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In this article, I investigate the effects of Voting Advice Applications (VAAs) on voting behaviour of their users. It has been already demonstrated that voters are more likely to follow VAAs recommendation when this latter is consistent with their previous vote intentions. However, the role of partisan attachments in this process has been generally overlooked.

The basic idea that I intend to test, indeed, is that partisanship works as strong attitude in voters' minds, making their preferences less amenable to VAAs advices if compared to those of non-partisan citizens.

By implementing logistic regression models on panel data from the 2014 Belgian Federal elections, I show that it is actually unlikely that citizens decide to switch their vote after having played the test, if the advice is not consistent with pre-existing vote intentions. More importantly, I find that the impact of VAAs advice on vote choice is even weaker among citizens that declare to feel attached to a party.

Keywords: Voting advice application, Belgium, vote intentions, voting behaviour, partisanship

Voting Advice Applications (hereafter VAAs) are online tools aiming at indicating the closest parties to voters, mostly by way of ranking lists. The main objective is to provide voters with a recommendation that reflects their issue preferences, favouring an issue proximity vote (Cedroni and Garzia 2010). The spread of these tools all over Europe has drawn the attention of many scholars. Literature on VAAs, even if quite recent, has already investigated their effects in many ways. Typically, research has focused on two different aspects: the cognitive and the behavioural effects (*ibidem*).

First, figures show that voters who have used VAAs declare to be motivated to collect further political information (Marschall 2005). It seems also that the level of knowledge about party positions after having played the test is higher (Schulze 2014), as well as the perceived political knowledge (Boogers and Voerman 2003, Ladner 2012, Krouwel et al. 2015).

Second, following the low-information rationality, it has been hypothesized that VAAs, contributing to the decrease of information costs, can favour electoral turnout. Indeed, many studies support this hypothesis (Mykkänen and Moring 2007, Ruusuvirta and Rosema 2009, Marschall and Schmidt 2010), even if the intensity of the effect varies across countries. To cite but a few, Ladner and Pianzola, working on the case of Switzerland, found that "15.6% [of their respondents] (N=17641) claimed that *smartvote* had motivated them to take part in the elections" (2012, 219). By means of a random sample of the Dutch electorate, Rosema and Gemenis discovered that the mobilizing impact of VAA accounted for 4% in the Netherlands (2014). Higher percentages have been found in Finland, where probability of turnout increased by 21% for men and 23% for women in the 2003 National Election (Mykkänen and Moring 2007).

Alongside these 'quantitative effects', some studies have also demonstrated that VAAs have 'qualitative effects' on voting behaviour, as they are able to influence the direction of vote choices (Marschall 2005, De Rosa 2010, Ladner 2012). Figures have displayed that VAAs ability to move party preferences of its users varies across countries, from the very low 2/3% in Belgium (Walgrave et al. 2008), up to 10% in Switzerland (Ladner 2012).

Substantial percentages of voters declare that VAAs have played an important role in determining their vote choice (Bengtsson and Grönlund 2005, Marschall 2005). Nevertheless, there is evidence that many VAAs users tend to vote for the recommended party as long as this latter is consistent with their pre-existing beliefs, i.e. vote intentions (Ruusuvirta and Rosema 2009, Wall et al. 2014). This does not mean that VAAs' effect on voting behavior is overall negligible. Quite on the contrary, a 'confirmation effect' can still be crucial for undecided voters. Indeed, as Wall et al. pointed out, "it appears that a congruent recommendation can help to firm up a voter's mind when they are already leaning towards the recommended party" (2014, 425). Besides 'preference confirmation', two other cases can occur: 'preference formation', i.e. VAA provides an option to voters that have no preferences; 'preference change', i.e. VAA's result leads voters to change their vote choice (Ruusuvirta and Rosema 2009). Studying the 2006 Dutch Parliamentary elections, Ruusuvirta and Rosema confirmed that the first case (preference confirmation) is actually the most likely scenario (2009, 16).

This article aims at contributing to this literature, providing a theoretical explanation of this phenomenon and arguing the moderating effect of partisan attachments in this process. Partisanship, as a feeling of psychological closeness to a party, is expected to boost even more respondents' affection to their pre-existing vote intentions, making them less available to change their vote choice in comparison with more politically detached citizens. Regarding the general 'confirmation effect', i.e. that VAAs mainly work as crystallization of previous electoral preferences, first objective of this article is to test, for sake of external validity, whether Belgium follows the same pattern already described in the Dutch context (Ruusuvirta and Rosema 2009, Wall et al. 2014). Second, I investigate whether this confirmation effect is stronger among respondents who feel close to a party.

