The content and formulation of statements in Voting Advice Applications.
A comparative analysis of 26 VAAs.

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Introduction

Voting Advice Applications (VAAs) have become increasingly popular throughout Europe during the last decade(s). Slowly but surely, these online tools are gaining ground in other parts of the world, such as North America (e.g. Vote Compass in Canada) and Latin America (e.g. Questatildeo Puacuteblica in Brazil). The two most cited determinants for this steep rise of VAAs are the expansion of the Internet and the decline in party alignment and the correspondingly increase in party volatility (e.g. Walgrave, Nuytemans and Pepermans 2009; Ladner, Felder and Fivaz 2008; Walgrave, Van Aelst and Nuytemans 2008). Dealignment increases voters' need for substantive information on where parties stand on the issues that are important to them. The purpose of most VAAs lies in this information-providing task: by matching the answers of voters to policy-related statements with the answers of parties or candidates to the same statements, they provide information to voters about which parties correspond 'best' to their preferred policy.

In this chapter, we analyse statements from 26 VAAs in nine countries to assess whether VAAs fulfil their information purpose, meet VAA builders' own criteria, and adhere to basic survey methodology. Statement selection is one of the first steps when developing a VAA. The methodology section of the European VAA EU Profiler in 2009 states that *'The most critical aspect of preparing a party profiler is the selection of the statements used in the questionnaire'*. In this chapter, we scrutinise the content and the formulation of these statements, in order to answer two research questions:

> *RQ1: to what extent do VAA builders produce VAAs that meet their own statement selection and formulation criteria?*
> *RQ2: do the statements conform to widely accepted standards for survey question formulation?*

The questions we deal with are important. Firstly, VAAs are widely used tools with millions of users. The Dutch VAA StemWijzer, for example, reached 4,900,00 million voters during the 2012 national election campaign in the Netherlands, representing forty per cent of the Dutch electorate. VAAs are based on the proximity voting model assuming that voters vote for the party that is closest to their own political preferences. Recent research shows that forty-three per cent of all voters in Europe cast their vote based on the aforementioned

proximity model (Singh 2010), making the group of voters that can potentially be influenced by VAAs substantial. Previous research has shown that VAAs can influence both electoral participation (Ladner and Pianzola 2010) and voting decisions (Ladner et al 2008; Wall, Krouwel and Vitiello 2012). Secondly, our study deals with the core of every VAA: the statements. As with any survey technique, statement selection and phrasing have the potential to significantly alter the result, in this case: the advice the voting advice application provides to a given user (Walgrave et al. 2009). Notwithstanding the importance of statement selection, previous research scrutinising whether statements used in VAAs are methodologically sound is very rare. This chapter adopts a comparative perspective and compares different VAAs and their statements over time in different countries. As far as we know, this is the first time such a comparative approach is used to examine VAA statements.

The information-providing task of Voting Advice Applications

Our first aim is to investigate whether VAAs achieve the goals of their builders. To formulate concrete expectations, we build on VAA builders' own guidelines. Quite some VAA builders have published such guidelines (see e.g. Bundeszentrale für politische Bildung 2009; Deschouwer, Hooghe, Devos and Walgrave 2007; EU Profiler 2009; Lefevere and Walgrave forthcoming; Louwerse and Rosema 2011; Prodemos 2012; Veling 2012; Walgrave et al. 2009). These internal rules of statement selection and formulation boil down to a number of core criteria, which we summarise in Table 1.1.

First, based on what VAA builders claim, we expect that VAA statements will typically be dispersed across a large amount of issues. VAA creators have to decide whether they incorporate a wide variety of issues or limit the tool to a few hot topics of the day. Judging from Table 1.1 (first column), builders that address the distribution of statements in their guidelines invariably indicate that they aim for a 'wide' or 'balanced' selection of issues.

Table 1.1: Overview of rules of thumbs for statement selection put forward by VAA-builders

	Distribution of statements across issues	Which issues/political cleavages	Prospective – Retrospective	Discriminant
StemWijzer		- Issue that play an important _role in the campaign_ - Issues that will dominate the _political debate_ during the next legislation. - Issue that receive a _fair amount of attention_ both within the political world as in de election campaigns. - Issues that _follow the political agenda and public opinion._ - StemWijzer is an instrument to test _political preference_. - StemWijzer has as primary goal to highlight the differences in the _political content_ put forward by each of the political parties.	- The statements are developed on the basis of the _election programs._ - Issues that play an important role in the campaign and will dominate the political debate during the _next four years._	- An important selection criterion is the degree to which the statements _discriminate between parties._ If parties hold a similar opinion regarding an issue, than a statement concerning this issue becomes less interesting and useful.
Kieskompas		- _Relevant_ political and social issues. - _Important issues_. - Kieskompas positions users in the _political landscape_. It shows you which parties are close to your views and which parties least represents your _political profile and preferences._	- The answers given by parties on our statements are calculated based on _election programs_.	

