

Appendix for the paper:  
Voting Advice Applications and Their Impact on Ideological and Affective  
Polarization

Appendix A: Details on the study design and the Voting Advice Application Smartvote.

Appendix A1: Email invitation text to use the VAA.

**Subject:**

Nächste Runde zur Studie «Digitalisierung und Wahlen 2023»

**Mailtext:**

**«Anrede»**

Vor wenigen Tagen haben Sie am ersten Teil unserer **Online-Umfrage zum Thema «Digitalisierung und Wahlen 2023»** der [REDACTED] teilgenommen. Vielen Dank dafür!

Der zweite Teil der Umfrage folgt nach den National- und Ständeratswahlen vom 22. Oktober 2023. **Unabhängig davon, ob Sie überhaupt wählen gehen werden, möchten wir Sie bitten, die Online-Wahlhilfe «smartvote» zu benutzen.**

Es ist oft mühsam und aufwändig, sich bei Wahlen über Kandidierende und Parteien zu informieren. Smartvote ermöglicht es Ihnen schnell und einfach, Ihre eigenen politischen Meinungen direkt mit denen der Kandidierenden und Parteien zu vergleichen und zu sehen, wer Ihnen politisch am nächsten steht.

Mit dem folgenden Link und Passwort gelangen Sie zur Online-Wahlhilfe. Sie können diese auch mehrmals benutzen. Idealerweise benutzen Sie dabei jedoch stets diesen Link.

Link: ...

Wir wären froh, wenn Sie die Online-Wahlhilfe benutzen würden – auch wenn Sie nicht wählen gehen werden oder schon wissen, wenn Sie wählen möchten. Je öfter diese benutzt wird, umso verlässlicher wird unsere Studie.

*Table A1: Timetable for the study design*

12 September 2023	Soft launch of Wave 1 survey
13 September 2023	Full start of Wave 1 survey
20 September 2023	End of Wave 2 survey
22 September 2023	Treatment/Invitation for Treatment Group
<b>24 September – 1 October 2023</b>	<b>Postal delivery of official election material (ballots) to the voters (differs for each canton)</b>
06 October 2023	Reminder Treatment Group
<b>22 October 2023</b>	<b>Election Day</b>
24 October 2023	Start of Wave 2 survey
30 October 2023	Reminder Wave 2 survey
6 November 2023	End of Wave 2 survey

smartvote 

Deutsch ▾ Teilen  jan.fivaz@mac.com ▾

⌂ Grossratswahlen Kanton Bern 2022 ▾

« Zurück zum Fragebogen Start **Wahlempfehlung** Datenbank smartmap

**Ihre Wahlempfehlung**

Wahl Wahlkreis  
Grossratswahlen Bern ▾ Kandidierende Listen

▼ Zusätzliche Filter

Matching smartmap  Mein smartspider  Teilen

	1. Marcel Wüthrich 1968   GFL   02.06.2	 60.0%	
	2. Christine Müller 1980   GFL   02.09.7	 59.6%	
	3. Gabriela Blatter 1984   glp   05.08.8	 58.6%	
	4. Fabian Rüfenacht 1993   jglp   06.10.6	 58.4%	
	5. Marianne Schild 1984   glp   05.02.9   Gewählt	 57.6%	
	6. Geo Taglioni 1981   glp   05.09.6	 57.3%	

Figure A1: Screenshot of the top of the first page of vote recommendation.

*Table A2: VAA questions and average response for Political Candidates, VAA users and Survey respondents.*