These two questions are worth of scholarly attention for at least two reasons. First, Belgium is an interesting case study: it is characterised by a multi-party political system, where Flemish, French and German-speaking parties operate in the three regions, within a multi-level structured government. In such a complex context, VAAs can make a difference in facilitating the understanding of the political environment and thus encouraging a proximity vote. It is hence interesting to study the extent to which VAAs' advice is able to influence the vote choice in this country. In this way, the present paper contributes to answering the following crucial question: to what extent do VAAs play a role in orienting a proximity vote in complex political systems?

Second, even if during an electoral campaign voters receive several messages advertising parties or candidates, the advice provided by a VAA has peculiar characteristics. On the one hand, it is a test taken on a voluntary basis, which means that voters need to be motivated in order to use these tools (e.g., willing to learn more about parties' positions in public debate, to know better their programmatic proposals, etc.). On the other hand, VAAs offer an unbiased advice, based on evaluations of parties' positions given by experts. Their voluntary and unbiased nature makes them a unique tool that allows measuring the degrees of permeability of voters' mind to external input. In other words, if a confirmation effect is the most likely to occur, it follows that prior preferences have actually a great relevance in determining the vote choice, no matter the type of the external input one receives. This attachment to prior preferences/intentions is made even clearer by testing the moderating role of partisanship in accepting (or refusing) a VAA's advice. In so doing, the paper makes a relevant contribution to the understanding of the influence that individual preferences and attitudes have on the vote choice.

For the analysis, I rely on data from the 2014 PartiRep dataset, an electoral panel survey held in Belgium before (CAPI) and after (CATI) the European, Federal and Regional elections of that year. In the survey, voters were asked whether they had used a VAA, the name of the performed test, and the party suggested by it. In this article, only answers regarding the 2014 Federal elections are considered.

The paper proceeds as follows: first, I present some theoretical explanations of why I expect to find the hypothesized relationships. Next, I describe the data, their limitations and the employed method. Finally, I discuss the results and I conclude by tracing some important implications. The results confirm both the expectations. A confirmation effect of VAAs advice is the most likely to occur in Belgium. Moreover, the psychological closeness to a party boosts the probability to refuse an advice that is not consistent with previous vote intentions. Such finding is in line with the literature on the persuasiveness of external messages, which is discussed in the next paragraph.

Theoretical considerations and research expectations

A relevant part of literature on political attitudes and persuasiveness of external messages - mainly US-based - argues that people avoid information that are discrepant with their pre-existing attitudes (Mutz 2006). There is strong evidence that voters select themselves into audiences that reflect their political preferences (Bennett and Manheim 2006, Pfau, Houston and Semmler 2007, Iyengar and Hahn 2007). As a

result, not only political polarization has gradually increased together with the availability of new media sources, but also the persuasiveness of external input has been brought into question (Bennett and Iyengar 2008). Indeed, "it becomes less likely that media messages will do anything other than reinforce prior predispositions" (ibidem, 724).

These findings are in line with the more dated Zaller's (1992) theory, whose Receive - Accept - Sample (RAS) model is still one of the most common ways to get understanding of how political reasoning works. Concisely, the model claims that citizens receive a lot of different information about many topics, but they tend to resist messages that are inconsistent with their previous predispositions. The more people are aware, i.e. the more they have strong predispositions, the less they accept messages. The predisposition called to memory to contrast/accept the new information is the one that is more salient or, to better say, the most recent. According to Zaller, considerations that people receive and from which they can elaborate their opinion are generally elite-driven.

The resistance to external input has been outlined also in the literature on campaign effects. To cite but a few, some scholars have pointed out that voters find more informative the advertisements of the party which they feel closer (Ansolabehere and Iyengar 1994, Iyengar and Valentino 1999). In the European context, Geers et al. (2017) tested whether campaign influences voting behaviour by moving preferences, or rather by activating latent political preferences. Analysing the 2014 European Parliament elections in the Netherlands, they discovered that election news exposure has a positive impact on the 'crystallization effect', i.e. confirming preferences of undecided voters, while no effect was exerted on 'conversion'.