Wahl-O-Mat		- The *most important issues of the elections.* - The *core* policy statements - Topics that are of particular interest to *young people.* - Found out which party best represents *your opinion.*	- Statements are developed based on the core policy statements, platforms and *election manifestos* of the different parties and voters' associations.	- Show *differences* between parties - The statements which best served to *differentiate the parties* were selected. - We focused primarily on topics where the different parties *differ in their opinions.*
Smartvote	- Based on a *wide range* of political topics	- Compare own *political viewpoints* with those of political parties and candidates.		
Doe de Stemtest	- *Balanced selection* with regard to the different policy domains.	- *Important or relevant* policy choices. - Important issues should get *more statements* than less important issues. - Statements are based on *current affairs,* party programs and on party opinion. - Investigate how large the *ideological distance* is between your own opinions and those of different political parties. - The statements should as much as possible be *linked to the big classical vault lines* in Belgian politics.	- Statements should in general be about *future policy,* although they can also question past policy. - Statements are based on current affairs, *party programs* and on party opinion.	- A statement on which *all parties agree or disagree is useless* since it doesn't help to link users to parties. - Statements should be *discriminant:* if parties all agree on the statement, the statement is out.
Vote Compass	- Based on their *breadth of coverage* across multiple policy fields.	- Policy issues that figure *most prominently* in the platforms and public statements of the candidates/parties and in media	- The purpose is to provide information on *party platforms.*	- Based on the questions' ability to *differentiate* between candidates and amongst voters.

	discourse about national politics. - Based on their *salience* in the upcoming election. - The purpose is to provide information on *party platforms.*		
Vote Match	- Inform people about the *policy differences* between candidates.	- We are sceptical that a VAA could ever adequately take issues such as personality, competence or *record of the candidates* into account.	- Inform people about the policy *differences* between candidates. - We filter out statements where there was *uniform agreement* or which did not otherwise provide us with *discriminating information.*
Wahlkabine	- Questions from *diverse fields* are selected to be included.	- *Political issues* and *current issues.* - Wahlkabine helps to compare your *political views* with those of the parties. It is an online tool for *political education.*	- Party policies on *current* issues.

Note: No information was available for the Finnish VAA YLE

Source: for StemWijzer: http://www.stemwijzer.nl/Veelgestelde-vragen-over-de-StemWijzer; for Kieskompas: http://home.kieskompas.nl/page/ Home/1/en/content.html# and http://www.kieskompas.be/faq/; for Wahl-O-Mat: http://www.bpb.de/politik/wahlen/wahl-o-mat/45270/wie-funktioniert-der-wahl-o-mat and http://www. bpb.de/politik/wahlen/wahl-o-mat/45292/fakten-zum-wahl-o-mat and http://www.wahl-o-mat.de/europa2009/popup_faq.php?womeuropa2009=04ab7b6040b501fc62eafeab45591313&servername=www.wahl-o-mat.de; for Smartvote: http://www.smartvote.ch/about/idea; for Doe de Stemtest: Deschouwer, Hooghe, Devos and Walgrave 2007; for Vote Compass: http://usa2012.votecompass.com/assets/media/site/pdfs/US2012AlgorithmTechnicalDocumentEN.Pdf and http://usa2012.votecompass.com/faq; for Wahlkabine: http://wahlkabine.at/ueber/Infofolder_wahlkabine_ENGL.pdf; for Vote Match: http://www. votematch.org.uk/faq.php.

Second, we expect the amount of statements to be larger for issues that are salient in the political debate. One of the most important rules of thumb used by VAA builders is that statements should handle 'relevant political and social issues' (Kieskompas) that 'play an important role in de campaign and will dominate the political debate during the next legislation' (StemWijzer). There seems to be a general agreement that the chosen issues should be relevant, that they should cover current affairs, and that they should receive a fair amount of attention in the political debate. To test this we compare the issues that are covered by VAA statements with the issues that are mentioned in the party manifesto's of the same election. We expect that the more salient an issue is in the party manifestos, the more statements in the VAA cover the issue. Table 1.1 also suggests a potential point of disagreement between VAA builders concerning the issues to cover: should VAAs *follow* the debate and choose issues accordingly, or should they take a more *proactive* role and put neglected issues on the agenda? Most builders seem inclined to follow the debate—issues should already be important or relevant. However, because VAA builders also want a wide array of issues in their tool, less important issues might receive comparatively much attention.

Related to this, our third expectation is that there are more statements on an issue that is connected to an important political cleavage in the country at stake than on other issues. VAAs are developed to inform voters about which political party is closest to their own political preferences. Ever since the influential essay of Lipset and Rokkan (1967) political cleavages have been one of the most important concepts to differentiate between political preferences. The socio-economic left-right opposition has been considered as being the most important cleavage in Western European politics (Enyedi, 2008). In recent decennia a new cultural divide between conservatives and progressives has also become relevant (e.g. Kriesi 1998; Hooghe et al. 2010). This second vault line focuses on equal rights between different groups, on environmental issues and on religious themes. The salience of the socio-economic left-right and conservative-progressive dimensions in the national political sphere varies: in some countries these cleavages dominate the debate, whereas they have less bearing upon politics in other countries. Since VAA builders want to focus on 'important' issues and debates (see Table 1.1) we expect that the more salient the left-right and the conservative-progressive cleavages are in a country, the more statements in the VAAs in that country cover the left-right and conservative-progressive cleavage.

