SHORT NOTE

How Many People Use Voting Advice Applications? Survey Evidence From 15 Democracies Worldwide

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Abstract

In this short note, we offer an update on previous assessments of voting advice application (VAA) usage with representative samples from National Election Studies in established democracies worldwide. We map the spread of VAAs among the voting population in those countries in which post-election surveys asked their respondents whether they had used VAAs during the national election campaign. Our empirical base encompasses data from 48 elections held in 15 countries (Australia, Austria, Belgium, Canada, Denmark, Finland, Germany, Greece, Iceland, the Netherlands, New Zealand, Norway, Portugal, Sweden, and Switzerland) between 2003 and 2024. Beyond mapping VAA usage over time, our analysis focuses on the (potentially changing) individual-level correlates of VAA usage in a longitudinal perspective. The findings show a continuous increase in VAA usage figures in a large majority of the countries under analysis, but also provide little evidence of changes in the sociodemographic composition of the population of VAA users.

1. Introduction

The existence of voting advice applications (VAAs) as a research object is closely associated with their levels of diffusion among the electorates of contemporary liberal democracies. Arguably, the main reason to study VAAs and their effect is that they are widely used by citizens (Garzia, 2010; Garzia & Marschall, 2016; Marschall & Garzia, 2014). The Dutch *Stemwijzer* went from only 6,500 users in its first online edition of

1998 to over 9 million in 2023. The German Wahl-O-Mat has been available since 2002 and it has been used over 130 million times since then. In the campaign of the 2025 German Federal election alone was it used around 26 million times. Cross-national VAAs like EU&I are routinely used by millions of users during the European Parliament election campaign (Ferreira da Silva & Garzia, 2023; Reiljan et al., 2020). The growing popularity of these tools motivates increased research interest on their implications for political attitudes and behaviour.

However, usage numbers do not reflect the actual number of users. Citizens fill out either multiple VAAs during the same campaign (Dieing, 2025) or the same VAA's questionnaire multiple times, therefore inflating overall usage figures and VAA log files. Data cleaning techniques can mitigate this issue (Andreadis, 2014), but only to a certain extent. Survey data from national representative samples could, in turn, offer more accurate figures on the number of unique individuals using VAAs in each country. As VAAs gained relevance among the electorate, national election studies worldwide came to include questions about VAAs in their respective surveys. As yet another source of political information, they are frequently featured alongside other old and new media platforms to capture voters' levels of exposure to these online tools.

Initial evidence on the spread of VAAs among the electorate based on 21 national elections showed high levels of penetration among the electorates of Western European democracies, even if with important cross-country variation (Garzia & Marschall, 2019). In this short note, we expand this effort to map the proportion of VAA users in the voting-age population across a total of 48 elections from 15 democracies worldwide. The first goal is, thus, to provide an updated account of whether and to what extent VAAs have become increasingly used in these countries.

Additionally, we explore whether changes in usage numbers were accompanied by changes in the socio-political composition of VAA users. Previous research has traced a clear VAA-user profile: young, male, highly educated, strongly interested in politics, and predominantly left-wing oriented (Marschall, 2014; Walder et al., 2024). As VAAs become massified among the public, does the profile of VAA users come to resemble the characteristics of average population? Examining the changing profile of VAA users in Germany, Albertsen (2022, p. 399) finds a "development in which users become more similar to the population as a whole." The author develops a theoretical framework drawing on Rogers' (1962) innovation diffusion theory, according to which technological diffusion typically follows an early adoption by individuals differentiating in age and educational levels from mass-adopters, and finds evidence of a greater resemblance between VAA users and the average voter over time. Leveraging on the broad longitudinal and cross-national characteristics of our data, we thus propose an examination of the (changing) profile of VAA users in a large-N comparative perspective.

2. Data

Our analyses rely on post-election survey data from a total of 48 elections from 15 liberal democracies on three continents. These correspond to the overall amount of election studies worldwide for which we could identify variables on self-reported use of VAAs in the electoral campaign.

There is considerable variation across countries in the length of the time series. That is partially related to the differentiated timing of the introduction of VAAs in the different countries, but not exclusively. For example,

VAA questions had been customarily featured in the post-electoral waves of the German Longitudinal Election Study, but they were dropped after 2013.

