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Bias or Balance? Analyzing Stance in Google and Bing Results for the 2024 EU Parliament Election

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Abstract

People frequently use search engines in the lead-up to elections, and the results they encounter can influence their voting decisions. In this study, we analyzed the stances of search results from Google and Bing in Germany related to the 2024 European Parliament elections, as well as the types of sources presented to users. We collected 760 search results for 38 political queries and had jurors assess their stances, with each result being evaluated by five jurors. The findings reveal that public authority and journalistic pages dominate the search results, while political party pages are the least represented source category. Furthermore, we found that Google and Bing predominantly display neutral search results, with neutral stances being more common in Google than in Bing. Additionally, in both search engines, search results that indicate a political leaning tend to align more closely with left-leaning parties than with right-leaning ones. While acknowledging that the findings may be influenced by how the queries were formulated, the results highlight the importance of using multiple search engines to access diverse political viewpoints. They also raise questions about whether both agreeing and disagreeing results should be displayed for controversial topics.

CCS Concepts

• **Information systems** → World Wide Web; Web searching and information discovery; Web search engines.

Keywords

Search engines, Google, Bing, stance, bias, voting advice application, VAA

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1 Introduction

From June 6 to 9, 2024, the European elections were held in the 27 member states of the European Union, where citizens directly elected members of the European Parliament [20]. Voters encountered a wide array of political parties to choose from; for instance, German voters had 35 parties on their ballots [8]. This multitude of options makes it difficult for eligible voters to make informed decisions [2].

Thus, for voters who wished to make a well-considered decision, they needed to familiarize themselves with which party stands for which positions on a diverse spectrum of issues, including securing peace, social security, migration, climate change, and others [47:14]. It seems unlikely that a voter would be inherently familiar with all these election-relevant topics. Nonetheless, being informed about the topics is important, as a well-informed public is essential for a functioning democracy [24, 26:133]. Furthermore, feeling uninformed can lead to people not voting, as evidenced by representative surveys in New Zealand [36] and the U.S. [56].

Hence, as it is relevant for people to inform themselves before elections, this highlights the importance of platforms that provide access to political information. As elections approach, search engines become an essential resource for voters seeking information that may influence their voting decisions. A representative survey conducted in the U.S. ahead of the 2024 presidential election found that search engines are particularly significant for younger voters, ranking second to social media and news websites, and are roughly comparable to television [52]. Surveys conducted in the U.S. and several European countries indicate that, on average, television, offline discussions, and online information obtained through search engines play the most significant roles in shaping electoral decisions [17:72].

When people use search engines to find political information, they are confronted with search results that are not inherently neutral, whether they use Google, Bing, or any other search engine. This is because all search engine algorithms are based on human assumptions and thus lead to search result rankings that represent one specific way of interpreting the Web content [32]. As users predominantly focus on the top-ranked results [1, 43, 50], it is highly relevant to consider what documents and viewpoints, also referred to as stances, are being shown to users [4], as this can impact user decisions and preferences. For instance, experimental studies have demonstrated that the ranking of results on the search engine result

page (SERP) with positive or negative stances on specific political candidates can significantly impact voter preferences [18].

In this exploratory study, we analyze the stances of search results from Google and Bing in Germany on topics relevant to the 2024 European elections. We focus on Google and Bing, the two most popular search engines [53; as of June 2024]. This makes the search results of these two search engines particularly relevant for German searchers in the lead-up to the elections.

Prior research found that search engine users often search for political topics they have found when using so-called voting advice applications (VAAs) [29, 34]. VAAs are programs that compare the user's personal position on specific election-related theses, for instance, "The EU should abandon the goal of becoming climate neutral" with the parties' stances on the same theses. For this study, we use queries developed based on theses of the German VAA *Wahl-O-Mat* [10].

2 Literature review

2.1 Searching for political information

Search engines have become an essential gateway for information that is embedded in people's daily lives; they are so ubiquitous that some researchers argue people no longer even notice their presence as a service [25]. Just as people search for other topics in their daily lives, they also seek out information on politics. An analysis by Menchen-Trevino et al. [37] examined 58,681 searches from 45 participants and classified approximately 4% of them as having a political context.

Surveys indicate that people increasingly rely on search engines as elections approach. For instance, a survey of 9,680 U.S. adults conducted by the PEW Research Center in the context of the 2024 U.S. presidential elections revealed that 12% of those under 30 primarily use search engines for political information. This figure is significantly lower than the 46% who rely on social media, but slightly higher than television (10%), podcasts (6%), radio (2%), and printed newspapers and magazines, which also account for 2%[1] [52]. According to Dutton et al. [17:72], 68% of respondents in an online survey conducted across various European countries and the U.S. indicated that searching for political content was crucial for their voting decisions. This percentage is similar to the top two influencing factors: TV coverage (75%) and offline discussions with friends (72%), and significantly higher than the impact of social media (47%) or email (35%). In addition to search engines and traditional information channels, such as television and social media, artificial intelligence (AI)-based tools are being increasingly used by individuals to inform themselves about political issues. However, studies suggest that AI-based tools sometimes provide incorrect information regarding the parties' election programs [14].

