

Jerit, J., & Barabas, J. (2012). Partisan Perceptual Bias and the Information Environment. *The Journal of Politics, 74*(3), 672–684.

Knobloch-Westerwick, S., Mothes, C., & Polavin, N. (2020). Confirmation Bias, Ingroup Bias, and Negativity Bias in Selective Exposure to Political Information. *Communication Research, 47*(1), 1-21.

Kübler, D., & Kriesi, H.-P. (2017). How Globalisation and Mediatisation Challenge our Democracies. *Swiss Political Science Review, 23*(3), 231-245.

Kriesi, H. (2005). *Direct Democratic Choice: the Swiss Experience*. Lanham: Lexington Books.

Kriesi, H., & Sciarini, P. (2004). The Impact of Issue Preference on the Voting Choices in the Swiss Federal Elections 1999. *British Journal of Political Science, 34*, 725–759.

Kunda, Z. (1990). The Case for Motivated Reasoning. *Psychological Bulletin*, *108* (30), 480–498.

Lachat, R. (2014). Issue Ownership and the Vote: The Effects of Associative and Competence Ownership on Issue Voting. *Swiss Political Science Review, 20*(4), 727–740.

Lau, R., & Redlawsk, D. (2006). *How Voters Decide: Information Processing During Election Campaigns*. New York: Cambridge University Press.

Lazarsfeld, P., Berelson, B., & Gaudet, H. (1968). *The People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign* (3rd edition). New York: Columbia University Press.

Lee, B., Kim, J., & Scheufele, D. (2016). Agenda Setting in the Internet Age: The Reciprocity Between Online Searches and Issue Salience. *International Journal of Public Opinion Research, 28*(3), 440-455.

Lupia, A. (2016). *Uninformed: Why People Know so Little about Politics and what we Can Do about It*. Oxford: Oxford University Press.

Lupia, A., & Matsusaka, J. G. (2004). Direct Democracy: New Approaches to Old Questions, *Annual Review of Political Science, 7*(1), 463–82.

Lutz, G. (2006). *Participation, Information and Democracy. The Consequences of Low Levels of Participation and Information for the Functioning of Democracy.* Hamburg: Lit Verlag.

Lutz, G., & Sciarini, P. (2016). Issue Competence and its Influence on Voting Behavior in the Swiss 2015 Elections. *Swiss Political Science Review, 22*(1), 5–14.

Magleby, D. (1989). Opinion formation and opinion change in ballot proposition campaigns. In *Manipulating Public Opinion.*Pacific Grove: Brooks-Cole.

Marquis, L., Schaub, H.-P., & Gerber, M. (2011). The Fairness of Media Coverage in Question: An Analysis of Referendum Campaigns on Welfare State Issues in Switzerland. *Swiss Political Science Review, 17*(2), 128-163.

Mayer, W. (2008). *The Swing Voter in American Politics*. Brookings Institution Press.

Mazzoleni, G., & Schulz, W. (1999). Mediatization' of Politics: A Challenge for Democracy? *Political Communication, 16*(3), 247–261.

Mitchell, A., & Holcomb, J. (2016). *State of the News Media 2016*. Pew Research Center. June.

Neuman, W., Park, A., & Panek, E. (2012). Info Capacity: Tracking the Flow of Information into the Home: An Empirical Assessment of the Digital Revolution in the US from 1960–2005. *International Journal of Communication, 6*(20), 1022–1041.

Newman, N., Fletcher, R., Klageropoulos, A., & Kleis Nielsen, R. (2019). *Reuters Institute Digital News Report 2019*. Oxford, England: Reuters Institute for the Study of Journalism.

Pan, B., Hembrooke, H., Joachims, T., Lorigo, L., Gay, G., & Granka, L. (2007). In Google we Trust: Users' Decisions on Rank, Position, and Relevance. *Journal of Computer Mediated Communication, 12*(3), 801-823.

Pariser, E. (2011). *The Filter Bubble: How the new personalized web is changing what we read and how we think.* New York, NY: Penguin.

Petitpas, A., & Sciarini, P. (2018). Short-Term Dynamics in Issue Ownership and Electoral Choice Formation. *Swiss Political Science Review*, *24*(4), 423–441.

Petrocik, J. (1996). Issue Ownership and Presidential Elections. *American Journal of Political Science, 40*, 825–850.

Petty, R., & Cacioppo, T. (1986). The Elaboration Likelihood Model of Persuasion. *Advances in Experimental Social Psychology, 19*: 123-205.

Ruggiero, T. (2000). Uses and Gratifications Theory in the 21st Century. *Mass Communication and Society*, 3(1), 3-37.

Scharkow, M., & Bachl, M. (2017). How Measurement Error in Content Analysis and Self-Reported Media Use Leads to Minimal Media Effect Findings in Linkage Analyses: A Simulation Study. *Political Communication, 34*(3), 323–343.

Scharkow, M., & Vogelgesang, J. (2011). Measuring the Public Agenda Using Search Engine Queries. *International Journal of Public Opinion Research, 23*(1), 104-113.

Schlechten, L., Courtois, C., Coenen, L., & Zaman B. (2021). Adapting the Selective Exposure Perspective to Algorithmically Governed Platforms: The Case of Google Search. *Communication Research*, 1-27.

Schroeder, R. (2018). The Internet in Everyday Life II: Seeking Information. In Schroeder, R. (eds) *Social theory after the internet,* 101-125. London: UCL Press.

Schuck, A., Vliengenthart, R., and De Vreese, C. (2005). Matching Theory and Data: Why Combining Media Content with Survey Data matters. *British Journal of Political Science*, *46*(1), 205-213.

Sides, J. (2006). The Origins of Campaign Agendas. *British Journal of Political Science*, *36*, 407–436.

Slothuus, R. (2008). More Than Weighting Cognitive Importance: A Dual-Process Model of Issue Framing Effects." *Political Psychology, 29*(1): 1-26.

Slothuus, R., *and* De Vreese, C. (2010). Political Parties, Motivated Reasoning, and Issue Framing Effects. *The Journal of Politics*, 72(3), 630–645.

Smith. S., Fabrigar, L., & Norris, M. (2008). Reflecting on Six Decades of Selective Exposure research: Progress, Challenges, and Opportunities. *Social and Personality Psychology Compass, 2*(1), 464-493.

Steenbergen, M. (2010). Decomposing the Vote: Individual, Communal, and Cantonal Sources of Voting Behavior in Switzerland. *Swiss Political Science Review*, *16*(3), 403–424.

Steiner, M., Magin, M., Stark, B., & Geiss, S. (2020). Seek and you Shall Find? A Content Analysis on the Diversity of Five Search Engines' Results on Political Queries. *Information, Communication & Society, 25*(2): 217-241

Strömbäck, J., & Esser, F. (2009). Shaping Politics: Mediatization and Media Interventionism. In Lundby, K. (ed.), *Mediatization. Concept, Changes, Consequences*, 205-224. New York: Peter Lang.

Sunstein, C. (2001) *Republic.com*. Princeton, NJ: Princeton University Press.

Taber, C., & Lodge, M. (2006). Motivated Skepticism in the Evaluation of Political Beliefs. *American Journal of Political Science*, *50*(3), 755–769.

Tresch, A. (2012). The (Partisan) Role of the Press in Direct Democratic Campaigns: Evidence from a Swiss Vote on European Integration. *Swiss Political Science Review, 18*(3), 289–304.

Trevisan, F., Hoskins, A., Oates, S., and Mahouly, A. (2018). The Google Voter: Search Engines and Elections in the New Media Ecology. *Information, Communication & Society*, 21(1), 111-128.

Unkel, J., & Haim, M. (2019). Googling Politics: Parties, Sources, and Issue Ownership on Google in the 2017 German Federal Election Campaign. *Social Science Computer Review, 39*(5), 844-861.

Van Aelst, P., Strömbäck, J., Aalberg, T., Esser, F., De Vreese, C., Matthes, J., Hopmann, D., Salgado, S., Hubé, N., Stepinska, A., Papathanassopoulos, S., Berganza, R., Legnate, G., Reinemann, C., Sheafer, T., & 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.

Vliegenthart, R., Schuck, A., Boomgarden, H., & De Vreese, C. (2008). News Coverage and Support for European Integration, 1990-2006. *International Journal of Public Opinion research, 20*(4), 415-439.

Vössing, K., & Weber, T. (2019). Information Behavior and Political preferences. *British Journal of Political Science, 49*(2), 533-556.

Vowles, J. (2013). Campaigns Claims, Partisan Cues, and Media Effects in the 2011 British Electoral System Referendum. *Electoral Studies, 32*, 253-264.

Walgrave, S., Lefevere, J., & Nuytemans, M. (2009). Issue Ownership Stability and Change: How Political Parties Claim and Maintain Issues Through Media Appearances. *Political Communication*, *26*(2), 153–172.

Walgrave, S., Lefevre, J., & Tresch, A. (2014). The Limits of Issue-Ownership Dynamics: The Constraining Effect of Party Preference. *Journal of Elections, Public Opinion & Parties, 24*, 1-19.

Wirth, W., Matthes, J., Schemer, C., Wettstein, M., Friemel, T., Hänggli, R., & Siegert, G. (2010). Agenda Building and Setting in a Referendum Campaign: Investigating the Flow of Arguments Among Campaigners, the Media, and the Public. *Journalism and Mass Communication Quarterly, 87*(2), 328-345.

Xenos, M., Scheufele, D., Brossard, D., Choi, D., Cacciatore, M., Yeo, S., & Su, Y. (2018). News Media Use and the Informed Public in the Digital Age. *International Journal of Communication*, 12, 706-724.

Yeo, S., Cacciatore, M., & Scheufele, D. (2015). News selectivity and Beyond: Motivated Reasoning in a Changing Media Environment. In Jandura, O., Petersen, T., Mothes, C., & Schielicke, A.-M. (Eds.), *Publizistik und gesellschaftliche Verantwortung*. Berlin: Verlag Springer.

Zaller, J. (1992). *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.

Zuiderveen Borgesius, F., Trilling, D., Möller, J., Bodó, B., De Vreese, C., & Helberger, N. (2016). Should we Worry About Filter Bubbles? *Internet Policy Review, 5*(1).

Swiss Political Science Review 24(4): 442–463 doi:10.1111/spsr.12333

Effects of Issue-Specific Political Advertisements in the 2015 Parliamentary Elections of Switzerland

Guillaume Zumofen and Marlène Gerber
University of Bern

Abstract: *Our paper captures the influence of political advertisements on vote intentions in the framework of the 2015 parliamentary elections. We focus on the two winning parties, the FDP and SVP, and the promotion of their stances on immigration/asylum, relations to the EU and the economy. We make use of an extensive database on political advertisements collected in 50 important national and regional newspapers that we link to the Selects respondents. Our findings only hint at limited effects of issue-specific advertisements with regard to the activation of latent preferences, suggesting that campaigns mattered more when they have managed to make a party's issue positions known to the electorate. The general reinforcement tendencies detected for migration ads of the SVP suggest that reinforcement effects might be particularly prone when highly contentious issues are at stake. Our results indicate that the SVP did not manage to mobilize new voters with their political advertisements.*

Introduction

National elections take place in a highly competitive information environment. Voters are exposed to multiple and alternative campaign positions via media reporting and/or campaign activities. While in Switzerland, media attention to parties is dedicated roughly equal to their voter share (Bühlmann et al. 2015a; Fög 2017), parties can strive for additional attention by means of political campaigning. The financial means of parties and candidates vary, which has a direct impact on the campaign intensity and thus visibility of a party and its candidates. In Switzerland, there are two parties that usually stand out in terms of campaign intensity, as captured by number of political advertisements in printed newspapers: the Swiss People's Party (SVP) and the Liberal Radical Party (FDP) (Hermann 2012). In the lead-up to the 2015 national election, both parties launched a large-scale campaign that strongly focused on particular issues; the contested issues of immigration and asylum, Switzerland's relations to the European Union (EU), and the economy. The campaigns of other parties were of lower intensity and more fragmented in nature (Bühlmann et al. 2016). Both the SVP and the FDP emerged as the winners of the 2015 elections. The question therefore arises whether and to what extent those campaigns influenced voters' decisions to vote and who to vote for.

Traditional research on electoral campaigns have usually concluded that campaign effects are minimal at best (see Iyengar and Simon 2000: 150). These studies have largely relied on the analysis of aggregate time series or panels, assuming all voters have been exposed to the same campaign (ibid.: 153). Common methodological approaches have also been criticized for carrying an inherent endogeneity problem (Goldstein and Freedman 2000; Gordon and Hartmann 2013; Ridout et al. 2002). Recent developments in the field

try to tackle this endogeneity issue using large randomized field experiments (Gerber et al. 2007), regression discontinuity design (Huber and Arceneaux 2007; Spenkuch and Toniatti 2015), instrumental variables (Gordon and Hartman 2013) and exploiting exogenous variation (Da Silveira and De Mello 2011; Durante and Gutierrez 2014; Kendall et al. 2015; Larreguy et al. 2014). Using finer-grained methodological approaches, authors have identified a significant positive impact of political advertising on voting behavior. Although the impact remains short-lived in some cases (see Durante and Gutierrez 2014; Gerber and al. 2007), such results beg for further research to be conducted in other contexts. Laboratory experiments have also identified a significant impact of advertisement on voting behavior (Ansolabehere and Iyengar 1996; Brader 2005). While holding strong internal validity, the external validity of laboratory experiments remains questionable.

As for Switzerland, we note a paucity of research focusing on individual exposure to political campaigns during elections. Although considerable insights exist on overall campaign effects in a selection of cantons (Kriesi and Sciarini 2004; Lachat 2000; Lachat and Sciarini 2002; Sciarini and Kriesi 2003), previous election surveys precluded researchers from analyzing individual campaign exposure. Assuming a monolithic understanding of electoral campaigns not only presumes that all voters have received identical campaign messages, it also makes the term "electoral campaign" all-encompassing. The issue with such a view is that it contains all instances of electoral campaigning, as well as external events that occurred during the time of the electoral campaign rather than focusing on individual-level exposure to specific campaign designs.

Last but not least, the influence of parties' issue-specific communications on individuals is still little understood (see Bechtel et al. 2015; Slothuus and De Vreese 2010). While the framing literature has convincingly demonstrated the influence of elite frames (see Chong and Druckman 2007), much less is known about the effect of issue frames delivered by political parties (see Bechtel et al. 2015; Slothuus and De Vreese 2010 for recent exceptions).

The aim of this paper is to examine whether and to what extent the widespread use of electoral campaigns conducted by the SVP and FDP increased electoral success of those parties. In particular, we are interested in the degree to which their issue-specific campaigns succeeded in activating voters, and how they managed to reinforce their established voter clientele. In addition, we also ask whether issue-specific campaign advertisements influence competence-issue ownership perceptions among a party's potential voter clientele. We take advantage of a new question introduced in the Selects survey 2015 that asks participants which newspaper they consulted the most. Together with the Année Politique Suisse database (APS 2016), our data on political advertisements in print media, we are able to create an individual measure of potential campaign exposure to test its influence on vote choice and issue-ownership perceptions in the context of the 2015 general elections.[1] Thus, our paper follows the logic of linkage studies (see De Vreese et al. 2017). By making use of a unique dataset consisting of campaign advertisements published in a variety of national and regional newspapers (APS 2016), we can, for the first time, track electoral campaigning in all 26 cantons. We test our hypotheses with the help of

[1] Although alternative communication channels, such as social media, gain in importance during political campaigns, the Selects survey 2015 indicates that their role remains minimal. Citizens focus on TV, radio and newspaper to obtain information. Regarding political campaigning in Switzerland, advertising is prohibited on TV and radio. Therefore, we concentrate on print media to examine the impact of political campaigning.

multinomial regression models and the inclusion of two-way- and three-way-interactions between initial vote intention, political advertisements and issue-specific considerations.

This paper is structured as follows: In the following section, we first elaborate on the theoretical framework, discussing general characteristics of the 2015 electoral campaign and outlining why this context presents a likely case for campaigning to have an effect. We then present our theoretical argument, referring to cognitive accessibility-based models, postulating that because individuals have a limited capacity to process information, they base political judgments on their most salient considerations. In section 3, we present our methodological approach (linkage study). Our main results that hint at only limited effects of issue-specific advertisements are described in detail in section 4. Section 5 proposes future research avenues and acknowledges some limitations of our study.

Theoretical Framework

Before we introduce our hypotheses, we need to contextualize the electoral campaign of 2015. There are several reasons suggesting that the campaign conducted by the two parties under scrutiny are likely to have influenced individual preferences. According to Kriesi and Sciarini (2004), campaigns are most influential when built around issues that are central, well-known and highly polarizing (see also Nicolet and Sciarini 2006). With immigration and Switzerland's relations to the EU, the SVP and the FDP focused on two highly contested issues that were regarded as both salient and pressing. During the spring and summer of 2015 and thus in the run-up to the elections, the media was dominated by reporting on refugee catastrophes in the Mediterranean Sea and the sharp increase of asylum seekers in Europe (Fög 2015), potentially influencing voters' perception of relevant problems (Gerber and Mueller 2016; Longchamp et al. 2015): 44% of respondents in the 2015 Selects survey indicated that they regard the issues of migration and asylum as the most important problems Switzerland currently faces (Lutz 2016). Compared to the ranking of most important problems in former Selects studies (1995-2011), the 2015 results are surprising in their singularity: adherents of all seven major parties classified the issue of migration and asylum to be the most important problem to solve (ibid.).

In February 2014, the SVP's initiative against mass immigration had been accepted at the ballot, resulting in great uncertainties about the future of Switzerland's relations with the EU, as the government was requested to renegotiate the Agreement on the Free Movement of Persons with the EU. Among the Selects respondents, 13% considered European policy to be the most important issue for Switzerland, making this the second most salient issue after immigration and asylum (Lutz 2016).

Turning to the economy, the Swiss National Bank surprisingly annulled the minimum exchange rate against the Euro at the beginning of 2015. As a consequence, uncertainties with regard to potential economic consequences were growing, rendering the topic a salient issue throughout the year (Lutz and Sciarini 2016: 9). The economy, however, was only regarded to be the most important problem by 5% of the Selects respondents (Lutz 2016), indicating that the issue was seen as less pressing than immigration and European policy.

A salient topic alone does not present a sufficient condition for voters to change their minds about the party they favor. We argue that campaign messages on a given salient issue have the power to alter vote intentions only when the party sponsoring them is perceived as the actor best able to deal with it. In the literature, this is referred to as

"owning an issue" (Geers and Bos 2017; Petrocik 1996). Numerous studies have demonstrated a potential electoral advantage for political parties owning a salient issue (Alvarez et al. 2000; Bélanger and Meguid 2008; Kriesi and Sciarini 2004; Lutz and Sciarini 2016). In this regard, the distinction between associative and competence issue-ownership is pivotal. While associative issue-ownership denotes the "spontaneous association between an issue and a party in the minds of voters", competence issue-ownership refers to the belief that a party is the most competent to handle a relevant issue (Lachat 2014: 728; Walgrave et al. 2014: 1 and 7). For our purpose, we rely extensively on competence issue-ownership, since associating a party with an issue does not necessarily mean voters agree with the solution the party advances (e.g., see also Lachat 2014; Lutz and Sciarini 2016; Walgrave et al. 2014). Additionally, a voter's party preference is deeply linked to her perception of the party's issue competence. This is also in line with the theory of valence politics that claims that voters cast ballots for the political party they see as the most competent to handle their most pressing issue (Clarke et al. 2011).

In the context of the 2015 elections, issue ownership was accredited to both parties with regard to all of their central campaign issues. Migration has recently been occupied to large extent by the SVP (Lutz and Sciarini 2016: 5), which is confirmed by the analysis of media data in the run-up to the general elections (Bühlmann et al. 2015b). The SVP is regarded to be the most competent party to offer solutions to immigration – 29% of respondents affirmed this question, followed by 22% who considered the Social Democrats (SP) to be the most competent party in this regard (ibid.). In addition, almost two thirds of all Selects respondents indicated that the SVP is the party that cares the most about the issue (Lutz 2016). Thus, the SVP owns the migration issue both in terms of associative and competence issue ownership. Turning to the economy issue, it becomes evident that the FDP owns the issue both in terms of associative and competence issue ownership. Not only 68% of respondents agree that the FDP cares most about the issue, but also 50% affirm that the FDP is the most competent party to offer solutions to the issue (Lutz 2016). With regard to European policy, the SVP and FDP are associated with higher issue ownership than any other party (Lutz 2016): the FDP is regarded to be the most competent party to deal with this issue – 27% of respondents agree on that, followed by 20% of respondents who perceive the SVP to be the most competent party. On the other hand, the SVP is the party associated the most with the issue: 29% of respondents think the SVP cares most about the EU, followed by 24% of respondents who mostly associate the FDP with the issue.

Hypotheses

We have demonstrated that political messages espoused by a party that owns the issue have the potential to influence voters' preferences. However, people are "limited information processors" (Lau and Redlawsk 2006: 23); they are biased in how they process information (e.g., Fiske and Taylor 1991; Kunda 1990; Steenbergen 2010; Taber and Lodge 2006; Zaller 1992). Thus, the availability of a particular campaign message does not imply its automatic acceptance. A central reason for this is subsumed under the theory of motivated reasoning, which states that people often pursue directional goals, preferring information that is in line with their predispositions and ignore conflicting information (Kunda 1990) or even argue against them (Sloothus and De Vreese 2010; Taber and Lodge 2006). Motivated reasoning occurs at every step of information processing, e.g. when it comes to the search of information (Taber and Lodge 2006), the evaluation of

information (Bechtel et al. 2015; Jerit and Barabas 2012; Taber and Lodge 2006) or the recalling of it (Lau and Redlawsk 2006: Chp. 5). Numerous studies have demonstrated that processing information depends on political predispositions (e.g., Jerit and Barabas 2012; Nicolet and Sciarini 2006; Slothuus and De Vreese 2010; Zaller 1992). Political campaigns thus mainly succeed in reinforcing initially-held views or in activating latent preferences rather than in convincing voters to adapt their preferences (Lazarsfeld et al. 1968: 94). Based on these considerations, we expect political advertisements of a particular party to exert the strongest effect for citizens who are already favorably inclined towards that party – independent of the issues portrayed. Consequently, we formulate the following hypothesis:

H1: Citizens are reinforced in their vote choice with increasing exposure to the campaign of the party they initially favored.

During the course of political campaigns, (potential) voters have the chance to learn more about fundamental issues and parties' stances on these issues (Arceneaux 2006; Gelman and King 1993; see also Iyengar and Simon 2000: 155). Political predispositions also play out in this context. As Kriesi and Sciarini (2004: 737) note, "electoral campaigns are not so much shaping policy preferences, but linking established preferences to political parties." Citizens who are indecisive whether they would like to partake in the elections may be encouraged to vote for a party if that party manages to activate their latent predispositions (Lazarsfeld et al. 1968). Kriesi and Sciarini (2004: 726) decompose the activation in four steps: campaign awakens interest, interest motivates exposure, exposure becomes selective due to motivated reasoning and finally, latent predispositions crystallize into a vote intention. In order for considerations to influence the opinion formation process, they need to be accessible. One way to attain accessibility is to increase exposure to the consideration on a regular or recent basis (Chong and Druckman 2007). Hence, we hypothesize that:

H2a: The higher the exposure to the issue-specific campaign by the advertising party, the higher the chances that a citizen develops a vote intention for that party – given that her issue preferences are in line with the ones portrayed by the party.

Similarly, we might expect reinforcement effects to be on display, assuming that at the beginning of the campaign, voters are not perfectly informed about issue stances of the party they favor. Therefore, we posit the following hypothesis:

H2b: The higher the exposure to the issue-specific campaign of an advertising party, the higher the chances that a citizen is reinforced in her vote intention for that party – given that her issue preferences are in line with the ones portrayed by the party.

Given the preponderant influence of issue-ownership on vote behavior, political parties potentially follow two strategies when communicating with citizens. The first strategy is to selectively link their campaign to issues they already own. They can thus profit from associations with the issue that were created in the past, e.g. via news reporting or campaign activity. Our hypotheses 2a and 2b follow this scenario. The second strategy therefore goes beyond this; parties recognize that each political campaign bears the potential to increase issue ownership perceptions among their potential electorate (Walgrave et al. 2014). This is in line with issue ownership theory, according to which campaigns have the intended effect when a political actor manages to demonstrate its reputation in handling a relevant political issue (Petrocik 1996: 826). Recent literature

emphasizes the dynamic dimension of competence issue-ownership. It assumes that, in addition to a party's political performance, party communications contribute to the recorded fluctuations in the public's perception of issue ownership (Bélanger 2003; Stubager and Sloothus 2012; Walgrave et al. 2009, 2014). Motivated reasoning is relevant here too. Therefore, parties are supposed to increase issue ownership perceptions only among individuals that are favorably inclined towards that party (see also Walgrave et al. 2014).