Fourth, we expect that VAA builders focus their statements on issues that *will* be important 'in the upcoming campaign and in the next legislation' (StemWijzer). A number of VAAs are based on the campaign manifestos of political parties. This indicates that VAAs essentially deal with future policy, since programs are policy proposals for the next term. Also, while not all VAAs explicitly reference future policy, their focus on *current* affairs suggests an intention to look forward rather than backward. Thus, statements, we anticipate, are formulated prospectively, i.e. looking to future policy, rather than

retrospectively. In short, we expect that VAAs contain more prospective than retrospective statements.

Finally, statements will discriminate between parties—not all parties will adopt the same position on a statement. This discrimination criterion is frequently mentioned by VAA builders (see Table 1.1, column 4). If a VAA only included statements on which all parties agree, there would be little information to gather from it: the reason why people would need a VAA to help them make a choice is that it is hard for them to get information about the *differences* between the parties. Therefore, a pragmatic need for any VAA statement is that it discriminates between parties: some parties must have a positive and others a negative stand on it.

Voting Advice Applications and survey methodology

Our second aim in this study is to examine to what extent VAAs match voters with political actors based on methodologically sound measures. VAAs calculate the closeness of its users to the various political parties by presenting the user with what is essentially a small questionnaire, consisting of various statements. Because there is ample research on what constitutes a 'good' survey measure, it seems natural that VAAs would follow these rules (Presser and Krosnick 2010). Especially because most VAAs are built by political scientists it is reasonable to assume that these guidelines will be adhered to. Specifically, we scrutinise four features of VAA statements that relate to survey methodology: concreteness, double-barrelledness, quantifications and qualifications.

Statements should concern concrete policy choices instead of general ideological values. The need for concreteness and specificity are common truisms in survey research (Billiet 2006; Presser and Krosnick 2010). Survey items and statements that are too vague can lead to biased answers due to misinterpretation. Vague statements also do not yield useful information for voters. Voters may have a general sense of where parties stand but what they lack is knowledge on parties' specific positions on concrete policies. For example, knowing whether a party agrees to '*All nuclear power plant should be closed by the end of 2015*' is more informative then '*Environmental pollution should be tackled*'. While for the first statement it is clear which policy measure is suggested, the second statement leaves plenty of room for interpretation. If voters and parties agree that environmental pollution should be tackled but have diverging ideas about *how* this should be done, the agreement is superfluous. Thus, statements should be concrete, not vague.

Statements should not be double-barrelled either: they can only measure one thing at a time. Statements that do not follow these rules can be interpreted differently by each voter and party filling in the VAA, leading to incomparable results (Presser and Krosnick 2010). Double-barrelled questions combine multiple elements in a single measure: statements in which two questions are asked or in which an argument is given fall under this category (e.g. 'Should Switzerland legalise the consumption of hard and soft drugs as well as the possession of such drugs for personal consumption?' – Smartvote 2011.). They

are unsuitable because they do not allow voters and parties to give a straightforward answer, creating problems regarding what constitutes 'agreement' between voters and parties (Kumar 2011). In a VAA context, they also allow parties to avoid taking a certain (unpopular) position by playing on the conditionality of the statement.

Third, statements should not include quantifications. Gemenis (2012) indicates that statements used in online voting tools should not be quantitative (e.g. 'Criminals who are repeated offenders should be punished *more* heavily' – StemWijzer 2002). As with double barrelled and vague statements, they could lead to biased and unreliable answers due to misinterpretation. When voters do not agree with the aforementioned statement, it is unclear what their attitude towards the issues is: do they agree with the present policy or do they think that the current punishments are too strict? Thus, it is impossible to ascertain that voters and parties actually match when they have the same answer on the statement.

Fourth, qualifications should be avoided as well. Qualifications occur when additional, but not crucial, information is provided in the statement. This also introduces bias because the qualification may bring other attitudes to attention that would not have played a role otherwise. The policy position that is chosen may then differ from the one that had been picked if the qualification was absent. For example, Wahl-O-Mat of 2002 used the statement 'Gay marriages should have the same rights as heterosexual marriages, e.g. adopt children'. The attitude voters have regarding the statement in general (i.e. the rights of gay married) will be coloured by the attitudes voters have concerning the adoption of children by married gay people. Since VAAs are essentially about policy positions, such contaminated positions should be avoided (Gemenis 2012).

Data & Methods

We analyse data from 26 national election VAAs from nine countries: Austria, Belgium (Flanders), Finland, Germany, Switzerland, the Netherlands, the UK, Canada and the USA. Some countries have a long-standing tradition of VAAs (e.g. the Netherlands). Other countries such as Canada have only recently witnessed the appearance of such online tools. To make data as comparable as possible, we only include VAAs that were developed for national elections. In total, 26 VAAs from nine different VAA builders were scrutinised: StemWijzer, Kieskompas, Wahl-O-Mat, Smartvote, Doe de Stemtest, YLE, Vote Compass, Vote Match and Wahlkabine. The VAAs and their statements were mainly retrieved through websites. If VAAs were no longer available online, VAA builders were contacted and asked to send the data (see Appendix 3).The 26 VAAs counted a total of 954 statements. Table 1.2 provides an overview of our sample of VAAs per VAA builder. One fifth of the examined VAAs were tools made by StemWijzer, while Vote Match delivered only one VAA. All voting advice tools were implemented between 2002 and 2012. Appendix 1 provides more information about the VAAs in the sample.

