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EDITORIAL

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Voting Advice Applications: Methodological Innovations, Behavioural Effects, and Research Perspectives

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Abstract

Voting advice applications (VAAs) are widely used digital tools that match voters' policy preferences with party or candidate positions. Since their emergence in the 1980s and rapid expansion alongside internet dissemination, VAAs have spread to more than 80 countries and generated growing academic interest. This thematic issue advances the field by analysing behavioural effects, user diversity, design innovations, including AI-driven conversational agents, and the validity of VAA-generated data. Together, the contributions demonstrate both the maturation of VAA research and its continued relevance for understanding democratic representation.

Keywords

artificial intelligence; democratic representation; electoral behaviour; political knowledge; voting advice applications

1. Voting Advice Applications: Tools for Voters and Researchers

Voting advice applications (VAAs) have become increasingly widespread in electoral campaigns in democracies worldwide. These popular online tools are designed to help voters compare their policy preferences on major issues with the positions of political parties/candidates. Respondents fill out an online questionnaire with their opinion on a set of policy statements (e.g., "The state should provide stronger financial support to the unemployed"). The users' answers are then compared with the position of the parties/candidates on the same

issues and offer a party or candidate “advice” to the user, for example, in the form of a rank-ordered list (for a detailed explanation of VAA operating principles and features, see Garzia & Marschall, 2019).

VAAs can be traced back to the 1980s (Cedroni & Garzia, 2010), but their expansion geographically and in terms of usage numbers went hand in hand with the spread of internet connections. An example is the Dutch Stemwijzer, a pioneer of modern VAAs that 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 has been used over 150 million times since then. During the 2025 federal election alone, it was used around 26 million times.

According to the global census conducted in 2016 by the ECPR Research Network on Voting Advice Applications, VAAs have been fielded in as many as 43 countries across five continents, and some countries have fielded multiple VAAs simultaneously (Garzia & Marschall, 2016, 2019). Since then, VAAs have been consolidated and introduced in new countries and contexts. According to a more recent census of September 2025, at least one VAA has been initiated in more than 80 countries across five continents (Marschall et al., 2026).

Due to their growing popularity, today VAAs constitute a field of social science with large collaborative research projects and publications in leading academic journals. The last two decades have witnessed a growing interest in the consistency and reliability of the voting advice provided by these applications. Additionally, political scientists have shown particular interest in the effects of these tools on users’ electoral behaviour. Finally, VAAs have become a valuable tool for collecting data to address key questions in democratic representation and party research across national and supranational electoral arenas.

The growing academic interest in VAAs is illustrated in Figure 1, which plots the number of scientific publications mentioning VAAs since 2003, calculated based on Google Scholar data.