Given the abundance of findings arguing that external messages have limited impact on moving attitudes, but are rather more efficient in reaffirming pre-existing attitudes, it is reasonable to apply the same expectation to the study of VAAs. If these tools have the effect of reinforcing prior ideas, rather than forming afresh preferences, in the wake of the previous Dutch studies I should find that also in Belgium a confirmation of voters' intentions by VAAs advice is a good predictor of voting for the recommended party. More concisely, I will expect that: H1: Voters who received an advice from VAA that reflects their pre-existing vote intentions are more likely to vote for the recommended party if compared to people that experienced an inconsistent advice ('confirmation hypothesis').

Voters are generally likely to refuse information that are inconsistent with their prior attitudes (Mutz 2006). This tendency is even more evident for people that have strong attitudes, since they process information on a selective basis (Newman and Perloff 2004). A strong attitude, as Perloff defined it, is characterised by "importance (we care deeply about the issue); ego-involvement (the attitude is linked to core values or the self); extremity (the attitude deviates significantly from neutrality); certainty (we are convinced that our attitude is correct); accessibility (the attitude comes quickly to mind); knowledge (we are highly informed about the topic); and hierarchical organization (the attitude is internally consistent and embedded in an elaborate attitudinal structure)" (2017, 115).

Generally speaking, partisan feelings hold the characteristics of strong attitudes. In the words of Greene, in particular, "partisanship clearly fits the psychological definition of an attitude - a generalized and enduring positive or negative response to an object" (2002, 172), in this case a political party. In addition to this, in the Handbook of Political Communication Research it is well argued that party identification is "one of the most important filters that citizens use to interpret political messages" (Newman and Perloff 2004, 31). It follows that voters frequently process information in a biased way, i.e. through the lenses of their political attachments. Sniderman and Stiglitz (2012) have contributed to the debate on partisanship, showing that attachment to a party is not a simplistic heuristics, but something that enables voters to undertake elaborate reasoning, i.e. to assign reputational premium to candidates whose positions are in line with the ones of the party they feel close to. As already mentioned, being partisanship so relevant in voters' minds, I expect it to have a role in shaping VAAs' confirmation effect already identified by previous authors. Basically, intentions being equal, it seems reasonable to argue that those who hold a party identification will be less available than non-partisan VAA's users to follow an inconsistent advice with respect to their pre-existing preferences. In short, I suppose that:

H2: The relationship between receiving an advice coherent with one's preexisting intentions and voting for the recommended party is stronger for partisan than for non-partisan VAA users ('attachment hypothesis').

Data and measures

To test the hypotheses presented above, I rely on PartiRep 2014 data. This is a panel electoral survey that has been carried out in Belgium on the occasion of the 2014 European, Federal and Regional elections. The first wave has reached 2019 individuals (the response rate was 45%), subjected to face-to-face for approximately 60 minutes. In the second wave, all the respondents were contacted again and 1532 of them (in this case, the response rate was 76%) agreed for a second briefer interview over the telephone. During this second interview, 580 people claimed that they had used a VAA, namely a relevant percentage of the sample (38%).

Regarding the analyses, I run two distinct regressions, the first one testing the 'confirmation hypothesis' and the second one the 'attachment hypothesis'. Since both models rely on a dichotomous dependent variable, indicating if the respondent voted/did not vote for the party recommended by the VAA, I employ binomial logistic regressions.

In the first model, the analysis mainly focuses on three variables. The first one is an indicator for vote intentions, which is derived from a question included in the first wave of the 2014 PartiRep survey asking for which party the respondent would have voted at the forthcoming Federal Election. Then we have actual vote choice, stemming from a question of the second wave asking whether people voted and for which party. Alongside this, the last survey provides also information on whether respondents used any VAA before the elections, what was the name of the used application and what were the recommended parties. Relying on the latter information, together with respondents' vote intention before the election, I compute the independent variable "match between vote intentions and VAAs advice". Moreover, combining actual vote choice and VAA's recommended parties, I create the dependent variable "voted/did not vote for the recommended party".

In the second model, in order to test the moderating effect of partisan attachments, I add an interaction between "match between vote intentions and VAAs

advice" and an indicator of partisanship¹. Based on this last regression, I estimate the predicted probabilities (for partisan and non-partisan voters) of voting for the recommended party in case of (mis)match between VAAs advice and vote intention.