Table 1.2: Overview of VAAs in the sample

	Country	Year
StemWijzer	Netherlands	2002, 2003, 2006, 2010, 2012
Kieskompas	Netherlands	2006, 2010, 2012
	Belgium	2007
Wahl-O-Mat	Germany	2002, 2005, 2009
Smartvote	Swiss	2007, 2011
Doe de Stemtest	Belgium	2003, 2007
YLE	Finland	2003, 2007, 2011
Vote Compass	Canada	2011
	USA	2012
Vote Match	UK	2010
Wahlkabine	Austria	2002, 2006, 2008, 2012

All statements were manually coded by human coders, which resulted in eight indicators described below. The full codebook is available in Appendix 2. Using eighteen issue dummies, statements were coded as covering (1) or not covering (0) a given issue (e.g. Foreign policy, Economy and Society, Ethical themes and Religion). Next, two dummy variables were used to indicate whether or not the statement was related to the socio-economic or conservative-progressive cleavage. Two variables track whether a statement was retrospective/prospective (1) or not (0). An additional dummy variable was used to track double-barrelledness. To calculate whether statements were discriminant, party stances to each of the statements were coded. They were than reduced to a simple agree-disagree opposition. For this purpose skip- and neutral categories (if present) were discarded and the categories totally agree (resp. totally disagree) and tend to agree (resp. tend to disagree) were collapsed into one category. Finally, a calculation was made of how many parties were in each of the two categories. The level of concreteness was coded through a three-point scale ranging from 1 (vague) to 3 (very concrete). Finally, two dummy variables track the presence (1) or absence (0) of quantitative statements and of qualifications. A small percentage of the statements were coded by two coders, in order to calculate intercoder reliability. An average Krippendorff's alpha of 0.8 was achieved.

Analysis & Results

We first assess whether VAA statements are dispersed over a wide range of issues. Table 1.3 presents the proportion of statements covering each of the 18 issues. We calculate the normed Herfindahl index to provide a measure of dispersion of the statements across issues. This index can take a value between 0 (there are a large number of issues present that all take an equal proportion) and 1 (all statements cover the same issue). By and large, there is strong tendency amongst VAA builders to cover a wide range of issues: the Herfindahl index is extremely low (between 0.01 and 0.06), indicating a very high dispersion of statements across the various issues. As expected, all VAA builders seem eager

to include a wide range of topics in their calculations rather than concentrating the statements just on the hot issues of the day.

Looking at statement content, we see that ten per cent of statements cover the topic of Government finances, Taxes and Budget (see Table 1.3) (e.g. 'To finance Europe, a direct European tax instead of taxation per country should be better' – StemWijzer 2009). A reason that might explain the high score of this issue is the fact that many policy measures can easily be translated in what we would call a 'financial formulation' of a policy measure in terms of spending more or less money for a given need. The second issue category often covered in VAA-statements is Society, Ethical Themes and Religion. This can be explained by the almost continuous attention of VAAs to themes such as rights of the BTGL-community (e.g. 'Gay couples should have fully equal rights to adopt children' – Wahl-O-Mat 2009) or societal discussions with a religious foundation (e.g. 'Euthanasia should once again become fully punishable' – StemWijzer 2002). Statements of YLE refer to this topic significantly less than other VAAs ($\chi^2(8)= 18.24$, p<.05). This could be due to the fact that Scandinavian countries are in general more progressive with the aforementioned topics perhaps leading to less debate.

Some issues are hardly addressed in VAAs. The issue of Housing, for example, is present in only one per cent of the statements; State Reform, Culture & Recreation, and Europe are not very popular either. With percentages from two till three per cent, and an average of thirty-three statements per VAA, this means that on average less than one statement covering these issues is present in the VAAs.

Table 1.3: Issue salience in VAA-statements (mean)

	SW	KK	WOM	SV	DST	YLE	VC	VM	WK	Total
Government finances, Taxes and Budget	.14	.13	.11	.10	.08	.10	.16	.19	.05	.11
Society, Ethical themes and Religion	.10	.10	.12	.07	.10	**.03**	.14	.06	.08	.09
Foreign policy, Defense and Development aid	.08	.06	.10	.09	.05	.07	.13	.03	.10	.08
Social security	.08	.08	.05	.08	.10	.06	.07	.14	.12	.08
Public order & safety, Justice and Police	.07	.07	.05	.08	.09	.06	.09	.11	.12	.08
Internal affairs	.04	**.02**	.06	.06	.04	**.15**	.03	.11	.11	.07
Work	.05	.08	.08	.06	.08	.10	.01	.06	.04	.06
Education and Research	.05	.04	**.13**	.06	.02	.06	.04	.08	.09	.06
Welfare, Family and Health	.08	.08	.04	.07	.05	.04	.06	.00	.04	.06
Mobility, Traffic and Transport	.05	.04	.02	.05	**.11**	**.09**	**.00**	.00	.04	.05
Immigration and Integration	.04	.06	.02	.06	.06	.05	.04	.08	.07	.05
Environment and Energy	.04	.02	.04	.05	.05	.06	.10	.06	.00	.04
Other	.04	.03	.04	.07	.04	.05	.00	.00	.03	.04
Economy	.04	.04	.04	.03	.01	.02	.06	.03	.02	.03
Europe	.03	.05	.04	.03	.04	.01	.00	.06	.04	.03
Culture and Recreation	.04	.03	.01	.02	.02	.02	.03	.00	.06	.03
State reform	.01	.03	.02	**.00**	**.05**	.04	.03	.00	.00	.02
Housing	**.03**	**.03**	.01	.01	.00	.01	.00	.00	.00	.01
Herfindahl Index (normed)	0.02	0.02	0.03	0.01	0.02	0.02	0.05	0.06	0.03	---