Question	Av. Candidates	Av. Voters	Av. Survey
Do you support an increase in the retirement age (e.g., to 67)?	2.24 (1.19)	1.98 (1.07)	
Should the federal government allocate more funding for health insurance premium subsidies? For married couples, the pension is currently limited to 150% of the maximum individual AHV pension (capping). Should this limit be eliminated?	2.99 (1.04) 3.26 (0.95)	3.21 (0.94) 3.24 (1)	
As part of the reform of the BVG (occupational pension plan), pensions are to be reduced (lowering the minimum conversion rate from 6.8% to 6%). Are you in favor of this measure?	2.36 (1.26)	1.66 (0.88)	
Should paid parental leave be increased beyond today's 14 weeks of maternity leave and two weeks of paternity leave? [BePart question]	2.93 (1.22)	2.44 (1.21)	
Should the federal government provide more financial support for public housing construction? [BePart question]	2.65 (1.19)	2.88 (0.93)	
Should compulsory vaccination of children be introduced based on the Swiss vaccination plan?	1.89 (1.04)	2.36 (1.14)	
Are you in favor of the introduction of a tax on foods containing sugar (sugar tax)?	2.19 (1.15)	2.32 (1.14)	
Should insured persons contribute more to health care costs (e.g., increase the minimum deductible)? Should the Federal Council's ability to restrict private and economic life in the event of a pandemic be more limited?	2.07 (1.08) 2.03 (1.1)	1.95 (1.01) 2.07 (1.12)	
Should the federal government be given the authority to determine the hospital offering (national hospital planning with regard to locations and range of services)?	2.42 (1.04)	2.58 (0.97)	
According to the Swiss integrated schooling concept, children with learning difficulties or disabilities should be taught in regular classes. Do you approve of this concept?	2.74 (1.03)	2.4 (1.01)	
Should the federal government raise the requirements for the <i>gymnasiale matura</i> ?	2.34 (1.1)	2.56 (1)	
Should the state be more committed to equal educational opportunities (e.g., through subsidized remedial courses for students from low-income families)?	3.26 (0.95)	3.1 (0.89)	
Should the conditions for naturalization be relaxed (e.g., shorter residence period)?	2.92 (1.3)	2.38 (1.01)	
Should more qualified workers from non-EU/EFTA countries be allowed to work in Switzerland (increase third-country quota)?	1.99 (1.05)	2.63 (1.09)	
Do you support efforts to house asylum seekers in centers outside Europe during the asylum procedure?	2.64 (1.17)	2.39 (1.16)	
Should foreign nationals who have lived in Switzerland for at least ten years be granted the right to vote and stand for election at the municipal level?	2.42 (1.31)	1.83 (1.18)	2.53 (1.16)
Should cannabis use be legalized? [BePart question]	2.97 (1.16)	2.49 (1.18)	
Would you be in favour of doctors being allowed to administer direct active euthanasia in Switzerland?	2.4 (1.16)	1.74 (1.18)	
Should a third official gender be introduced alongside "female" and "male"?	2.4 (1.28)	1.74 (1.1)	
Do you think it's right for same-sex couples to have the same rights as heterosexual couples in all areas?	3.41 (1)	3.15 (1.1)	3.01 (1.12)
Do you support tax cuts at the federal level over the next four years?	2.33 (1.19)	3.06 (1)	
Should married couples be taxed separately (individual taxation)? [BePart question]	3.19 (1.14)	3.2 (1.07)	
Would you support the introduction of a national inheritance tax on all inheritances over one million Swiss francs? [BePart question]	2.57 (1.26)	2.89 (1.18)	
Should the differences between cantons with high and low financial capacity be further reduced through fiscal equalization?	2.81 (1.11)	2.78 (0.95)	
Are you in favor of introducing a minimum wage of CHF 4,000 for all full-time employees?	2.48 (1.31)	3.12 (1.09)	3.06 (1.06)
Do you support stricter regulations for the financial sector (e.g., stricter capital requirements for banks, ban on bonuses)?	3.27 (0.95)	3.38 (0.79)	
Should private households be free to choose their electricity supplier (complete liberalization of the electricity market)?	2.58 (1.19)	3.19 (0.99)	
Should housing construction regulations be relaxed (e.g., noise protection, occupancy rates)?	2.7 (1.13)	2.43 (1.06)	
Are you in favor of stricter controls on equal pay for women and men?	2.96 (1.16)	3.15 (0.99)	3.11 (0.99)
Should busy sections of highways be widened?	2.38 (1.21)	2.81 (1.12)	
Should Switzerland ban the registration of new passenger cars with internal combustion engines starting in 2035?	2.53 (1.25)	2.05 (1.13)	
To achieve climate targets, should incentives and target agreements be relied on exclusively, rather than bans and restrictions?	2.67 (1.15)	2.78 (1.02)	
Do you think it's fair that environmental and landscape protection rules are being relaxed to allow for the development of renewable energy?	2.74 (1.03)	2.72 (1.04)	