Alongside all this, the two models take also account of several control variables, included in order to ensure that the 'confirmation' and 'attachment' dynamics do not select themselves into specific socio-demographic or political clusters of respondents. More specifically, as regards the first dimension, I include gender, age and education. On the political side, I consider political interest and left-right self-placement.

Descriptive statistics and wordings of all the variables utilized in the regression models are reported in Table 1.

[TABLE 1 ABOUT HERE]

Limitations of the analysis

Due to the design of the 2014 PartiRep survey, some problems need to be taken into account while implementing the analyses.

First, respondents were asked during the second wave, namely right after the election, to report the name of the VAA they used and what was the advice they received. Given the timing of these questions, voters' recall might have actually brought about some distortion in the data. In particular, some VAAs users could have adjusted the recall of the advice to their actual vote choice, that was more recent and thus taking less time to be retrieved from memory. On the other hand, the opposite effect could occur as well, i.e. VAAs advice influencing the vote recall, but it seems much less likely due to the timing of the two events. Indeed, respondents have been contacted for the second interview the day just after the election, which eliminates any concern related to a possible VAA-biased vote recall. For the same reason, it seems reasonable to think that also the distortions regarding the content of VAAs' advices are not so relevant. After all, only few weeks should have passed between the usage of VAAs and the second interview. Moreover, if incorrect VAAs' recalls are randomly distributed in the sample - and this is most probable - they would not be so significant to compromise the analysis.

¹ "Do you feel yourself a little closer to one of the political parties than the others?". Possible answers: YES/NO/Don't know.

To avoid all the above problems, we would need to have VAA questions asked right after the usage (before the election) and questions on the actual vote right after the election. To my knowledge, such data are not yet available. Consequently, analyses must be performed by keeping this limitation in mind, but considering that the data used have also some important advantages. For instance, they enable to estimate the effect of VAA usage on voting behavior, *vis-à-vis* pre-existing vote intentions. Moreover, the PartiRep dataset relies – unlike surveys intended for VAAs users - on a random sample of the Belgian population, which is a necessary precondition to get representative result.

On top of all this, another issue refers to the number of observations. The respondents who declared to have used a VAA are 580. In the models, however, the observations fall to 353 because of the missing values related to those who did not declare their actual vote. Here too, there is nothing we can do to solve this issue, if not relying on huge VAA-based online data sources, that would however lack important information about consequent voting behavior. Since the present contribution aims at a first in-depth exploration of VAA usage and its behavioral implications, it can be concluded that PartiRep data represent a good compromise to this end. At the same time, all due caution should be employed while examining the results.

Results

As above explained, I want to investigate whether people vote more often for the VAA's recommended party when this reflects their expectations, i.e. prior vote intentions. To give a clearer picture of the hypothesis I want to test, I briefly illustrate some examples (see TAB 2).

[TABLE 2 ABOUT HERE]

In the first case, voter A wants to vote for party X. Before the election, (s)he plays a VAA test, which suggests that party X is indeed the closest party, and (s)he votes for X. In another scenario, voter B prefers party X, but the VAA suggests voting for party Y: B ignores the advice and votes for X. Voter C, in the same way, has a preference for party X, but the VAA advices to vote for party Y: voter C changes her/his mind and follows the advice. Lastly, voter D wants to vote for X but, even though the VAA confirms her/his preference, (s)he finally opts for another party.

In the two first cases, H1 is confirmed. Voter A gets a confirmation of her/his preference, and (s)he follows the advice; voter B experiences a mismatch and (s)he decides to ignore the advice. The third case is instead an example of 'preference change', while the last case represents a voter that switches her/his vote right before the election, despite her/his vote intention and the VAA's advice. As these examples show, in order to test the first assumption ('confirmation hypothesis'), analyses take account of the match between prior vote intentions and VAAs advice and the consistency of the final vote choice with the advice. Unfortunately, data do not allow checking the extent to which the advice has been relevant to the voter. In other words, we cannot completely exclude that voters A and B would vote for the party X in any case, regardless of the VAA's outcome. However, we know from a previous study conducted in the Netherlands that a substantial percentage of VAAs users declare that "they consciously experienced some form of VAA 'effect" (Wall et al. 2014, 422). PartiRep 2014 does not provide the same information about the relevance of the advice to voters. Nevertheless, we can be confident that, similarly to what has been already found in the literature, the results of a test played before the election are to some extent valuable to people.