Note: Indicated in bold are the averages that are higher or lower than the other values in the same row as derived from adjusted standardised residuals in crosstabs for which χ² had a significant value.

Abbreviations: SW = StemWijzer; KK = Kieskompas; WOM = Wahl-O-Mat; SV = Smartvote; DST = Doe de Stemtest; VC = Vote Compass; VM = Vote Match; WK = Wahlkabine.

To scrutinise whether issues that are salient in the political debate in a country at a given point in time are also covered by more statements, we compare the issues attention in VAA statements with the issue attention in the party manifestos of the same year. In order to do so, we make use of the data collected by the Comparative Manifesto Project (CMP). For 19 of the 26 VAAs under scrutiny, CMP has data available for almost all of the political parties. For 13 of our 17 issue categories—we disregard the issue category 'Other' in this exercise—a match could be made. We recalculate the proportion of each issue in both the CMP and the VAA data so that in each dataset they sum up to one. Table 1.4 has the results. Overall, no significant correlation (r= -.18, p=.55) can be found between our VAA-data and the CMP-data, indicating that issues receive a different amount of attention in both platforms. While the Economy covers roughly 20 per cent of the manifestos, it is highly underrepresented in the VAA statements. On the other hand, Government finances, Taxes and Budget and Society, Ethical themes and Religion, the two issues that are overall most present in VAA statements (see Table 1.3), are not very salient in the manifestos. All other issues are more or less equally represented in both manifestos and VAAs. Indeed, this suggests that the high dispersion over issues conflicts with the correlation between issue salience in the political debate and VAAs: hugely salient issues, such as the economy, get less attention since VAA builders aim at including a wide array of issues. Conversely, what may be a small issue in the current political debate may get more than its share of VAA statements.

Table 1.4: Comparison of issue salience in party manifesto-phrases and VAA-statements

	CMP	VAA
Government finances, Taxes and Budget	.05	.14
Society, Ethical themes and Religion	.04	.11
Public order & safety, Justice and Police	.08	.11
Foreign policy, Defense and Development aid	.08	.10
Social security	.13	.10
Work	.05	.09
Internal affairs	.07	.09
Education and Research	.07	.08
Environment and Energy	.09	.05
Culture and Recreation	.03	.04
Economy	.23	.04
Europe	.04	.04
State reform	.04	.03
Total	1	1

Regarding political cleavages we expected that the more salient cleavages in a country are, the greater the amount of statements related to those cleavages in VAAs from that country. The two major cleavages are covered by a substantial batch of statements in almost all analysed VAAs (see Table 1.5). One out of four statements can be attributed to the classic divide between the socio-economic left and right (e.g. 'A nationwide minimum wage should be introduced' – Wahl-O-

Mat 2009). To test whether the proportion of left-right statements corresponds with the prevalence of the classical left-right cleavage in the political systems under study, we compare our results with the Chapel Hill Expert Survey data (CHES) (Hooghe et al. 2010). Taken as research units are the countries that are present in both our study and the CHES (i.e. the Netherlands, Belgium, Germany, Finland, the UK and Austria). Based on party positions on a left-right scale, as determined by experts in the CHES, each country is given a score of how extreme political parties in that country are on average. The higher this score, and thus the more political parties are labelled as being extreme on the left-right axis, the more polarised the political landscape should be and the more important the socio-economic left-right cleavage becomes. Consequently, in countries with a higher score, VAAs should make more references to this dimension. Our results confirm this expectation. A strong correlation (r=.87, p<.05) exists between the salience of the left-right cleavage in a country and the amount of statements covering that cleavage in the VAA in that country.

Statements that deal with the conservative-progressive cleavage account for about one fourth of all statements. However, when we again compare our data to the expert positioning of the CHES-dataset, there is *no* correlation between the salience of the conservative-progressive divide in a country and the presence of statements related to this vault line in VAA statements (r= -.176, p=.74). Although it seems to be the case that VAAs reflect the prevalence of the socio-economic left-right divide, this does not seem to hold true for the conservative-progressive divide.