When examining the types of sources for political information found via search engines, Courtois et al. [12] and Unkel and Haim [57] noted that users primarily encounter news sources in the lead-up to political elections. In contrast, party or candidate websites are scarcely represented in search results. This strong presence of news content, compared to party information, suggests not only a greater quantity of news offerings compared to other content but also different approaches to search engine optimization (SEO). SEO is a part of search engine marketing and refers to strategies designed to enhance the organic ranking of websites in search engines [33:175]. Research has demonstrated that content producers employ SEO differently based on their motivation for publishing Web content—those with more commercial intent tend to use SEO more intensively than non-profit content producers and media organizations [48, 49].

[1]The situation is notably different for older individuals, as 63% of those over 65 cite television as their main source of political information.

2.2 Bias in search engines

Search engines are widely trusted by their users and are often perceived as neutral sources of information [19, 45]. Research indicates that even when the top-ranking results are not the most relevant, people still tend to follow these rankings closely [1, 43, 50].

The user assumption that search results are ranked objectively is questioned by the fact that search engines can never be completely neutral. Rankings are influenced by algorithms founded on human assumptions, along with user behavior and external factors such as search engine optimization [33:263–264]. The discrepancies between the displayed search results and an ideal set of results can be characterized as bias [33:263]. Bias in search engines can manifest in various ways through the interaction of algorithms, users, and optimization strategies. These biases may relate to viewpoints [60] or perpetuate gender and racial stereotypes [e.g., 41, 42, 58].

Biased search results can have a significant impact on users who are exposed to them. For instance, Diakopoulos et al. [13] analyzed the effect of search engine results on the 2016 U.S. presidential elections. They found that the order of results could strongly influence voter behavior, reinforcing existing biases within the algorithms. The authors advocate for greater transparency and control to mitigate this influence. Based on their experimental studies, Epstein and Robertson [18] also emphasize the potential influence of biased results on voters.

Since search systems cannot be neutral, bias in search engines can never be entirely eliminated. This is problematic because the majority of users rely on a single search engine, primarily experiencing Google's interpretation of the Web [33:264–265]. As of June 2024, during the European elections, Google's search engine held the leading market share of 86% in both the United States and Germany [53, 54].

The situation of Google's dominance raises critical questions about how to address the issue of bias in search results. Mowshowitz and Kawaguchi [38, 39] explored the varying intensities and the measurability of bias in search engines. They argue that users should have access to multiple search engines to ensure diverse access to information in a democratic society. Their research highlights the importance of being aware of potential biases in search results and implementing effective countermeasures. Gezici et al. [23] investigated whether search results exhibit ideological bias (conservative versus liberal) and whether there are differences between Google and Bing. Their study found no significant difference between the two search engines; both tended to display more liberal than conservative results at the time of the research in 2018.

2.3 The Influence of Voting Advice Applications on eligible voters

Voting advice applications (VAAs) are programs designed to help users compare their personal views on various election issues with the positions of political parties. The tools then generate a ranked list of parties based on the level of agreement between the user's views and the parties' programs [21:19]. VAAs are available in several countries, including *Vote Compass*, which covers, among others, the United States, Canada, and Australia, *Smartvote* in Switzerland, and *Wahl-O-Mat*[2] in Germany [29, 40]. The popularity of VAAs is evident, with *Wahl-O-Mat* having 26 million users during the 2025 German federal election [7].

Voting advice applications have a significant influence on voter behavior. A meta-analysis of 22 studies indicates that their use affects knowledge levels, voter turnout, and overall voting behavior [40]. For instance, studies by Wall et al. [59], Marschall and Schultze [35], and Gemenis and Rosema [22] have shown a positive effect of VAAs on voter turnout. In terms of knowledge acquisition, Schultze [51] highlighted the beneficial influence of *Wahl-O-Mat* on voters' understanding of the positions of political parties. VAAs also promote increased knowledge by serving as reference points for further research. In an online survey of the German population conducted before the 2009 European Parliament election (N = 10,563), about 60% of respondents indicated that using *Wahl-O-Mat* encouraged them to seek additional information [34]. Similarly, during the 2011 Swiss parliamentary elections, a survey of 14,067 *Smartvote* users revealed that 54% felt motivated to conduct further research as a result of using the application [29].

3 Research questions

In summarizing the literature review, we observe that people use search engines to find political information, trusting that they will receive the most relevant results at the top of the search results pages. Topics covered in voting advice applications (VAAs) can serve as helpful starting points for user queries, hereinafter referred to as "VAA queries." Given Google's significant market share, user trust is predominantly directed toward this search engine. However, neither Google's nor the search results from other search engines can be considered completely neutral, as they carry inherent biases that may vary among different search engines and could reflect political preferences. Consequently, we propose the following research questions:

RQ1: To what extent do the proportions of agreeing, disagreeing, and neutral search results differ between Google and Bing for VAA queries?

RQ2: What types of sources do Google and Bing display in response to VAA queries?

RQ3: How do the political party programs align with the stances found in the search results of Google and Bing?

4 Methods

To answer the research questions, we evaluated search results related to the topics of the 2024 European elections, with a specific focus on eligible German voters. To do so, we first identified suitable queries (Section 4.1) and collected the corresponding search results from both Google and Bing (Section 4.2). Then, human evaluators assessed the results in terms of the political stance they represented (Section 4.3). Finally, we classified the source types (Section 4.4).

4.1 Queries

To create a relevant query set for the 2024 European elections from the perspective of eligible voters in Germany, we used the *Wahl-O-Mat*, a voting advice application (VAA) provided by the German Federal Agency for Civic Education [10]. *Wahl-O-Mat* includes 38 theses selected by an editorial team to cover topics relevant to the particular election, ensuring a broad thematic range [9]. One example of a thesis is: "The EU should be allowed to levy its own taxes." We developed queries for all 38 theses and manually verified that the search results for these queries aligned with the original theses. A complete list of the queries and their corresponding theses can be found in appendix A.1.