It is important to note that, while we are convinced that national election studies remain the best data source on actual numbers of unique VAA users, this choice is still not without caveats. Just as we argued that research interest in VAAs is tied to their usage numbers, national election studies are also more prone to include questions about VAAs only once they permeate a significant portion of the electorate. Hence, since a necessary pre-condition for inclusion is a certain degree of popularity, our sample becomes less likely to include cases in which VAAs are (still) used in lower numbers. Nevertheless, the absence of VAA questions does not necessarily signal a demand-side issue. Italy, for example, is consistently among the top-scoring countries in pan-European VAAs for the European Parliament elections (Michel et al., 2019). Since popular VAAs are virtually nonexistent at the national level, they are nonetheless absent from the respective election studies.

Question wording naturally varies substantially across countries and over time (see Table A1 of the Supplementary File). In some countries, VAAs are referred to using generic terms such as vote compass, vote matcher, voting advice website, election quiz, or candidate selectors. In other countries, they are referred to by the actual name of the VAA (e.g., stemtest in Belgium, smartvote in Switzerland, and Wahl-O-Mat in Germany). This also speaks to the relative popularity and diversity of these tools across countries.

3. Results

Figure 1 presents self-reported levels of VAA usage in the respective country samples. The data shows wide usage of VAAs in contemporary elections among the publics of the 15 countries analysed. The figures for the most recent elections available (post-2020) range from 20% in the 2023 Swiss election to 68% in Finland in the same year. That is nearly as many people using a VAA as voting in the 2023 Finnish election (official turnout rate was 72.6%).