Table 1.5: Statement content (Mean)

	SW	KK	WOM	SV	DST	YLE	VC	VM	WK	Total
Socio-economic Left-Right	.31	**.38**	**.33**	.20	.26	**.12**	**.40**	.20	**.13**	.25
Conservative-Progressive	**.35**	.35	.23	.28	**.40**	.25	.37	.17	**.13**	.28
Retrospective	**.24**	.09	.09	**.16**	.04	**.03**	.05	.00	.10	.11
Prospective	**.98**	.89	**.98**	**.68**	.89	.75	**1.00**	.97	**.79**	.86
Discriminant	**1.00**	**.99**	.91	.89	.96	**.78**	.93	.97	**.98**	.93

Note: Indicated in bold are the averages that are significantly higher or lower than the other values in the same row.
Abbreviations: SW = StemWijzer; KK = KiesKompas; WOM = Wahl-O-Mat; SV = Smartvote; DST = Doe de Stemtest; VC = Vote Compass; VM = Vote Match; WK = Wahlkabine

Are statements formulated in a prospective way? Table 1.5 confirms this is the case.[1] Nine out of ten statements used in VAAs look at future policy measures.

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[1] It should be noticed that statements can be prospective and retrospective at the same time. The phrase *Euthanasia should once again become fully punishable*, for example, refers to a past policy (euthanasia was not allowed in the past) and asks whether voters would like to see this policy reinstated once again in the future. That is why the total for retrospective and prospective sometimes exceeds 100%.

This is to be expected since VAAs all emulate the proximity model of voting which is mostly concerned with prospective policy considerations. Despite the primary task of providing voters with information regarding future policy, we also found a number of retrospective statements. This runs counter to our expectations, and also against the claims made by VAA builders themselves (see Table 1.1). Significant differences can be found between VAA builders ($\chi^2(8)=$ 56.46, p<.001). Remarkably, StemWijzer has the highest proportion of retrospective statements ($\bar{x}=.24$) despite the fact that they have an additional online tool named *Stemmentracker* that is especially designed to offer voters a retrospective tool (De Graaf 12.11.2012).

Our final expectation was that VAA statements would be discriminant. As expected, a large majority of statements are discriminant, meaning that they at least separate one party from all others. A small percentage however lacks this discriminating power. For the Finnish YLE this proportion increases significantly ($\chi^2(8)=$ 73.64, p<.001) to about one fifth of all statements. These results merit some additional methodological information, since one would intuitively expect *all* statements to be discriminant. Firstly, some of the smaller political parties (representing less than one per cent of the electorate) were not incorporated in this study. By consequence, statements that are labelled as non-discriminant in this study, may in fact have been discriminant in the real VAA. Nonetheless, these statements do not discriminate between the most important political parties. Secondly, in order to contrast parties that were pro and against a certain policy, the answering categories *neutral* and *skip* were disregarded and the categories *tend to agree* and *agree* (resp. *tend to disagree* and *disagree*) were collapsed into one. This means that statements were labelled non-discriminant when for example three parties answered *tend to agree*, four parties answered *agree* and two parties answered *neutral*. When scrutinising statements that were labelled discriminant, thirty-one per cent of them cut the political landscape in the middle and twenty per cent separates one party from all others. About one fourth of such 'single-party'-statements separate a party that represents five per cent or less of the electorate. Thus, these statements are mainly included to be able to separate an electorally marginal party. Consequently, their informative value is quite low. On the other hand, fifty-four per cent of the 'single-party'-statements discriminate a party that represents more than ten per cent of the electorate.

Our second aim was to assess to what extent VAA statement formulation adheres to mainstream survey methodology. We test the concreteness, double-barrelledness, and the presence of qualifications and quantifications in the statements. Table 1.6 lists the average presence of these methodological problems in each of the VAAs. Regarding concreteness, on a scale from one (vague statements) to three (precise statements), an overall average of 2.51 is reached. While some differences between VAAs exist, the results suggest that all VAA builders largely adhere to their claim of using concrete policy statements. This is decidedly a good thing since survey methodologists have long suggested that the more specific questions are, the better.

Table 1.6: Statement formulation (mean)

	SW	KK	WOM	SV	DST	YLE	VC	VM	WK	Total
Concrete	2.48	**2.39**	**2.31**	2.57	2.58	2.53	2.48	2.67	**2.65**	2.51
Double-barrelled	**.23**	.20	**.10**	.16	.10	.12	**.07**	.17	**.32**	.17
Quantitative	**.27**	.25	.15	**.11**	.22	.15	.23	.10	.20	.19
Qualification	.03	**.00**	.02	**.07**	.00	**.00**	.00	.00	**.10**	.03

Note: Indicated in bold are the averages that are significantly higher or lower than the other values in the same row.

Abbreviations: SW = StemWijzer; KK = KiesKompas; WOM = Wahl-O-Mat; SV = Smartvote; DST = Doe de Stemtest; VC = Vote Compass; VM = Vote Match; WK = Wahlkabine

More troubling is that Table 1.6 shows that *every* VAA includes at least one double-barrelled statement and that, overall, almost *20 per cent* of the statements are double-barrelled. There exist large differences between VAAs: one out of three statements of Wahlkabine is double-barrelled compared to only one out of ten statements of Vote Compass. We should however indicate that the used guidelines were fairly strict whereby double-barrelled statements that are incorporated to clarify the situational context of a given policy measure where nevertheless coded as double-barrelled. After all, regardless of good intentions, double-barrelled statements leave room for interpretation, which is problematic. To test whether VAA builders have learned from experience, we compared the amount of double-barrelled questions throughout the years under study. However, the average proportion of double-barrelled statements seems to fluctuate through the years, reaching its high as recently as in 2010. Thus, the matter of double-barrelled questions seems to be an on-going problem in VAAs.