Moving on to the 'attachment' hypothesis, the aim is to test whether the abovedescribed relationship is stronger for partisan voters. In this case, a clarification about causality is needed. One can easily argue that, because of their emotional attachment to a party, partisan voters are more likely to receive from VAA a consistent advice with their preferences. If this is true, the analysis can actually be affected by this gap in the two groups. However, this is not the case. Indeed, the percentage of those who get a consistent advice is 52% among partisan and 44% among non-partisan voters (see FIG 1). Even if partisan voters generally get a consistent advice more often than nonpartisan, the difference in percentage points is little enough to think that this cannot influence the results of the analyses.

[FIGURE 1 ABOUT HERE]

Once established these first points, we can get a bit more to the core of the analysis. First, having a look at the variables "match between vote intentions and VAAs

advice" and "vote/did not vote for the recommended party", it seems worth pointing out that roughly 40% of VAAs users were advised to vote for a party that was their first choice according to their vote intentions. Moreover, approximately 50% of those who used VAAs actually voted for the recommended party, which seems already to be a point for H1 ('confirmation hypothesis'). In addition to this, crossing these two variables, it is possible to outline four different groups (see FIG 2): those who got their preference confirmed by the VAA and voted for the recommended party; those who got an inconsistent advice and voted for the recommended party; those who neither got a confirmation nor followed the advice; those who experienced a mismatch and did not follow the advice. If the 'confirmation hypothesis' works also in the Belgian context, the percentage of respondents following the voting advice in case this is consistent with their prior preference should be the highest. This is actually the case, as 86% of those who were advised to vote for the party that was already their first choice eventually voted for that party. At the same time, 14% of people that got a match between VAAs advice and vote intention decided not to vote for the recommended party. Unsurprisingly, on the other hand, a great proportion of those who got an inconsistent advice decided not to follow the VAAs suggestion (76%), while the remaining 24% did so. Coming to think of it, this percentage is not so little, especially if we think that these might be people who totally changed their mind after having played a test. However, it is questionable whether those are significantly undecided voters, who would be seriously available to vote for another party if an external input suggests to do so.

[FIGURE 2 ABOUT HERE]

For a more sophisticated test of the hypotheses, as anticipated above, a step further is needed. First, I implement a logistic model where "vote/did not vote for the recommended party" is regressed on "match between vote intentions and VAAs advice", partisanship and several control variables. This model aims at corroborating the 'confirmation hypothesis'. Second, I replicate the same model introducing an interaction between "match between vote intentions and VAAs advice" and partisanship, to test what I called the 'attachment hypothesis'. Finally, I show a graph reporting the predictive probabilities of voting for the recommended party in case of match/mismatch between VAAs advice/vote intention for partisans and nonpartisans. Results of the regression models are reported in Table 3.

[TABLE 3 ABOUT HERE]

In the first model, none of the control variables is significant. Neither partisanship exerts an effect. However, the main independent variable, namely "match between vote intentions and VAAs advice", has a strong positive and significant effect on voting for the recommended party. This model confirms what has been already shown in previous research: VAAs have mainly the role to affirm and crystallize preexisting vote intentions.

In the second model, it is tested the possibility that partisanship strengthens the confirmation effect ('attachment hypothesis'). Similarly to the first model, the advice-intention match has a positive effect on voting for the recommended party. Most importantly, the interaction between these two independent variables (namely partisanship and advice-intention match) turns out to be positive and significant.

For the sake of clarity, Figure 3 graphically shows the contents of this interaction, i.e. the predictive probabilities of voting for the recommended party in case of (mis)match between VAAs advice/vote intention for partisan and non-partisan voters. Generally, the graph shows that the probability to vote for the recommended party increases when shifting from inconsistency to consistency with the user's pre-existing vote intentions. In addition to this, the blue line represents the change in the probability levels between the two scenarios for non-partisans, while the red line displays the increase for respondents feeling to be close to a party. This latter is visibly more inclined than the first one, which confirms that, prior preferences being equal, voters holding a partisan attachment are significantly less inclined to change their previous vote intention, in case of a consistent voting advice, than their non-partisan counterpart. H2 is therefore confirmed: non-partisan respondents are actually more amenable to external informational input, such as voting advices, than those holding a partisan attachment.