Should the construction of new nuclear power plants in Switzerland be allowed again?	2.03 (1.22)	2.39 (1.2)
Should the state guarantee a comprehensive public service offering also in rural regions?	3.38 (0.81)	3.33 (0.72)
Would you be in favor of the introduction of increasing electricity tariffs when consumption is higher (progressive electricity tariffs)?	2.37 (1.08)	2.53 (1.04)
Are you in favor of further relaxing the protection regulations for large predators (lynx, wolf, bear)?	2.19 (1.14)	2.13 (1.06)
Should direct payments only be granted to farmers with proof of ecological performance?	2.64 (1.13)	2.65 (1.06)
Are you in favour of stricter animal welfare regulations for livestock (e.g. permanent access to outdoor areas)?	2.86 (1.14)	3.11 (0.97)
Should 30% of Switzerland's land area be dedicated to preserving biodiversity? [BePart question]	2.94 (1.13)	3.06 (1)
Would you support a ban on single-use plastic and non-recyclable plastics? [BePart question]	3.03 (1.08)	3.08 (0.98)
Are you in favour of government measures to make the use of electronic devices more sustainable (e.g., right to repair, extension of warranty period, minimum guaranteed period for software updates)? [BePart question]	3.31 (1)	3.24 (0.9)
Should the Swiss mobile network be equipped throughout the country with the latest technology (currently 5G standard)?	3.17 (1.02)	2.91 (1.03)
Should the federal government be given additional powers in the area of digitization of government services in order to be able to impose binding directives and standards on the cantons?	3.01 (1.05)	2.85 (1.03)
Are you in favor of stronger regulation of the major Internet platforms (i.e., transparency rules on algorithms, increased liability for content, combating disinformation)?	3.16 (1.04)	3.13 (0.94)
A popular initiative aims to reduce television and radio fees (CHF 200 per household, exemption for businesses). Do you support this initiative?	2.16 (1.28)	2.99 (1.13)
Are you in favour of lowering the voting age to 16?	2.49 (1.33)	1.66 (1.02)
Should it be possible to hold a referendum on federal spending above a certain amount (optional financial referendum)?	2.42 (1.23)	2.83 (1.01)
Are you in favor of expanding the army's target number of soldiers to at least 120,000?	2.25 (1.23)	2.26 (1.15)
Should the Swiss Armed Forces expand their cooperation with NATO?	2.51 (1.2)	2.52 (1.13)
Should the Federal Council be allowed to authorize other states to re-export Swiss weapons in cases of a war of aggression in violation of international law (e.g., the attack on Ukraine)? [BePart question]	2.67 (1.23)	2.58 (1.24)
Should automatic facial recognition be banned in public spaces?	3.22 (0.97)	2.79 (1.13)
Should Switzerland terminate the Schengen agreement with the EU and reintroduce more security checks directly on the border? [BePart question]	1.59 (1.03)	2.08 (1.1)
Are you in favor of closer relations with the European Union (EU)?	3.01 (1.11)	2.59 (1.11)
Should Switzerland strive for a comprehensive free trade agreement (including agriculture) with the USA?	2.43 (1.15)	2.63 (1.02)
Should Swiss companies be obliged to ensure that their subsidiaries and suppliers operating abroad comply with social and environmental standards?	3.13 (1.11)	3.26 (0.91) 3.14 (0.92)
Should Switzerland terminate the Bilateral Agreements with the EU and seek a free trade agreement without the free movement of persons?	1.55 (0.98)	1.97 (1.07) 2.31 (1.08)
Should Switzerland return to a strict interpretation of neutrality (renounce economic sanctions to a large extent)? [BePart question]	1.8 (1.14)	2.31 (1.14)

Appendix B: Question wording and descriptive statistics for the survey questions

*Table B1: Question wording and descriptive statistics for the level of Political Interest, the age and the gender of respondents*