Finally, one in five statements is quantitative (e.g. 'Should the state provide *more* funding for the integration of foreigners?' – Smartvote 2011). The issue seems pretty evenly present in most VAAs. There clearly is room for improvement here across the board. Concerning qualifications, there is a general tendency, throughout all VAAs, to not include examples in VAA statements. Only Wahlkabine and Smartvote incorporates exemplifications significantly more ($\chi^2(8)= 41.86$, p<.001) but five of the nine VAA builders never use examples to illustrate the meaning of their statements

Conclusion & Discussion

In this contribution we conducted a large scale comparative comparison of the content and the formulation of 26 Voting Advice Applications in nine countries. We focused on two crucial aspects of VAAs: To what extent do VAAs stay true to the selection and formulation criteria put forward by their builders? And to what extent do they adhere to the rules of survey methodology? Regarding the first research question, the results suggest that all VAA builders tend to include a wide variety of issues in their tools, which made even minor issues to receive attention. This is a not an unimportant decision VAA builders make: by

including such minor issues instead of merely the hot topics of the day, VAAs put new issues on the agenda, or at least force political actors to pay attention to them. The stated aim of the 'wideness' of the issues covered, conflicts with the often also mentioned aim to include 'relevant' statements because wideness implies that less relevant issues get into the VAA.

VAA builders tend to include more socio-economic left-right statements if this dimension is more salient in their country, which is a good thing. However, for the conservative-progressive dimension, this connection was not found. Finally, VAAs features predominantly prospective issue statements that have a very discriminant nature. Overall, VAA builders do achieve their aims for the most part but definitely not always.

Our analysis of the survey methodology criteria yielded striking results: especially the high amount of double-barrelled questions and quantifications in the statements is troubling. The first type of question is universally considered as inadequate, so it is worrisome that they are present in all VAAs under scrutiny. Nevertheless, the practical requirements and specific political context may push VAA builders to include them nonetheless. However, it should be clear that they should be avoided at all costs. Added to that, numerous statements were coded as being quantitative, making it hard to interpret, and match, the results of parties and voters in a uniform manner. Conversely, the statements included in VAAs seem to be quite specific for the most part, which is undoubtedly a good thing. Besides the fact that too general statements can be misinterpreted, they leave room for manipulation on the side of the political parties. When statements are concrete, it becomes harder for parties to distort their position on the issue.

However, survey methodologists' push for concreteness may actually *cause* the aforementioned problems of double-barrelledness and quantitative statements: specific policy positions, for example, include specifics—years by which a policy should be in place, a specific increase in a policy that should be achieved. VAA builders then include all these aspects in one (very concrete) statement, resulting in a double-barrelled and/or quantitative and/or qualified statement. Methodologists' might counter argue that using multiple statements solves this problem: however, the amount of statements is limited. If the VAA takes too long to complete the public will not use it and it cannot achieve its aim of informing the public about parties' policy positions. There is no doubt that the aim of specificity is crucial, since this is where the main informative potential of VAAs lies; however, there is a fine line between being specific enough and being too specific so that the answer to the statement becomes unclear.

In response to methodological criticisms, some VAA builders (e.g. StemWijzer) have indicated that their voting advice application is not designed scientifically and does not serve any scientific goal. The tools are primarily developed to serve educational goals and therefore should not be scrutinised scientifically, these VAA builders say (De Graaf & Scheltens 2012). Nevertheless, their timing—usually right before an election—, their reach—sometimes with millions of users—and their potential effects necessitate rigorous methods. Making sure the statements meet important criteria—especially those of common survey methodology—will only benefit the tool. Good statement

selection and formulation forms the base for any further methodological development when building a VAA, such as the placement of the parties on the selected statements. This aspect of the VAA-methodology is discussed in the next chapter.

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Appendix 1: Overview of sample of VAAS

Table A1: Design characteristics on the VAA-level (per VAA)