H3a: The higher the exposure to the issue-specific campaign of an advertising party, the higher the chances that a citizen favoring that party perceives it to be most competent to solve this issue.

Assuming that individuals who initially do not plan to vote possess weaker party preferences compared to their peers who already held vote intentions at the beginning of the campaign, we hypothesize similar effects for people who do not intend to vote. Again, we argue that people who hold firm vote intentions are more selective in how they process incoming information, giving greater weight to information that is in line with their predispositions (Zaller 1992). Thus, people without firm vote intention may be less biased when it comes to the selection and processing of new information. Therefore, we hypothesize that:

H3b: The higher the exposure to the issue-specific campaign of an advertising party, the higher the chances that a citizen without vote intentions perceives that party to be the most competent to solve the issue.

Methods

Data

Our empirical approach takes advantage of two datasets. Our first dataset is a Selects panel/rolling cross-section (RCS) survey conducted within the context of Switzerland's 2015 parliamentary elections. In the Selects survey, 11'073 respondents took part in the first wave of the survey. 7'399 respondents also participated in the second wave. Since we are interested in monitoring campaign effects, we restrict our dataset to the respondents who engaged in both waves (N=7'399). We consider the first wave to be a survey of the pre-campaign, as it lasted from mid-June to the end of July; the last interview of this wave was thus conducted more than two and a half months before the elections. The second wave represents the campaign itself. This wave took place from 17 August to 18 October, which was the ballot day. From the Selects database, we draw our outcome variable of vote intention at wave 2, as well as our control variables as indicated by the respondents at wave 1 (see below).

The RCS design has an advantage to other survey designs in that the random selection of respondents at any given day during the campaign facilitates drawing causal links between specific campaign events and a change in opinion (Brady and Johnston 2006: 164). This allows us to calculate individual level variables of campaign exposure at varying times during the campaign (1 August to 18 October).

Our second extensive dataset is on political advertisements developed by Année Politique Suisse (APS 2016). To obtain a precise counting of political advertisements in all 26 cantons, APS uses trained coders to manually track advertising data in 50

supraregional and regional newspapers. The dataset consists of a collection of more than 5'000 political advertisements placed in print newspapers ahead of the 2015 parliamentary elections. In order to proxy campaign exposure in newspapers, we take advantage of a question introduced in the second wave of the Selects survey, which asks which print newspaper (fee-based or free) respondents have consulted the most within the last days of the interview, if any. From this we infer that a respondent belongs to the general readership of the mentioned source and that they consume this journal on a regular basis. Together with the date of the second interview, this allows us to calculate a respondent's potential campaign exposure before the second interview took place.[2]

By linking survey data with media content data, this paper follows the logic of linkage studies (see De Vreese and Semetko 2004; Miller et al. 1979). A precise and reliable measure of media exposure is of prime importance to successfully determine the effects of media content using linkage analysis (De Vreese et al. 2017; Scharkow and Bachl 2017). We therefore undertook several robustness checks to test whether and to what degree our results are sensitive to the operationalization choices of our central media content variables (see below). Furthermore, survey respondents are prone to over-report their media use (Scharkow and Bachl 2017). Since the Selects 2015 database only asked about the use of individual media outlets in one specific wave (round 2) we cannot report the reliability scores of our measure of interest. Nonetheless, considering survey items that ask about the use of a specific news outlet may lessen the problem of over-reporting at least to some extent (De Vreese et al. 2017: 225).

Method of Analysis and Outcome Variables

To investigate campaign effects on the vote, we ran several multinomial regression models with three outcome variables captured at the second wave of interviews. The three outcomes are: intention to vote for the SVP, intention to vote for the FDP and intention to vote for another party (see Lutz and Sciarini 2016 for a similar approach).[3] Given our focus on campaign effects and the operationalization of the outcome variables, we only considered cantons where the party under scrutiny presented candidates to run for office (for the National Council, for the Council of States, or for both). In one canton (Appenzell Innerrhoden), neither party presented a candidate. For the purpose of modeling dynamics in vote intention that occurred during the electoral campaign and in order to circumvent endogeneity issues, we controlled for the vote intention at wave 1 (for a similar approach, see De Vreese and Semetko 2004; Kriesi and Sciarini 2004; Lutz and Sciarini 2016; Sanders 2012). Our variable vote intention distinguishes between four categories: (0) no intention to vote, i.e. respondents indicate at wave 1 that they are certainly or probably not going to participate, (1) intention to vote for the FDP, (2) intention to vote for the SVP, and (3) intention to vote for another party. In order to test our hypothesis, we calculated models with two- (H1, H3) and three-way-interaction terms (H2).

[2] Among the people who mentioned a vote intention at wave 2 (N=5,315), N=4'241 respondents indicated that they had read a printed newspaper in the last four days. Out of this sample, we could match the reported newspaper of N=3'655 respondents with the database on political advertisements. For the considered newspapers, see online appendix, Table A1.

[3] The assumption on the independence of irrelevant alternatives (IIA) holds. Respondents that indicated at wave 2 that they are certainly or probably not going to participate were excluded from our sample.

To estimate the influence of campaigns on dynamics of issue ownership perceptions, we calculated five logistic regressions for the attribution of competence issue ownership on the issues that were advertised the most by the two parties under scrutiny (see below).[4] Our outcome variable takes the value of 1 when a respondent indicated that they view the given actor to be the most competent party to handle the respective policy issue, and 0 if not. In order to estimate change in issue ownership perceptions, we controlled for a respondent's perceptions of competence issue ownership at wave 1. Table A3 and A4.1-A4.6 in the online appendix display recorded dynamics in vote intentions and issue ownership perceptions between the first and second wave of the interview.

Variables of Interest

We intended to capture campaign exposure at the individual level. For each individual that consumed a particular printed newspaper, potential campaign exposure is expressed as the amount of FDP and SVP campaign ads in the respective newspaper up to the day of the second interview. For example, a value of 30 for SVP advertisements signifies that a respondent had read a newspaper where 30 ads of this party were published from 1 August (end of wave 1) up to the day of the respondent's second interview. However, since our variable of interest is strongly skewed to the right, and given that the marginal return of campaign advertisements may diminish with increasingly high values, we transformed our variable using the square root function.[5] Besides the overall amount of advertisements, we also inserted variables that capture the number of issue-specific campaign ads that a voter had been exposed to by the day of the second interview. Again, we transformed these values using the square root function. To test for the robustness of the finding, we also employed alternative variable specifications.[6] Although most of these tests confirmed our findings, not all results proved to be fully robust. We report these cases in the result section.

Scharkow and Bachl (2017: 334) convincingly demonstrate that measurement error in the media content analysis may lead to a substantial underestimation of media effects. According to the authors, the problem is aggravated when the observed phenomenon is rare. Results of our intercoder reliability test reveal excellent coding agreement for the two rarer items (migration and relations to the EU) and substantial agreement for the most prominent topic of the campaign in terms of advertisement place in printed newspaper, the economy (see below).[7]

Table 1 displays the campaign activity of the seven major parties for the three issues that were central to the campaign of the SVP and the FDP and that are analyzed in the

[4] Since the FDP only marginally broached the issue of migration, interaction models relying on FDP migration advertisements cannot be calculated.

[5] We refrained from undertaking a logarithmic transformation due to the numerous respondents that have not been exposed to campaign ads and thus received 0 on our variable of interest.

[6] We utilized the absolute number of campaign ads and the relative share of a party's ads. Furthermore, we weighted our campaign variables by the degree of a respondent's news attention. Since some of the campaign variables are highly correlated (see Table A5 and A6 in the online appendix), we also ran separate models where we included only one campaign variable at a time (see Figures A1.1 to A1.6).

[7] One and a half years after the coding process, two of the three main coders recoded a random selection of 175 advertisements. The following test results for rater coder agreement (RCA) and Cohen's kappa (κ) are reported: migration (RCA 100%; κ 1.000); EU (RCA 98.9%; κ 0.946); economy (RCA 92%; κ 0.753) (see online appendix Table A7).

Table 1: Issue-Specific Advertisements Published by the Seven Major Parties

	Migration & Asylum		Relations to the EU		Economy		Total
SVP	482	(29.1%)	323	(19.5%)	230	(13.9%)	1658
FDP	27	(1.7%)	79	(5.0%)	400	(25.3%)	1580
CVP	7	(0.8%)	9	(1.0%)	89	(10.3%)	860
SP	11	(1.4%)	15	(2.0%)	24	(3.1%)	764
GPS	22	(7.8%)	0	(0.0%)	8	(2.8%)	281
BDP	3	(1.3%)	2	(0.9%)	18	(7.9%)	229
GLP	0	(0.0%)	0	(0.0%)	17	(17.5%)	97
Total[a)]	552	(10.1%)	428	(7.8%)	786	(14.4%)	5469

Notes: Entries are given in absolute number of advertisements published in printed newspapers between 1 August and 18 October 2015, as well as in percent of total ads registered for that party during the given period. Source: APS (2016). [a)] These entries correspond to the total number of ads published by the seven major parties.

framework of this study. The table confirms that the SVP and the FDP took a leading role in terms of overall number of advertisements published in printed newspapers, followed by the Christian Democrats (CVP) and the SP. Compared to the bigger parties, the smaller parties of the Greens, the Green Liberals (GLP) and the Bourgeois Democratic Party (BDP) were only marginally present in terms of ads. Turning to issue-specific ads, the topics of economy was the most frequently mentioned campaign issue, followed by migration and relations to the EU. Other issues, such as social security and the environment, were far less prominent in newspaper ads (Bühlmann et al. 2016). While the issues of social security and the environment were mostly promoted by the SP and the Greens respectively (ibid.), the topic of relations to the EU was mainly used by the SVP and, to a lesser extent, by the FDP.[8]

There are several conclusions that we can draw from observing the campaign in the print media. First, the distribution of advertisements between parties portrays the large financial inequalities that parties have at their disposal (Hermann 2012): the FDP and the SVP placed almost twice as many ads in newspapers than the party with the third most intensive campaign in print media (CVP). Second, it was particularly the SVP and the FDP which conducted an intensive large-scale issue-specific campaign. In contrast to the other parties, both parties placed a large amount of ads that focused solely on issues rather than on candidates (Bochsler et al. 2016; Bühlmann et al. 2016) This stands in stark contrast to the 2011 elections, where most of the parties also promoted their core issues with issue-specific newspaper ads by advertising their popular initiatives, though less frequently (Gerber and Mueller 2016: 195). Third, it is discernible in Table 1 that the SVP was the only party that substantially promoted its stance on the issue of migration and asylum. There were some candidates of other parties, particularly from the Greens and the FDP, who also raised the issue in their newspaper ads, but the SVP was responsible for

[8] The BDP made the Bilateral Agreement a central issue of its electoral campaign – though not frequently in newspaper advertisements and on a smaller basis than the bigger parties. The FDP placed a stronger emphasis on the EU at the very beginning of the campaign. As Bühlmann et al. (2016) report, there were several candidates of the Liberals who advertised during two days in June with the Slogan "Bilaterale ja – EU nein" (trad. *Bilateral Agreement yes – joining the EU no*). These advertisements do not form part of our analysis, since in order to estimate the effect of political campaigns, we only consider advertisements that have been placed in newspapers after the first wave of interviews.

almost 90% of all migration posts encountered in the print media. This stands in contrast to the other two campaign issues of the SVP, where it had to compete with other parties: the EU issue was also brought up by the FDP and the issue of economy was not only intensively promoted by the FDP and the SVP, but was also an important campaign topic of the CVP.

To test our hypotheses with regard to campaign effects, we calculated interaction effects between exposure to issue-specific political advertisement, a respondent's vote intention and a respondent's issue preferences. Concerning the latter, we focused on three questions which indicate a respondent's position on the three issues. With regard to immigration, a question in the Selects questionnaire asks whether immigration should be limited. Here, we created a binary indicator for whether respondents somewhat or strongly affirm this question (1) or whether they are neutral or somewhat against such measures (0). Turning to the EU issue, we created a binary variable for whether individuals are strongly opposed (1) to Switzerland becoming a member of the EU or whether they were somewhat opposed, neutral or in favor of EU membership (0).[9] The third dichotomous variable captures preferences on the economy. Here, respondents were scored on whether they somewhat or strongly favor additional measures to strengthen the economy (1) or whether they were neutral towards or opposed to such measures (0). To be able to omit simultaneity issues, these variables were also assessed at wave 1.

Control Variables

As controls at the individual level, we inserted the socio-demographic variables of gender, age in years, religious affiliation, education, income, the self-placement on the left-right-scale and a categorical variable capturing a respondent's language region into all of our models. We also introduced three binary variables, coding them with the number 1 if respondents – at wave 1 – considered the respective issue (migration, EU policy or the economy) to be the most important problem (MIP), and 0 if they did not consider it the MIP. This allowed us to control for issue salience (see also Lutz and Sciarini 2016). See Table A2 in the online appendix for more information on the coding of the variables.[10]

Results

As a first step, we ran a basic multinomial model on vote intention. Table 2 displays the results for respondents who indicated a vote intention for the FDP or the SVP versus respondents that intended to vote for another party at wave 2. Unsurprisingly, the results indicate that the opinions held during wave 2, after individuals had been exposed to the campaign, largely depend on their opinions in wave 1, before the campaign had begun.

[9] Since this group of respondents indicating strong opposition to EU-membership mounts to almost 50% in the overall Selects sample, we did not code another 25% of respondents who were somewhat against EU membership as 1.

[10] We refrain from incorporating competence issue ownership in our model for reasons of endogeneity. According to Walgrave et al. (2014: 15-16), the causal relationship between vote choice and competence issue-ownership is unclear and pre-existing party preferences are too dependent on measures of competence issue ownership. Furthermore, the degree to which issue ownership perceptions at wave 1 exert an effect on the change in vote intentions is not of our prime interest. Rather, we argue that *changes* in issue ownership perceptions can explain dynamics of voting preferences (Lanz and Sciarini 2016; see also Petitpas and Sciarini 2018).

Some additional results are worth noting. First, we do not detect an effect for issue salience. Whether one considers migration, EU policy or the economy to be the most important problem facing Switzerland has no impact on the vote intentions in wave 2. A possible explanation for this is that since those issues had already received substantial media attention before the start of the electoral campaign, opinions had already been formed.

Second, and contrary to issue salience, issue *preferences* were highly relevant. Individuals who favor limitations on immigration, as well as individuals who are strongly opposed to joining the EU, are significantly more likely to express vote intentions for the SVP than for any other party.[11] Similarly, individuals who agreed that measures should be taken to strengthen the economy are significantly more likely to express vote intentions for the FDP than for any other party. These results suggest that issue voting mattered and that both parties could successfully be linked to their core issues during the campaign. What remains unclear are the mechanisms behind the latter; whether the linking of core issues to the party worked through political advertisements, through other means of political campaigning, or through the media. The results displayed in Table 2 indicate that there are no general or positive effects, neither for the overall amount of campaign nor for the issue-specific campaign ads.[12] With regard to our theory, however, we would expect not general, but conditional effects.

We thus ran additional multinomial models with interaction terms. As a first step, we calculated interactions between the total number of advertisements and the vote intention at wave 1. Figure 1 displays these results for the two parties under scrutiny. In line with our hypothesis 1, we identify a reinforcement effect of political advertisements for respondents who intended to vote for the SVP at wave 1: the more SVP advertisements a person with preferences for the SVP encountered, the more they stuck with their initial vote intention. In contrast, we cannot observe such effects for the FDP and have to therefore reject that hypothesis.

To explore the effect of issue-specific advertisements, we computed multinomial models with three-way interaction terms. In addition to vote intention (w1) and issue-specific campaign intensity, we also included issue preferences, assuming that issue-specific advertisements matter most for those individuals who hold preferences that are in line with a party's position on that issue. Figure 2 displays the result of these interactions.[13] For most graphs enlisted in Figure 2, we cannot substantiate a reinforcement effect, as we would have expected according to our hypothesis 2b: people who intended to vote for a particular party and already held issue preferences in line with that party at wave 1 were in general not reinforced in their vote intention at wave 2. There is, however, a slight reinforcement effect for respondents favoring the SVP and holding preferences for strengthening the economy. This is particularly interesting since according to the Selects survey, the SVP is not perceived to be the party that owns that issue – neither in associative nor in competence issue terms.[14] Hence, the argument that campaigns help in

[11] The notion of «the other parties», refers to a party other than the SVP and the FDP.

[12] According to our results, people who are exposed to more EU ads sponsored by the SVP are significantly less inclined to vote for the FDP than for another party (other than the SVP). At the moment, we do not have an explanation for this finding.

[13] We did not calculate interaction effects for FDP advertisements on migration, since instances of such advertisements were very rare (see Table 1).

[14] However, the reinforcement effect of SVP-sponsored economy advertisements did not prove to be robust when the relative campaign measure was employed.

Table 2: Determinants of Vote Intention at Wave 2

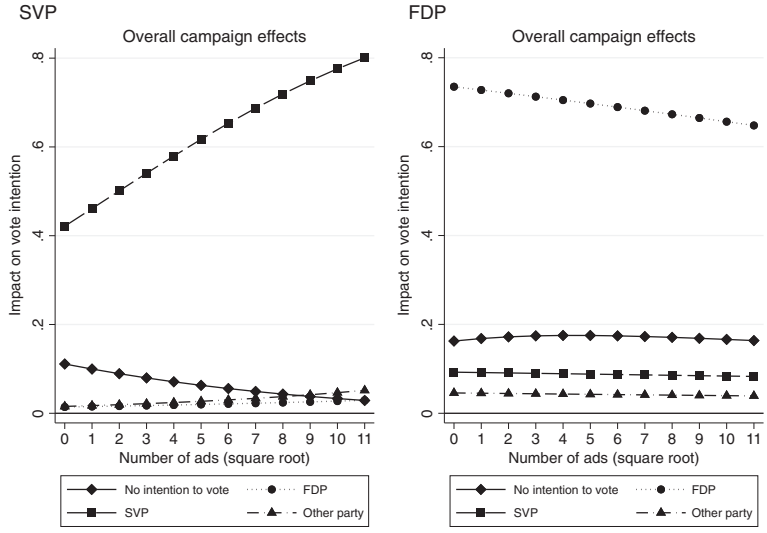
	FDP	SVP
Vote intention at wave 1	*Baseline: no intention to vote*	
FDP	2.409***	−0.926**
	(0.230)	(0.315)
SVP	−0.055	2.133***
	(0.314)	(0.242)
Another party	−1.626***	−1.981***
	(0.244)	(0.260)
Gender	−0.085	−0.099
	(0.144)	(0.170)
Age	0.008	0.008
	(0.005)	(0.005)
Religious affiliation	*Baseline: no religious affiliation*	
Catholic	−0.094	−0.129
	(0.182)	(0.214)
Protestant	0.102	−0.134
	(0.186)	(0.225)
Other	−0.084	0.250
	(0.347)	(0.349)
Education	−0.001	−0.068*
	(0.024)	(0.028)
Income	0.048**	−0.046
	(0.019)	(0.024)
Left-Right-Orientation	0.291***	0.425***
	(0.040)	(0.046)
Language region	*Baseline: Swiss German*	
French	0.338	−0.316
	(0.178)	(0.220)
Italian	0.547	0.506
	(0.339)	(0.380)
MIP Migration[a)]	-0.240	0.008
	(0.166)	(0.188)
MIP EU[a)]	0.045	0.001
	(0.219)	(0.324)
MIP Economy[a)]	−0.011	−0.120
	(0.238)	(0.341)
Issue preference: Migration	−0.035	1.285***
	(0.151)	(0.228)
Issue preference: EU	0.022	1.039***
	(0.152)	(0.183)
Issue preference: Economy	0.451**	0.359
	(0.174)	(0.203)
SVP: total ads	0.094	0.151
	(0.123)	(0.145)
SVP: economy ads	0.259	0.122
	(0.138)	(0.166)
SVP: migration ads	0.268	0.052
	(0.187)	(0.223)

Table 2: Continued

	FDP	SVP
SVP: EU ads	−0.498*	−0.398
	(0.203)	(0.247)
FDP: total ads	−0.027	−0.051
	(0.088)	(0.099)
FDP: economy ads	0.008	0.051
	(0.104)	(0.123)
FDP: migration ads	−0.280	−0.292
	(0.258)	(0.304)
FDP EU ads	0.008	0.073
	(0.168)	(0.203)
Constant	−4.121***	−4.644***
	(0.476)	(0.586)
Pseudo R2	0.594	
N	3402	

Notes: Estimates are based on a multinomial model (baseline: vote intention for another party). The assumption of independence of irrelevant alternatives holds (Hausmann test). Standard errors in parentheses. ***p<0.001; **p<0.01; *p<0.05. [a)]MIP = Most important problem

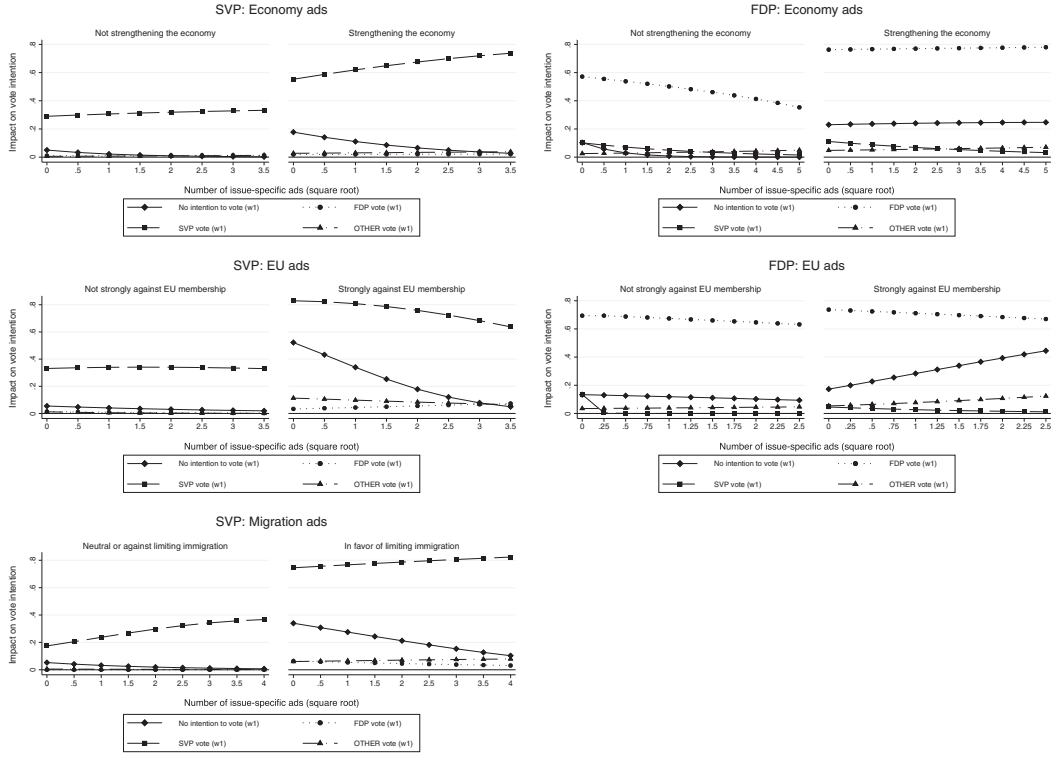
Figure 1: The Influence of Overall Campaign Intensity on Vote Intentions



Notes: On display are predicted probabilities for expressing a vote intention for the *SVP (left-hand* figure) or the *FDP (right-hand figure)* at wave 2 by vote intention at wave 1 and varying degrees of overall campaign intensity. Calculations are based on multinomial models including the same control variables as displayed in Table 2.

linking existing preferences to political parties may have played a larger role in a context where the party was in need of making its issue positions known to the electorate. On the other hand, in cases of clearly attributed issue ownership, people might already have

Figure 2: The Influence of Issue-Specific Campaigning by Issue Preferences



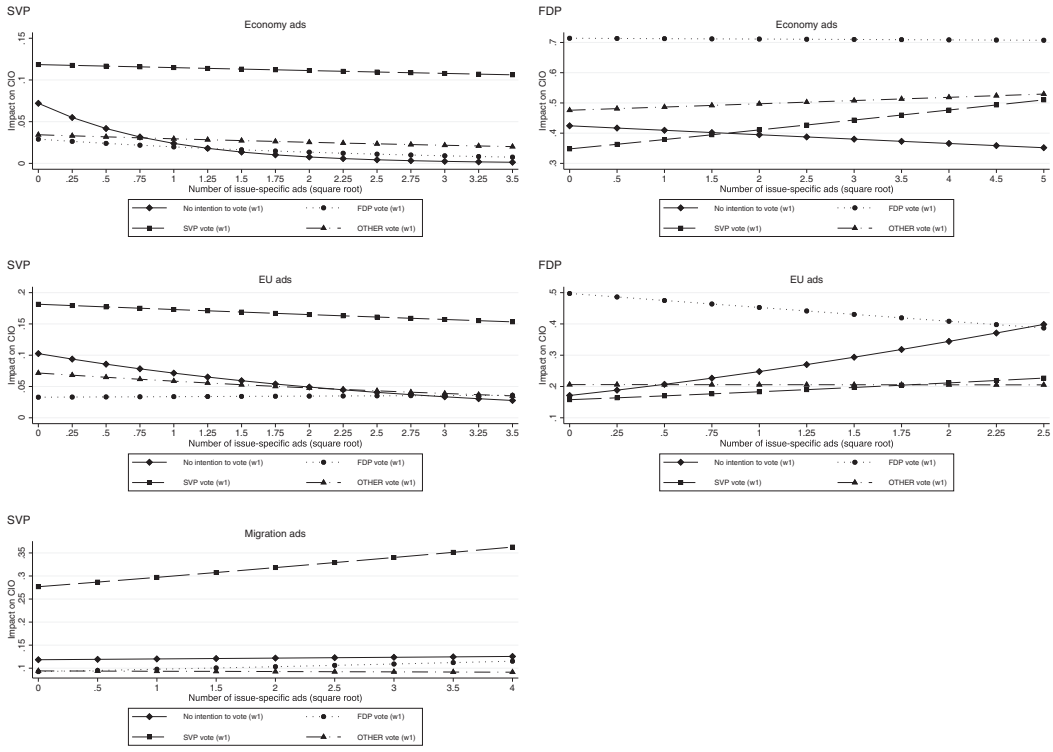
Notes: On display are predicted probabilities for expressing a vote intention for the SVP (left-hand figures) or the FDP (right-hand figures) at wave 2 by vote intention at wave 1, varying degrees of issue-specific campaign intensity as well as issue preferences. The preferences displayed on the right-hand side of each figure are the ones that correspond to the party position. Calculations are based on multinomial models including the same control variables as displayed in Table 2.

chosen to vote for a particular party at wave 1 exactly *because* of the party's established and well-known position on the issue.