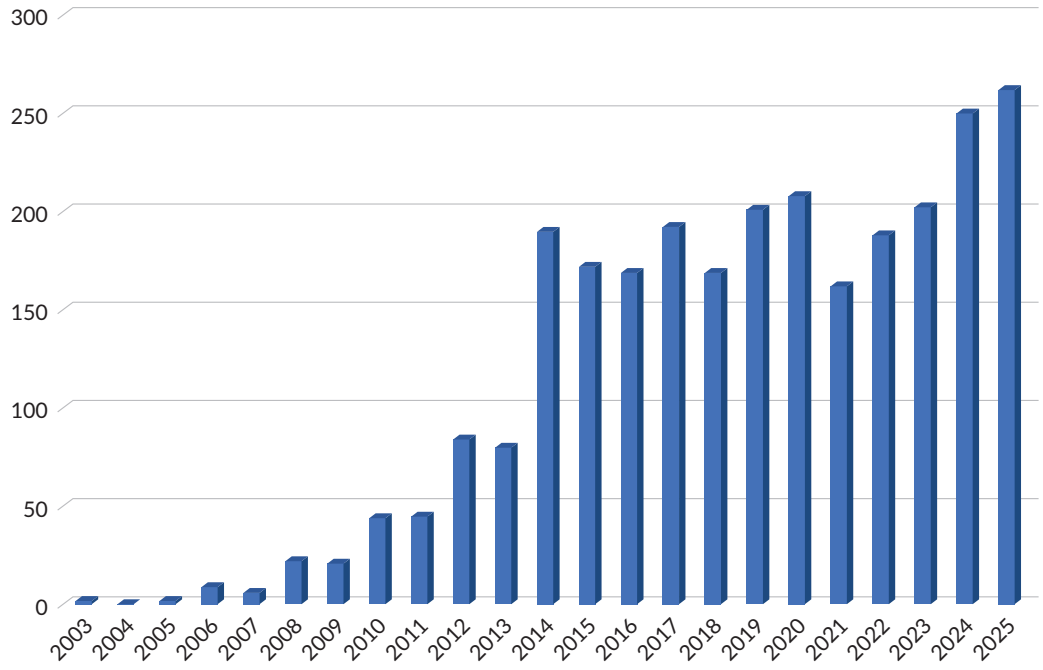

Figure 1. The number of academic publications referring to VAAs, by year.

2. State of the Literature

Given the wide popularity of VAAs, the question of whether they affect political behaviour has represented a recurrent theme in the existing academic literature. By reducing the costs of information gathering, they have been hypothesized to stimulate political interest, communication, and knowledge among their users, thereby potentially increasing their likelihood of voting and/or switching party/candidate choice in line with the advice provided by the VAA platform. Munzert and Ramirez-Ruiz (2021) have delivered one of the most encompassing comparative assessments of VAA effects. Their meta-analysis of 22 studies published between 2006 and 2019 focuses on the influence of VAAs on turnout, party choice, and issue knowledge. The authors find evidence that VAAs affect both turnout and vote choice; however, the magnitude and statistical significance of the effects vary across empirical designs and contexts. Consequently, they call for higher-powered experimental studies to better assess these behavioural outcomes. More recent works provide further evidence of the link between VAA usage and political behaviour, especially regarding patterns of party/candidate choice (Benesch et al., 2023; Germann et al., 2023; Tromborg & Albertsen, 2023). Other findings paint a more mixed picture, finding, for example, no effect on turnout, but an effect on party choice (Frese et al., 2025), or finding no effect on turnout and vote choice, but an increase in knowledge about party positions (Munzert et al., 2020). Understanding how and when VAA advice affects voting behaviour remains a key part of the VAA research agenda.

A related theme of VAA research pertains to who uses them (Albertsen, 2022; Cedroni & Garzia, 2010; Garzia & Marschall, 2012) and how they use them (van de Pol et al., 2014). Much early research suggested that early users are more often politically interested and well educated. More recently, the focus has been on so far under-researched groups of users.

Another key question is whether the advice provided by VAAs is reliable and unbiased. The literature on VAA development and methodology can be summarized under four main aspects: the way the set of statements is selected and the statements are formulated (Lefevere & Walgrave, 2014); the method to position the parties with view to the statements (Ferreira da Silva et al., 2023; König & Nyhuis, 2020); the algorithm applied to calculate the proximity between the users' and parties' positions (Louwerse & Rosema, 2014); and the form in which the results are displayed (Bruinsma, 2020).

More recently, VAA practitioners and researchers have engaged with artificial intelligence and devoted attention to the so-called Conversational Agent VAAs (Gemenis, 2024; van Veggel et al., 2025; Velez et al., 2025). VAAs have also been used as a source of data on what voters and parties/politicians believe. The articles in this thematic issue make important contributions to the various aspects of the literature noted above.

3. Plan of the Thematic Issue

Several articles in this thematic issue develop the theme of how VAAs affect users. Based on data from the 2021 German Federal Election, Wurthmann et al. (2025) examine a specific group of users and demonstrate that formal education does not directly moderate VAA-driven mobilization or vote conversion. The analysis reveals that learning effects are central: users with lower or medium levels of education gain knowledge of party positions, which increases mobilization, reconsideration, or reinforcement of vote choice. Ioannidis and