4.2 Search results

For our study, we collected the top ten search results from Google and Bing using the queries specified in section 4.1. We chose these two search engines because they dominate the search engine market in Germany [53]. Hence, users looking for political information about the European elections are likely to use one of these search engines. The collection of search results was carried out using the *Result Assessment Tool* (RAT), a research software specifically designed for studies based on search engine data [55]. We utilized RAT to automatically scrape the search results and present them to our jurors for evaluation (see Section 4.3). RAT utilized two German servers for scraping, ensuring that all sessions occurred independently and without personalization. Selenium was used as the browser in headless mode, with Google Chrome serving as the user agent. The scraping process took place between May 24 and May 27, 2024. Due to technical issues, we were unable to collect all 760 results (ten results from each of the two search engines for a total of 38 queries). Specifically, we were unable to scrape seven results from Bing and one from Google successfully. As a result, our final sample consisted of 752 pages that were assessed by jurors.

4.3 Sample and evaluation procedure

The evaluation was conducted by 20 students (four male and 16 female) enrolled in the Bachelor's degree program in Library and Information Management at Hamburg University of Applied Sciences. The average age of the participants was 27.26 years (SD = 3.97). These students, referred to as "jurors," were divided into four groups:

- Group 1: Google, theses 1-19, jurors 1-5; 189 Web pages
- Group 2: Google, theses 20-38, jurors 5-10, 190 Web pages
- Group 3: Bing, theses 1-19, jurors 11-15, 187 Web pages
- Group 4: Bing, theses 20-38, jurors 16-20, 186 Web pages

There were three main reasons for assigning the subjects into groups of five. First, it ensured that no juror assessed the same Web page more than once, preventing overlap in evaluations between Google and Bing results for the same queries. Second, it made the number of Web pages manageable for each juror. Third,

[2] *Wahl-O-Mat* is a German term that combines "Wahl," meaning election, and "Automat," meaning machine.

it allowed each Web page to be assessed by five *different* jurors, thereby aiming to reduce the impact of individual subjectivity on the evaluations (see section 5 for inter-rater reliability).

Jurors evaluated each Web page's stance on the corresponding VAA thesis using the RAT evaluation interface. The interface displayed a screenshot of the Web page on the right-hand side and a question on the left asking, "You will now see a Web page related to the search query ***. Please evaluate whether the displayed page agrees or disagrees with the thesis ***." Jurors could select from three options: *agreement*, *neutral*, or *disagreement*, which align with the options provided to *Wahl-O-Mat* users. Jurors could also skip a page if it was not displayed correctly due to technical errors or did not relate to the initial thesis. Figure 1 provides a screenshot of the evaluation interface in the RAT software for illustration. All Web pages were fully scrollable, and the original evaluation was conducted in German.

4.4 Source classification

On January 13, 2025, we used ChatGPT to classify the URLs of individual search results. Initially, ChatGPT organized these URLs into 90 different categories. However, upon manual review, we noticed that many of these categories had significant overlaps. To address this issue, we employed ChatGPT again to cluster the categories, which ultimately resulted in seven final categories. For example, *Public Authority*, *Public Authority (International)*, and *Public-Funded Info Portal* were combined into the final category called *Public Authorities*. We then manually verified the accuracy of the final categories, which are as follows:

- Public authorities (e.g., *European Parliament*)
- Journalistic content (e.g., German news program *Tagesschau*)
- NGOs (e.g., *Greenpeace*)
- Commercial (e.g., German building society *Schwäbisch Hall*)
- Encyclopedias (e.g., *Wikipedia*)
- Education and science (e.g., research institutes)
- Parties and interest groups (e.g., *Free Democratic Party*)

5 Data analysis

To prepare the data for evaluation, we first excluded pages where all five jurors skipped the evaluation if it was not accessible or did not topically match the initial thesis, which applied to 11 Google and 17 Bing results. We then assessed the stance for the remaining 724 pages (Google: 368 pages, Bing: 356 pages) by assigning them an overall stance based on the majority of votes for the answer options of *agreement*, *neutral*, or *disagreement*. If there was a tie between two answer options, the page was marked as *undecided*. For instance, a Web page on the EU biodiversity strategy for 2030 by an online portal to EU Law *EUR-Lex*[3] was rated as agreeing with the corresponding thesis "More areas in the EU should be designated as nature conservation areas" by four jurors and as neutral by one juror, leading to an overall stance of *agreeing*. As all Web pages have been evaluated by five jurors, we calculated inter-rater reliability, yielding a Fleiss-Kappa coefficient of .158, indicating slight agreement among evaluators [30:165].

[3]For the English version of the Web page, see https://eur-lex.europa.eu/EN/legal-content/summary/eu-biodiversity-strategy-for-2030.html.