At first sight, the impact of SVP migration ads is also somewhat puzzling. Our results suggest that this issue-specific campaign tended to reinforce all SVP supporters in their initial vote intention – independent of whether they were in favor of limiting immigration (though the overall majority of SVP supporters are). Here, we identify a slight general reinforcement effect for issue-specific advertisements, similar to the effect that we detected for the total amount of advertisements in favor of our hypothesis 1.[15] These results are in line with recent literature postulating that reinforcement effects might be particularly prone to occur with contentious issues: according to Slothuus and De Vreese (2010), a party's influence on the voter is largest when it advertises issues that are at the center of partisan conflict. When such issues are at stake, social identity theory comes into play: voters will thus be likely to maximize their similarities with the in-group (preferred party) and stress differences with the out-group (other party holding dissimilar views).

[15] These results are not robust when the weighted campaign variable (by news attention) is used.

Figure 3: The Influence of Issue-Specific Campaigning on Perceived Competence Issue Ownership (at wave 2)



Notes: Entries reflect the predicted probabilities to consider the SVP or the FDP to be the most competent party to handle the issue. The results are based on the estimation of logistic regressions controlling for perceived competence issue ownership at wave 1 and all the variables included in the models displayed in Table 2 (see result section). For the baseline models, see online appendix Table A8.

Additionally, Jerit and Barabas (2012) demonstrate that perceptual biases are strongest among issues that have been prominent in the news. Both these conditions are met with regard to the issue of migration.

Turning to activation effects, we can only confirm our hypothesis 2a regarding advertisements placed by the FDP on the issue of relations to the EU: individuals who are strongly opposed to joining the EU and who indicated at wave 1 that they are certainly or probably not going to participate in the elections, show a strong increase in the probability to participate and vote for the FDP with increasing exposure to the party's issue-specific campaign. This is interesting as the FDP is more perceived to own the issue of the economy – where we cannot find such effects – than the issue of EU policy (Lutz 2016; see also section 2).[16]

For our remaining cases, our hypothesis 2a needs to be rejected. Issue-specific advertisements did not activate voters. Regarding the SVP, the opposite could even be observed: individuals who did not show any intention to vote at the elections (w1) and

[16] These results are not fully robust when the relative campaign measure is employed.

who are exposed to issue-specific advertisements by the SVP that are in line with their preferences even decrease the likelihood to express a vote intention for that party (w2) when the exposure to the party's issue-specific advertisements increases. This is true for all three issues and independent of how we operationalized our campaign variable.

Our limited findings with regard to issue-specific advertisements deserve further attention. One may argue that it is somewhat naïve to postulate an instant and direct effect of political advertisement on vote intentions or vote choice. Rather, political advertisements may alter intermediate factors which may, to some extent, themselves exert influence on the party choice (see e.g., Lanz and Sciarini 2016). Therefore, we examined whether issue-specific campaigning increases the perceived issue ownership of a party (H3). We thus ran several logistic regression models for perceived competence issue ownership on the topics of migration, EU policy and the economy. The results of these models (see Figure 3) correspond to some extent to the results of issue-specific advertisements on vote intention as displayed in Figure 2. According to these models, there are two groups that showed an increase in perceived issue ownership: individuals with no intention to vote who were increasingly exposed to EU advertisements by the FDP, as well as individuals who intended to vote for the SVP at wave 1 by increasing exposure migration advertisements of that party.[17] From these results we conclude that the mechanism behind activation and reinforcement effects of issue-specific political advertisements may indeed operate by successfully convincing potential voters that the party is the most competent to handle the advertised issue.

Conclusion

Our paper tests the impact of issue-specific advertisements on vote intentions for the two winning parties of the 2015 parliamentary elections in Switzerland, the Swiss People's Party (SVP) and the Liberal Radical Party (FDP). In doing so, we present three important innovations. First, we develop a novel measure that allows us to track potential individual exposure to political advertisements. Second, we make use of an extensive dataset of political advertisements gathered in 50 important regional and supraregional newspapers, for the first time allowing us to examine campaign effects in all 26 Swiss cantons. Third, we capture effects of issue-specific political advertisements in the context of the Swiss parliamentary elections.

Overall, our findings point to limited effects of political advertisements, which is in line with previous non-experimental literature. What we do find is a general reinforcement effect for individuals who have been exposed to an intensive political campaign by the SVP. No such effects are on display for the FDP. We also detect a reinforcement effect of the amount of migration ads placed by the SVP, suggesting that perception biases are strongest when the advertised issue is highly contentious (Slothuus and De Vreese 2010). When turning to the question of whether advertisements helped to link existing individual preferences to the positions of a party, our findings indicate that FDP advertisements promoting the issue of EU policy succeeded in activating voters. Furthermore, we identify a reinforcement effect for SVP supporters that favor the strengthening of the economy, while no such effect is detected for economy ads sponsored by the FDP. Contrary to our theoretical expectations, this result suggests that campaign effects are more likely to be observed on issues that are not clearly owned by that party. In other words, campaigns

[17] Two of our replication models also suggest a reinforcement effect for SVP economy ads. Furthermore, our replication models suggest that there might be a positive effect for SVP EU ads.

may help shed light on a party's issue position previously rather unknown to the voter. Such new information may persuade some voters who hold strong views on that matter to vote for that party. This conclusion is supported by additional analyses, which demonstrate that campaigns may help boost the perceived competence issue ownership, including on issues that are not already owned by that party. Overall, however, our results do not attribute an important role to political advertisements when it comes to explaining changes in competence issue ownership.

We observe no activating effects for political advertisements placed by the SVP, meaning that an intense political campaign by the SVP did not entice people to vote for that party. Quite on the contrary, our results suggest that people who initially did not display an intention to vote are rather repulsed by the party's intensive issue-specific campaign, even when holding preferences that are in line with demands issued by the SVP. At the moment, we can only speculate about this finding. One might argue that the party has already gathered a stable voter clientele by other means before the campaign, most probably by launching (and winning) popular initiatives on these subjects, and therefore having reached its full voter potential. This could indicate that reinforcing its supporters remains the party's main task. On the other hand, political advertisements might not have been the main means through which to gain new voters. The SVP may have profited from a strong association with the migration issue in newspapers – the policy issue that received the greatest media attention at that time (Fög 2015). Hence, the great success of the party in 2015 may either have external roots, i.e. rest on events that occurred independently of the political campaign (see also Sciarini and Kriesi 2003: 442), and/or result from the SVP successfully influencing the tone of media reporting, for example through the introduction of the term "Asylchaos" (asylum chaos) (Lutz 2016: 45).

Our study is not without limitations. First, the findings presented here are strongly bound to a context in which only a small number of issues were seen as salient, and discussions revolving around these issues had been ongoing for several months. This may have contributed to the stabilization of party and issue preferences well in advance of the electoral campaign, reducing the chances for political advertisements to activate latent preferences or reinforce existing views.

Second, linkage analyses are not unimpeachable. Results may be sensitive to the choice of the measure of media exposure and to the way media content is operationalized (De Vreese et al. 2017). The robustness checks conducted within the framework of this study did not indicate that we might have substantially under- or overestimated the effects of campaign advertisements by the choice of our campaign variable.[18] However, future studies might want to give greater weight to more recently published advertisements, consider factors that might increase the visibility of political advertisements or include an analysis of frames. In addition, survey participants in general are prone to over-reporting their media use and the reliability of such measures is only deemed moderate, leading to the weakening of true media effects (see Scharkow and Bachl 2017 for an overview). While incorporating additional and finer grained questions on the use of informational sources in opinion surveys may help to create more reliable measures of exposure (De Vreese et al. 2017: 225), a comprehensive study of information reception and acceptance might want to rely on experimental designs (see Iyengar and Simon 2000: 151).

[18] We also examined whether the effects are sensitive to political awareness but our results did not provide strong evidence for that (results available on request).

Third, and related to the former, we rely on a thin database – both with regard to exposure to issue-specific ads as well as survey participants who indicated in the pre-campaign wave that they are unlikely to participate. Results thus have to be interpreted cautiously and we propose to speak of trends rather than of established facts.

Finally, due to data availability and our interest in capturing campaign exposure, our study limits itself to the analysis of the influence of political advertisements in print media. We are therefore not in a position to draw general conclusions on the influence of the overall campaign, since it neglects alternative means of campaigning, such as the use of Facebook or Twitter or the distribution of flyers in the streets. Yet, by focusing on political advertisements, we do follow an established path of campaign research conducted in a country where parties are not obliged to reveal their funding (e.g., Gerber and Bühlmann 2014; Kriesi 2009; Lanz and Nai 2015; Marquis 2006; Nai 2013; Sciarini and Kriesi 2003). While the use of social media in the context of politics is not negligible, empirical studies have demonstrated that digitization has not (yet) gained momentum (Bütikofer and Willi 2017; Lutz and Lebert 2017). Future research may want to establish the role and impact of alternative communication channels in the framework of electoral campaigning in Switzerland.

Despite these weaknesses, this study combined media content data with panel data and thus offers "more leverage with regard to change and causality" compared to other linkage studies that rely on descriptive, cross-sectional or RCS survey data (De Vreese et al. 2017: 223). Moreover, and to the best of the authors' knowledge, it did so for the first time to study campaign effects on vote intentions in Switzerland.

References

Alvarez, M.R., J. Nagler and S. Bowler (2000). Issues, Economics, and the Dynamics of Multiparty Elections: The British 1987 General Election. *American Political Science Review* 94(1): 131–149.

Ansolabehere, S. and S. Iyengar (1996). *Going Negative: How Political Advertisements Shrink and Polarize the Electorate*. New York: The Free Press.

APS (2016). Database: Political Advertisements in the 2015 Federal Elections. Année Politique Suisse, Institute of Political Science, University of Bern.

Arceneaux, K. (2006). Do Campaigns Help Voters Learn? A Cross-National Analysis. *British Journal of Political Science* 36(1): 159–173.

Bechtel, M., M.J. Hainmueller, D. Hangartner and M. Helbling (2015). Reality Bites: The Limits of Framing Effects for Salient and Contested Policy Issues. *Political Science Research and Methods* 3 (3): 683–695.

Bélanger, E. (2003). Issue Ownership by Canadian Political Parties 1953-2001. *Canadian Journal of Political Science* 36(3): 539–558.

Bélanger, E. and B.M. Meguid (2008). Issue Salience, Issue Ownership, and Issue-Based Vote Choice. *Electoral Studies* 27(3): 477–491.

Bochsler, D., M. Gerber and D. Zumbach (2016). The 2015 National Elections in Switzerland: Renewed Polarization and Shift to the Right. *Regional and Federal Studies* 26(1): 95–106.

Brader, T. (2005). Striking a Responsive Chord: How Political Ads Motivate and Persuade Voters by Appealing to Emotions. *American Journal of Political Science* 49(2): 388–405.

Brady, H. and R. Johnston (2006). The Rolling Cross Section and Causal Attribution. In Brady, H. and R. Johnston (eds.), *Capturing Campaign Effects*. Ann Arbor: University of Michigan Press (164–195).

Bühlmann, M, M. Gerber and D. Zumbach (2015a). Wahlkampf 2015: Die Parteien in den Medien. *Newsletter 38*. Available at http://chronik-on.eurospider.com/chronik-on-newsletter.20151016.html [accessed: 15.8.17].

Bühlmann, M., M. Gerber and D. Zumbach (2015b). Wahlkampf 2015: Die Parteien in den Medien. *Newsletter 28*. Available at http://chronik-on.eurospider.com/chronik-on-newsletter.20150803.html [accessed: 15.8.17]

Bühlmann, M., D. Zumbach, M. Gerber and A. Heidelberger (2016). *Cherry Picking at the 2015 Swiss Federal Elections: The Influence of Electoral Campaigning on Panachage and Cumulation*. Paper presented at the 10th ECPR General Conference, Prague.

Bütikofer, S. and T. Willi (2017). Mit dem richtigen Hashtag die Abstimmung gewinnen? In Fiechter, A. (ed.), *Smartphone-Demokratie*. Zürich: NZZ Libro (80–90).

Chong, D. and J.N. Druckman (2007). Framing Theory. *Annual Review of Political Science* 10(2007): 103–126.

Clarke, H., D. Sanders, M. Stewart and P. Whiteley (2011). Valence Politics and Electoral Choice in Britain, 2010. *Journal of Elections, Public Opinions and Parties* 21(2): 237–253.

Da Silveira, B.S. and J.M. De Mello (2011). Campaign Advertising and Election Outcomes: Quasi-Natural Experiment Evidence from Gubernatorial Elections in Brazil. *The Review of Economic Studies* 78(2): 590–612.

De Vreese, C.H., M. Boukes, A. Schuck, R. Vliegenthart, L. Bos and Y. Lelkes (2017). Linking Surve and Media Content Data: Opportunities, Considerations, and Pitfalls. *Communication Methods and Measures* 11(4): 221–244.

De Vreese, C.H. and H.A. Semetko (2004). News Matters: Influences on the Vote in the Danish 2000 Euro Referendum Campaign. *European Journal of Political Research* 43(5): 699–722.

Durante, R. and E. Gutierrez (2014). *Political Advertising and Voting Intentions: Evidence from Exogenous Variation in Ads Viewership*. Working Paper Sciences Po.

Fiske, S.T. and S.E. Taylor (1991). *Social Cognition*. New York: McGraw-Hill.

Fög (2015). Reputationsmonitor Politik: SVP dominiert im Wahljahr die Medienagenda. Report 1/2015. Forschungsinstitut Öffentlichkeit und Gesellschaft, University of Zurich.

—— (2017). Reputationsmonitor Politik: SVP dominiert auch 2016 die Medienarena. Report 1/2017. Forschungsinstitut Öffentlichkeit und Gesellschaft, University of Zurich.

Geers, S. and L. Bos (2017). Priming Issues, Party Visibility, and Party Evaluations: The Impact on Vote Switching. *Political Communication* 34(3): 344–366.

Gelman, A. and G. King (1993). Why are American Presidential Election Campaign Polls so Variable when Votes are so Predictable? *British Journal of Political Science* 23(4): 409–451.

Gerber, A., J. G. Gimpel, D. P. Green and D. R. Shaw (2007). *The Influence of Television and Radio Advertising on Candidate Evaluation: Results from a Large Scale Randomized Experiment*. Working paper, Yale University.

Gerber, M. and M. Bühlmann (2014). Do Ads Add Up? The Impact of Parties' Advertisements on the Stability of Vote Choice at the Swiss National Elections 2011. *Swiss Political Science Review* 20(4): 632–650.

Gerber, M. and S. Mueller (2016). The Parliamentary and Executive Elections in Switzerland, 2015. *Electoral Studies* 43(3): 194–197.

Goldstein, K. and P. Freedman (2000). New Evidence for New Arguments: Money and Advertising in the 1996 Senate Elections. *Journal of Politics* 62(4): 1087–1108.

Gordon, B.R. and W.R. Hartmann (2013). Advertising Effects in Presidential Elections. *Marketing Science* 32(1): 19–35.

Hermann, M. (2012). *Das politische Profil des Geldes: Wahl- und Abstimmungswerbung in der Schweiz*. Zürich: Forschungsstelle sotomo.

Huber, G. and K. Arceneaux (2007). Identifying the Persuasive Effects of Presidential Advertising. *American Journal of Political Science* 51(4): 777–798.

Iyengar, S. and A.F. Simon (2000). New Perspectives and Evidence on Political Communication and Campaign Effects. *Annual Review of Psychology* 51(1): 149–169.

Jerit, J. and J. Barabas (2012). Partisan Perceptual Bias and the Information Environment. *The Journal of Politics* 74(3): 672–684.

Kendall, C., T. Nannicini and F. Trebbi (2015). How Do Voters Respond to Information Evidence from a Randomized Campaign. *American Economic Review* 105(1): 322–353.

Kriesi, H. (2009). Sind Abstimmungsergebnisse käuflich? In Vatter, A., F. Varone and F. Sager (eds.), *Demokratie als Leidenschaft*. Bern: Haupt (83–106).

Kriesi, H. and P. Sciarini (2004). The Impact of Issue Preference on the Voting Choices in the Swiss Federal Elections 1999. *British Journal of Political Science* 34(4): 725–759.

Kunda, Z. (1990). The Case for Motivated Reasoning. *Psychological Bulletin* 108(3): 480–498.

Lachat, R. (2000). L'influence des campagnes politiques sur le vote: le cas des élections suisses de 1995. *Swiss Political Science Review* 6(4): 51–73.

—— (2014). Issue Ownership and the Vote: The Effects of Associative and Competence Ownership on Issue Voting. *Swiss Political Science Review* 20(4): 727–740.

Lachat, R. and P. Sciarini (2002). When Do Elections Campaigns Matter, and to Whom? Results from the 1999 Swiss Election Panel Study. In Farrell, D.M. and R. Schmitt-Beck (eds.), *Do Political Campaign Matter? Campaign Effects in Elections and Referendums*. New York: Psychology Press (41–57).

Lanz, S. and A. Nai (2015). Vote as You Think: Determinants of Consistent Decision Making in Direct Democracy. *Swiss Political Science Review* 21(1): 119–139.

Lanz, S. and P. Sciarini (2016). The Short-Time Dynamics of Issue Ownership and its Impact on the Vote. *Journal of Elections, Public Opinion and Parties* 26(2): 212–231.

Larreguy, H., J. Marshall and J. M. Snyder (2014). *Political Advertising in Consolidating Democracies: Radio Ads, Clientelism and Political Development in Mexico*. Working Paper, Harvard University.

Lau, R.R. and D.P. Redlawsk (2006). *How Voters Decide: Information Processing During Election Campaigns*. New York: Cambridge University Press.

Lazarsfeld, P.F., B. Berelson and H. Gaudet (1968). *The People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign*, 3rd edn. New York: Columbia University Press.

Longchamp, C., M. Imfeld, S. Tschöpe, M. Müller, P. Rochat, J. Schwab, …, S. Schüpbach (2015). Im Banne der Migrations- und Europafrage. 2. Welle des Wahlbarometers 2015, June 2015, gfs.bern. Available at http://www.gfsbern.ch/de-ch/Detail/2-welle-wahlbarometer-2015 [accessed: 8.1.16].

Lutz, G. (2016). Eidgenössische Wahlen 2015: Wahlteilnahme und Wahlentscheid. Selects – FORS, Lausanne.

Lutz, G. and F. Lebert (2017). *VOTO-Studie zur eidgenössischen Volksabstimmung vom 27. November 2016*. Lausanne/Aarau/Luzern: FORS, ZDA, LINK.

Lutz, G. and P. Sciarini (2016). Issue Competence and its Influence on Voting Behavior in the Swiss 2015 Elections. *Swiss Political Science Review* 22(1): 5–14.

Marquis, L. (2006). *La formation de l'opinion publique en démocratie directe: les référendums sur la politique extérieure suisse 1981-1995*. Zürich: Seismo.

Miller, A. H., E. N. Goldenberg and L. Erbring (1979). Type-Set Politics: Impact of Newspapers on Public Confidence. *American Political Science Review* 73(1): 67–84.

Nai, A. (2013). What Really Matters Is Which Camp Goes Dirty: Differential Effects of Negative Campaigning on Turnout During Swiss Federal Ballots. *European Journal of Political Research* 52(1): 44–70.

Nicolet, S. and P. Sciarini (2006). When Do Issue Opinions Matter, and to Whom? The Determinants of Long-Term Stability and Change in Party Choice in the 2003 Swiss Elections. *Swiss Political Science Review* 12(4): 159–190.

Petitpas, A. and P. Sciarini (2018). Short-Term Dynamics in Issue Ownership and Electoral Choice Formation. *Swiss Political Science Review* 24(4): 423–441.

Petrocik, J. (1996). Issue Ownership and Presidential Elections. *American Journal of Political Science* 40: 825–850.

Ridout, T., M. Franz, K. Goldstein and P. Freedman (2002). *Measuring Exposure to Campaign Advertising*. Working paper, University of Wisconsin-Madison.

Sanders, D. (2012). The Effects of Deliberative Polling in an EU-Wide Experiment: Five Mechanisms in Search of an Explanation. *British Journal of Political Science* 42(3): 617–640.

Scharkow, M. and M. Bachl (2017). How Measurement Error in Content Analysis and Self-Reported Media Use Leads to Minimal Media Effect Findings in Linkage Analyses: A Simulation Study. *Political Communication* 34(3): 323–343.

Sciarini, P. and H. Kriesi (2003). Opinion Stability and Change during an Electoral Campaign. Results from the 1999 Swiss Election Panel Study. *International Journal of Public Opinion Research* 15(4): 431–453.

Selects (2016). Panel / Rolling Cross-Section Study 2015 [Dataset]. Distributed by FORS, Lausanne. www.selects.ch [accessed: 22.10.2018].

—— (2017). Swiss National Election Studies, Cumulated File 1971-2015 [Dataset]. Distributed by FORS, Lausanne. www.selects.ch [accessed: 22.10.2018].

Slothuus, R. and C.H. De Vreese (2010). Political Parties, Motivated Reasoning, and Issue Framing Effects. *The Journal of Politics* 72(3): 630–645.

Spenkuch, J. L. and D. Toniatti (2015). *Political Advertising and Election Outcomes*. CESifo Working Paper No. 5780.

Steenbergen, M. (2010). Decomposing the Vote: Individual, Communal, and Cantonal Sources of Voting Behavior in Switzerland. *Swiss Political Science Review* 16(3): 403–424.

Stubager, R. and R. Sloothus (2012). What Are the Sources of Political Parties' Issue Ownership? Testing Four Explanations at the Individual Level. *Political Behavior* 35(3): 567–588.

Taber, C.S. and M. Lodge (2006). Motivated Skepticism in the Evaluation of Political Beliefs. *American Journal of Political Science* 50(3): 755–769.

Walgrave, S., J. Lefevre and M. Nuytemans (2009). Issue Ownership Stability and Change: How Political Parties Claim and Maintain Issues Through Media Appearances. *Political Communication* 26(2): 153–172.

Walgrave, S., J. Lefevre and A. Tresch (2014). The Limits of Issue-Ownership Dynamics: The Constraining Effect of Party Preference. *Journal of Elections, Public Opinion & Parties* 24(1): 1–19.

Zaller, J. (1992). *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.

Supporting Information

Additional Supporting Information may be found in the online version of this article.