Triga (2026) analyse how the televised use of a VAA by presidential candidates influenced voter opinion formation during the 2023 Cyprus elections. Using a natural experiment and regression discontinuity models, they find that candidate cues increased voter-candidate alignment for one candidate but produced mixed or even divergent effects for others. The results show that candidate cues can both foster convergence and expose divisions, depending on issue type, candidate profiles, and coalition heterogeneity. Matthieu et al. (2026) investigate in a large-scale experiment in Flanders, Belgium, whether VAAs improve young voters' knowledge of party positions. They find that exposure to a standard VAA did not increase party position knowledge, whereas a youth-oriented VAA significantly improved young respondents' ability to correctly identify party positions. The results highlight that VAAs can foster political learning when tailored to specific audiences. Thomeczek (2026) assesses whether data from a single-party VAA, the BSW-O-Mat, can be used to validly analyse voter preferences despite strong self-selection bias. By comparing VAA-based regression results with those from the German Longitudinal Election Study probability sample, the article finds substantial convergence in effect directions, though VAA data tend to overestimate effect sizes. The study concludes that single-party VAA data can still yield meaningful insights into voter preferences when biases are carefully accounted for. Walder et al. (2026) examine whether VAAs can reduce ideological and affective polarization among voters. Using data from the Swiss VAA Smartvote and a two-wave panel field experiment around the 2023 Swiss national election, they find partial evidence that VAA use is associated with decreased polarization. These results suggest that VAAs may play a depolarizing role in increasingly polarized democracies.

This thematic issue also offers new evidence regarding how VAAs are used and who their users are: In their short note, Garzia and Ferreira da Silva (2026) provide updated survey data on the use of VAAs across 15 democracies worldwide. Drawing on data from 48 national elections between 2003 and 2024, they show that VAA usage has steadily increased in most countries and that the characteristics of VAA users have evolved over time, indicating a changing user community. Jensen et al. (2026) examine how voters actually use VAAs by tracking real usage behaviour in a representative Danish sample. They find that while most users focus on their preferred party, many also explore alternative party options and spend considerable time comparing them. This behaviour is especially common among undecided and politically interested users.

Regarding VAA design, van Veggel et al. (2026) examine how VAAs can be enhanced with additional contextual information, such as clarifications, status quo explanations, debate summaries, and party positions, to improve users' understanding of political statements. Based on interviews with local Dutch politicians, they find broad support for adding these types of information. While politicians see potential in using artificial intelligence to deliver information, they stress that any AI integration must ensure accuracy, political neutrality, and transparency. Bachmann et al. (2026) introduce a method to estimate the certainty of recommendations in candidate-based VAAs when users do not complete all questions. They present an algorithm that accurately predicts candidate recommendation stability and outperforms heuristic approaches in simulations. Kamoen et al. (2026) examine whether VAAs with integrated chatbots (CAVAAs) help voters understand political statements better. Across three experimental studies, CAVAAs reduce user confusion and increase perceived knowledge and usability compared to standard VAAs, with effects consistent across different levels of political sophistication.

Finally, this thematic issue provides clear examples of how VAA data can be used to explore important questions in political science. Braun et al. (2026) address party competition and voter attitudes toward

Europe in EU border regions, where local politics often closely intersect with European integration. Using data from the VOTO, a VAA for the 2024 German local elections, they analyse party positions and citizens' preferences in four German border regions. The findings show that border-specific contexts and party cues shape distinctive voter attitudes on cross-border cooperation and European integration, supporting both qualitative and quantitative research on border-region political behaviour. Employing data from VAAs requires, of course, that such data is reliable. This is the topic of another contribution in this issue. Gatti (2026) examines party-voter congruence beyond ideological dimensions, highlighting persistent problems with missing and inconsistent measures of perceived party positions. The study cross-validates traditional survey-based indicators with VAA-derived data and finds broad convergence between the approaches. Overall, the results support the validity of VAA-generated data.

While early debates in VAA research primarily addressed fundamental and foundational questions, the contributions to this thematic issue indicate that the field has matured to a stage at which in-depth analyses are both possible and necessary. The articles clearly demonstrate the level of theoretical and methodological specification and reflection at which current debates in VAA research are conducted. At the same time, changing contextual conditions, most notably the growing role of artificial intelligence, have generated new research questions, underscoring that substantial work remains to be done to fully understand the role of VAAs in democracies.

Conflict of Interests

The authors declare no conflict of interests.

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