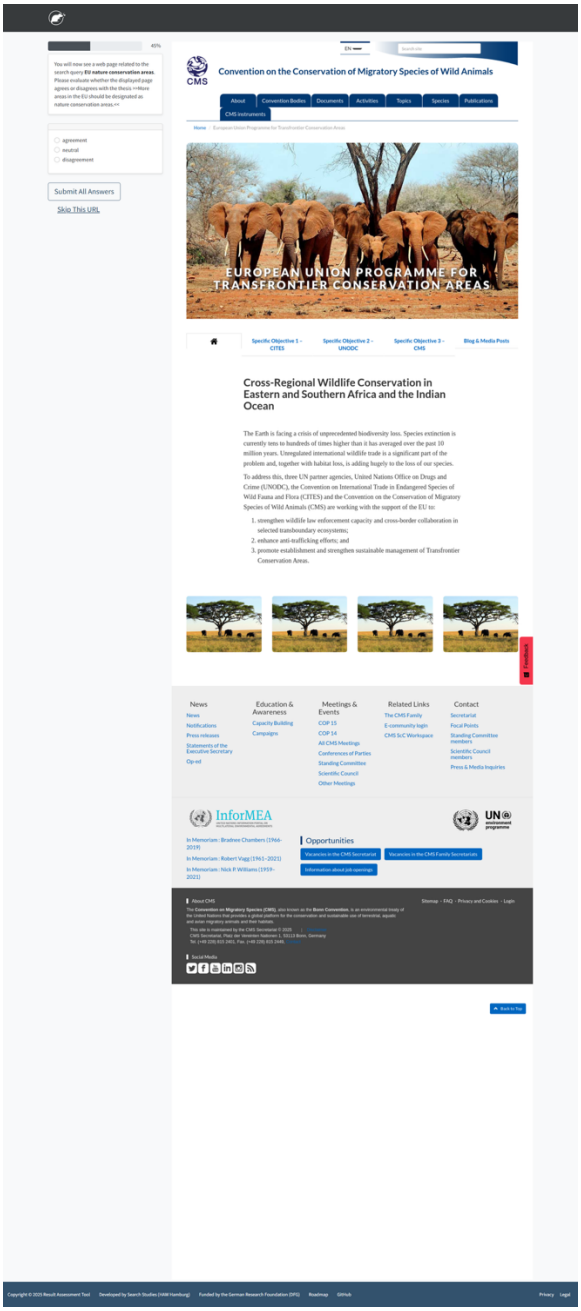

Figure 1: Screenshot of the evaluation procedure

6 Results

6.1 Stances of Google's and Bing's results on all theses

In this section, we present the results for RQ1, which explores how the proportions of agreeing, disagreeing, and neutral search results differ between Google and Bing for all theses. Figure 2 first shows the distributions of all search results, followed by the individual theses in descending order based on Google's agreement values. To

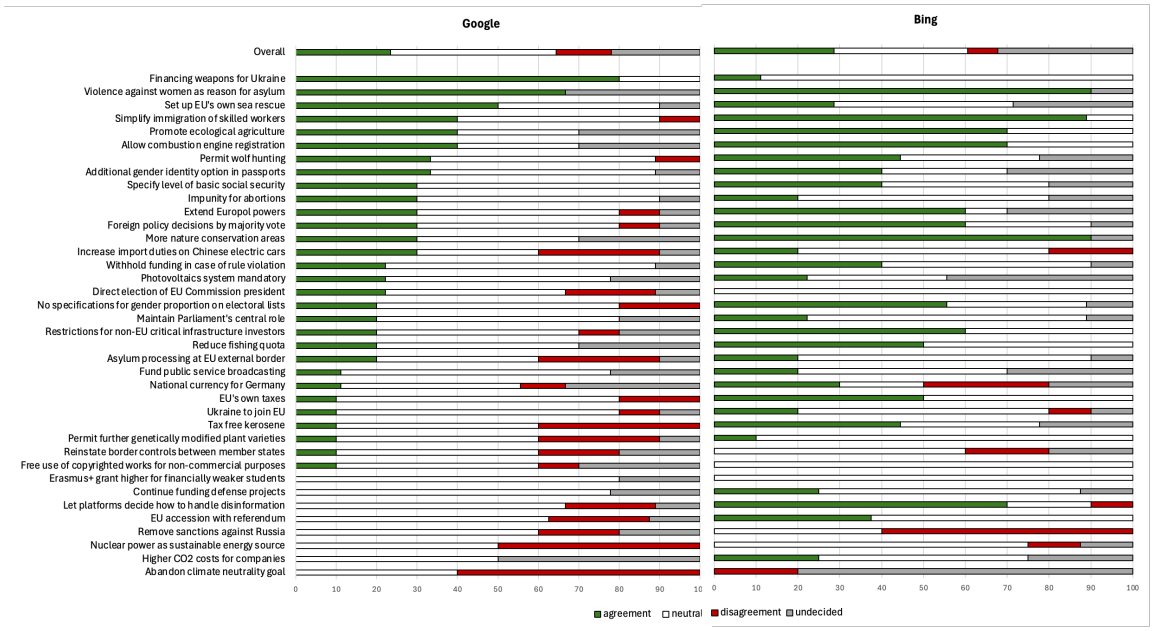

Figure 2: Stances of Google and Bing on all theses

simplify theses references throughout the text, we use shortened forms of the theses. For the original wording, see appendix A.1.

We first examine the overall distribution, which is displayed at the top of Figure 2. The data indicates that neutral results make up the largest proportion for both search engines, with Google showing a higher percentage (51%) of neutral results compared to Bing (46%). Additionally, Google shows a more even distribution of agreeing and disagreeing results, with 21% of pages agreeing and 13% disagreeing. In contrast, Bing has 36% agreeing and only 5% disagreeing pages. A chi-square test revealed a statistically significant relationship between the search engine used and the stance of the pages regarding all theses, X^2 (3, $N = 724$) = 25.506, $p < .001$.