Variable name and question wording	Response categories	Share
Political interest: <i>Wie sehr interessieren Sie sich ganz generell für Politik?</i>	Not interested	0.02949273
	Rather not interest	0.48879276
	Rather interested	0.14471097
	Very interested	0.33700354
Age: <i>Please tell us your age:</i>	18-24	0.10323575
	25-34	0.20287622
	35-44	0.21468927
	45-54	0.21879815
	55-64	0.2547509
	65+	0.00564972
Gender: <i>Please indicate your official gender (as stated in your passport or identity card):</i>	Men	0.5499417
	Women	0.4500583

*Table B2: Question wording and distribution of response for the vote intention and the vote choice of respondents*

Variable	Party	Share
Vote intention: <i>Regardless of whether you will participate in the 2023 National Council and Council of States elections, which party would you be most likely to vote for in the National Council elections, or which party would you vote for the most candidates from?</i>	Grüne	0.09722922
	SP	0.1884131
	Mitte	0.14206549
	GLP	0.08564232
	FDP	0.15566751
	SVP	0.33098237
<i>Note: The youth parties are included in their respective "parent parties."</i>		
Vote choice: <i>Which party did you vote for in the National Council elections, or which party did you vote for the most candidates from?</i>	Grüne	0.07508343
	SP	0.20411568
	Mitte	0.15850945
	GLP	0.06896552
	FDP	0.11902113
	SVP	0.37430478
<i>Note: Youth parties are included under their respective parent parties.</i>		

Variable	Party	Mean (sd)
Affects towards parties (W1): <i>What is your opinion of the following national political parties? Please rate your answer on a scale from 0 to 10, where 0 means you dislike the party very much, 10 means you like it very much, and 5 is between the two categories.</i>	Grüne	4.05 (2.91)
	SP	4.66 (2.75)
	Mitte	5.04 (2.23)
	GLP	4.25 (2.48)
	FDP	4.9 (2.38)
	SVP	4.47 (3.46)
Affects towards parties (W2): <i>What is your opinion of the following national political parties? Please rate your answer on a scale from 0 to 10, where 0 means you dislike the party very much, 10 means you like it very much, and 5 is between the two categories.</i>	Grüne	3.78 (3.02)
	SP	4.74 (2.95)
	Mitte	5.16 (2.34)
	GLP	4.16 (2.58)

	FDP	4.91 (2.45)
	SVP	4.74 (3.65)

Appendix C: Effect of pre-treatment variable on the compliance of the treatment and the control groups.

Table C1: Share of VAA users by levels of political interest for the treatment group, the control group and the whole sample.

	Control group	Treatment group	All
Not interested	0.11	0.27	0.23
Rather not interested	0.15	0.33	0.28
Rather interested	0.19	0.46	0.37
Very interested	0.27	0.56	0.46

Table C2: Share of VAA users by age group for the treatment group, the control group and the whole sample.

	Control group	Treatment group	All
18-24	0.39	0.62	0.53
25-34	0.35	0.57	0.50
35-44	0.26	0.52	0.44
45-54	0.18	0.47	0.38
55-64	0.17	0.46	0.36
65+	0	1	0.1

Table C3: Average vote intention distance from the status quo for VAA users and non users in the treatment group, the control group and the whole sample.

		Vote extremism
Control group	Users	0.96
	Non-user	1.08
Treatment group	Users	0.99
	Non-user	1.11
All	Users	0.99
	Non-user	1.09

Table C4: Average pre-election affective polarization for VAA users and non users in the control group, the treatment group and the whole sample.

		Affective Polarization (W1)
Control group	Users	3.63
	Non-user	3.94
Treatment group	Users	3.73
	Non-user	3.90
All	Users	3.71
	Non-user	3.92