	VAA	Country	Year	# statements	# participants	Output	Answer categories	Weighing	# parties[2]
1	StemWijzer	Netherlands	2002	30	2,025,284	matchlist	3 point Likert	Thematic	10
2	StemWijzer	Netherlands	2003	30	2,227,686	matchlist	3 point Likert	Thematic	10
3	StemWijzer	Netherlands	2006	30	4,767,611	matchlist	3 point Likert	Statement	10
4	StemWijzer	Netherlands	2010	30	/	matchlist	3 point Likert + skip	Statement	10
5	StemWijzer	Netherlands	2012	30	4,850,000	matchlist	3 point Likert + skip	Statement	10
6	Kieskompas	Netherlands	2006	36	3,400,000	matchlist + coordinate system	5 point Likert + skip	Thematic	9
7	Kieskompas	Netherlands	2010	30	1,500,000	matchlist + coordinate system	5 point Likert + skip	Thematic	10
8	Kieskompas	Netherlands	2012	30	1,200,000	matchlist + coordinate system	5 point Likert + skip	Thematic	10
9	Kieskompas	Belgium	2007	36	900,000	matchlist + coordinate system	5 point Likert + skip	Thematic	8
10	Wahl-O-Mat	Germany	2002	27	>1,000,000	matchlist	3 point Likert + skip	Thematic	6
11	Wahl-O-Mat	Germany	2005	30	5,200,000	matchlist	3 point Likert + skip	Statement	7
12	Wahl-O-Mat	Germany	2009	38	6,739,667	matchlist	3 point Likert + skip	Statement	6
13	Smartvote	Swiss	2007	73	350,000	/	5 point Likert + skip	/	7
14	Smartvote	Swiss	2011	75	437,000	matchlist + smartspider	5 point Likert + skip	Statement	8
15	Doe de Stemtest	Belgium	2003	36	/	matchlist	3 point Likert + skip	No	7
16	Doe de Stemtest	Belgium	2007	36	760,203	matchlist	3 point Likert + skip	Thematic	8
17	YLE	Finland	2003	18	/	/	4 point Likert + skip	/	12
18	YLE	Finland	2007	29	/	/	4 point Likert + skip	/	12
19	YLE	Finland	2011	33	/	/	4 point Likert + skip	/	10
20	Vote Compass	Canada	2011	30	1,940,000	matchlist + coordinate system	5 point Likert + skip	Thematic	5

[2] Due to the design of their political system, the Swiss Smartvote and the Finnish YLE offer the possibility to compare voter responses to candidate responses instead of party responses. For these VAAs party stances were calculated by aggregating candidate responses. Smaller parties, consisting of only a handful of candidates, are not taken into account. Also for other countries smaller parties are not part of this research.

21	Vote Compass	USA	2012	30	27,000	matchlist + coordinate system	5 point Likert + skip	Thematic	5
22	Vote Match	UK	2010	30	1,200,000	matchlist	3 point Likert + skip	Thematic	6
23	Wahlkabine	Austria	2002	26	/	/	2 point Likert	/	4
24	Wahlkabine	Austria	2006	26	/	/	2 point Likert	/	6
25	Wahlkabine	Austria	2008	26	850,000	/	2 point Likert	/	7
26	Wahlkabine	Austria	2010	25	/	matchlist	2 point Likert + skip	Statement	9

Appendix 2: Codebook

Issues. A list of eighteen possible issues was composed, based on the topics used by the VAA builders themselves. For each of the statements was coded whether or not each of the items was present.

Socio-economic left-right divide. Divide based on socio-economic differences between parties, such as divided opinions regarding social security and the role of government should play in society. For each statement was coded whether or not a reference to this cleavage was present.

Conservative-progressive divide. Divide based on the new cultural left-right divide between conservatives and progressives, focusing on themes such as equal rights, environmental issues, religious themes and the trend towards more globalisation. For each statement was coded whether or not a reference to this cleavage was present.

Prospective statements. Statements that look forward to future policy. In order to create a reliable and reproducible measurement of whether or not a statement was labelled prospective, special attention was given to the verbs used in the statements. Four different types of verbs were distinguished: (1) verbs conjugated in the present tense, (2) verbs conjugated in future tenses, (3) the use of the normative tense and (4) alternative phrases such as 'are you in favour of' or 'it is alright that'. Statements from groups 2 and 3 were coded as prospective, statements from group 1 and 4 as non-prospective.

Retrospective statements. A statement was considered retrospective when at least one of the following criteria applied: (1) the statement dealt with reintroducing a policy measure that was employed once before in the past or (2) an evaluation was made concerning present or past policy measures (whether you wish to continue or discontinue the current policy or even want to replace it by an alternative measure).

Concrete versus vague statements. To determine the extent to which statements could be labelled concrete, a classification was designed to categorise statements into 'not at all concrete', 'concrete' or 'very concrete'. Statements that were rather abstract or vague were coded into the first category (e.g. the tax system should be reformed). When the statements described a concrete policy but with few details, it was coded into the second category (e.g. a property tax needs to be introduced). When the statements described a concrete policy measure with an eye for detail, the statement was ascribed to the third category (e.g. a property tax of 6% needs to be introduced by 2014).

Double-barrelled statements. Statements containing two questions in one or a policy measure and an argument. Such statements can often be recognised by the

word 'and', however this is not a necessary precondition. For each statement was coded whether or not it was double-barrelled. A statement was labelled as such if it was formulated in a way that a respondent was not able to give a straight yes or no-answer (e.g. he agrees with what is said in one part of the sentence, but not with the other part).

Discriminant statements. For each statement, all party positions were collected. They were than reduced to a simple agree-disagree opposition. For this purpose skip- and neutral categories (if present) were discarded and the categories totally agree (resp. totally disagree) and tend to agree (resp. tend to disagree) were collapsed into one category. Finally, a calculation was made of how many parties were in each of the two categories.

Qualifications. Dummy variable that turns one when there is a qualification or example present in the statement. These are indicated by one of the following words: such as, for example, e.g..

Quantitative statements. Dummy variable that turns one when a quantitative cue is present in the statement (e.g. 'Criminals should be punished *more* severely').

Appendix 3: Origin of data on VAAs and statements

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