Not only are VAAs widely used, but the number of users has also been increasing in virtually every country analysed. Finland has registered a nearly threefold increase in VAA users over the last two decades; the Netherlands has doubled the number of VAA users across a similar time period; Denmark, Norway, and Sweden have doubled them in little more than a decade. In Scandinavia and the Netherlands, VAAs are used by the majority of the voting age population in recent elections.

Naturally, VAAs tend to be more used in the countries where they have been implemented for longer. However, countries like Germany or Switzerland have had reputable VAAs for nearly two decades now, and the latest figures available are on the lower end. The size of the party system, on the other hand, seems to correlate strongly with aggregate usage numbers. In line with what we know from previous comparative research on VAAs, their usage increases with the complexity of the voting task stemming from larger party systems. Other party system features, such as the existence of candidate-based elections, do not seem to go hand in hand with high VAA usage numbers. In fact, the smaller multi-party systems of German-speaking countries, despite being among the pioneers, did not increase over time as fast as Anglo-Saxon countries, like Australia and New Zealand, which, despite introducing these tools later, now report usage figures more or less in line with Austria, Germany, or Switzerland. Finally, attempts at measuring VAAs in South European
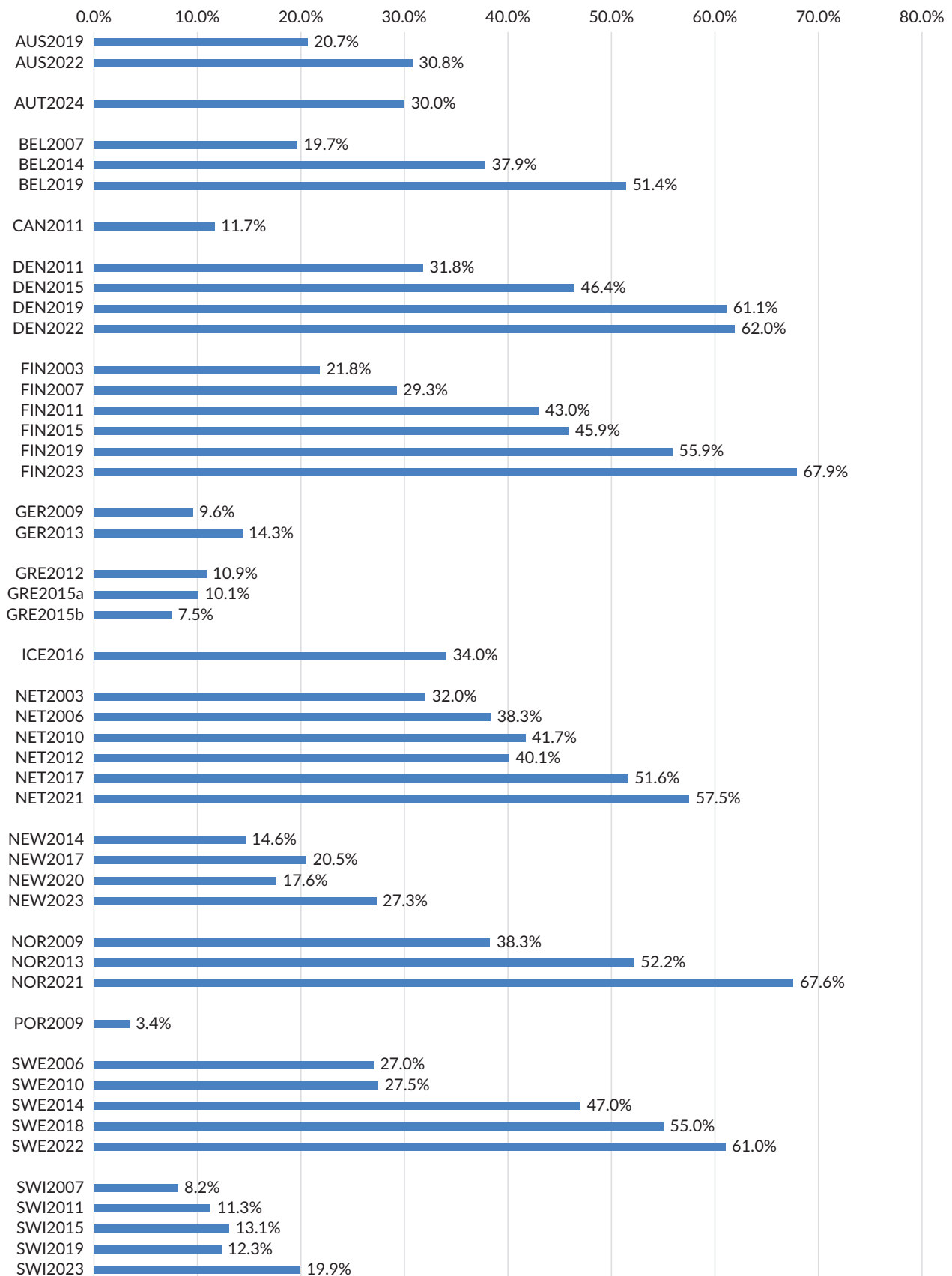
Figure 1. Percentage of self-declared VAA users in national election study datasets.