Guillaume Zumofen is a PhD student at the Institute of Political Science, University of Bern, and research assistant of the 'Année Politique Suisse'. His research interests include political communication, political psychology and voting behavior. *Address for correspondence:* Institute of Political Science, Fabrikstrasse 8, CH-3012 Bern. *E-mail*: guillaume.zumofen@ipw.unibe.ch

Dr. Marlène Gerber is a researcher and lecturer at the Institute of Political Science, University of Bern, and deputy director of the 'Année Politique Suisse'. Her research interests include deliberation, direct democracy, political communication and political participation. *Address for correspondence:* Institute of Political Science, Fabrikstrasse 8, CH-3012 Bern. *E-mail*: marlene.gerber@ipw.unibe.ch

Received: 15 July 2021 | Revised: 21 September 2022 | Accepted: 22 September 2022

DOI: 10.1111/spsr.12545

SPSR Swiss Political Science Review
Schweizerische Zeitschrift für Politikwissenschaft
Revue Suisse de Science Politique
Rivista Svizzera di Scienza Politica

ORIGINAL ARTICLE

What Drives the Selection of Political Information on Google? Tension Between Ideal Democracy and the Influence of Ranking

Guillaume Zumofen

University of Bern

Correspondence
Guillaume Zumofen, University of Bern
Fabrikstrasse 8, CH-3012 Bern.
Email: guillaume.zumofen@unibe.ch

Abstract

The emergence of the Internet has altered how individuals obtain information—this also applies to political information. Search engines have taken over the role of political information gatekeepers, thus becoming key players in democracy. However, surprisingly little is known about the role of search engines in the political information process, that is, whether they represent an opportunity or a threat to democracy. Through an online survey experiment, which mimicked a Google web interface, this study examines how Swiss citizens select political information on a political news event from a Google search results page. Although citizens consider textual cues from snippets, they are more likely to select sources of information from the top of a Google results page, regardless of the source. We discuss these findings from a democratic theory perspective.

Zusammenfassung

Das Aufkommen des Internets hat die Art und Weise, wie Menschen an Informationen gelangen, verändert – dies gilt auch für politische Informationen. Suchmaschinen haben die Funktion eines Zugangspunktes zu politischen Informationen übernommen und sind damit zu Hauptakteuren der Demokratie geworden. Erstaunlicherweise wissen wir noch wenig darüber, welche Rolle ist Suchmaschinen bei der Verarbeitung politischer Informationen spielen. So stellt sich etwa die Frage, ob sie eine Chance oder eine Bedrohung für die Demokratie darstellen. Im Rahmen einer Online-Umfrage und mithilfe eines Experiments, das eine Google Webseite imitiert, analysiert diese Studie, wie Schweizer Bürgerinnen und Bürger politische Informationen im Zusammenhang mit einem aktuellen Ereignis auf einer Google-Suchergebnisseite auswählen. Obwohl die Bürgerinnen und Bürger inhaltliche

Hinweise berücksichtigen, sind sie eher geneigt, diejenigen Informationsquellen ganz oben auf der Google-Ergebnisseite auszuwählen, unabhängig von deren Quelle. Diese Erkenntnisse werden demokratietheoretisch diskutiert.

Résumé

L'avènement d'Internet a modifié la manière dont les individus obtiennent des informations, y compris des informations politiques. Les moteurs de recherches sont devenus des points d'entrée vers l'information politique, et de ce fait, des acteurs clés de la démocratie. Cependant, il est surprenant de constater que la compréhension du rôle des moteurs de recherche dans le traitement des informations politiques est faible, à savoir s'ils représentent une opportunité ou une menace pour la démocratie. Dans le cadre d'une enquête expérimentale en ligne qui imitait une interface Web de Google, cette étude analyse comment les citoyennes et citoyens helvétiques sélectionnent les informations politiques sur une page de résultats de Google. Bien que les citoyens prennent en compte les repères textuels, ils sont plus enclins à sélectionner des sources d'information au sommet de la page de résultat, quelle que soit la source. Ces conclusions sont mises en perspective avec la théorie de la démocratie.

KEYWORDS

algorithmic personalization, political information selection, referendum, search engines, selective exposure

INTRODUCTION

Information about politics is crucial for a functioning democracy. In his seminal work on democratic theory, Dahl (1989) has stated that individuals must have access to information to weigh different arguments and alternatives to reach an informed and enlightened decision that serves their best personal interest. Similarly, Vowles (2013) claimed that citizens' ideal participation in democracy relies on citizens having full information. Although a broad consensus exists on the significance of political information in a democracy, there is no agreement about how it should be provided or how individuals process it.

Recently, there has been growing interest in how the Internet impacts democracy, notably regarding political information. Xenos et al. (2018) and the Pew Research Center (2016) have noted a generational shift from traditional (i.e., offline) to online media, which has driven more people to seek information via the Internet. For the first time, an information structure incorporates almost all existing information available in one place (Schroeder, 2018). This transition of the information environment has created an easily accessible, unlimited information supply. In other words, people face not only a high-choice information environment, but they also can self-select information instead of having it imposed on them (Hargittai et al., 2012; Neuman et al., 2012). This information revolution has become a promise for enlightened decision making (Hindman, 2009) and, accordingly, for improving democracy through more informed citizen participation. For example, Vössing and Weber (2019) noted that citizens believe that political information they select themselves is more valuable than any they are passively presented with.

Facing information overload, people began to use search engines as a compass to navigate the overwhelming amount of available information (Lee et al., 2016; Pan et al., 2007; Scharkow &

Vogelgesang, 2011). Thus, search engines have taken over the role of political information gatekeepers and become key players in a democracy (Newman et al., 2019; Trevisan et al., 2018).

Scholars have warned about two emerging risks in this new paradigm. First, the filter bubble hypothesis postulates that algorithmic personalization (i.e., pre-selected personalization) filters out information diversity and increases the risk of self-reinforcement (Pariser, 2011). Given this information blindness (Zuiderveen Borgesisus et al., 2016) and the lack of transparency of algorithms (Schroeder, 2018), Epstein and Robertson (2015) and Epstein et al. (2017) have asserted that algorithmic personalization is a potential threat to democracy. Second, the selective exposure hypothesis assumes that citizens select only like-minded information sources (e.g., Stroud, 2011). Sunstein (2001) argued that the Internet facilitates the construction of echo chambers filled with only like-minded sources of information. One might then consider that search engines ease the self-selected personalization of information (Zuiderveen Borgesisus et al., 2016). However, citizens have two options to self-select information when using a search engine. First, they can type what they want to obtain in the search bar. Second, they can freely select a source of information from an ordered list.

With that in mind, this study tries to shed light on how citizens select information on a political news event from a search engine information environment. This study brings information science and social science together. Although scholars have considered the importance of political content in information selection, they have concluded that algorithmic ranking trumps information content. In other words, previous research has highlighted the importance of ranking, with individuals more often selecting information ranked at the top of the search engine results page (SERP). From a different perspective, the selection of an information source should be based on one's own information utility as a democratic citizen rather than at random or based on ranking. This could be a heuristic choice in terms of shortcuts, or an argument-based choice in terms of content. However, no studies have analyzed the simultaneous influence of ranking and selection of political information sources. The goal of this study is therefore to measure the tension between a democratically ideal selection of political information based on a citizen's utility (according to Dahl, 1989) and the influence of the ranking algorithm.

This brings us to the question of the potentially distorting role of search engines in a democracy. To become politically informed, do citizens simply click on the topmost entries, regardless of the expected content utility? Or do they select information sources based on information snippets, regardless of the position on the Google SERP? This study explores these questions and provides new insight into a hot discussion topic, namely the digitalization of democracy. It furthers Slechten et al. (2021) who pointed out that, although citizens tailor their information exposure, ranking remains the most important predictor of information selection.

To analyze information selection by search engine users, our study exploits an online survey experiment that mimicked a Google webpage. This experiment was conducted during a real-world campaign for a referendum vote on combining tax and pension reform in Switzerland in May 2019. As demonstrated by Trevisan et al. (2018), a significant political news event, notably a referendum campaign, boosts the volume of political information searches online. With that in mind, a referendum campaign is a suitable context to investigate how citizens use search engines. The findings based on a binary logistic regression indicate that citizens tend to select political information sources based on ranking. Heuristic or argument-based selection of political information—disregarding the ranking—remains infrequent and depends on the type of information source. The result has important implications for the functioning of a democracy.

SEARCH ENGINES AND POLITICAL INFORMATION SELECTION

Building on Boudreau and MacKenzie (2014) and Lutz (2006), political information can be defined as all the information available to citizens about political actors, institutions, and policies. The study by Vowles (2013) asserts that ideal participation in democracy relies on citizens having full information.

This is especially true in a referendum campaign setting in which citizens are directly involved in policy making. First, De Vreese's (2007) discussion of referendum campaigns highlighted that most of the electorate face a referendum in a state of relative ignorance. Most citizens lack reliable knowledge to hold an opinion because of the diversity and technicalities of the policies at stake. This is in sharp contrast to an election context where citizens form an opinion by updating their already existing opinion through a learning process (Graber, 2004). Second, the hot cognition hypothesis postulates that referendums are contentious, affect-laden, emotionally charged, and debated along partisan lines (Yeo et al., 2015). In contrast to an election context, where vote choice based on heuristic shortcuts is an easily accessible strategy, it can be expected that referendums are conducive to diverse motivated information selection strategies.

Bozdag (2013) and Courtois et al. (2018) define a search engine as an information intermediary that facilitates the information-seeking process. In light of the information overload, a search engine filters, prioritizes, and personalizes information sources into an ordered list. It is worth noting that a search engine does not generate content itself (Schroeder, 2018); rather, it simplifies users' access to a wide range of information only after they type in queries to obtain customized, abridged lists of information that could fulfill their search expectations (Flaxman et al., 2016).

Many recent studies have demonstrated that more than 90% of people use a search engine as a compass for navigating the Internet, including the political information it offers (Lee et al., 2016; Scharkow & Vogelgesang, 2011). Stephens et al. (2014) proved that citizens are motivated to use search engines to obtain political news and information. In Switzerland, Milic et al. (2018) empirically demonstrated that the political information supply is distributed and accessed via the Internet more and more frequently. Indeed, the Reuters Digital News Report (Newman et al., 2020) indicated that 77% of Swiss citizens use online media as a source of news.

In this new paradigm, scholars have warned about the risk of personalizing one's political information repertoire. First, the filter bubble hypothesis assumes that algorithms filter out information diversity (Pariser, 2011). In line with this, Muddiman (2013) concluded that search engines provide access to mainstream rather than diverse information because they follow a market model during political campaigns. What is more, Hong and Kim's (2018) findings confirm the information cascade hypothesis, which states that search engine users mostly read information that is also read by others. In contrast, a recent growing body of evidence in communication science suggests that the filter bubble fear is exaggerated (Flaxman et al., 2016; Fletcher & Nielsen, 2017; Haas & Unkel, 2017; Unkel & Haim, 2019). With two explorative studies, Haim et al. (2018) rejected both the self-selection and algorithm personalization hypotheses. Furthermore, Steiner et al. (2020) demonstrated that search engine algorithms ensure content diversity. In sum, these authors assert that the bubble might have burst.

Second, the awakening of the selective exposure hypothesis postulates that Internet users self-select like-minded sources of information, creating an echo chamber (Sunstein, 2001). Scholars have found mixed evidence regarding self-selected personalization. On one hand, higher choice, and higher degree of control online motivate individuals to exclude dissonant information from their repertoire (Bennett & Iyengar, 2008; Iyengar & Hahn, 2009; Knobloch-Westerwick et al., 2014). On the other hand, some literature has concluded that the risk of a fragmentation of citizenry online is overrated (Fletcher & Nielsen, 2017). Individuals do not exclude dissonant information from their repertoire just because they can (Garrett, 2009; Valentino et al., 2009). To the contrary, the higher degree of control on the Internet also eases access to dissonant information (Song et al., 2020).

HYPOTHESES

Online information is characterized not only by high choice (Valentino et al., 2009) but also by the heterogeneity of information sources available (Kammerer & Gerjets, 2012). Pirolli (2007) explained that web users gauge the value of an information source online from heuristic cues (i.e., information scent) and try to match their search expectations with the available "information scent." Based on the

so-called information foraging theory, it is expected that Web users exploit either the ranking or the textual content of the information snippets (e.g., URL, summary, headline) as cues to identify their desired information source.

The literature provides us with considerable evidence indicating that individuals use ranking as a heuristic cue to select information sources. To be precise, they more frequently select search results that appear at the top of the page (Ghose et al., 2019; Kammerer & Gerjets, 2014; Trevisan et al., 2018; Haas & Unkel, 2017). First, individuals blindly believe that search engines will rank their most personally relevant result at the top of the results list. Pan et al. (2007) described this as contemporary trust in search engines. Furthermore, under the satisficing principle, individuals choose satisfactory rather than optimal solutions (Krosnick & Alwin, 1987); thus, they expect search engines to rank the most satisfactory solution at the top of the results list. Second, psychological science's investigation of the importance of serial position in a rank-ordered list (Haugtvedt & Wegener, 1994) has identified a primacy effect: Placing an item at the top of a list reinforces its probability of being selected. Third, due to limited cognitive capacity, humans only consider one choice at a time when dealing with a list; for this reason, items at the top and bottom have an advantage in terms of recall (Mantonakis et al., 2009). Fourth, Höchstötter and Lewandowski (2009) concluded that individuals seldom scroll down the search engine's results page. This suggests that search results below the fold are rarely selected.

Thus, the first hypothesis states that *when searching for political information online, citizens more often select the search result ranked at the top of a SERP* (H1).

Literature in political sciences provides a different perspective. Building upon dual process models of reasoning (Eagly & Chaiken, 1993; Petty & Cacioppo, 1986), the literature indicates that information processing modes are driven by two different paths. Systematic information processing relies on a comprehensive analysis of the content. In comparison, heuristic information processing rests on peripheral cues to reach a shortcut decision. That is, a SERP provides a short preview of the information (i.e., snippets), with a headline, summary, and URL. This visual suggestion—with only approximately 200 characters and a link to the full content—supplies various textual cues, rather than argument-based content.

Some recent analyses have stated that textual cues are of prime importance in an online information environment (Kessler & Engelmann, 2019; Sundar et al., 2015). First, Messing and Westwood (2014), Sülflow et al. (2019), and Winter and Krämer (2014) demonstrated that sources are a prevalent driver of information selection online. Indeed, these scholars demonstrated that source credibility—that is, the expected quality of the information content—can influence information selection when considering a political information environment. Unkel and Haas (2017) concluded that the credibility of a source (i.e., its reputation) positively influences information selection on a SERP. Second, it is also necessary to integrate literature on motivated reasoning and selective exposure (see Yeo et al., 2015, for a review) to analyze information selection. According to this theory, individuals have goal-oriented information-seeking strategies. In a search engine information environment, such strategy relies upon the prevalence of textual cues to identify information sources, for example, political party or a like-minded source of information.

Altogether, citizens' ideal participation in democracy hangs on full information (Vowles, 2013)—if possible—or at least on information selection based on one's optimal information utility. As previously mentioned, the hot cognition hypothesis (Yeo et al., 2015) and the relative absence of prior knowledge on the policy at stake motivate diverse information selection strategies. On a SERP, it can be assumed that such selection strategies are driven by textual cues from snippets rather than by an unknown ranking algorithm. It can be hypothesized that citizens exploit textual cues to select either heuristic or systematic reasoning to form their opinion, as defined by the dual process models of reasoning (Eagly & Chaiken, 1993; Petty & Cacioppo, 1986).

With that in mind, the literature on referendum campaigns highlights three political information selection scenarios when facing a SERP. First, citizens might use textual cues to select information provided by trustworthy and knowledgeable political actors. In the Swiss direct democracy, Kriesi (2005) demonstrated that the government remains the most relevant actor in this context. As a

pivotal source of information, the government's role is to provide factual and impartial political information (Hessami, 2016). Consequently, citizens exploit textual cues from the snippet to identify Web pages from the government. In other words, *when searching for political information online, citizens more often select governmental Web pages, no matter the ranking* (H2).

Second, following a recommendation of one's preferred political party relates to a partisan heuristic. Colombo and Kriesi (2017) and Dermont and Stadelmann-Steffen (2019) indicated that party attachment influences the selection of political information in a referendum. Consequently, we hypothesize that *when searching for political information online, citizens more often select the Web page of their preferred political party*, *no matter the ranking* (H3).

Third, recent literature in political science has demonstrated that citizens also rely on policy arguments to form their opinions (Boudreau & MacKenzie, 2014; Bullock, 2011; Colombo & Kriesi, 2017). Overall, individuals using argument-based strategies to form their opinion are more likely to use textual cues to reach information sources such as quality media, which provide topic- or event-related information. To be precise, the content and quality of the coverage of the arguments vary between different types of media. For example, in contrast to quality newspapers that produce long articles, interviews, and editorial work, free newspapers do not offer detailed coverage of referendum campaigns (Gerth et al., 2012). Thus, the fourth hypothesis assumes that *when searching for political information online, citizens more often select Web pages from quality media, no matter the ranking* (H4).

METHODS AND DATA

Overview and Context

Data were gathered using a bilingual (German and French) survey distributed by the polling agency Qualtrics. Respondents were recruited from an opt-in panel, using a quota sampling method. They received an online survey invitation link and were invited to complete the survey either using a computer or a smartphone. The experiment lasted approximately 11 minutes. It spanned from April 8 to 15, 2019, that is, six weeks before the ballot day. The response rate was 52.5%.

The hypotheses were tested using a between-subjects survey experiment. This type of experiment is adequate to measure the simultaneous influence of ranking and sources of information. That is, it applies a different treatment (i.e., variation in ranking) across groups but keeps search results constant (i.e., same textual content). This disentangles the influence of ranking versus textual content on the selection of information sources on a SERP. Thus, the dependent variable was the nominally scaled absolute selection rate (0;1) of the search results. Further, the experiment mimicked a Google search engine interface by creating a similar layout (see Figure 1) to increase external validity. With external validity in mind, partial random ranking was also introduced in every treatment group. This introduced variation at the respondent level. A binary logistic regression was subsequently used.

The survey was conducted during a real-world campaign for a referendum in Switzerland in May 2019. The referendum concerned a law to change corporate tax and to enhance the financing of public retirement provisions ("Steuerreform und AHV-Finanzierung," STAF). Both topics—corporate tax and retirement provisions—are highly disputed and had been voted on only two years earlier. Therefore, a lively campaign and strong predispositions were at work for most people (Heidelberger, 2019; Milic et al., 2018).

Participants

Respondents were recruited from an opt-in panel using a quota sampling method based on gender, age, and language (75% German; 25% French). To improve data validity, respondents who took more

FIGURE 1 Mock Google SERP with ranking assignment by group.

than 30 minutes to fill out the survey and respondents living in Italian-speaking regions were removed, resulting in 821 observations. The sample is demographically representative, with party closeness matching the political forces in Switzerland (see Table 1).[1] Table 1 displays the descriptive statistics as well as the structural consistency tests used to confirm that the experimental groups were homogenous (p-value > .05).[2]

Procedure

The between-subject experiment replicated a Google information-seeking task. First, respondents were instructed to type search queries describing the referendum-related information they were seeking into a mock Google search bar.[3,4] Second, respondents were exposed to a mock Google SERP interface with a list of 10 predetermined Google search results. Each respondent experienced only one mock Google SERP interface. They were given the same search results (i.e., textual content), with the only variation being the order the results were presented, depending on their group assignment. Respondents were instructed to select as many search results as they felt were needed to adequately inform themselves and formulate an opinion regarding the referendum vote without any time restriction.[5] It is worth noting that the mock search queries had no impact on the search results, which were kept constant between respondents to isolate the impact of ranking versus sources of information.

Figure 1 highlights the ranking allocation and the type of information sources for each control and treatment group. To begin with, the control group was the reference. The ten search results were randomly assigned with an individual randomization for every respondent in this group. This baseline not only allowed for valid comparison with treatment groups, but it was also necessary to measure the simultaneous effect of ranking and sources of information. For treatment groups 1 and 2, the top five results were randomly allocated, while the results in the sixth through tenth positions remained fixed—top 5 ranking. For treatment groups 3 and 4, the results in the first and second positions were fixed, leaving the other search results randomly varying—last 8 ranking.[6]

Introducing partial random ranking within every treatment group reinforced external validity. Indeed, Internet users face SERPs that are individually tailored. This means that the order of search results varies across Internet users because of content-based and collaborative algorithm filtering (Cho et al., 2020). This additional variation at the respondent level displayed a different mock SERP for every respondent, no matter their group.

In addition, the experiment replicated a layout that mimicked a real-world Google page (e.g., similar colors, a mock Google search bar, and a reproduction of Google news story headlines repeated from real-world observations) (see Figure 1). The ten predetermined search results were comprised as follows: two governmental information sources (admin.ch); four media information sources, including the online platforms of a quality national newspaper (*Le Temps* for the French-speakers; *NZZ* for the German-speakers), of a free newspaper (*20 Minuten* in both languages), of a regional newspaper (*La Liberté* for the French-speakers; *Der Bund* for the German-speakers), and of the national television

[1]Respondents had to answer "Which political party better matches your political opinions?" The sample's closest political parties were 24.80% SVP, 16.27% SP, 12.99% FDP, 6.04% CVP, 6.04% Greens, 6.96% Green Liberals, 3.67% BDP, 12.11% other remaining parties, and 11.02% with no political party matching their political opinions.

[2]Variable voting choice was one exception to this. Treatment groups 2 and 4 differed significantly at the 0.05 level, but not at the 0.01 level. Still, the variable vote choice had no impact on information selection strategy in this experiment. See Online Appendix, Tables A1 and A10.

[3]The exact wording was as follows: "The vote concerning the tax policy and AHV financing reform takes place in a few weeks. The campaign just started. So, you probably have only limited knowledge on the topic. We give you the opportunity to use a Google search engine to search for information and to form an opinion related to the vote. Type in the search bar what kind of information you want to obtain related to the vote."

[4]The Google experiment proved to be not only robust, but also externally valid. We verified what respondents typed in the mock Google search bar and analyzed Google trends during the real-world referendum. Respondents typed 2.68 (SD = 2.31) words per search query in the mock search bar; 90% of search queries were formed with 1 to 5 words maximum.

[5]The exact wording was as follows: "Click on the sources you would like to read."

[6]Figure 1 pinpoints how the search results were ranked in every treatment groups.

TABLE 1 Descriptive Statistics and Structural Consistency Tests.

Variable	Operationalization	All	Control	1	2	3	4	p-value
N		821	154	174	162	163	168	
Sex (in %)	(0) male	50.86	51.30	48.28	48.15	55.90	50.90	0.629
	(1) female	49.14	48.70		51.85	44.10	49.10	
Age (in %)	(1) 18–34 years old	26.80	29.22	22.41	33.33	25.77	23.81	0.262
	(2) 35–54 years old	37.39	35.71	37.93	34.57	38.65	39.88	
	(3) more than 55 years	35.81	35.06	39.66	32.10	35.58	36.31	
Income (mean)	8-point scale from (0) below CHF 3′000 to (8) above CHF 15′000 gross monthly household income	3.22 (1.71)	3.09 (1.65)	3.11 (1.59)	3.33 (1.69)	3.51 (1.86)	3.10 (1.74)	0.165
Education (mean)	12-point scale from (1) no education to (12) university level	7.37 (2.93)	7.40 (2.97)	7.24 (2.92)	7.17 (2.89)	7.61 (2.85)	7.43 (3.06)	0.668
Political interest (mean)	4-point scale from (1) not at all interested to (4) very interested	2.91 (0.79)	2.92 (0.79)	2.87 (0.81)	2.83 (0.79)	3.01 (0.74)	2.92 (0.80)	0.282
Political knowledge (mean)	Additive index from (0) low political knowledge to (4) high political knowledge	2.44 (1.20)	2.35 (1.21)	2.50 (1.13)	2.30 (1.21)	2.64 (1.21)	2.38 (1.21)	0.064
Trust in government (mean)	10-point scale from (1) not trust at all to (10) fully trust the government	6.44 (1.81)	6.41 (1.93)	6.21 (1.94)	6.52 (1.64)	6.49 (1.80)	6.57 (1.74)	0.387
Party closeness (in %)	(1) not close to a party	55.35	55.33	58.38	58.12	49.69	55.09	0.408
	(2) pretty close to a party	37.64	40.00	34.10	35.62	40.49	38.32	
	(3) very close to a party	7.01	4.67	7.51	6.25	9.82	6.59	
Vote choice (mean)	4-point scale from (1) absolutely no to (4) absolutely yes	2.70 (0.80)	2.69 (0.75)	2.74 (0.75)	2.5 (0.89)	2.66 (0.84)	2.87 (0.74)	0.026
Internet as a source (mean)	(1) I never use the internet (5) I daily use the internet	2.94 (1.24)	2.93 (1.25)	2.84 (1.18)	2.93 (1.25)	3.01 (1.20)	2.98 (1.31)	0.732
Google as a source	(0) Google is not a source	80.88	77.92	85.06	82.10	82.21	76.79	0.288
	(1) Google is a source	19.12	22.08	14.94	17.90	17.79	23.21	
Operating system	(0) Computer	60.17	57.14	62.64	65.43	54.60	60.71	0.284
	(1) Smartphone (in %)	39.83	42.86	37.36	34.57	45.40	39.29	

Note: To verify structural consistency, we ran a Pearson chi-square test for independence for nominally scaled variables, and a one-way ANOVA test for independence for metrically scaled variable. Standard deviations are in parentheses. CHF: Swiss franc.