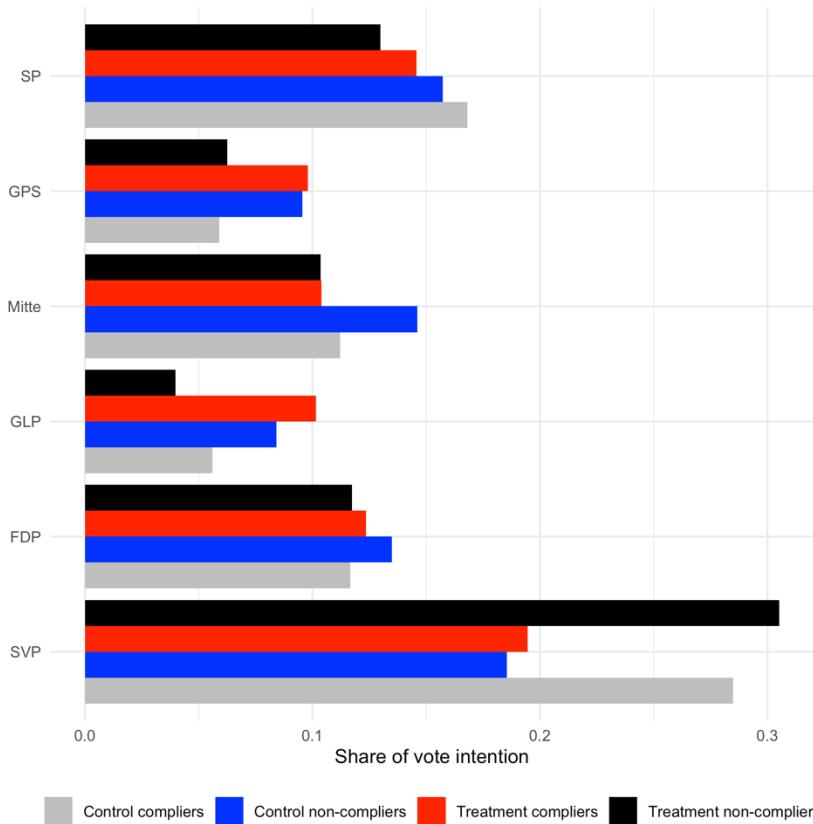


Figure C1: Distribution of vote choice by treatment category

Table C5: Voters predispositions' effect on the probability to use the VAA for the control group, the treatment group and the whole sample.

	Control group	Treatment group	Whole sample
Vote intention extremism	-0.513* (-0.233)	-0.573*** (-0.152)	-0.461*** (-0.121)
Affective polarization (W1)	-0.098 (-0.061)	-0.032 (-0.037)	-0.054+ (-0.03)
<i>Political interest (Ref: No interest)</i>			
Rather not interested	0.223 (-0.895)	0.399 (-0.532)	0.406 (-0.449)
Rather interested	0.578 (-0.837)	0.842+ (-0.51)	0.750+ (-0.429)
Very interested	1.283 (-0.841)	1.464** (-0.517)	1.370** (-0.434)
<i>Age group (Ref: 18-25)</i>			
25-34	0.167 (-0.37)	-0.540* (-0.274)	-0.203 (-0.212)
35-44	-0.491 (-0.382)	-0.618* (-0.268)	-0.420* (-0.208)
45-54	-1.100** (-0.391)	-0.818** (-0.271)	-0.734*** (-0.21)
55-64	-1.318*** (-0.384)	-1.112*** (-0.268)	-1.040*** (-0.208)
65+	-14.823 (-505.314)	-	-14.613 (-305.537)
Gender = Woman	-0.254 (-0.242)	-0.199 (-0.144)	-0.167 (-0.119)
Constant	-0.22 (-0.932)	0.632 (-0.596)	0.136 (-0.487)
Observations	495	933	1,428
Log Likelihood	-249.829	-611.833	-914.644
Akaike Inf. Crit.	523.658	1,245.666	1,853.289

Appendix D: Additional analyses with the cumulative Swiss election study data

Table D1: Share of voters who cast their ballot directly when receiving mail in ballot materials between 1995 and 2023

Election year	Share of voters
1995	0.02
1999	0.04
2003	0.06
2007	0.07
2011	0.07
2015	0.08
2019	0.09
2023	0.07

Table D2: Share of voters who add candidates from another party in their list

Election year	Share
1971	0.13
1975	0.16
1979	0.26
1987	0.30
1991	0.29
1995	0.24
1999	0.22
2003	0.23
2007	0.20
2011	0.23
2015	0.23
2019	0.23
2023	0.20