countries, like Greece or Portugal, have not been repeated in the most recent election studies, leaving us with an incomplete picture for that region.

To examine whether the young, male, left-leaning, highly educated, and interested in politics profile of VAA users identified in the literature (Marschall, 2014) still holds, we estimated logistic regression models of VAA usage (full Model 1 estimates are reported in Table A2 of the Supplementary File). We began by pooling all the valid observations at our disposal, considering all countries and elections. The dependent variable is *self-reported VAA usage during the election campaign* (0. No; 1. Yes). Independent variables are *age* (numeric), *gender* (0. Male; 1. Female), *education* (1. Primary; 2. Secondary; 3. Tertiary), *interest in politics* (1. Not interested, 2. Neither interested nor uninterested, 3. Interested), *left–right self-placement* (0. Left; 10. Right), and *strength of party identification* (0. None, 1. Weak, 2. Fairly strong, 3. Very strong). The model also includes country-fixed effects and controls for the year in which the survey was fielded.

The results largely confirm previous findings from the literature on users' profiling. Figure 2 presents the average marginal effects (AMEs) for all independent variables. According to the model, age is strongly negatively associated with the probability of using a VAA: a 60-year-old is about 20 percentage points less likely to do so than a 30-year-old. Gender differences are small and not statistically significant, while education and political interest show marked positive effects. Each step up in education increases the likelihood of VAA use by roughly 10 percentage points (around 20 points between primary and tertiary education), while moving from low to high political interest adds about 15 points. By contrast, ideological position and partisan strength have negative effects. Individuals located at the extreme left of the ideological scale are about 4 points more likely to use a VAA than those at the extreme right, and respondents with very strong party identification are roughly 2 percentage points less likely than those without any partisan attachment.
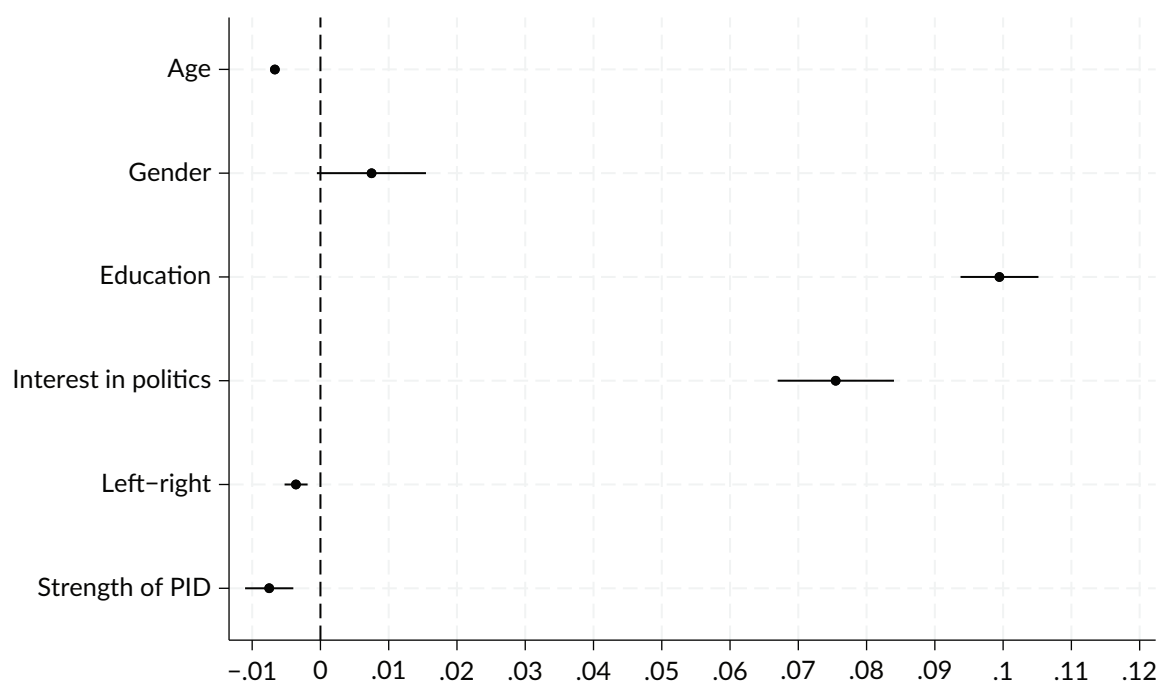

Figure 2. Individual-level correlates of VAA usage: AMEs from a logistic regression model with country fixed effects.