When we look at the individual theses, we again see significantly fewer disagreeing pages on Bing compared to Google. For instance, 21 out of 39 theses on Google produced at least some disagreeing results, while only eight theses on Bing did so. The thesis "Financing weapons for Ukraine" received the largest share of agreeing pages in Google search results, with about 80% agreement and 20% of results being neutral. In Bing, nearly 90% of the pages were neutral regarding this thesis. The thesis "Violence against women as reason for asylum" had the highest combined share of agreeing results on both search engines, with approximately 90% in Bing and 65% in Google. On the other hand, the highest rates of disagreement were observed for the theses "Abandoning climate neutrality goal" and "Nuclear power as sustainable energy source" on Google, which had disagreement rates of 60% and 50%, respectively. In contrast, Bing displayed the highest share of disagreeing results for the thesis "Removing sanctions against Russia," which exhibited a 60% disagreement rate.

6.2 Stances of Google's and Bing's results by source type

In this section, we focus on how the stances are distributed according to source type, addressing RQ2. Figure 3 illustrates the number of Web pages for each source type, grouped by search engine, and stacked according to stance.

The highest number of Web pages belongs to the category *Public authorities*, followed by *Journalistic content*. The category with the least representation is *Parties and interest groups*, which appeared only in Google's results. Additionally, all pages in the *Encyclopedias* category were deemed neutral by the jurors, with both search engines presenting fewer than 20 Web pages in this category. When comparing the two search engines, we observe three main differences in the categories of *Public authorities*, *Journalistic content*, and *NGOs*.

First, Bing has a higher number of agreeing pages in the *Public Authorities* category, with 81 pages compared to Google's 20 pages. A closer examination of the Web page domains reveals that 55 of these 81 Bing pages, or 68%, originate from the europa.eu domain. For example, a news page from the European Parliament[4] states that Members of the Parliament are calling for the right to safe and legal abortion to be explicitly included in the EU Charter of Fundamental Rights, thereby supporting the thesis that "The EU should work to ensure that abortions are possible in all member states without punishment." Second, Bing has a higher proportion of neutral journalistic Web pages compared to Google. Specifically, Bing features 66 such pages, while Google has 47. Out of the 106 journalistic pages on Google, 44% are neutral, whereas 54% of the 123 journalistic pages on Bing are neutral. This difference mainly

[4]https://www.europarl.europa.eu/news/en/press-room/20220701IPR34349/include-the-right-to-abortion-in-eu-charter-of-fundamental-rights-demand-meps

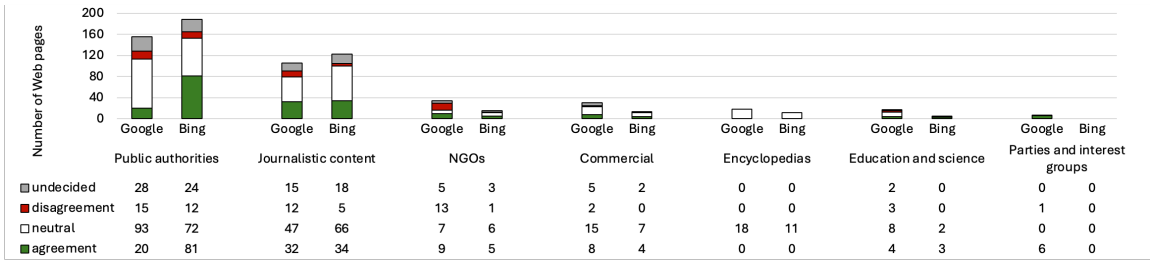

Figure 3: Stances of Google's and Bing's results by source type

arises from the varying occurrences of German news outlets, such as *tagesschau.de* (29 pages in Bing vs. 16 pages in Google) and *ZDF.de* (11 pages in Bing vs. 2 pages in Google). Finally, in the *NGOs* category, Google displays a higher number of pages expressing disagreement (13 pages) compared to Bing (one page). The Google pages include NGOs like *Greenpeace*[5], which opposes the thesis that "The EU should continue to classify nuclear power as a sustainable energy source," and *Pro Asyl*,[6] a German association advocating for the protection and rights of asylum seekers in Europe, which disagrees with the thesis that "Asylum seekers should have to submit their application before crossing the EU's external border and wait there for the result."

6.3 Comparison of stances with party programs

To address RQ3, we compared the stances of Google's and Bing's search results (as outlined in section 6.1) with the party programs using *Wahl-O-Mat*. First, we determined for each search engine whether most of the search results for a given thesis were in *agreement*, *disagreement*, or *neutral*; *undecided* search results were excluded from this analysis. The stances were input into *Wahl-O-Mat* to determine the alignment between the search results and the political party programs. Table 1 displays the match values for both Google's and Bing's search results in relation to the political parties, organized in descending order based on how closely each party aligns with the Google search results. The right-hand column indicates the difference in match values between the two search engines for each respective party. The party descriptions are shortened and translated versions of the descriptions from the *Wahl-O-Mat* [11].