(rts.ch for the French-speakers; srf.ch for the German-speakers); information from the most important Swiss economic organization (economiesuisse.ch); a personal blog; information from the respondent's preferred party;[7] and Easyvote, a neutral platform on which information about the referendum is presented in a simplified form for a wide audience (easyvote.ch).[8]

[7]The respondents were asked which party they were voting for. Then, the search result was adjusted specifically for each respondent to fit their preferred political party.

[8]Google snippets are visual suggestions consisting only of approximately 200 characters, a web link, and textual cues about the content. Regarding this experiment, it is necessary to consider that respondents might have failed to interpret textual cues when determining what type of information source they are selecting. Still, citizens interact daily with Google snippets as 90% of individuals use a search engine to navigate the Internet (Lee et al., 2016; Scharkow & Vogelgesang, 2011). With that in mind, it can be assumed that internal validity is strong with respect to textual cues. Further, replicating Google snippets reinforced the external validity of the study.

Measures

Following Jang (2014) and Winter and Krämer (2012), a nominally scaled absolute selection rate was used for the binary logistic regression. The absolute selection rate was a binary variable, where search results obtained scores of 1 if they were selected and 0 if they were not. On average, respondents picked 2.7 information sources. Then, two variables of interest were incorporated. First, the search result's position on the Google experiment's rank-ordered list is a nominally scaled variable, which goes from 0 to 13. Each position in the rank-ordered list gets a nominal value, and there are three other possibilities as follows: being ranked in the top 5 or last 8, or being a sponsored result (i.e., Google ads).[9] Categories were mutually exclusive. Second, the information source is also nominally scaled. It gathers the different types of political information sources in the mock SERP: government, national newspaper, regional newspaper, free newspaper, national television, economic association, and personal blog.

Finally, control variables such as sociodemographic characteristics, politically related attributes, and information-seeking habits of the respondents were also incorporated.[10] Although individual-related attributes might alter information selection behavior, we refrained from analyzing the role of political-related and demographics attributes as moderator variables as the existing literature finds mixed evidence. On one hand, Slechten et al. (2021) and Trielli and Diakopoulos (2019) highlight that individual-level characteristics moderate selective exposure. On the other hand, Waller (2011) offers persuasive evidence that there are no differences in information-seeking behavior across contrasting population demographics. In line with this, a content analysis of the mock search queries revealed that individual-level characteristics had no influence on what respondents typed in the mock search bar (i.e., motivated or generic search queries).[11] Therefore, these variables are included as control rather than moderator variables.

Binary Logistic Regression

As previously mentioned, every respondent was exposed to the same search results with variations in ranking. The inclusion of partial random ranking in every treatment group introduced additional variation at the respondent level. This means that the experiment included variation not only at the group level, but also at the respondent level. To account for this two-level variation, it is suitable to opt for a multilevel logistic regression instead of a cross-table analysis with chi-square test for independence.[12]

To run this regression, the database was reshaped into long format, implying that every respondent is associated with ten decisions regarding an information source in the Google rank-ordered list. Thus, the database was formed of 821 observations multiplied by ten information sources (N = 8,210). The dependent variable is the absolute selection rate; that is, a binary variable where search results obtained scores of 1 if they were selected and 0 if they were not.

Given the treatment group design, the database was formed based on 8,210 observations (Level 1 units) nested in the following two clusters: respondents (Level 2 units) and treatment groups (Level 3 units). The clusters' homogeneity was measured with the model's intra-class correlation coefficient (ICC) without fixed effects. The results are 0.11 for Level 2 and 0.12 for Level 3. An ICC that is close to 0 for both clusters implies that variation mainly exists within clusters instead of between them.

[9]These possibilities are derived from the portion of random ranking within every treatment group.
[10]See Table 1.
[11]Please contact the author for further information.
[12]The Pearson chi-square test confirms that the model correctly fits the data. There is no evidence to reject the hypothesis that the fitted model is adequate (p-value = 0.3691). See Table A1 in the online Appendix.

Given that the ICC coefficients are close to 0, it is possible to run a binary logistic regression instead of a multilevel logistic regression.[13]

RESULTS[14]

The binary logistic regression emphasizes the online information seeking behavior of citizens facing a SERP. The ranking and type of information source were regressed on the absolute selection rate of search results.

Figure 2 highlights the importance of ranking in information selection. It displays the average marginal effect (AMEs) of ranking with a 95% confidence interval. The dashed line represents the random ranking baseline category (i.e., control group). First, Figure 2 pinpoints a statistically significant difference in the selection of an information source with the extremity of the rank-ordered list in comparison to random ranking: on one side, the probability that an individual will select a search result that is ranked first is four times higher than with random ranking; on the other side, an individual has a lower probability (three times lower) of choosing a search result that is ranked tenth in comparison with a random ranking. Search results that are ranked higher or equal to fifth (top 5) are statistically selected more often than those below that rank. It can be assumed that the positive influence of a top 5 ranking is mostly driven by the first position. Further, the influence of ranking is stronger for Google

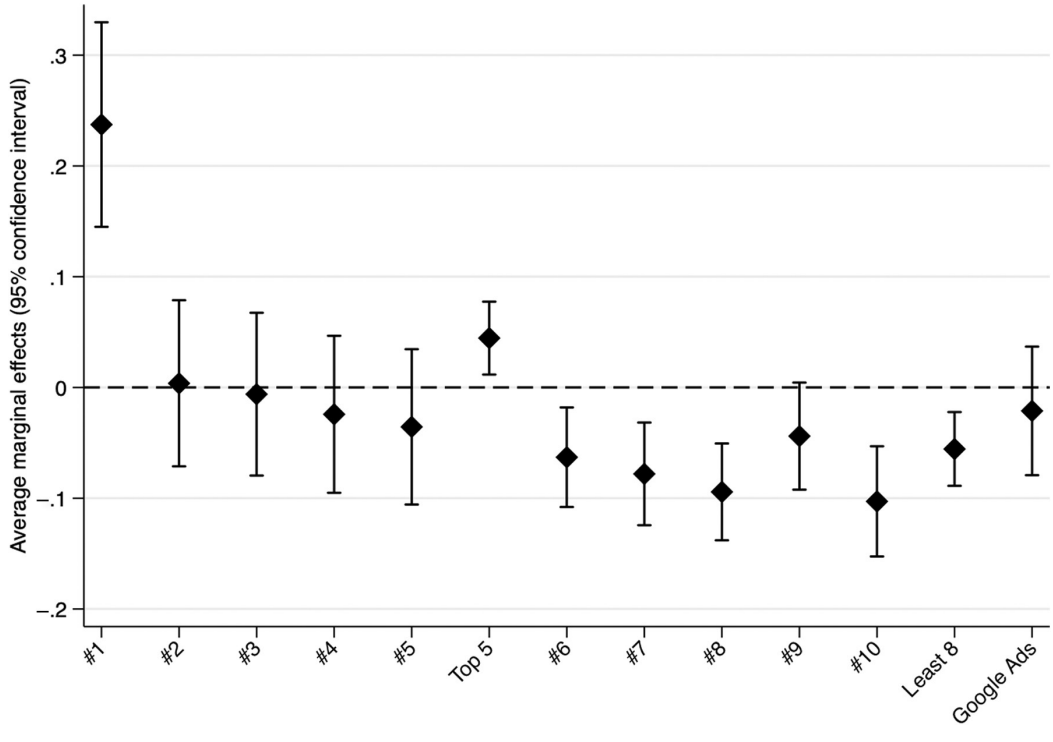


FIGURE 2 Political Information Selection on a SERP—Influence of Ranking.
Note: The control group (i.e., random ranking) is the baseline category.

[13]To verify the robustness of our findings, we also ran a multilevel logistic regression and obtained similar results. Please consult Table A4 in the online Appendix. For further details on multilevel logistic regression, see Sommet and Morselli (2017).
[14]The results for the binary logistic regressions are visually represented to ease interpretation (see Figure 2, 3 and 4). Please consult the online Appendix Tables A1, A2, A3, A5, and A6.

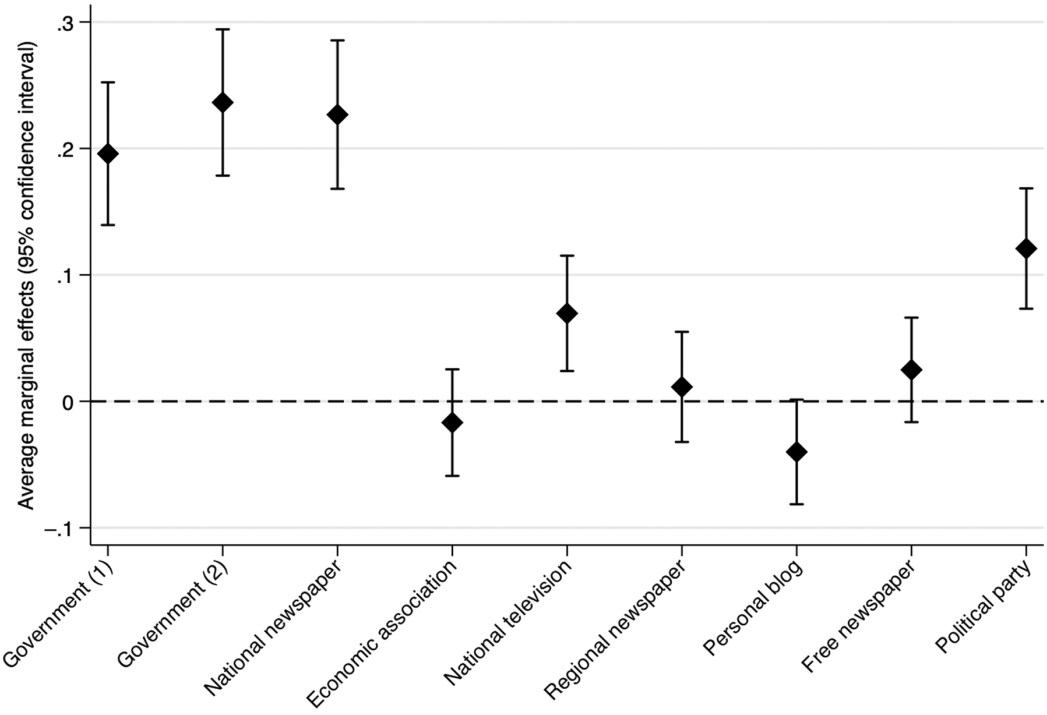


FIGURE 3 Political Information Selection on a SERP—Influence of Textual Cues.
Note: The selection of the easyvote.ch neutral platform is the baseline category.

results ranked below the fifth position. Indeed, for a search result, having a sixth through tenth ranking significantly reduces the probability of being selected. Subsequently, it is also worth noting that our model identified no differences in selection between a sponsored result (i.e., Google ads), no matter its topmost position, and a random ranking. In summary, H1 is accepted.

Figure 3 illustrates the importance of political information sources (i.e., textual content) in selection of search results. It displays the average marginal effects of textual content with a 95% confidence interval. The dashed line represents the baseline category; that is, the selection of the easyvote.ch neutral Web page. It is necessary to use this neutral platform as the baseline category to isolate the influence of party cues or like-minded information sources. First, the variation in selection of search results indicates that users exploited the textual cues from snippets to identify their desired source of information. Thus, the results pinpoint a sharp increase in the selection of governmental sources of information in comparison to the baseline category. This difference is also statistically significant with all other sources of information, except the national newspaper and preferred political party webpage. Hence, concerning the media, respondents tended to rely heavily on the national newspaper and national television (i.e., quality media). This is especially true for the national newspaper. A third source of information is also highly significant: one's preferred political party. In other words, respondents based their selection on cues that arose from either the government, a preferred political party, or quality media. To the contrary, respondents neglected the economic association, regional newspaper, free newspaper (i.e., tabloid), and personal blog as sources of information.

To examine the next hypotheses, it is necessary to measure the interaction effect of ranking with sources of information. To ease interpretation, both the variable ranking and textual content were re-operationalized. On one side, a new categorical variable for ranking with three categories was created: at random, top 5, and last 5. This new subdivision relied upon our preliminary results. On the other side, political sources of information were grouped into six categories. This builds on our

preliminary results and on Tate's (2010) classification of information sources on a SERP. First, the governmental Web pages are grouped into the first category. This matches Tate's (2010) "informational" category with Web pages supplying factual (i.e., neutral) information. Second, Tate (2010) gathers information sources that aim at influencing public opinion into one category termed "advocacy." Two political information sources from the mock SERP match this classification: political party and economic organization. However, considering the relevance of political party cues in a referendum context (Colombo & Kriesi, 2017; Dermont & Stadelmann-Steffen, 2019) and H3, it is more precise to separate these two political sources of information, rather than grouping them into an "advocacy" category. Third, Tate (2010) explains that users also encounter "news" Web pages, which present topic- or event-related information. To obtain a finer-grained measure, the analysis divided the "news" category into quality "news" Web pages (i.e., national newspaper, regional newspaper, and national television) and the tabloid "news" Web page (i.e., free newspaper). Finally, the personal blog Web page fits into the "personal" Web page category.

Figure 4 displays the average marginal effects of the ranking categories for the different information source categories with a 95% confidence interval. In other words, it measures the interaction effect of textual cues from snippets with the ranking in the ordered SERP. It measures the tension between ideal democracy (i.e., selection based on citizen's utility) and the influence of the ranking's algorithm. The dashed line represents the baseline category; that is, the interaction between random ranking and the selection of the easyvote.ch neutral Web page. To begin with, the logistic regression with interaction effects confirms the findings in Figure 3. Hence, respondents are mostly using textual cues to identify three political information sources: governmental, political party, and quality media.

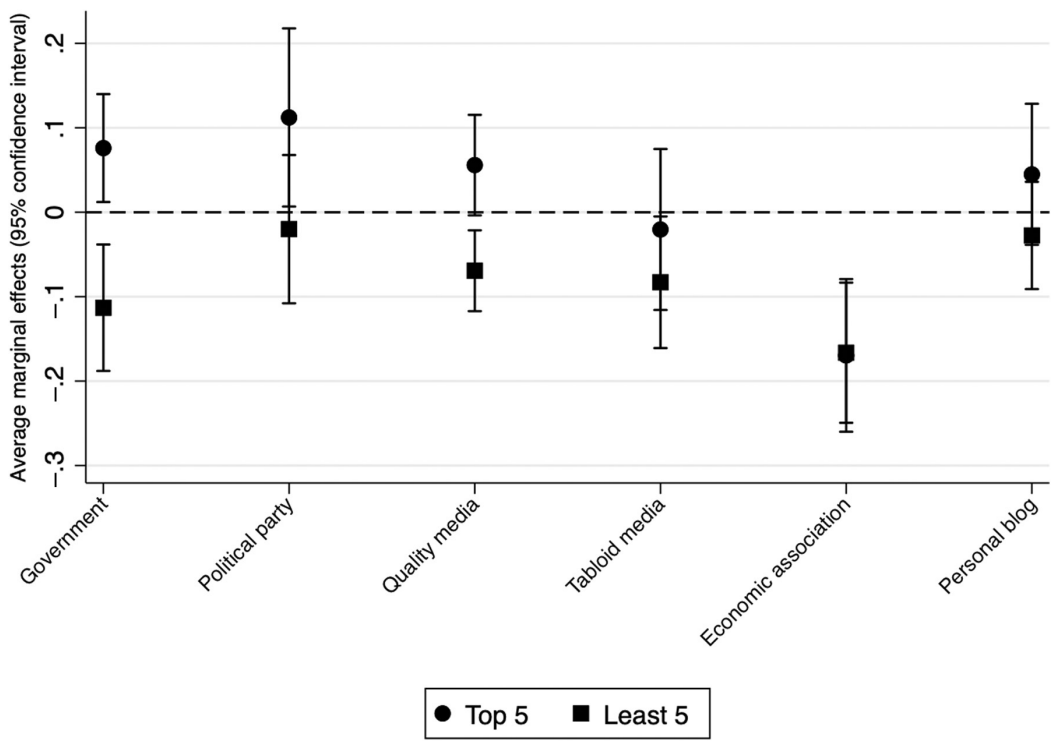


FIGURE 4 Political Information Selection on a SERP—Interaction Effect Between Ranking and Political Information Source.

Note: The interaction between random ranking and the easyvote.ch neutral platform is the baseline category.

To the contrary, the economic association and tabloid are mostly ignored.[15] Additionally, a statistical difference in selection rate between the top 5, last 5, and random ranking exists for governmental and quality media Web pages. For example, the probability of selecting a governmental Web page is 65% higher with a top 5 ranking and 32% lower with a last 5 ranking in comparison to a random ranking. Consequently, H2 and H4 are rejected. In contrast, the selection of a preferred political party Web page as a source of information seems to be independent of ranking. The probability of selecting a political party Web page is 70% higher with a top 5 ranking. Nevertheless, this difference is statistically not significant with a last 5 ranking. Though a top 5 ranking increases the probability of selecting the Web page of one's preferred political party, respondents are still using textual cues to identify their preferred political party Web page, even if it is ranked below the fifth position. To sum up, H3 is accepted.

Finally, it is also worth mentioning that a slightly higher absolute selection rate was observed for respondents who have higher education and higher political interest, as well as for those who use the Internet, and more specifically Google, as a source of political information. To deepen the analysis, a distinction was made between computer and smartphone users, and between Google versus non-Google users, to account for different modes of political information consumption. As robustness checks, a distinction was also made between French-speaking versus German-speaking respondents because the survey experiment was bilingual, and a distinction was made between those voting in favor of or against the referendum policy because the structural consistency tests detected a slight difference between treatment groups 2 and 4. Nevertheless, the results with these four differentiations remained identical to the results already mentioned (see the online Appendix, Tables A7, A8, A9, and A10). Two exceptions are worth noting. First, a regression with only smartphone users detected a strong positive influence of a first position, but no negative influence of a ranking below the fifth position. It can be hypothesized that the size of the screen reinforces the prevalence of the first position. Second, a first position had no significant influence on selection for respondents that regularly use Google to inform themselves about politics. One might postulate that Google users are either more accustomed to textual cues, or they are aware of the ranking algorithm. This calls for further studies.

DISCUSSION

The ever-growing importance of the Internet has affected the literature on political information selection. A broad body of literature has rejected fears related to the filter bubble hypothesis and has emphasized the seminal importance of ranking in online information selection on a SERP. However, few scholars have examined the tension between ideal information seeking in a participatory democracy (i.e., information selection based on citizen's utility) and the influence of ranking on political information selection.[16] This analysis has shown that ranking, and to a lesser degree, the sources of information from snippets are important to the selection of political information on a SERP.

The results indeed demonstrate that ranking influences the information selection strategy. These findings are in line with the literature (Ghose et al., 2019; Kammerer & Gerjets, 2014; Pan et al., 2007; Trevisan et al., 2018; Unkel & Haas, 2017). The results also emphasize the tremendous importance of ranking extremity. That is, a first position strongly increases the selection rate, whereas a sixth through tenth position reduces the selection rate. These results seem to indicate cut-offs at the second and fifth positions. This is in line with Höchstötter and Lewandowski (2009) who identified that search results below the fold are rarely selected. In other words, (political) information selection stops where the screen ends. One might conclude that this prevalence of ranking is driven by a contemporary trust in search engines (Pan et al., 2007) and the satisficing principle (Krosnick & Alwin, 1987). That is,

[15] See the online Appendix, Table A5.
[16] A noteworthy exception is Slechten et al. (2021).

citizens aim for a satisfactory solution rather than an optimal one. Thus, they blindly trust that search engines provide them with their most personally relevant result at the top of the list.

Examining the simultaneous influence of political information sources with ranking, H3 (preferred political party) is accepted. On one hand, a top 5 ranking increases the probability that a citizen selects their preferred political party's Web page in comparison to a random ranking. On the other hand, citizens use textual cues from snippets to identify their preferred political party's cues even if it is ranked at the bottom of the SERP. As for the party cues, this finding matches with Colombo and Kriesi (2017) and Dermont and Stadelmann-Steffen (2019), who concluded that political party cues play a seminal role in a referendum context. In line with dual-process models of reasoning, citizens opt for their preferred political party's cue as a heuristic to guide their political information processing.

On the contrary, H2 (government) and H4 (quality media) are rejected. The selection of governmental and quality media Web pages is dependent on ranking. That is, citizens are less likely to select "informational" or quality "news" Web pages if they are not ranked in a top position. This conclusion not only conflicts with Kriesi (2005) who argues that the government is the most trustworthy political actor, but it also raises the question of the role of search engines' algorithms in the pre-selection and dissemination of political information in a participatory democracy. Hence, "informational" and quality "news" Web pages nurture citizens' systematic reasoning (i.e., argument-based information processing strategy) when facing a referendum. This confirms Slechten et al. (2021) who concluded that, on one hand, ranking is the most prominent factor to predict information selection, but on the other hand, users sometimes defy the algorithmic ranking to tailor their information exposure.

What are the implications from a democratic theory perspective? On one hand, one might argue that the role of the algorithm is not to choose, but rather to reflect mass leanings toward a few sources (Granka, 2013). That is, a "well-designed" algorithm provides citizens with the political information sources they "want" to obtain based on their previous searches in addition to other people's searches on the same topic—that is, collaborative and content-based filtering (Cho et al., 2020). In addition, many scholars have recently demonstrated that search engines provide a high diversity of political information, concluding that the algorithmic filter bubble has burst (Haim et al., 2018; Steiner et al., 2020; Unkel & Haim, 2019).

On the other hand, one might postulate that online political information seeking behavior and algorithmic blurriness is a potential threat for democracy given the lack of transparency in the algorithm pre-selection (Epstein et al., 2017). "Informational" and quality "news" Web pages are seminal to form an opinion with an argument-based strategy—an important element of Dahl's (1989) ideal democracy, where individuals choose information to reach informed and enlightened decisions that serve their best personal interest. Though these Web pages provide factual and neutral political arguments, this empirical study demonstrated that most citizens only consult them if they are ranked in a top position, that is, a top 5 ranking. That is, their selection is dependent of the algorithmic personalization. Alternatively, given that only 3% of searches are potentially related to political information (Waller, 2011), the question is whether the algorithm is sufficiently fed information-wise to deliver diverse political information sources. That is, Muddiman (2013) and Hong and Kim (2018) concluded that search engines provide a highly concentrated distribution of information.[17]

Taking Dahl's (1989) idea of the "ideal democracy" seriously, no information should be ranked over another. Citizens must have the opportunity to find sources that help them to reach informed decisions that correspond to their best personal interest.[18] Thus, because we do not know exactly how the algorithm works, the fact that citizens tend to choose top-ranked sources is a potential threat to Dahl's (1989) ideal democracy. In line with Steiner et al. (2020) and Unkel and Haim (2019), this calls for higher algorithmic transparency to ensure that citizens benefit from the Internet high-choice and interactive environment.

[17]Of course, one could argue that not searching at all for political information would be a graver danger to democracy than algorithmic ranking.
[18]Likewise, Mansfield and Mutz (2009) have asserted that sociotropic models of opinion formation are information-based. Indeed, citizens must have the opportunity to find sources that help them reach informed decisions that serve the nation as a whole.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Though this study deepens the understanding of political information selection on a SERP, the experimental design is not without limitations. First, it would be necessary to also study what individuals type in the Google search bar to have an encompassing understanding of user-interaction with the Google information environment. This is not only in line with Slechten et al.'s (2021) claim that the selective exposure perspective should be adapted to algorithmically governed platforms, but it also aligns with Trielli and Diakopoulos' (2019) findings about search queries in an election context. Are web users opting for generic political search terms? Or are they already indicating their self-selection intentions to the algorithm? This is a research topic that would benefit from additional scholarly attention.

Second, this study highlights how ranking and information sources interact in the information selection strategy. Nevertheless, it neither considers content-based filtering (i.e., what people type in the search bar influences the personalized list) nor collaborative filtering (i.e., what others type in the search bar influence the personalized list) in algorithmic personalization. However, the non-personalization makes the experimental design more conservative. Even though respondents were exposed to a non-personalized list, they still selected the topmost entries.

Third, the study cannot fully assess whether the findings are sensitive to case selection (i.e., tax and pension reform), or whether they can be generalized to other policies. Are strong predispositions regarding the policy strengthening the influence of ranking? Are citizens tailoring their information selection strategy depending on whether the policy is complex or emotional? Furthermore, the findings might also be sensitive to the referendum context. Are citizens adapting their information selection strategy because they can directly decide on policies, in comparison with a context where it is only a political debate without a policy decision, or a policy that is decided by elected representatives? This calls for further studies with other policies and in other political contexts.