[FIGURE 3 ABOUT HERE]

Discussion

This paper aimed at contributing to the literature on the impact of VAAs on voting behavior. In particular, it focuses on the evidence that VAAs users are much more likely to vote for the recommended party when this reflects their previous vote intentions. Two are the main contributions that this paper wanted to make. First, replicating the test of the confirmation effect of VAAs in the Belgian multiparty context, providing also a theoretical explanation of this phenomenon. Second, investigating the moderating effect of party identification in this process. The insight was that partisanship, i.e. a sense of psychological closeness to a party, strengthens even more the tendency to refuse external inputs - in this case voting advices - that are inconsistent with one's prior vote intentions.

Both the hypotheses, about confirmation and attachment, appear confirmed by the analyses. This result has important implications. The first one relates to the fact that VAAs are mainly played to reaffirm vote preferences. However, what this paper makes clear is that this mechanism does not apply to the same extent to all the voters holding a vote intention. There are indeed nuances that should be kept in mind for a wider comprehension of the phenomenon. The probability to accept or refuse the VAAs advice depends not only on having preferences, but also on the strength (or intensity) of these latter. The more pre-existing vote intentions are supported by a feeling of attachment to the party at issue, the less users are likely to be amenable to the voting advice. This also implies that non-partisans perform the test with different expectations: as they are more detached from the party they support (but not to the point of not having a preference), they would be relatively more attentive to external messages, and thus more available to move their preferences, in case the VAA suggests to do so.

As argued in the introductory paragraph, the relevance of these findings is twofold. On the one hand, analyses lead thinking that prior preferences play a particularly important role in determining citizens' voting behaviour. As explained above, VAA's advice has two distinguishing features: it is voluntarily experienced and it is unbiased, because based on experts' opinions. In the light of this, people should be willing to follow the advice even when this does not reflect their prior intentions. However, as shown, this is not case. It seems indeed that pre-existing preferences represent a benchmark people refer to when they have to choose. The literature on persuasion has already argued this. Nevertheless, applying the same to the study of VAAs reinforces the relevance of this finding.

On the other hand, analyses have focused on the meaningful case of Belgium, where it looks reasonable to think that a proximity vote is made difficult by the complexity of a highly fragmented political environment. Even in such a complex context, VAAs mostly confirm preferences, rather than move them. This leads thinking that, generally speaking, VAAs do not have the power to modify voters' opinion. The same should apply, among other things, also to the outcome of elections.

Further analyses could explore more in detail the psychological mechanisms underlying the relationship between VAA usage and following voting behavior, both in single case studies and in comparative perspective. For instance, it can be of interest adding to the analysis the strength of the partisan sentiment, so as to take into account the different levels of attachment and check whether this makes changes in the 'attachment hypothesis'. Nonetheless, partisanship represents only one of the possible angles from which to characterize the unfolding of these processes. Further aspects, such as individual and/or party positions on specific policy issues, attitudes toward politics and representation in general could play a role in how party preferences are structured and voting advices are (or are not) accepted. Moreover, it would be also interesting to take into account not only the first vote intention, but all the preferences that a voter has. This would allow checking whether VAAs advice is able to move preferences, in case the recommended party coincide not with the first preferred choice, but with one of the considered choices. This can be easily done by means of probability-to-vote variables (PTVs), which enable scholars to study the propensity to vote, usually on scales from 1 (or 0) to 10, per each national party. Ultimately, further investigations could also focus on the impact of VAAs on vote switching, in order to investigate the extent to which these tools can reduce or increase electoral volatility.

Variables	Wording	Min	Max	Mean	Standard	Obs.		
Demondent with deviation								
Vote for the recommended	Own computation using VAAs question ("And do you still		1	0.48	0.50	360		
party	remember which party came out							
	on top in the <*PROGR: Flemish							
	Version: Stemtest 2014 (VRI and Do Standaard)"/Walloon: "lo Tost							
	électoral (RTBF La Libre							
	Belgique, La Derniere Heure and							
	Paris Match)"> for the federal							
	elections?") and actual vote ("For							
	which party did you vote for the							
	federal Chamber of							
	Representatives?"2)							
	Main independe	nt vari	ables	1	-	1		
Match VAAs	Own computation using VAAs	0	1	0.39	0.48	375		
advice/vote	question (And do you still remember which party some out							
intentions	on top in the $<$ *PROCR: Elemish							
	version:"Stemtest 2014 (VRT and							
	De Standaard)"/Walloon: "le Test							
	électoral (RTBF, La Libre							
	Belgique, La Derniere Heure and							
	Paris Match)"> for the federal							
	elections?") and the vote							
	intention ("If the elections for the							
	federal Chamber of							
	Representatives were to be held							
	parties would you yote for?")							
Partisanshin	"Do you feel yourself a little closer	0	1	0.60	0.48	2014		
i artisansnip	to one of the political parties than	U		0.00	0.40	2014		
	the others?"							
	Control va	riables	•	•				
Gender	Gender of the respondent	0	1	0.50	0.50	2019		
Age	"In what year were you born?"	18	84	47.97	17.32	2019		
Education	"What is the highest level of	1	4	2.94	0.94	2019		
	formal education you have							
Televent	attained?"	-	1.0	0				
Interest	"To what extent are you interested	0	10	4.78	2.77	2017		
Solf placement	In politics in general?	0	10		14.40	1071		
on the	and "right" are often used. Could	0	10	7.54	14.43	19/1		
left/right axis	voli situate volir own opinions on							
1011/ 118111 UAIO	a scale ranging from 0 to 10.							
	where 0 means "left", 10 means							
	"right", and 5 represents the							
	centre?"							