Upon examining the table, we observe that the match values are relatively similar, with a maximum difference of 13 percentage points between the two search engines, particularly for the *Party for Rejuvenation Research*. This party also generates the highest match with both Google and Bing search results. This is primarily because it is a single-issue party that has taken a neutral stance on all matters in the *Wahl-O-Mat*[7], hence closely aligning with the predominantly neutral search results. Additionally, a noticeable political left-right divide is evident in the match values. Parties with the highest match values on both search engines tend to emphasize left-leaning issues, such as environmental concerns, animal welfare, and social justice. In contrast, the parties with the lowest match values can be categorized as right-wing or far-right, characterized by anti-EU and anti-immigration stances.

7 Discussion

Regarding RQ1, we find that neutral results constitute the largest proportion for both search engines across all VAA theses. Google displays a higher percentage of neutral results (51%) compared to Bing (46%), and it exhibits a more balanced representation of agreeing and disagreeing results. For RQ2, we observe that Web pages by public authorities and journalistic content dominate the search results in both search engines, while pages by political parties and interest groups are the least represented. Examining RQ3, we identify a left-right political divide in the agreement scores. Parties with high agreement scores on both search engines tend to emphasize left-leaning issues, such as environmental concerns and social justice. In contrast, parties with low scores are typically right-wing or far-right, focusing on anti-EU and anti-immigration positions.

In relation to RQ2 and the types of sources in searches within political contexts, there is a predominance of public authority and journalistic sources. This observation aligns with the findings of Perreault et al. [44] for public authorities, as well as Courtois et al. [12] and Unkel and Haim [57] regarding journalistic sources. Further, the strong presence of public authority sources—such as the European Parliament and federal ministries of EU member states—is unsurprising, as these institutions are inherently engaged in addressing issues related to the European elections.

When a political topic has both pro and con viewpoints, Google is more likely to present both perspectives (RQ1). While maintaining a balance of agreeing and disagreeing viewpoints may seem fair to those representing these perspectives, it raises questions about whether this balanced presentation accurately reflects the actual discourse on the topic. Equal weighting of opposing positions can be problematic if one side is based on false assumptions. For instance, supporting the thesis of abandoning climate neutrality might rely on arguments from climate change deniers. Extremist positions could also gain undue legitimacy when presented alongside democratic viewpoints as if they hold equal value for the sake of balance. This concern has been discussed in journalism as "false balance," referring to "presenting two sides of a debate as more equal than is justified by the evidence" [46:3]. False balance may emerge from the intention to report objectively according to journalistic standards. Still, it distorts the presentation of widely recognized scientific consensus (e.g., that climate change is real) by placing it

[5]https://www.greenpeace.de/klimaschutz/klimakrise/eu-taxonomie-klage
[6]https://www.proasyl.de/news/haftlager-an-den-aussengrenzen-und-abschiebungen-in-drittstaaten-ist-das-die-zukunft/
[7]https://www.bpb.de/themen/parteien/wer-steht-zur-wahl/europawahl-2024/548020/partei-fuer-schulmedizinische-verjuengungsforschung/

Table 1: Comparison of party programs and search results from Google and Bing

Party Name	Short Description	Match (%)		
		Google	Bing	Diff
Party for Rejuvenation Research	Focuses solely on fighting aging through medical research	92	79	13
Family Party of Germany	Support for all parent-child families	66	63	3
Last Generation	Supports phasing out fossil fuels by 2030 and taxing high wealth	65	65	0
Human Environment Animal Protection Party	Animal rights, environmental protection	59	62	3
Human World	Decentralized commons, spiritual living, peace, ecological farming	59	59	0
MERA25	Calls for a more direct, fair, and sustainable EU	57	62	5
Social Democratic Party of Germany (SPD)	Social justice guides its labor, social, and societal policies	57	54	3
Action Party for Animal Welfare	Strong animal protection and sustainable farming	57	51	6
Volt Germany	EU reform and climate-neutral economy	55	61	6
Marxist-Leninist Party of Germany (MLPD)	Communist party	55	53	2
Ecological Democratic Party (ÖDP)	Conservative policies on environment, family, and democracy	55	63	8
Party of Humanists (PdH)	Opposes ideology and church–state ties; adapts policies to science	54	57	3
Alliance 90/The Greens	Environmental protection, disarmament, renewable energies, gender equality	54	57	3
Party of Progress (PdF)	Supports European unity and a thorough energy transition	54	54	0
The PARTY	Uses satire to address social inequality	53	58	5
Alliance for Innovation and Justice (BIG)	Voting rights for immigrants and equal treatment of all religions	53	61	8
Sahra Wagenknecht Alliance – Reason and Justice (BSW)	Combines leftist economics with partly conservative social policies	53	53	0
The Left	Democratic socialism	53	58	5
German Communist Party (DKP)	Marxist-Leninist party	53	47	6
Alliance Germany	Right-conservative, economically liberal	51	54	3
Climate List Germany	Limit global warming, ending fossil fuels, emission-free transport	51	57	6
Democratic Alliance for Diversity and Awakening (DAVA)	Aims to promote a positive image of Islam	51	46	6
Alliance C – Christians for Germany	Promotes traditional families and environmental protection; opposes abortion	50	42	8
Free Voters	Strengthening local self-government	50	53	3
Grassroots Democratic Party of Germany (dieBasis)	Calls for independent review of the COVID-19 pandemic	50	47	3
Party of Reason (PDV)	Advocates a minimal state and calls the EU "superfluous"	50	47	3
Socialist Equality Party (SGP)	Marxist party	50	47	3
Free Democratic Party (FDP)	Individual freedom and self-determination	50	50	0
Pirate Party Germany	Data protection, digital right, net neutrality	50	53	3
V-Party^3 – Change. Diversity. Vegan.	Supports organic vegan agriculture	49	54	5
Christian Democratic Union of Germany / Christian Social Union in Bavaria (CDU/CSU)	Conservative, economically liberal	47	45	2
Action Citizens for Justice (ABG)	Calls for EU exit, denies human-caused climate change	47	40	7
The Homeland	Far-right party seeking to dismantle Germany's democracy	47	45	2
Alternative for Germany (AfD)	Restrictive positions on asylum and migration policies	47	45	2