OPEN RESEARCH BADGES

This article has earned Open Data and Open Materials badges for making publicly available the digitally-shareable data necessary to reproduce the reported results. The data is available at https://github.com/ZumofenG/P5_SelectPoliticalInformationGoogle/tree/main/stats.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in GitHub repository ZumofenG at https://github.com/ZumofenG/P5_SelectPoliticalInformationGoogle/tree/main/stats.

ORCID

Guillaume Zumofen https://orcid.org/0000-0002-9047-9099

REFERENCES

Bennett, W., & Iyengar, S. (2008). A New Era of Minimal Effect? The Changing Foundations of Political Communication. *Journal of Communication, 58*(4), 707–731.

Boudreau, C., & MacKenzie, S. A. (2014). Informing the electorate? How party cues and policy information affect public opinion about initiatives. *American Journal of Political Science, 58*(1), 48–62.

Bullock, J. (2011). Elite influence on public opinion in an informed electorate. *American Journal of Political Science*, *105*(3), 496–515.

Bozdag, E. (2013). Bias in algorithmic filtering and personalization. *Ethics and Information Technology, 15*(3), 209–227.

Cho, J., Ahmed, S., Hilbert, M., Liu, B., & Luu, J. (2020). Do search algorithms endanger democracy? An experimental investigation of algorithm effects on political polarization. *Journal of broadcasting & Electronic media, 64*(2), 150–172.

Colombo, C., & Kriesi, H. (2017). Party, policy – or both? Partisan-biased processing of policy arguments in direct democracy. *Journal of Elections, Public Opinion and Parties, 27*(3), 235–253.
Courtois, C., Sleuchten, L., & Coenen, L. (2018). Challenging Google Search filter bubbles in social and political information: Disconfirming evidence from a digital methods case study. *Telematics and Informatics, 35*, 2006–2015.
Dahl, R. A. (1989). *Democracy and Its Critics*. Michigan: Yale University Press.
De Vreese, C. H. (2007). Context, elites, media and public opinion in referendum: When campaigns really matter. In C. H. De Vreese (Ed.), *The Dynamics of Referendum Campaigns* (pp.1–20). London: Palgrave Macmillan.
Dermont, C., & Stadelmann-Steffen, I. (2019). The role of policy and party information in direct-democratic campaigns. *International Journal of Public Opinion Research, 32*(3), 442–466.
Eagly, A., & Chaiken, S. (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt.
Epstein, R., & Robertson, R. E. (2015). The search engine manipulation effect (SEME) and its possible impact on the outcomes of elections. In: *Proceedings of the National Academy of Sciences of the United States of America, 112*(33), 4512–4521.
Epstein, R., Robertson, R. E., Lazer, D., & Wilson, C. (2017). Suppressing the search engine manipulation effect (SEME). In *Proceedings of the ACME on human-computer interaction* 1(42), Issue 2. New York, NY: Association for Computing Machinery.
Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter bubble, echo chambers, and online news consumption. *Public Opinion Quarterly, 80*, 298–320.
Fletcher, R., & Nielsen, R. K. (2017). Are news audience increasingly fragmented? A cross-national comparative analysis of cross-platform news audience fragmentation and duplication. *Journal of Communication, 67*(4), 476–498.
Garrett, R. (2009). Echo-chambers online? Politically Motivated Selective Exposure among Internet News Users. *Journal of Computer-Mediated Communication, 14*(2), 262–285.
Gerth, M. A., Dahinden, U., & Siegert, G. (2012). Coverage of the campaigns in the media. In H. Kriesi (Ed.), *Political communication in direct democratic campaigns. Enlightening or manipulating?* (pp. 108–124). London: Palgrave Macmillan.
Ghose, A., Ipeirotis, P. G., & Li, B. (2019). Examining the impact of ranking on consumer behavior and search engine revenue. *Management Science, 60*(7), 1632–1654.
Graber, D. (2004). Mediated Politics and Citizenship in the Twenty-First Century. *Annual Review of Psychology, 55*, 545–571.
Granka, L. (2013). Using online searches to predict US presidential elections. *PS: Political Science and Politics, 46*(2), 271–279.
Haim, M., Graefe, A., & Brosius, H. B. (2018). Burst of the filter bubble? Effects of personalization on the diversity of Google News. *Digital Journalism, 6*(3), 330–343.
Haas, A., & Unkel, J. (2017). Ranking versus reputation: Perception and effects of search result credibility. *Behaviour & Information Technology, 36*(12), 1285–1298.
Hargittai, E., Neuman, W. R., & Curry, O. (2012). Taming the Information Tide: Perceptions of Information Overload in the American Home. *The Information Society, 28*(3), 161–173.
Haugtvedt, C. P., & Wegener, D. T. (1994). Message order effects in persuasion: An attitude strength perspective. *Journal of Consumer Research, 21*(1), 205–218.
Heidelberger, A. (2019). *APS-Inserateanalyse der eidgenössischen Abstimmung vom 19. Mai 2019*. Bern: Année Politique Suisse, Institut für Politikwissenschaft der Universität Bern.
Hessami, Z. (2016). How do voters react to complex choices in a direct democracy? *Evidence from Switzerland. Kyklos, 69*(2), 263–293.
Hindman, M. (2009). *The Myth of Digital Democracy*. Oxford: Princeton University Press.
Höchstötter, N., & Lewandowski, D. (2009). What users see – structures in search engine results page. *Information Sciences, 179*(12), 1796–1812.
Hong, S., & Kim, N. (2018). Will the internet promote democracy? search engines, concentration of online news readership, and e-democracy. *Journal of Information Technology & Politics, 15*(4), 388–399.
Iyengar, S., & Hahn, K. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication, 59*, 19–39.
Jang, M. J. (2014). Challenges to Selective Exposure: Selective Seeking and Avoidance in a Multitasking Media Environment. *Mass Communication & Society, 17*(5), 665–688.
Kammerer, Y., & Gerjets, P. (2012). How search engine users evaluate and select web search results: The impact of the search engine interface on credibility assessments. In D. Lewandowski (Ed.), *Web search engine research* (pp. 251–279). Bingley: Emerald Group Publishing Limited.
Kammerer, Y., & Gerjets, P. (2014). The Role of Search Result Position and Source Trustworthiness in the Selection of Web Search Results When Using a List or a Grid Interface. *International Journal of Human-Computer Interaction, 30*(3), 171–191.
Kessler, S. H., & Engelmann, I. (2019). Why do we click? Investigating reasons for user selection on a news aggregator website. *European Journal of Communication Research, 44*(2), 225–247.
Knobloch-Westerwick, S., Johnson, B., & Westerwick, A. (2014). Confirmation Bias in Online Searches: Impacts of Selective Exposure Before and Election on Political Attitude Strength and Shifts. *Journal of Computer-Mediated Communication, 20*, 171–187.
Kriesi, H. (2005). *Direct Democratic Choice. The Swiss Experience*. Lanham: Lexington Books.

Krosnick, J. A., & Alwin, D. F. (1987). An evaluation of a cognitive theory of response-order effects in survey management. *The Public Opinion Quarterly, 51*(2), 201–219.

Lee, B., Kim, J., & Scheufele, D. A. (2016). Agenda setting in the Internet Age: The reciprocity between online searches and issue salience. *International Journal of Public Opinion research, 28*(3), 440–455.

Lutz, G. (2006). *Participation, Information and Democracy. The Consequences of Low Levels of Participation and In- formation for the Functioning of Democracy*. Hamburg: Lit Verlag.

Mansfield, E. D., & Mutz, D. (2009). Support for Free Trade: Self-Interest, Sociotropic Politics, and Out-Group Anxiety. *International Organization, 63*(3), 425–457.

Mantonakis, A., Rodero, P., Lesschaeve, I., & Reid, H. (2009). Order in choice: Effects of serial position on preferences. *Association for Psychological Science, 20*(11), 1309–1312.

Messing, S., & Westwood, S. J. (2014). Selective exposure in the age of social media: endorsements trump partisan source affiliation when selecting news online. *Communication Research, 41*(8), 1042–1063.

Milic, T., Reiss, T., & Kübler, D. (2018). *VOTO-Studie zur eidgenössischen Volksabstimmung vom 10. Juni 2018*. ZDA, FORS, LINK: Aarau, Lausanne, Luzern.

Muddiman, A. (2013). Searching for the Next U.S. President: Differences in Search Engine Results for the 2008 U.S. Presidential Candidates. *Journal of Information Technology & Politics, 10*(2), 138–157.

Neuman, W. R., Park, A. J., & Panek, E. (2012). Info Capacity: Tracking the Flow of Information into the Home: An Empirical Assessment of the Digital Revolution in the US from 1960–2005. *International Journal of Communication, 6*(20), 1022–1041.

Newman, N., Fletcher, R., Klageropoulos, A., & Kleis Nielsen, R. (2019). *Reuters Institute Digital News Report 2019*. Oxford, England: Reuters Institute for the Study of Journalism.

Newman, N., Fletcher, R., Schulz, A., Andi, S., & Kleis Nielsen, R. (2020). *Reuters Institute Digital News Report 2020*. Oxford, England: Reuters Institute for the Study of Journalism.

Pan, B., Hembrooke, H., Joachims, T., Lorigo, L., Gay, G., & Granka, L. (2007). In Google we trust: users' decisions on rank, position, and relevance. *Journal of Computer Mediated Communication, 12*(3), 801–823.

Pariser, E. (2011). *The Filter Bubble: How the new personalized web is changing what we read and how we think*. New York, NY: Penguin.

Petty, R., & Cacioppo, T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology, 19*, 123–205.

Pew Research Center. (2016). *State of the news media 2016*. Technical Report, Washington, DC.

Pirolli, P. (2007). *Information foraging theory: Adaptative interaction with information*. New York, NY: Oxford University Press.

Scharkow, M., & Vogelgesang, J. (2011). Measuring the public agenda using search engine queries. *International Journal of Public Opinion Research, 23*(1), 104–113.

Schroeder, R. (2018). The internet in everyday life II: Seeking information. In R. Schroeder (Ed.), *Social theory after the internet* (pp. 101–125). London: UCL Press.

Slechten, L., Courtois, C., Coenen, L., & Zaman, B. (2021). Adapting the Selective Exposure Perspective to Algorithmically Governed Platforms: The Case of Google Search. *Communication research*. April.

Sommet, N., & Morselli, D. (2017). Keep calm and learn multilevel logistic modelling: A simplified three-step procedure using Stata, R, MPlus and SPSS. *International Review of Social Psychology, 30*(1), 203–218.

Song, H., Cho, J., & Benefield, G. (2020). The Dynamics of Message Selection in Online Political Discussion Forums: Self-Segregation or Diverse Exposure? *Communication Research, 47*(1), 125–152.

Steiner, M., Magin, M., Stark, B., & Geiss, S. (2020). Seek and you shall find? A content analysis on the diversity of five search engines' results on political queries. *Information, Communication & Society, 25*(2), 217–241.

Stephens, M., Yoo, J., Mourao, R., Hong, V., Baresch, B., & Johnson, T. (2014). How App Are People to Use Smartphones, Search Engines, and Social Media for News? Examining Information Acquisition Tools and Their Influence on Political Knowledge and Voting. *Journal of Information Technology & Politics, 11*(4), 383–396.

Stroud, N. J. (2011). *Niche news: The politics of news choice*. New York, NY: Oxford University Press.

Sülflow, M., Schäfer, S., & Winter, S. (2019). Selective attention in the news feed: An eye tracking study on the perception and selection of political news on Facebook. *New media & Society, 21*(1), 168–190.

Sundar, S. S., Jia, H., Waddell, T. F., & Huang, Y. (2015). Towards a theory of interactive media effects (TIME). Four models for explaining how interface features affect user psychology. In S. S. Sundar (Ed.), *The Handbook of the psychology of communication technology* (pp. 47–86). Malden, MA: Wiley Blackwell.

Sunstein, C. (2001) *Republic.com*. Princeton, NJ: Princeton University Press.

Tate, M. A. (2010). *Web wisdom: How to evaluate and create information quality on the Web* (2nd Ed.). Boca Raton, FL: CRC Press.

Trevisan, F., Hoskins, A., Oates, S., & Mahouly, A. (2018). The Google voter: search engines and elections in the new media ecology. *Information, Communication & Society, 21*(1), 111–128.

Trielli, D., & Diakopoulos, N. (2019). Partisan search behavior and Google results in the 2018 U.S. midterm elections. *Information, Communication & Society, 25*(1), 145–161.

Unkel, J., & Haas, A. (2017). The effects of credibility cues on the selection of search engine results. *Journal of the Association for Information Science and Technology, 68*(8), 1850–1862.
Unkel, J., & Haim, M. (2019). Googling politics: Parties, sources, and issue ownership on Google in the 2017 German federal election campaign. *Social Science Computer Review, 39*(5), 844–861.
Valentino, N. A., Banks, A. J., Hutchings, V. L., & Davis, A. K. (2009). Selective exposure in the Internet age: The interaction between anxiety and information utility. *Political Psychology, 30*(4), 591–613.
Vössing, K., & Weber, T. (2019). Information Behavior and Political preferences. *Birtish Journal of Political Science, 49*(2), 533–556.
Vowles, J. (2013). Campaigns claims, partisan cues, and media effects in the 2011 British electoral system referendum. *Electoral Studies, 32*, 253–264.
Waller, V. (2011). Not Just Information: Who Searches for What on the Search Engine Google? *Journal of the American Society for Information Science and Technology, 62*(4), 761–775.
Winter, S., & Krämer, N. C. (2012). Selecting science information in Web 2.0: How source cues, message sidedness, and need for cognition influence users' exposure to blog posts. *Journal of Computer-Mediated Communication, 18*, 80–96.
Winter, S., & Krämer, N. C. (2014). A question of credibility – effects of source cues and recommendations on information selection on news sites and blogs. *The European Journal of Communication Research, 39*(4), 435–456.
Xenos, M. A., Scheufele, D., Brossard, D., Choi, D. H., Cacciatore, M. A., Yeo, S., & Su, Y. F. L. (2018). News media use and the informed public in the digital age. *International Journal of Communication, 12*, 706–724.
Yeo, S. K., Cacciatore, M. A., & Scheufele, D. (2015). News selectivity and Beyond: Motivated reasoning in a changing Media Environment. In O. Jandura, T. Petersen, C. Mothes, & A. M. Schielicke (Eds.), *Publizistik und gesellschaftliche Verantwortung*. Berlin: Verlag Springer.
Zuiderveen Borgesius, F. J., Trilling, D., Möller, J., Bodó, B., de Vreese, C. H., & Helberger, N. (2016). Should we worry about filter bubbles? *Internet Policy Review, 5*(1), 1–16.
[Dataset] Zumofen, G. (2019). Online Survey – Swiss Federal Vote 19th of May 2019 – Selection Political Information Google. https://github.com/ZumofenG/P5_SelectPoliticalInformationGoogle/tree/main/stats.

AUTHOR BIOGRAPHY

Guillaume Zumofen is a Lecturer and PhD student at the Institute of Political Science, University of Bern, and research assistant of the 'Année Politique Suisse'. His research interests include political communication, political psychology, new media, voting behavior, referendum campaign, and social acceptance of renewable energy.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Zumofen, G. (2022). What Drives the Selection of Political Information on Google? Tension Between Ideal Democracy and the Influence of Ranking. *Swiss Political Science Review*, *00*, 1–19. https://doi.org/10.1111/spsr.12545

Bringing Content Into the Equation: Using a Wordscores Method to Compare the Effect of Newspaper and Television on Vote Choice in Referendums

Zumofen Guillaume
University of Bern
Fabrikstrasse 8, CH-3012 Bern,
+41 79 389 13 05,
guillaume.zumofen@unibe.ch
ORCID: 0000-0002-9047-9099

Abstract

Citizens often lack policy-specific knowledge to cast a well-informed vote in a direct democratic ballot. To fill this information gap, citizens rely on the media to find policy arguments. With that in mind, this article compares the effect of newspapers and television on vote choice in a referendum. It is the first attempt to use the same method, i.e., a Wordscores automated content analysis, to position newspaper outlets and television format on a No-Yes scale within the same direct democratic campaign. Indeed, by linking this content analysis with a three-wave online panel survey (N = 686) this method considers the divergent influence of newspapers and television on vote choice. A panel model identifies a positive effect of newspapers on the vote choice of those who consume newspapers intensively. Alternatively, the model detects a positive effect of television content on vote choice, but only for citizens with low political awareness. In the end, this paper extends the literature on the importance of systematic reasoning in direct democratic vote.

Keywords

referendum, vote choice, media effect, Wordscores, dual-process model of reasoning

Wordcount

8465

Author Note

Zumofen Guillaume is a Lecturer and PostDoc at the Institute of Political Science, University of Bern. He works as research assistant of the 'Année Politique Suisse'. His research interests include political communication, political psychology, new media, voting behavior, social acceptance of renewable energy technology and referendum campaign.

This manuscript has not been published and is not under consideration for publication elsewhere. I have no competing interests to disclose.

The data that support the findings of this study are openly available in GitHub repository ZumofenG at
https://github.com/ZumofenG/P3_EffectsNewspapersTelevisionWithWordscoresMethod

Bringing Content Into the Equation: Using a Wordscores Method to Compare the Effect of Newspaper and Television on Vote Choice in Referendums

Abstract
Citizens often lack policy-specific knowledge to cast a well-informed vote in a direct democratic ballot. To fill this information gap, citizens rely on the media to find policy arguments. With that in mind, this article compares the effect of newspapers and television on vote choice in a referendum. It is the first attempt to use the same method, i.e., a Wordscores content analysis, to position newspaper outlets and television format on a No-Yes scale within the same direct democratic campaign. Indeed, by linking this content analysis with a three-wave online panel survey (N = 686) this method considers the divergent influence of newspapers and television on vote choice. A panel model identifies a positive effect of newspapers on the vote choice of those who consume newspapers intensively. Alternatively, the model detects a positive effect of television content on vote choice, but only for citizens with low political awareness. In the end, this paper extends the literature on the importance of systematic reasoning in direct democratic vote.

Keywords
referendum, vote choice, media effect, Wordscores, dual-process model of reasoning

SComS Section
This paper is submitted to the *General Section.*

1 Introduction
The increasing popularity of referendums for decision-making in many democracies (Qvortrup, 2014) heightened the need for a deeper understanding of how media influences vote choice on such direct-democratic decisions.[1] Hence, literature has indicated that a large proportion of citizens obtain policy arguments from the media (Hänggli, 2020), and therefore, form their opinion mainly based on the coverage of the campaign by the media (Aaldering et al., 2017). Indeed, citizens rely on information provided by media to reduce the complexity and unfamiliarity of the policy at stake to make a considered choice (Azrout et al., 2012). Given the complexity of a direct-democratic ballot, most scholars have assumed that ordinary citizens lack reliable policy-specific knowledge to make a well-informed policy decision, i.e., 'minimalist' view (Achen & Bartels, 2016; Delli Carpini & Keeter, 1996; Lupia & Matsusaka, 2004; Magleby, 1989). To fill this information gap, ordinary citizens build on multiple sources of information (Bowler & Donovan, 1994) to form systematic reasoning based on policy arguments and/or rely instead on shortcuts as claimed by the dual process models of reasoning (Eagly & Chaiken, 1993; Petty & Cacioppo, 1986). These shortcuts can swap for detailed political information and systematic reasoning (Colombo & Steenbergen, 2021; Christin et al., 2002; De Angelis et al., 2020). Though systematic reasoning implies a consequential cognitive effort, recent studies have emphasized the influence of policy arguments on vote choice in a direct democratic vote (Boudreau and MacKenzie, 2014; Bullock, 2011; Colombo, 2016; Colombo and Kriesi, 2017). The relevance of systematic

[1] In this paper, 'referendum' and 'direct-democratic vote' are used interchangeably and have similar meanings. It is defined as a possibility for citizens to circumvent the mediation of elected representatives to decide on policies (Vowles, 2013).

reasoning has forced scholars not only to qualify the prior assumption of heuristic prevalence but also to question the role of media as a pivotal source of information in framing citizens' vote choices in direct democratic votes.

Despite the broad consensus that media matters in referendums, surprisingly little is known about the comparative effect of newspapers and television on citizens' vote choices. The dual-process model of reasoning defined by Eagly and Chaiken (1993) and Petty and Cacioppo (1996) theoretically supports that visuals and texts contribute to opinion formation through different information-processing mechanisms (Powell et al., 2019). That is, though literature has demonstrated that different modalities of news media provide substantially similar policy arguments (see for a review Druckman, 2005), it can be assumed that the distinct information processing characteristics of these modalities provide divergent influence on opinion formation (Geise & Baden, 2014; Powell et al., 2018).

This paper is therefore designed to compare the effect of newspapers and television on citizens' vote choices in a real-world referendum campaign in Switzerland in 2017. With a linkage study, the methodological approach follows the state-of-the-art recommendations of de Vreese et al. (2017). First, it benefits from a national three-wave online panel survey in a 2017 real-world referendum in Switzerland (N = 686). Second, the Wordscores method guarantees a precise content analysis of newspapers and television. This provides the position of each media outlet per wave on a No-Yes scale.[2] Third, the content analysis is linked with repeated and detailed individual-level media exposure measures and vote choices regarding the referendum issue. In the end, a panel model with random effects isolates a positive effect of newspaper content on vote choice. An influence emerges only for citizens who consume newspapers intensively. A high political awareness and the absence of close party identification reinforce this influence. Alternatively, the model detects a positive effect of television content on vote choice, but only for citizens with low political awareness.

To the best of our knowledge, this paper is the first to measure the comparative effect of multimodal news media on vote choice within the same context and with a similar content analysis method. A Wordscores content analysis is a unique method for evaluating the simultaneous influence of multiple frames in media. It determines whether the media framed the debate with policy arguments against or in favour of the referendum issue. Furthermore, the use of a panel instead of cross-section surveys not only includes latent predisposition and inter-individual differences but also partly prevents the risk of endogeneity. Indeed, repeated and detailed measurement of individual-level media exposure incorporates selective informational diets and reduces measurement error. In the end, this paper not only questions the effect of newspaper and television on vote choice in a referendum (RQ1), but also examines if this effect differs between newspaper and television within the same referendum context and with the same content analysis method (RQ2).

2 Literature review

2.1 Framing effect on vote choice in a referendum context

When discussing a referendum issue, media present, interpret and emphasize certain aspects of the issue at stake (e.g., Slothuus, 2008). This process is known as the 'framing effect'. Consequently, when citizens use media to nurture their systematic reasoning, i.e., find policy arguments, they rely on a 'mediated' version of the referendum issue to cast their vote. In a referendum, framing emphasizes the salience of a specific dimension of a certain issue

[2] In this paper, we are referring to the direction of citizens' or media positions as 'No' / 'against' if the position is against the Energy Act, and as 'Yes' / 'pro' if the position is in favour of the Energy Act (and not the referendum itself).

(Vliegenthart et al., 2008). That is, the debate concentrates on specific policy arguments, with each camp trying to increase the salience of their most compelling arguments to win the referendum (Wirth et al. 2010). Slothuus (2008) adds that the framing effect might not only boost the importance of one policy argument over another but also put forward some new arguments.

Literature on media effect in a referendum highlights a positive effect of media on vote choice. De Vreese and Semetko (2004) concentrated on the information environment in the Danish 2000 Euro referendum campaign. Measuring both the volume and the tone of television coverage of the campaign, they noted an influence of television news coverage of the campaign on voting behaviour. Hobolt (2006) analysed the European integration referendums in Denmark, Ireland, and Norway. She demonstrated that political information significantly altered vote behaviour, but that the influence of political information was moderated by individual political awareness. De Vreese (2008) determined that Euroscepticism is partly explained by the media diet. This conclusion was then confirmed by Galpin and Trenz (2017) who concluded that political news amplifies Eurosceptic attitudes. Elenbaas and de Vreese (2008) illustrated the role of framed campaign coverage on vote choice through political cynicism. Schuck and de Vreese (2009) isolated a media content effect during the 2005 Dutch EU Constitution referendum. With a comparative study from 1990 to 2006, Vliegenthart et al. (2008) demonstrated the role of mass media in shaping opinion about European integration policies. Finally, Ghergina and Silagadze (2018) emphasized the substantive information effect of media in referendums in East European countries.

Though the literature on media effect on vote choice in a referendum concentrates mostly on the European integration – or segregation – process, Altman (2010) indicates that Switzerland hosts most of the direct democratic decisions in the world. Nonetheless, only a few studies highlight the role of media. Marquis et al. (2011) and Tresch (2012) demonstrated that balanced information is provided in newspapers in Switzerland during referendum campaigns. Bützer and Marquis (2000) used survey data to measure the influence of elite discourse on public opinion formation. They concluded that the flow of media to channel campaign messages to voters is regulated by individual awareness and political predisposition. Similarly, Kriesi (2006) highlighted the role of political elites in shaping vote intention in a referendum. Finally, Christin et al. (2002) stressed the subsequent information demand on citizens in a referendum and proved that citizens are exploiting informational cues to vote.