Table 1 Descriptive statistics of the variables employed in the regression models

² Belgian parties that ran for the 2014 elections as reported in the PartiRep questionnaire: CD&V, Groen, N-VA, SP.A, Vlaams Belang, Open VLD, LDD, PvdA+, PS, MR, CDH, Ecolo, FDF, FN, PTB, PP.

	Prior vote	VAA's advice	Final vote choice	H1	
	intention				
Voter A	Party X	Party X	Party X	Confirmed	
Voter B	Party X	Party Y	Party X	Confirmed	
Voter C	Party X	Party Y	Party Y	Falsified	
Voter D	Party X	Party X	Party Y	Falsified	

Table 2 Four examples that show in what cases H1 is confirmed or falsified

Table 3 Testing prior preferences' confirmation effect and the moderating role of partisanship: binomial logistic regression models

	First model	Second model					
Match between VAA's advice and	3.070^{***}	1.651***					
vote intention	(0.309)	(0.422)					
Party ID	0.00525	-0.742**					
	(0.298)	(0.351)					
Interaction PartyID* Match		2.480***					
between VAAs advice and vote		(0.610)					
intention							
Controls							
Gender	0.393	0.395					
	(0.286)	(0.293)					
Age	-0.00510	-0.00747					
	(0.00918)	(0.00958)					
Education	-0.0798	-0.0595					
	(0.179)	(0.187)					
Interest	-0.0955	-0.0818					
	(0.0647)	(0.0658)					
Left/right placement	-0.00615	0.000645					
	(0.0697)	(0.0763)					
Constant	-0.320	-0.0488					
	(0.806)	(0.841)					
Observations	353	353					
Pseudo R2	0.29	0.33					
Standard errors i	Standard errors in parentheses						

standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1



Figure 1 Percentages of VAAs users experiencing a (mis)match between VAAs advice and prior vote intentions by partisanship

Figure 2 Percentages of VAAs users experiencing a (mis)match between the VAAs advice and prior vote intentions by voting (or not) for the recommended party



Figure 3 Predictive probabilities of voting for the recommended party in case of (mis)match between VAAs advice and prior vote intentions by partisanship



References

Ansolabehere S., and Iyengar S. 1994. "Of horseshoes and horse races: experimental studies of the impact of poll results on electoral behavior". *Political Communication* 5: 413–429.

Bengtsson, A., and Grönlund, K. 2005. "Ehdokasvalinta", in H. Paloheimo (ed.), *vote selectorlit ja Demokratia Suomessa*, Helsinki: WSOY, 229-251.

Bennett, W. L., and Iyengar, S. 2008. "A New Era of Minimal Effects? The Changing Foundations of Political Communication." *Journal of communication* 58(4): 707–731.

Bennett, W. L., and Manheim, J. 2006. "The One-Step Flow of Communication." *The Annals of the American Academy of Political and Social Science*, 608(1): 213–232.

Boogers, M. and Voerman, G. 2003. "Surfing citizens and floating voters: Results of an online survey of visitors to political web sites during the Dutch 2002 General Elections". *Information Polity*, 8(1): 17-27.

Cedroni, L. and Garzia, D. 2010. *Voting Advice Applications in Europe: The State of the Art*, Napoli: Scriptaweb.