on the same level as opposing voices [5]. This distorted narrative can have serious consequences. For instance, Boykoff and Boykoff [6] argue that the resulting disparity between scientific consensus and public discourse on climate change has significantly hindered political countermeasures. Rietdijk and Archer [46] suggest that false balance has the potential to undermine truth similarly to how fake news does. Thus, it is questionable whether equal representation of opposing viewpoints in search engine results is actually desirable [28].

The higher agreement scores among parties on the liberal (left) side, as indicated in the results for RQ3, support the findings of the study by Gezici et al. [23]. One possible explanation is that the search results merely reflect the perspectives of public authorities and news websites, which dominate the search results. If liberal opinions are more prominently expressed in these sources, rather than conservative ones—a question that was *not* addressed in this study—then these liberal attitudes will naturally be reflected in the search results.

Furthermore, we observed that the results from both search engines, when they do take a stance, tend to align with rather than contradict the thesis of the query by providing confirmatory information [33:266]. This pattern can lead to biased decisions, as shown by Kayhan [27]. The issue is particularly problematic because the ranking advantage that positive responses have over negative ones seems to be independent of which answer is factually correct, as demonstrated by White [60] through queries framed as yes-or-no questions on medical topics. The phenomenon of confirmatory results underscores the importance of how queries are framed. In our study, we can assume that the search engines interpreted an underlying attitude or preexisting assumption in our queries, favoring results that reflected this attitude. Our findings suggest that Bing is more susceptible to this bias than Google. However, another possible explanation for why agreeing results outnumber disagreeing ones may lie in the structure of the *Wahl-O-Mat* itself. We cannot dismiss the possibility that the theses were formulated by the editors (either consciously or unconsciously) in such a way that *agreement* is generally perceived as a more plausible position or one that is more prominent in public discourse, especially since most Web pages were sourced from public authorities or journalistic outlets.

Our study has several limitations. Some study results may be influenced by the *Wahl-O-Mat* and our methodological choices. Any decision made by the *Wahl-O-Mat* editors when creating the tool, such as which topics to include or how a thesis is worded, introduces a potential bias that could have affected our results. Specifically, the directional formulation of the theses (necessary for *Wahl-O-Mat* users to position themselves) in some of our queries may have contributed to the confirmatory results described earlier. Researchers wishing to replicate this study should consider eliminating the suggestive nature of the queries and formulating them as neutrally as possible, or creating multiple queries for each thesis that align with personas holding different political viewpoints. A second limitation concerns the juror-based evaluation method employed to identify stances, as the perception of political tendencies in search results varied significantly among individual jurors. With a Fleiss-Kappa coefficient of .158, the interrater reliability is categorized as showing *slight agreement*, according to Landis and Koch [31:165]. This low level of agreement indicates that individual perceptions of political stances were influencing factors during the evaluation. However, we had anticipated the differences in perception in our study design and countered them methodologically by having each page evaluated by five different jurors independently. This approach minimized the influence of subjectivity and personal bias among the evaluators. Nevertheless, for future studies, it would be beneficial to provide jurors with additional support during the evaluation, such as a common guideline, to reduce the impact of individual factors further. Third, Google and Bing results were evaluated by *different* participants to avoid individuals assessing the same Web pages multiple times (see section 4.3). However, this approach may have led to participant-specific differences in the evaluations. In future studies, the same participants should assess all results across search engines while excluding duplicates from the evaluation. Duplicate exclusion has recently been implemented into the RAT software.

The results of the study highlight the importance of using multiple search engines from the user's perspective. This is because Google and Bing often depict significantly different views, sometimes presenting contradictory perspectives. By utilizing a second search engine, users can access a broader range of sources and viewpoints than they would through a single search engine, and its algorithmic interpretation of the Web (see, for instance, [61]). These findings lead to a discussion on whether, and if so, how search engines should present both agreeing and disagreeing results in a balanced way (e.g., [15]), broadening the debate on false balance in the context of search engines. In addition to using multiple search engines, other methods to achieve viewpoint diversity include assisting users in their decision-making through boosts [3] and, on the technical side, re-ranking search results [16].

Another area for further investigation is the impact of AI-generated summaries in search engine result pages (SERPs) and their stances on political topics. Since these summaries are typically ranked at the top of the SERPs, they are likely to receive significant visual attention from users, potentially influencing their political preferences.

Furthermore, our study observed a political left-right divide in agreement values. Parties with high agreement scores on both search engines tend to emphasize left-leaning issues. Future research could explore the extent to which this left-right divide is connected to prevailing public opinion.