We have then interacted each predictor with the election year to capture potential variations in their predictive ability over time. In the naïve interaction model (full Model 2 estimates are reported in Table A2 of the Supplementary File), we find that, over time, age, education, and interest in politics became less relevant in explaining VAA usage. A leave-one-out cross-validation analysis of these results reveals that, however, the pooled model is sensitive to the sample composition (see Figure A1 in the Supplementary File). Only two interaction effects remain robust to our sensitivity tests. As a result, in Figures 3 and 4, we present the changing AMEs of the two interactions that are consistently robust to model specification, namely, age and interest in politics.
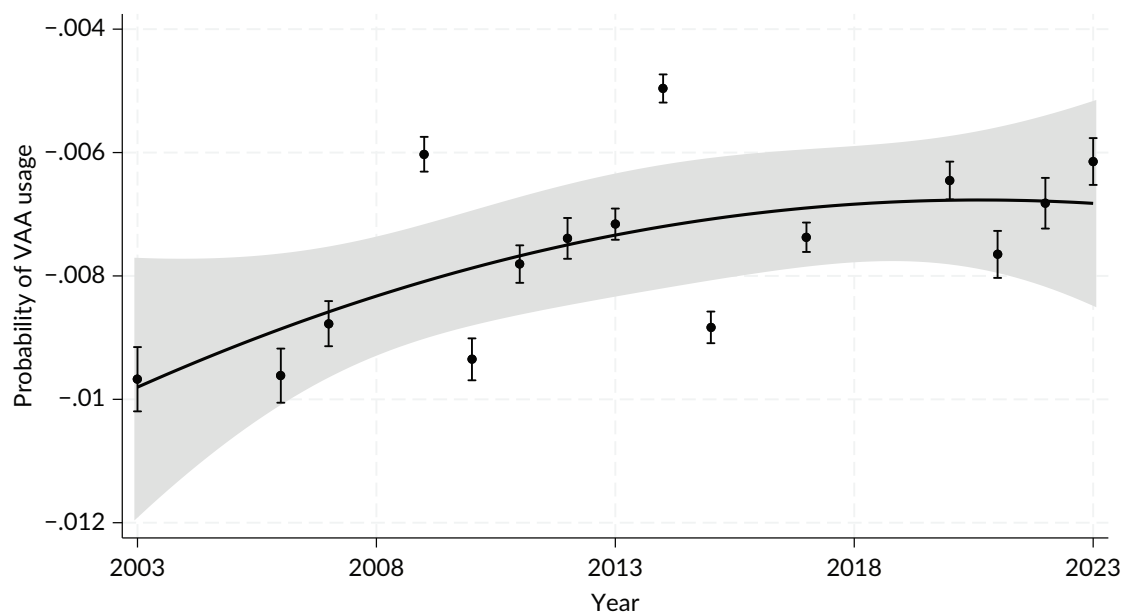
Figure 3. The changing relationship between age and VAA usage over time: Interaction effects.
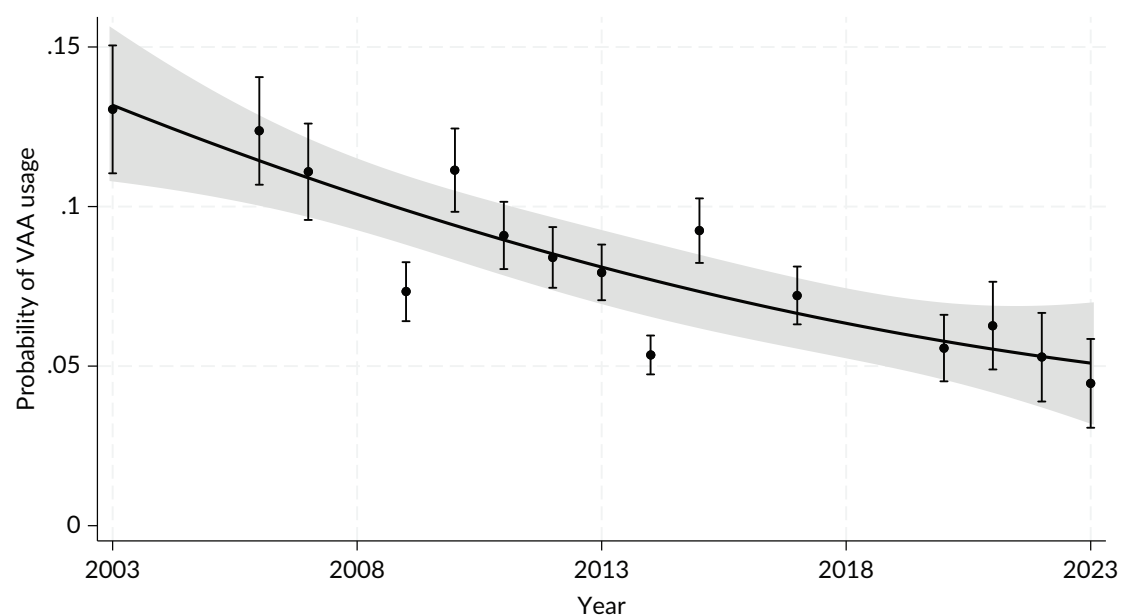
Figure 4. The changing relationship between interest in politics and VAA usage over time: Interaction effects.

To test the robustness of our findings, we have also estimated a multilevel model including the effective number of electoral parties for each election and a variable contrasting proportional representation with first-past-the-post electoral systems to account for potential structural differences in patterns of VAA usage linked with institutional features of the voting system (see Table A3 of the Supplementary File). Their inclusion does not substantively alter the findings reported in the main text.

4. Conclusion

The analysis has demonstrated that VAAs are heavily and increasingly used in liberal democratic multiparty systems worldwide. However, their spread among the electorate does not correspond to a substantial change in the sociopolitical profile of their users. We do witness a decreasing predictive power of age and interest in politics as correlates of VAA usage across the last two decades. However, and most importantly, we find that in spite of their massive spread across the electorate, VAA users remain predominantly young, highly educated, interested in politics, and left-leaning. These findings carry clear implications for future research on the dynamics of VAA effects on political behaviour in comparative and longitudinal perspectives.

Conflict of Interests
In this short note, editorial decisions were undertaken by Stefan Marschall (Heinrich Heine University Düsseldorf), Mathias Wessel Tromborg (Aarhus University), and Andreas Albertsen (Aarhus University).

Data Availability
The data that support the findings of this study are openly available. Our dataset is composed of 45 merged National Election Study, all available online with the national producing institutions.

Supplementary Material
Supplementary material for this short note is available online in the format provided by the authors (unedited).

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