De Rosa, R. 2010. "cabina-elettorale.it (Provides advice to Italian voters since 2009)", in Cedroni, L. and Garzia, D. (ed.): *Voting Advice Applications in Europe. The State of the Art*, Napoli: ScriptaWeb,187–212.

Garzia, D., Marschall, S. 2012. "Voting Advice Applications under review: the state of research". *International Journal of Electronic Governance*, 5: 203–222.

Geers, S., Bos, L. and De Vreese, C. 2017. "Informed Switchers? How the Impact of Election News Exposure on Vote Change Depends on Political Information Efficacy." *International Journal of Communication* 11: 1857–1878.

Gemenis, K., and Rosema, M. 2014. "Voting Advice Applications and Electoral Turnout." *Electoral Studies* 36: 281–89.

Greene, S. 2002. "The Social-Psychological Measurement of Partisanship." *Political Behavior* 24(3): 171–97.

Iyengar S., and Valentino N. 1999. "Who says what: source credibility as a mediator of campaign advertising". In Lupia, A, McCubbins, M. and S. Popkin (ed.): *Elements of Reason*, New York: Cambridge University Press.

Iyengar, S., and Hahn, K. 2007. "Red media, blue media: Evidence of ideological selectivity in media use". Paper presented at the annual meeting of the International Communication Association.

Krouwel, A., Kamoen, N., Holleman, B., van de Pol, J., de Vreese, C. 2015. "The Effect of Voting Advice Applications on Political Knowledge and Vote Choice". *Irish Political Studies*, DOI: 10.1080/07907184.2015.1099096.

Ladner, A. 2012. "Voting advice applications – impact on voting decisions in the 2011 Swiss national elections". Paper presented at the 62nd Political Studies Association Annual International Conference, 3–5 April 2012, Belfast, Ireland.

Ladner, A., Fivaz, J. and Pianzola, J. 2012. "Voting advice applications and party choice: evidence from Smartvote users in Switzerland". *International Journal of Electronic Governance*, 5(3-4): 367–387.

Marschall, S. 2005. "The Online Making of Citizens: Wahl-O-Mat", in V. B. Georgi (ed.), *The Making of Citizens in Europe: New Perspectives on Citizenship Education*, Bonn: Bundeszentrale fur politische Bildung, 137-141.

Marschall, S. and Schmidt, C.K. 2010. "The impact of voting indicators: the case of the German Wahl-O-Mat", in Cedroni, L. and Garzia, D. (ed.): *Voting Advice Applications in Europe. The State of the Art,* Napoli: ScriptaWeb, 65–104.

Mutz, D. C. 2006. *Hearing the other side: Deliberative vs. participatory democracy*. New York: Cambridge University Press.

Mykkänen, J. and Moring, T. 2007. *Dealigned politics comes of age? The effects of online candidate selectors on Finnish voters*, unpublished manuscript, Helsinki.

Newman, B. and Perloff, R. 2004. "Political Marketing: Theory, Research, and Applications", in Lynda Lee Kaid (ed.), *Handbook of Political Communication Research*, Routledge, 17-45.

Perloff, R. M. 2016. *The Dynamics of Persuasion: Communication and Attitudes in the Twenty-First Century*. Routledge.

Pfau, M., Houston, J. B., and Semmler, S. M. 2007. *Mediating the vote: The changing media landscape in U.S. presidential campaigns*. Lanham, MD: Rowman & Littlefield.

Ruusuvirta, O. and Rosema, M. 2009. "Do online vote selectors influence electoral participation and the direction of vote?". Paper presented at The European Consortium for Political Research (ECPR) General Conference, 10–12 September 2009, Potsdam, Germany. Schulze, M. 2014. "Effects of Voting Advice Applications (VAAs) on Political Knowledge About Party Positions", *Policy & Internet*, 6(1): 46-68.

Sniderman, Paul M., and Stiglitz, E. 2012. *The Reputational Premium: A Theory of Party Identification and Policy Reasoning*. Princeton University Press.

Walgrave, S., van Aelst, P. and Nuytemans, M. 2008. "'Do the Vote Test': The Electoral Effects of a Popular Vote Advice Application at the 2004 Belgian Elections", *Acta Politica* 43: 50-70.

Wall, M., Krouwel, A. and Vitiello, T. 2014. "Do voters follow the recommendations of voter advice application websites? A study of the effects of kieskompas.nl on its users' vote choices in the 2010 Dutch legislative elections", *Party Politics*, 20(3): 416-428.

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