8 Conclusion

In this study, we analyzed the search results from Google and Bing in Germany concerning topics related to the 2024 European elections. We examined the stances of these results and the types of sources that appeared. Our findings indicate that public authority and journalistic pages dominate the search results, while political party pages are the least represented source category. Additionally, we observed that search results with neutral stances are more prevalent on Google compared to Bing. We also detected a left-right divide in agreement scores, with left-leaning parties showing higher agreement scores with the results from both search engines than their right-leaning counterparts. From the users' perspective, the results highlight the benefits of using multiple search engines,

as this exposes users to diverse viewpoints on political issues. Moreover, our findings raise an important question about whether search engines should present both agreeing and disagreeing results for debated political topics in a balanced manner. Future research should also explore the role of AI-generated summaries, the stances they convey, and how these could influence voting preferences.

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A APPENDICES

A.1 VAA theses, queries, and shortened forms

Table A1: VAA theses, queries, and shortened forms

No.	Thesis EN	Query EN	Shortened form EN
1	The EU should be allowed to levy its own taxes.	EU own taxes	EU's own taxes
2	Vehicles with combustion engines should still be able to be registered in the EU after 2035.	EU 2035 combustion engine	allow combustion engine registration
3	The EU should set up its own sea rescue operation in the mediterranean sea.	EU sea rescue	set up EU's own sea rescue
4	Ukraine should become a member of the EU.	ukraine EU member	Ukraine to join EU
5	The EU should promote ecological agriculture primarily.	EU ecological agriculture promotion	promote ecological agriculture
6	In Germany, the euro should be replaced by a national currency.	germany own currency	national currency for Germany
7	The EU should recommend to its member states that, in addition to "female" and "male", it should also be possible to enter a different gender identity in passports.	EU passport gender identity	additional gender identity option in passports
8	Hunting wolves should be permitted in regions where the population is not endangered.	EU hunt wolves relax	permit wolf hunting
9	The installation of photovoltaic systems should be mandatory for the construction of new residential buildings in the EU.	EU photovoltaic obligation new construction	photovoltaics system mandatory
10	More EU foreign policy decisions should be taken by majority vote instead of unanimously.	EU foreign policy majority	foreign policy decisions by majority vote
11	The aviation fuel kerosene should be tax-free for flights within the EU.	EU kerosene tax free	tax free kerosene
12	The joint European police authority Europol should be given further competences.	europol powers extension	extend europol powers
13	The EU should provide more financial support for transnational, multilingual public service broadcasters.	EU public service broadcasting funding	fund public service broadcasting
14	The EU should abandon the goal of becoming climate neutral.	climate neutrality EU	abandon climate neutrality goal
15	In the elections to the European Parliament, the parties should remain free to decide how large the proportion of genders on their lists should be.	EU gender proportion electoral lists	no specifications for gender proportion on electoral lists
16	The EU should set requirements for the level of basic social security in the member states.	EU requirements basic social security	specify level of basic social security
17	Operators of social networks should be free to decide how they deal with disinformation on their platforms.	EU handling disinformation social networks	let platforms decide how to handle disinformation
18	More areas in the EU should be designated as nature conservation areas.	EU nature conservation areas	more nature conservation areas
19	EU funding for member states that violate EU rules and values should continue to be withheld.	EU rules values violation fundings	withhold funding in case of rule violation
20	The EU should finance more weapons for Ukraine.	EU weapons financing ukraine	financing weapons for Ukraine

21	The permitted amount of fish that may be caught in EU waters should be reduced.	EU fishing quota	reduce fishing quota
22	The EU's import duties on Chinese electric cars should be increased.	EU import duties electric cars china	increase import duties on Chinese electric cars
23	The EU should work to ensure that abortions are possible in all member states without punishment.	EU abortion impunity	impunity for abortions
24	Permanent border controls between the EU member states should be reinstated.	EU border control between member states	reinstate border controls between member states
25	The admission of new states to the EU should require confirmation by referendum in all member states.	EU accession referendum	EU accession with referendum
26	The EU should allow the cultivation of further genetically modified plant varieties.	genetically modified food EU	permit further genetically modified plant varieties
27	Gender-based violence against women should be recognized as a reason for asylum throughout Europe.	EU violence women asylum	violence against women as reason for asylum
28	z.B. Fotos, Musik, Literatur sollen in der EU für nicht-kommerzielle Zwecke kostenlos verwendet werden dürfen.	EU copyright protection non-commercial	free use of copyrighted works for non-commercial purposes
29	The EU sanctions against Russia should be removed.	EU sanctions russia	remove sanctions against Russia
30	The Erasmus+ scholarship for stays abroad should be higher for students with fewer financial resources.	EU erasmus+ scholarship amount	erasmus+ grant higher for financially weaker students
31	The EU should continue to classify nuclear power as a sustainable energy source.	EU nuclear power sustainable	nuclear power as sustainable energy source
32	The immigration of skilled workers to the EU should be simplified.	EU immigration skilled workers	simplify immigration of skilled workers
33	The participation of non-European investors in companies in the critical infrastructure sector should be more strongly restricted in the EU.	EU critical infrastructure non european investor	restrictions for non-EU critical infrastructure investors
34	The President of the European Commission should be elected directly by the citizens.	EU commission president election citizens	direct election of EU Commission president
35	Companies in the EU should have to pay more for CO_2 emissions.	EU co2 emissions company increase	higher CO2 costs for companies
36	Asylum seekers should have to submit their application before crossing the EU's external border and wait there for the result.	EU asylum application external border	Asylum processing at EU external border
37	The EU should continue to invest in joint European armaments projects.	EU armament projects	continue funding defense projects
38	The European Parliament should continue to play a central role in the EU.	EU role european parliament	maintain Parliament's central role