2.2 Multimodal news media and its influence on vote choice

In a recent article, Reveilhac and Morselli (2020) mapped Swiss media consumption. They highlighted a digital shift in media consumption patterns. The reliance on new media, notably social media, is mostly driven by the age cohort, with younger citizens consuming more new media. Still, they indicated that new media consumption goes hand in hand with consumption of offline, or old-fashioned media. More than that, their analysis confirms that newspapers and television remain prominent sources of information. In detail, they reported that 80% of respondents consumed daily newspapers, 40% had a Twitter or Facebook account, and 25% watched television. It is necessary to keep in mind that these percentages indicate overall media consumption and not specifically political information.

A large majority of voters discover policy arguments by reading newspapers and watching television since only a minority is directly involved in the issue. Hence, Milic et al. (2014) asserted that newspapers and television are the two main sources of political individual information in Switzerland. Hänggli (2020) confirms that a large proportion of citizens obtain policy arguments from the media, with 76% of Swiss residents regularly reading a newspaper. The distinct characteristics of newspapers and television suggest divergent effects on vote

choice. One on hand, visuals, e.g., television, are eye-catching and easily processed. They foster an emotional connection, facilitate policy argument salience, and ease storytelling (Green et al., 2008; Powell et al., 2015). On the other hand, text, e.g., newspaper, affords self-pacing and re-reading to decode policy arguments (Messaris & Abraham, 2001). In addition, its intelligible structure facilitates the processing of policy arguments (Powell et al., 2018) and a cognitively more elaborated construction of meaning (Messaris & Abraham, 2001). Comparing newspapers and television, literature has demonstrated that television watching also provides less space, is less repetitive, and demands less attention than newspaper reading. What is more, newspaper readers control the pace of their media consumption. On the contrary, it is the television that controls the pace of its audience's consumption (Boukes & Vliegenthart, 2019).

2.3 Hypotheses

The dual-process model of attitude change defined by Eagly and Chaiken (1993) and Petty and Cacioppo (1996) explains that citizens must invest time and effort to form an opinion. Therefore, a newspaper affords self-pacing and re-reading to decode policy arguments (Messaris & Abraham, 2001). Its intelligible structure facilitates the processing of policy arguments (Powell et al. 2018). With that in mind, I hypothesize that the influence of newspapers is related to the amount of time spent reading them.

H1: The effect of newspapers on vote choice is stronger among citizens who intensively consume newspapers, i.e., spend more time reading articles.

Zaller (1992) defines political awareness as a citizen's intellectual and cognitive engagement with politics. A decision requires at least some understanding and engagement to receive and accept the policy (Slothuus, 2008). In line with the literature on media's effect on vote choice, Hobolt (2006) emphasized that political awareness moderates the influence of media information. On one hand, decoding policy arguments in a newspaper requires high cognition and high motivation (Messaris & Abraham, 2001). On the other hand, Powell et al. (2015) and Green et al. (2008) concluded that video facilitates policy argument salience and storytelling. Literature on the knowledge gap also proved that television news appears more spontaneous and is more accessible for citizens with lower awareness because it requires fewer skills and less cognitive engagement (Cho et al., 2003; Shehata et al., 2015). Consequently, it can be assumed that television requires lower cognition effort to channel policy arguments.

H2: The effect of newspapers on vote choice is stronger among citizens with high political awareness.

H3: The effect of television on vote choice is stronger among citizens with low political awareness.

Lastly, Branton et al. (2019) stressed that the outcome of a direct democratic vote is also dependent on the larger political environment. Hence, partisan cues remain a seminal determinant of voting in a ballot vote. It is then expected that citizens with strong party identification also rely on partisan heuristic cues to cast their votes. To put it another way, they will be more prone to use party cues to make up their minds than to use policy arguments to spare time and effort (De Angelis et al., 2020). In their research, Selb et al. (2009) also demonstrated that, during the campaign, voters' preferences converge towards their partisan orientation, if any.[3]

H4: The effect of newspapers and television on vote choice is stronger among citizens with no

[3] In the case of the Energy Act referendum, left leaning and more centered parties stood on the Yes side, the SVP political party, which is on the more extreme right, stood on the No side, and the FDP, which are the liberals, faced internal divisions.

close identification with a political party.

3 Data and Method

3.1 Context

To prepare Switzerland for the upcoming changes in the energy markets, the Federal Council – the Government – has elaborated a new *Energy Act*. After hot debates in Parliament, a committee called for a referendum. The ballot vote happened on 21 May 2017. It was accepted with 58,2 percent of the vote in favor of the *Energy Act*. This *Energy Act* follows three main objectives: it introduces measures to increase energy efficiency; it promotes the use of renewable energy; and it settles the withdrawal of Switzerland from nuclear energy. Following the Fukushima incident and the Paris Climate Accord, many countries have aimed at a transition towards renewable energy. However, in countries driven by direct democratic procedures, 'social acceptance' remains a challenge (Wüstenhagen et al., 2017; Dermont, 2018). As veto players, citizens tend to reject tangible policy measures. Although public opinion favors 'green' solutions, citizens dismiss these policies because they do not meet their conditions.[4] In particular, they often face a dilemma between a better-quality environment in the future and higher real income in the present (Stadelmann-Steffen & Dermont, 2018). Thus, the acceptance of 'green' policies in a direct democracy leads to a paradoxical and emotional debate.

The Energy Act referendum meets the requirements for this research. First, only the Energy Act was on the ballot on the voting day. Consequently, no interference from additional campaigns polluted the debate on the Energy Act (Kriesi, 2005). Second, the energy-environment debate has been ongoing in Switzerland since the 2011 Fukushima incident. Consequently, it is reasonable to assume that citizens had some prior knowledge of the topic from the beginning of the campaign. Third, Swiss citizens have far-reaching experience with direct democratic procedures; referendums are commonplace events. In 2017 alone, Swiss citizens voted on six different topics. Finally, the referendum campaign ranked ninth out of 75 in terms of intensity in ballot vote campaigns between 2013 and 2023. A total of 1127 ads were taken out in Swiss newspapers. More than 500 newspapers articles in 26 newspapers were published during the 8 weeks before the ballot vote day (Heidelberger, 2023).

3.2 Participants

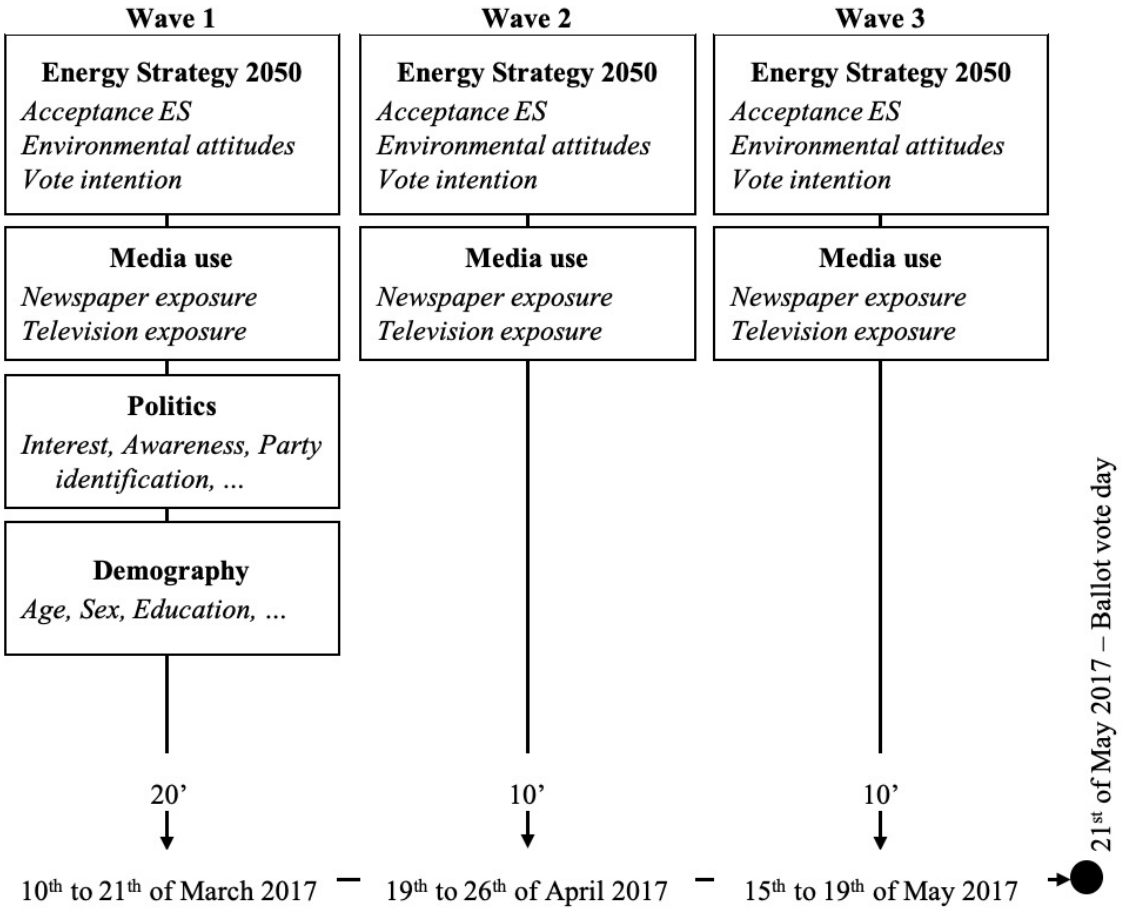
Data were collected using three original bilingual (German and French) surveys developed with the Qualtrics commercial survey software (Qualtrics, Provo, UT). Participants were recruited from an opt-in panel with an online survey invitation link administered by Qualtrics. Figure 1 presents the survey design with the pre-campaign, the mid-campaign, and the end-of-the-campaign waves.

A total of 2,848 respondents participated in Wave 1. Due to panel attrition, only 686 respondents participated in wave 3. Given the focus on vote choice change, I restricted the database to only those who participated in waves 1, 2, and 3. On one hand, the goal of restricting my database is to reduce the inherent risk of endogeneity. On the other hand, panel attrition can cause a sample bias. Still, I ran structural consistency tests between those who participated in all three waves and those who dropped out. They revealed no significant differences, with one exception being that participants who dropped out were slightly more interested in politics than those who participated in all three waves.[5] The sampling method approach yielded a representative national sample (see Table 1 for further details).

[4] In such cases, the literature speaks about a 'value-action' gap.

[5] See Table A1 for further details on structural consistency tests.

Figure 1. Survey design



3.3 Database[6]

First, I have made use of a newspaper database built by Année Politique Suisse (2017). APS used trained coders to manually track articles on the Energy Act referendum in 26 national and regional newspapers in German and French, producing a thorough and precise collection of more than 500 newspaper articles related to the vote. This collection of 26 newspapers encompassed not only the most important newspapers with a reputation for quality journalism, but also the most frequent free newspapers.[7] I counted 160'497 words in the French and 191'679 words in the German newspaper articles, which were manually collected. Second, I tracked three types of television formats to fully cover the effect of television on vote choice. I collected all television news related to the referendum: *1930* (French) and *Taggeschau* (German); the national debates on the public channel, *Infrarouge* (French) and *Arena* (German). These are the same television formats that Wirth et al. (2010) used in their research. In addition, the *TTC* (French) and *10vor10* (German) were added for a thorough analysis. In detail, I counted 15'668 words in the French and 13'765 words in the German television formats.

The method reduced my research interest to only those who self-selected newspapers and/or television. I considered that newspaper readers and television viewers were subgroups in my

[6] Non-mediated sources, e.g., social media, are also a source of information for citizens. However, the analysis of these sources goes beyond the scope of this research.

[7] The newspaper dataset consists of 17 German-written and 9 French-written newspapers.

dataset.[8] However, when facing political communication, individuals tend to self-select their treatment. In line with Leeper (2017), I considered self-selection to reinforce ecological validity. In other words, I postulated that only those who consume media can be influenced by it.

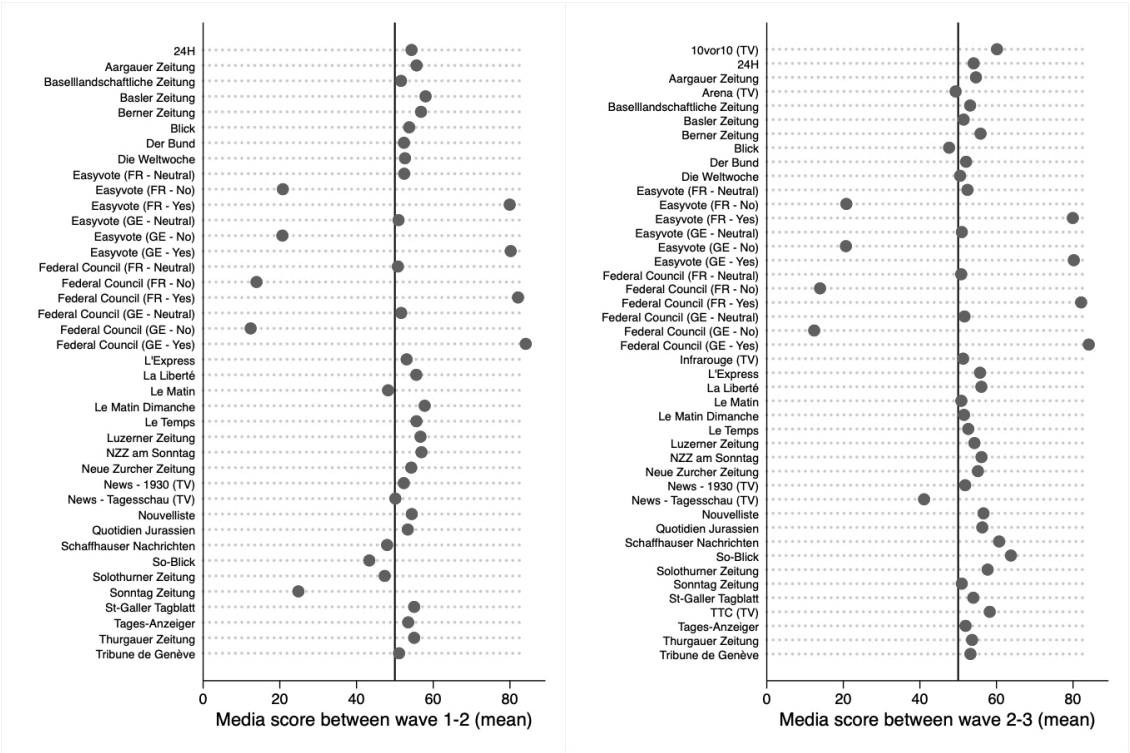
3.4 Wordscores Text-as-Data Automated Content Analysis

Wordscores is a popular automated method for text content analysis developed by Laver et al. (2003). It extracts meaning from reference texts – about which I know the position regarding an issue – and estimates the position of virgin texts – about which I know nothing – using the relative frequencies of specific words. To run a Wordscores method, it is necessary to reduce text complexity: bag of words assumption, stemming, removing punctuation, stopwords, capitalization, and sparse terms. Even though such reduction decreases information density, the literature in the field considers the trade-off to be worth it (Hopkins and King, 2010).
In this paper, the Wordscores method measured multiple policy arguments simultaneously and in various media. This method did not display the occurrence of each specific policy argument but provided an aggregate measure, determining if the media consumed mostly concentrated the debate on policy arguments against or in favour of the Energy Act. It provided a mean position per outlet and wave using reference texts to class the identified arguments on a No-Yes scale. That is, it measured the relative frequencies of words, assigning a score to each word that determined the probability of belonging to the No or Yes side. For instance, the word 'investment' appeared in the reference texts on the Yes side but not on the No side nor in the neutral reference texts. Logically, it implied that the word 'investment' had a higher probability of being part of a Yes argument. Then, Wordscores were used to measure the relative frequency of the word 'investment' in all virgin texts, and if 'investment' occurred in a newspaper article or a television format, it increased the probability that this specific article or format was on the pro side.
To be valid, the Wordscores method requires three assumptions. One, it applies only to a one-dimensional ideological scale. The Energy Act referendum matches this requirement because the No and Yes camps fought over the policy. As mentioned, left leaning and more centered parties stood on the Yes side, the SVP political party, which is on the more extreme right, stood on the No side, and the FDP, which are the liberals, faced internal divisions. We can then assume a one-dimensional ideological scale. Two, the quality of the content analysis heavily relies on reference texts. Ideally, they must span the scale and represent the two extreme positions, as well as the neutral position. In this article, two types of reference texts were used to reinforce accuracy with a finely tuned dictionary (Martin & Vanberg, 2008). First, the government information booklet about the referendum vote is a thorough summary of the issue at stake. This booklet provides detailed information such as the ballot question, the parliamentary recommendations, the new law or amendment in legal terms as well as the arguments in favour or against the issue at stake. The Chancellery which is in charge of writing the booklet is controlled by strict legal requirements regarding the content. Above all, the booklet must follow the principle of proportionality. It is scrutinized by all political actors to ensure its impartiality and objectivity (Hessami, 2016). To run the Wordscores analysis, I specifically extracted the neutral explanation, and the pro and contra arguments from this booklet. That is, I taught the Wordscores method that the contra and pro arguments must be positioned on the extreme of the No-Yes scale, and that the neutral explanations should receive a middle value on this scale. Second, the Easyvote information booklet provides a

[8] Table A2 displays one-way ANOVA tables with Bonferroni tests considering one dependent variable at a time to control for structural consistency. I detect no significant differences between newspaper readers and television viewers.

pedagogical summary of the issue at stake. The goal of Easyvote is to boost the participation of young citizens. It supplies a summary of the referendum and presents the main argument of the pro and contra sides. Three, the specific words used in the reference texts must be informative. In a referendum, the media emphasize different facets of the multidimensional topic at stake, and Hänggli (2020) clarifies that there is also a dialogue between these different dimensions. The Wordscores method uses reference texts to locate words with a latent position on the No-Yes scale. By counting the occurrence of the informative words, it can then position the media on the scale.

Figure 2. Wordscores of newspaper outlets and television formats (mean position)

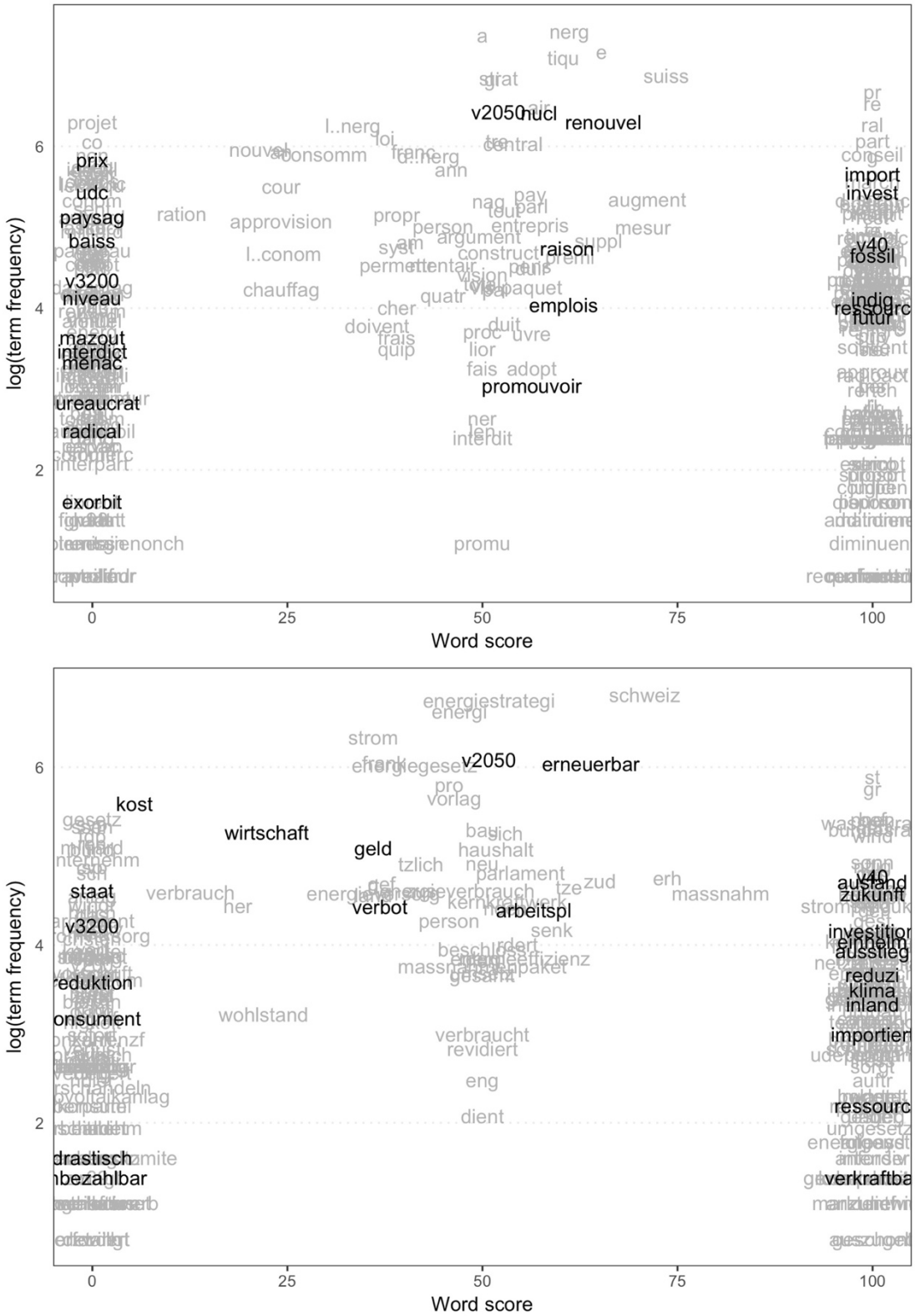


Note: The media score indicates the position of the media (over the campaign) on the No-Yes one-dimensional ideological scale. For example, a media with a media score of 60 more strongly emphasized (i.e., more often) Yes policy arguments than a media with a score of 45, which rather emphasized No policy arguments.

To allow a substantive interpretation of media Wordscores, I opted for an LBG rescaling method (Laver et al. 2003). This rescaling method places virgin texts Wordscores on the same metric as reference texts Wordscores to facilitate interpretation and to allow multiple reference texts. It centers virgin text Wordscores around their mean and fits their variance around the variance of the reference text Wordscores (Lowe, 2008). At the end, it reinforces accuracy. An alternative would have been to use an MV rescaling method (Martin & Vanberg, 2008).

Figure 2 displays the rescaled Wordscores of 26 media outlets and 6 television formats, in French and German, in Switzerland in the referendum campaign on the Energy Act. The mean *newspaper* Wordscores were 52.4 (SD = 4.6) between waves 1 and 2 and 53.4 (SD = 2.9) between waves 2 and 3, and the mean *television* Wordscores between waves 2 and 3 was 50.5 (SD = 4.3). Thus, I noted a rather flat media landscape with weak dispersion among media outlets. This matches Marquis et al. (2011) who demonstrated that balanced information is provided in newspapers in Switzerland in referendum campaigns.

Figure 3. Text plot of the scaling model



Verifying the robustness of the method, I concluded that the method is valid. First, reference texts are seminal points of reference in estimating the ideological position. Figure 2 indicates that the method correctly positioned reference texts and perfectly spanned the No-Yes scale. Second, it is indispensable to control the position of keywords in the scale. Figures 3a and 3b

present text plots of the model. Keywords in the Energy Act debate are highlighted. On the No side, the plot exhibits words such as landscape' (paysage), 'bureaucracy' (Bureaucratie), 'consumers' (Konsumenten), and 'unaffordable' (exorbitant-unbezahlbar). On the Yes side, the plot highlights words such as 'import' (importation-importiert), 'investment'(investissement-Investitionen), 'resource' (ressources-Ressourcen), and 'indigenous' (indigene-Inland). These words shaped the No-Yes debate during the campaign.

3.5 Linkage Study

3.5 Panel regression with random effects

To examine the influence of media on vote choice in referendums, I ran a panel regression with random effects and robust standard errors. A random effect model considers the time-invariant effect of individual predisposition on vote choice. The use of panel data accounts for individual heterogeneity. The longitudinal panel compared repeated measures (Level 1) nested within individuals (Level 2). Moreover, I opted for random effects because dependence over time typifies such panel data (see for further discussion Bell & Jones, 2015).[9]

3.6 Measures

3.6.1 Dependent Variable

The dependent variable *vote choice* is an ordinal variable ranging from 0 (against the Energy Act) to 2 (in favour of the Energy Act). The value 1 indicates that the respondent is undecided. The three-wave panel survey makes it possible to examine vote choice change. In wave 1, respondents were enjoined to signal if they were against, undecided or in favour of the referendum. In this pre-campaign survey, 70% of respondents indicated being undecided. Then, in waves 2 and 3, respondents were instructed to indicate how they would vote on the Energy Act on a 0–100 scale. The scale was presented with an initial slider position on 50, i.e., undecided. I used this scale to create a 0 to 2 vote choice ordinal variable, with 50 equals to 1 for undecided voters. The mean value of the 0–100 scale is equal to 58.2 (SD = 27.0) in the mid-campaign wave and to 57.2 (SD = 31.0) in the end-of-the-campaign wave.

3.6.2 Linkage Study

A linkage study connects a dataset of survey answers and a media content analysis, assessing which media a respondent truly consumed (see de Vreese et al., 2017; Fazekas and Larsen 2015). In this article, the variables *newspaper outlets* and *television formats* were used to link individual media consumption with the content analysis. Although exact consumption is hardly observable, a suitable approximation of this 'true score' can be inferred with a repeated and detailed online panel survey. Indeed, I was able to present respondents with a list and images of newspaper outlets and television formats they could potentially consume. Displaying logos of these media lightens the cognitive burden of recall (Diliplane et al., 2013). This approach strongly reduced the risk of measurement error.

3.6.3 Variables of Interest

The two variables of interest were newspaper and television Wordscores per individual. The Wordscores computed the mean position of news media content per wave and per media on a

[9] I ran a Hausman test and cannot reject the hypothesis that the random effects model is preferred over the fixed effects model (p-value = 0.2496). I also used the Breusch-Pagan Lagrange multiplier and rejected the hypothesis that there was no variance across entities (p-value < 0.00). Thus, I decided that it was suboptimal to run a pooled OLS and opted for a random effect model.

0–100 scale.
Linking individual exposure with Wordscores per media determined the Wordscores per individual per wave. For example, the newspaper Le Temps had a score of 54 between wave 1 and 2, and individual X consumed Le Temps during the campaign. X thus received a score of 54.[10] This implies that respondent X read, on average, policy arguments slightly in favour of the Energy Act between wave 1 and 2. A similar process determined an individual's television Wordscores.

3.6.4 Moderator Variables[11]

To test my hypotheses, I introduced three moderator variables. First, political awareness was an additive evaluation of a respondent's political knowledge based on four questions. These multiple c-oice questions targeted: how many signatures are needed to file a popular initiative, which is the political party that had the most seats in the National Council, who is the head of the Federal Department of Finance, and what is the unemployment rate in January 2017 in Switzerland. Second, party identification was an ordinal variable measured with a 1 (I am not close to a party) to 3 (I am very close to a party) index. Third, to incorporate the influence of time restriction, reading and watching intensity were also measured. Therefore, I asked respondents to indicate the duration (in minutes) of their daily newspaper reading and television watching. I created a consumption-intensity index with three categories for each medium. Additionally, media consumption questions were asked in waves 1 and 3 to reinforce reliability.[12]

3.6.5 Individual-Level Predispositions

In addition to the influence of information communicated to voters via the media in a campaign, the influence of individual-level predispositions should not be neglected (Hillygus, 2010; Zaller, 1992). To isolate the effect of media, I introduced the usual individual-level predisposition variables: *age* was an ordinal variable with seven categories, *education* was an ordinal variable with 12 categories, *sex* was a binary variable, *political interest* was an ordinal variable varying from 1 (not very interested) to 4, (very interested), *trust* in the government was measured with a scale from 0 to 10, *ideological orientation* was measured with a scale from 0, (extreme left') to 10, (extreme right), and *attitude environment* is a continuous variable from 1 to 6, being an aggregate measure of three questions, which evaluate the position of a respondent from not 'green' to pro-'green' (Cronbach $\alpha = 0.69$) (see Table 1 for further details). The control variables were measured at wave 1.

Table 1. Descriptive statistics and operationalization

Variable	Operationalization	Descriptive statistics
Sex *(in %)*	(0) Male; (1) Female	48.69; 51.31

[10] If respondent Y consumed two newspapers, I averaged the two Wordscores to obtain Y's average exposition to multiple media outlets.
[11] Given that moderator variables influenced how respondents selected newspaper outlets and television format during the campaign, they were measured at wave 1 (pre-campaign wave).
[12] For further details on the exact wording and design of the self-reported questions, see Figure A1.

Age *(in %)*	(1) 18-24 years old; (2) 25-34 years old; (3) 35-44 years old; (4) 45-54 years old; (5) 55-64 years old; (6) 65-74 years old; (7) older than 74 years old	7.87; 23.91; 18.95; 19.11; 14.87; 13.12; 2.19
Education *(mean)*	12-point scale from (1) no education to (12) university level	7.44 (3.10)
Political interest *(mean)*	4-point scale from (1) not at all interested to (4) very interested	2.73 (0.78)
Political awareness *(mean)*	Additive index from (0) low political awareness to (4) high political awareness	2.29 (1.29)
Trust in government *(mean)*	10-point scale from (1) no trust at all to (10) fully trust the government	5.37 (2.36)
Party extremity *(in %)*	(1) not close to a party; (2) pretty close to a party; (3) very close to a party	68.36; 25.04; 6.61
Attitude environment *(mean)*	Aggregate index from (1) not 'green' to (6) pro-'green'	3.38 (1.38)

4 Empirical Results

Regarding my hypotheses, I accept H1. The results confirm that the effect of newspaper is stronger among citizens who spend more time reading articles. As demonstrated in Table 2, a two-way interaction confirms the positive influence of newspaper content on vote choice for those who read newspapers intensively (1). The inclusion of moderator variables does not alter my conclusion (see Table 3).

To examine hypotheses H2 to H4, I run interactions. It evaluates the impact of political awareness on the effect of newspapers (H2) and television (H3), and the impact of party extremity on the effect of newspapers and television on vote choice (H4). I measure the influence of newspapers and television formats between waves 1 and 2, and waves 2 and 3. Table 3 displays the results of my three-way interactions.

To begin with, I accept hypotheses H2 and H3. On the one hand, a high or rather high political awareness reinforces the influence of newspapers on those who consume newspapers with high or moderate intensity (3). On the other hand, a low or rather low political awareness generates a positive influence of television on vote choice, no matter the intensity of consumption (4).

Table 2. Panel model with random effects and two-way interactions with consumption intensity

	Vote choice[1] **(1)**		**Vote choice[1]** **(2)**
Age	-0.43	**Age**	-0.50
Sex (1=female)	-1.30	**Sex (1=female)**	0.10
Education	**0.29***	**Education**	-0.05
Political awareness	-0.27	**Political awareness**	-0.53
Political interest	-0.70	**Political interest**	0.27
Party extremity		**Party extremity**	

Pretty close to a party	0.40	Pretty close to a party	-0.36
Very close to a party	**3.54***	Very close to a party	-0.93
Trust government	**0.68****	**Trust government**	0.29
Ideological	**-0.67*****	**Ideological**	**-0.48***
Attitude	**0.99***	**Attitude**	**0.77***
Newspaper content		**Television content**	
Low intensity	-0.12	Low intensity	-0.01
Moderate intensity	-0.07	Moderate intensity	0.00
High intensity	**0.40*****	High intensity	0.01
N obs	339	**N obs**	195
N groups	170	**N groups**	128
Wald chi2	142.13	**Wald chi2**	15.46
p-value	0.00	**p-value**	0.27

[1] I run a panel ordinary logit regression with random effects for the dependent variable *vote choice.*

*p<0.05; **p<0.01; ***p<0.001

Table 3. Panel model with random effects and three-way interactions

		Political awareness (3)				**Political awareness (4)**	
Newspaper	***Low intensity***	Low	-0.29	**Television**	***Low intensity***	Low	-
		Rather low	-0.24			**Rather low**	**0.35*****
		Moderate	-0.15			Moderate	-0.03
		Rather	**-0.15***			Rather high	-0.01
		High	-0.06			High	-0.00
	Moderate intensity	Low	-		***Moderate intensity***	**Low**	**0.43*****
		Rather low	-			Rather low	-0.02
		Moderate	-0.15			Moderate	-0.01
		Rather	**0.40*****			Rather high	0.06
		High	-0.07			High	-0.03
	High intensity	Low	-		***High intensity***	**Low**	**0.45*****
		Rather low	0.29			**Rather low**	**0.46*****
		Moderate	-			Moderate	-0.00
		Rather high	-			Rather high	0.00
		High	**0.39*****			High	-0.01
		Party extremity (5)				**Party extremity (6)**	
Newspaper	***Low intensity***	**Not close**	**-0.13***	**Television**	***Low intensity***	Not close	-0.01
		Rather close	-0.11			Rather close	-0.01
		Very close	-0.05			**Very close**	**0.34*****
	Moderate intensity	**Not close**	**0.44*****		***Moderate intensity***	Not close	-0.02
		Rather close	-0.10			Rather close	0.02
		Very close	-0.10			**Very close**	**-0.42*****
	High intensity	**Not close**	**0.46*****		***High intensity***	Not close	0.02
		Rather close	-			Rather close	-0.02
		Very close	**0.39*****			Very close	-

*p<0.05; **p<0.01; ***p<0.001

Last, I only partly accept hypothesis H4. The panel model detects a stronger influence of newspaper content on respondents with no close party identification and moderate intensity consumption (5). Conversely, I also identify a positive influence on those who consume newspapers intensively and are very close to a party (5). Furthermore, regarding television effect is twofold. On the one hand, a very close identification generates a positive influence on those who consume television with low intensity (6). On the other hand, a very close identification provokes a negative influence of television for those who consume this media moderately (6).

The panel model identifies five time-invariant explanatory variables: education, ideological orientation, party identification, trust in government, and attitude environment. First, respondents with higher education were more likely to vote in favour of the Energy Act. Second, the key role of ideological orientation confirms that the Energy Act referendum was a left–right conflict. Third, I noted a significant influence on those with strong party identification. Fourth, the importance of trust in government fits with a referendum setting, with the government taking a stance in the debate. The pivotal influence of these three variables pinpoints the role of the larger political environment and heuristic reasoning (Branton et al., 2019; Kriesi ,2005; Colombo & Kriesi, 2017). Fifth, the positive influence of each respondent's attitude towards the environment argues for the opposite conclusion.
As recommended in de Vreese et al. (2017) seminal research on linkage study, I also ran an alternative lagged-dependent variable model to check the robustness of my results (see Table A3). This mixed-effect ordinal logistic model provides similar results to the panel model with random effects and three-way interactions (see above Table 3).

5 Conclusion

The goal of this article was to compare the effect of newspaper and television content on those who consumed these media in the Energy Act referendum campaign in Switzerland. Using a Wordscores method in a referendum context, this article links the mean position of newspaper and television content with an individual's consumption of these media between each wave. It concludes that newspapers and television influence vote choice in a referendum (RQ_1). Further to this, the results confirm the divergent effect of these two media on vote choice (RQ_2).
To begin with, it detected an effect of newspaper content on vote choice for those who consumed newspapers intensively. The effect of newspapers was stronger among citizens with high political awareness and no close party identification. In contrast, the effect of television was not influenced by the intensity of consumption. The panel model with random effects identified a positive effect among citizens with low political awareness. The conclusions are in line with theoretical expectations and empirical findings. It is worth mentioning that the identification of any effect is substantial considering that the Wordscores method draws a rather flat media landscape with only a weak dispersion in aggregate policy arguments by the media (see Figure 2).
The identification of a positive effect of newspapers and television is in line with theoretical expectations and empirical findings. To begin with, it fits with Boudreau & MacKenzie, 2014; Bullock, 2011; Colombo & Kriesi, 2017; Kriesi, 2005, who affirmed the relevance of systematic reasoning in referendums. Moreover, it is in line with the most recent empirical findings on the influence of media in referendums: the research of Schuck and de Vreese (2009) on media content effect during the 2005 Dutch EU Constitution referendum, the research of Elenbaas and de Vreese (2008) on framed campaign coverage, the conclusions of

Ghergina and Silagadze (2018) on informational campaign in referendums and the analysis of Hänggli (2020) of the influence of frame in the dialogue in news media in three different referendums in Switzerland. However, it is also worth mentioning that the media effects are rather small in size in comparison to the main drivers of vote choice which remain ideological orientation, party identification, trust in government, and initial attitudes towards the policy. Furthermore, considering that the structural consistency tests detected no differences between newspaper readers and television viewers, the slightly divergent results and the ambiguous influence of political awareness confirm the assumption that information processing varies between these two media, although they provide similar policy arguments (Powell et al., 2018). Therefore, the results are in line with the dual process model and the limited cognitive capacity assumption. That is, information processing is highly demanding for citizens in terms of cognition, time, and motivation. Thus, television formats facilitate policy argument decoding (Geise & Baden, 2014) for citizens with low political awareness and restricted time to invest. Conversely, the opportunities for self-pacing and re-reading (Powell et al., 2015), combined with an appropriate structure, ease the processing of policy arguments. Nevertheless, such characteristics materialize only for citizens able to invest a lot of time reading newspapers.

The use of a Wordscores method in a referendum context makes this article a valuable contribution to voting behaviour research. It is the first attempt to compare the effect of newspapers and television within the same political context and with the same content analysis method. Future research on the effect of media on vote choice in a referendum should add reference texts to reinforce the accuracy of the content analysis, incorporate a content analysis of social media to broaden the findings to contemporary media use, replicate the study in a different setting to confirm the external validity of the findings, and also examine the effect of newspaper and television content on participation and knowledge. Additionally, a strength of the Wordscores method is also a limitation. Indeed, the Wordscores method measures the mean position of news media content aggregating policy arguments per media and per wave but does not provide detailed measures of each specific policy argument to deepen the analysis.

Disclosure statement

No potential conflict of interest is reported by the author.

References

Aaldering, L., Van der Meer, T., & Van der Brug, W. (2017). Mediated leader effects: The impact of newspapers portrayal of party leadership on electoral support. *The International Journal of Press/Politics,* 23*(*1), 70-94.

Achen, C. H., & Bartels. L. M. (2016). *Democracy for realists: why elections do not produce responsive government*. Princeton: Princeton University Press.

Année Politique Suisse. (2017). *Newspaper published in Switzerland from March 27 to May 21, 2017*. Année Politique Suisse, Institute of Political Science, University of Bern. [Dataset]

Altman, D. (2010). *Direct democracy worldwide*. Cambridge: Cambridge University Press.

Azrout, R., van Spanje, J., & De Vreese, C. (2012). When news matters: Media effects on public support for European Union enlargement in 21 countries. *Journal of Common Market Studies, 50*(5), 691-708.

Bell A., & Jones, K. (2015). Explaining fixed effects: Random effects modeling of time-series cross-sectional and panel data. *Political Science Research and Methods, 3*(1), 133-153.

Boudreau, C., & MacKenzie, S. (2014). Informing the electorate? How party cues and policy

information affect public opinion about initiatives. *American Journal of Political Science, 58*(1), 31-59.
Boukes, M., & Vliegenthart, R. (2019). The knowledge gap hypothesis across modality: Differential acquisition of knowledge from television news, newspapers, and news websites. *International Journal of Communication, 13*, 3650-671.
Bowler, S. and Donovan, T. (1994). Information and opinion change on ballot proposition. *Political Behavior, 16(*4), 411-435.
Branton, R., Demeritt, L. Pulido, A., & Meernik, J. (2019). Violence, voting & peace: Explaining public support for the peace referendum in Colombia. *Electoral Studies 61*.
Bullock, J. (2011). Elite influence on public opinion in an informed electorate. *American Journal of Political Science, 105*(3), 496-515.
Bützer, M., & Marquis, L. (2002). Public opinion formation in Swiss federal referendums. In Farrell, D., & Schmitt-Beck, R. (Eds.). *Do political campaign matter? Campaign effects in elections and referendums*, London and New York: Routledge (pp.163-182).
Cho, J., Boyle, M. P., Keum, H., Shevy, M. D., McLeod, D. M., Shah, D. V., & Pan, Z. (2003). Media, Terrorism, and Emotionality: Emotional Differences in Media Content and Public reactions to the September 11th Terrorist Attacks. *Journal of Broadcasting & Electronic Media, 47*(3), 309–327.
Christin, T., Hug, S., & Sciarini, P. (2002). Interests and information in referendum voting: An analysis of swiss voters. *European Journal of Political research, 41*(6), 759-776.
Colombo, C., & Kriesi, H.-P. (2017). Party, policy – or both? Partisan-biased processing of policy arguments in direct democracy. *Journal of Elections, Public Opinion and Parties, 27*(3), 235-253.
Colombo, C., & Steenbergen, M. R. (2021). Heuristics and biases in political decision making. In: Redlawsk, David P. *The Oxford encyclopedia of political decision making*. Oxford: Oxford University Press, online.
De Angelis, A., Colombo, C., & Morisi, D. (2020). Taking cues from the government: Heuristic versus systematic processing in a constitutional referendum. *West European Politics, 43*(4), 845-868.
De Vreese, C. (2007). When referendum campaigns matter – and why? Paper presented at the 57th Conference of the International Communication Association ICA, San Francisco, May.
De Vreese, C. (2007). A spiral of euroscepticism: The media's fault. *Acta Politica 42*, 271-286.
De Vreese, C., Boukes, M., Schuck, A., Vliegenthart, R., Bos, L., & Lelkes, Y. (2017). Linking survey and media content data: Opportunities, considerations and pitfalls. *Communication Methods and Measures, 11*(4), 221-244.
Delli Carpini, M., & Keeter, S. (1996). *What americans know about politics and why it matters*. New Haven, CT: Yale University Press.
Dermont, C. (2018). Environmental decision-making: The influence of policy information. *Environmental Politics, 28*(3), 544-567.
Diliplane, S., Goldman, S., & Mutz, D. (2013). Televised exposure to politics: New measures for a fragmented media environment. *American Journal of Political Science, 57*(1), 1-13.
Eagly, A., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt.
Elenbaas, M., & De Vreese, C. (2008). The effects of strategic news on political cynicism and vote choice among young voters. *Journal of Communication, 58*(3), 550-567.
Fazekas, Z., & Larsen, E. G. (2015). Media content and political behavior in observational research: A critical assessment. *British Journal of Political Science, 46*(1), 195–204.
Fédération Suisse des Parlements des Jeunes. (2017). *Easyvote. Votation 19 mai 2017.*

[Dataset].
Galpin, C., & Trenz, H.-J. (2017). The spiral of euroscepticism: Media negativity, framing and opposition to the EU. In Caiani, M., & Guerra, S. (Eds.), *Euroscepticism, democracy and the media*, Palgrave Studies in European Political Sociology. Palgrave Macmillan, London (pp.49-72).
Ghergina, S., & Silagadze, N. (2018). And yet it matters: Referendum campaigns and vote decision in Eastern europe. *Contemporary Politics, 25*(1), 29-46.
Geise, S., & Baden C. (2014). Putting the image back into the frame: Modelling the linkage between visual communication and frame-processing Theory. *Communication Theory, 25*(1), 46-69.
Green, M., Kass, S., Carrey, J., Herzig, B., Feeney, R., & Sabini, J. (2008). Transportation across media: Repeated exposure to print and film. *Media Psychology, 11*, 512-539.
Hänggli, R. (2020). *The origin of dialogue in the news media*. Palgrave MacMillan.
Heidelberger, A. (2023). APS-Inserateanalyse der eidgenössischen Abstimmung vom 18. Juni 2023. Bern: Année Politique Suisse, Institut für Politikwissenschaft der Universität Bern.
Hessami, Z. (2016). How do voters react to complex choices in a direct democracy? Evidence from Switzerland. *Kyklos, 69*(2), 263-293.
Hillygus, S. (2010). Campaign effects on vote choice. In J. E. Leighley (Eds). *The Oxford handbook of American elections and political behavior*. Oxford: Oxford University Press.
Hobolt, S. (2006). When Europe matters: The impact of political information on voting behaviour in EU referendums. *Journal of Elections Public Opinion and Parties, 15*(1), 85-109.
Hopkins, D., & King, G. (2010). A method of automated nonparametrics content analysis for social science. *American Journal of Political Science, 54*(1), 229-247.
Kriesi, H. (2005). *Direct democratic choice. The swiss experience*. Lanham, Md: Lexington Books.
Kriesi, H. (2006). Role of the political elite in Swiss direct-democratic votes. *Party Politics, 12*(5), 599-622.
Laver, M., Benoit, K., & Garry, J. (2003). Extracting policy positions from political texts using words as data. *American Political Science Review, 97*(2), 311-331.
Leeper, T. (2017). How does treatment self-selection affect inferences about political communication? *Journal of Experimental Political Science, 4*(1), 21-33.
Lowe, W. (2008). Understanding Wordscores. *Political Analysis, 16*, 356-371.
Lupia, A., & Matsusaka, J. (2004). Direct-democracy: New approaches to old questions. *Annual Review of Political Science, 7*(1), 463-482.
Marquis, L., Schaub, H.-P., & Gerber, M. (2011). The fairness of media coverage in question: an analysis of referendum campaigns on welfare state issues in Switzerland. *Swiss Political Science Review, 17*(2), 128-163.
Martin, L., & Vanberg, G. (2008). A robust transformation procedure for interpreting political text. *Political Analysis, 16*, 93-100.
Messaris, P., & Abraham, L. (2001). The role of images in framing news stories. In Reese, S. D., Gandy, O. H., and Grant, A. E. (Eds.), *Framing public life*. Mahwah, NJ: Erlbaum (pp.215-226).
Milic, T., Rousselot, B., & Vatter, A. (2014). *Handbuch der Abstimmungsforschung*. Zürich: Verlag Neue Zürcher Zeitung.
Petty, R., & Cacioppo, T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, *19*, 123-205.
Powell, T., Boomgarden, H., De Swert, K., & De Vreese, C. (2015). A clearer picture: The

contribution of visuals and text to framing effects. *Journal of Communication, 65*(6), 997-1017.
Powell, T., Boomgarden, H., De Swert, K., & De Vreese, C. (2018). Video killed the news article? Comparing multimodal framing effects in news videos and articles. *Journal of Broadcasting and Electronic Media, 62*(4), 578-596.
Powell, T., Boomgarden, H., De Swert, K., & De Vreese, C. (2019). Framing fast and slow: A dual processing account of multimodal framing effects. *Media Psychology, 22*(4), 572-600.
Qvortrup, M. (2014). *Referendums around the world: The continued growth of direct democracy*. Basingstoke: Palgrave MacMillan UK.
Reveilhac, M., & Morselli, D. (2020). Digital Shift in Swiss Media Consumption Practices. *Swiss Journal of Sociology, 46*(3), 535-558.
Selb, P., Kriesi, H., Hänggli, R., & Marr, M. (2009). Partisan choices in a direct-democratic campaign. *European Political Science Review 1*(1), 155-172.
Schuck, A., & De Vreese, C. (2009). Reversed mobilization in referendum campaigns: How positive news draming can mobilize skeptics. *The International Journal of Press/Politics, 14*(1), 40-66.
Schweizer Bundesrat, (2017). Bundesratbeschluss über das Ergebnis der Volksabstimmung vom 21. May 2017. (Politische Rechte: Ausgleich des Bundeshaushalt [Dataset].
Shehata, A., Hopmann, D. N., Nord, L., & Höijer, J. (2015). Television channel content profiles and differential knowledge growth: A test of the inadvertent learning hypothesis using panel data. *Political Communication, 32*(3), 377–395.
Slothuus, R. (2008). More than weighting cognitive importance: A dual-process model of issue framing effects. *Political Psychology, 29*(1), 1-26.
Stadelmann-Steffen, I., & Dermont, C. (2018). The unpopularity of incentive-based instruments: What improves the cost–benefit ratio? *Public Choice, 175*(1-2), 37-62.
Tresch, A., (2012). The (partisan) role of the press in direct democratic campaigns: Evidence from a Swiss vote on European integration. *Swiss Political Science Review*, *18*(3), 289–304.
Vliegenthart, R., Schuck, A., Boomgarden, H., & De Vreese, C. (2008). News coverage and support for European integration, 1990-2006. *International Journal of Public Opinion research, 20*(4), 415-439.
Vowles, J. (2013). Campaigns claims, partisan cues, and media effects in the 2011 British electoral system referendum. *Electoral Studies, 32*, 253-264.
Wirth, W., Matthes, J., Schemer, C., Wettstein, M., Friemel, T., Hänggli, R., & Siegert, G. (2010). Agenda building and setting in a referendum campaign: Investigating the flow of arguments among campaigners, the media, and the public. *Journalism and Mass Communication Quarterly, 87*(2), 328-345.
Wüstenhagen, R., Wolsink, M., & Bürer, M. J. (2008). Social acceptance of renewable energy innovation: An introduction to the concept. *Energy Policy, 35*(5), 2683–2691.
Zaller, J. (1992). *The nature and origins of mass opinion*. Cambridge: Cambridge University Press.

Dataset

The author confirms that the data supporting the findings of this study are available as supplementary materials online.