

Article



## Learning about the unknown Spitzenkandidaten: The role of media exposure during the 2019 European Parliament elections

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#### Abstract

The Spitzenkandidaten were meant to personalize European Parliament elections. This paper asks whether and through which channels the lead candidates were actually able to make themselves known among voters - a necessary precondition for any electoral effect. Combining panel surveys and online tracking data, the study explores candidate learning during the German 2019 European Parliament election campaign and relates learning to different types of news exposure, with a special focus on online news. The results show that learning was limited and unevenly distributed across candidates. However exposure to candidatespecific online news and most types of offline news helped to acquire knowledge. The findings imply that Spitzenkandidaten stick to voters' minds when they get exposed to them, but that exposure is infrequent in high-choice media environments.

#### **Keywords**

Candidate learning, European Parliament elections, media effects, online news, online tracking

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#### Introduction

European Parliament (EP) elections have traditionally suffered from low turnout (Franklin, 2001), a fact that is commonly attributed to their 'second-order nature' (Reif and Schmitt, 1980). Accordingly, an impressive body of research found electoral behaviour in EP elections to be driven primarily by national rather than European concerns (e.g. Hix and Marsh, 2007; Schmitt, 2005). The underlying reasons for this might be the long discussed democratic deficit of the European Union (Follesdal and Hix, 2006) and its complex political and institutional setting (Schmitter, 2000). To increase the appeal of EP elections, the establishment of the so-called *Spitzenkandidaten* system in 2014 was meant to personalize the vote by linking EP election results to the nomination of the European Commission (EC) presidency such that the nominee should come from the party family with the biggest vote share. This aimed to enhance the value of citizens' voting rights, render European politics more tangible and, eventually, mobilize more voters (Hobolt, 2014).

The party families were therefore asked to nominate the so-called *Spitzenkandidaten* who run for the presidency and promote their policy platforms in pan-European campaigns. In this sense, the *Spitzenkandidaten* should be the public ambassadors of the electoral process, fostering the feeling of electoral accountability among European voters (Christiansen, 2016). Their presence, campaign communication and the media coverage thereof (Gattermann, 2020) was supposed to add a layer of personalization to voting behaviour. Yet, studies about the electoral effects of the *Spitzenkandidaten* uncovered rather mixed results for the first two elections (Gattermann and De Vreese, 2022; Gattermann and Marquart, 2020; Schmitt et al., 2015). So far it is unclear whether the pan-European candidates were able to mobilize (more) voters or change the considerations underlying voting behaviour.

Against this backdrop, we follow Gattermann and de Vreese (2020) and take one step back by asking: Are the European *Spitzenkandidaten* actually getting through to voters in the first place? Do voters learn about the European *Spitzenkandidaten*? And can this learning be related to specific information exposure? When answering the latter question we pay special attention to the role of online news media that are increasingly important news sources (Newman et al., 2019). At the same time, researchers have raised concerns about the differences between the online information environment and traditional media channels (Aelst et al., 2017), namely its overly selective nature, which may hinder actual political learning (Bennett and Iyengar, 2008).

Drawing on an integrated data set including panel surveys, self-reported media exposure measures, a passive tracking of web browsing behaviour and a web crawling of the actual online content seen, we find that German voters indeed learned about the *Spitzenkandidaten* during the 2019 EP election campaign. Learning processes could be linked to various offline media channels and online media exposure – when restricting the measures to topically relevant news articles. In contrast to previous observational studies linking self-reports of media exposure and content analysis on the source level (e.g. all election-related articles of a given newspaper), our research design captures online content exposure on the article level. These fine-grained measurements provide evidence for a widespread

assumption about media effects during election campaigns: the amount of exposure to news about specific politicians improves specific knowledge about these actors.

This article contributes to several strands of literature. First, it helps to understand the role of personalization in EP elections by specifically examining changes in knowledge about the *Spitzenkandidaten*. Second, it speaks to the extant literature on learning during election campaigns and highlights the role of online news media exposure. The European *Spitzenkandidaten* system provides a particularly well-suited context for studying learning effects, because the baseline knowledge about these politicians is typically very low among citizens before the campaign (Popa et al., 2020). Third, it sheds light on the selective nature of online news exposure during election campaigns (Aelst et al., 2017). Fourth, by deploying a novel combination of web tracking data and panel surveys, we show how such linked data can be fruitfully used in research on electoral studies and party politics (Stier et al., 2020).

# The pan-European Spitzenkandidaten as a special case for campaign learning

In order to take over their role as focal points in a pan-European election, the *Spitzenkandidaten* are confronted with a major challenge: they have to become known figures among a diverse and geographically dispersed electorate. Accordingly, Gattermann and de Vreese (2020) regard factual knowledge about the European *Spitzenkandidaten* as a basic prerequisite for any kind of personalization effects on outcomes such as turnout or vote choice (Schmitt et al., 2015). Only when voters possess a minimum amount of information about the *Spitzenkandidaten*, electoral behaviour can be meaningfully linked to their presence and campaign activities.

So far, the pan-European lead candidates have had a hard time to get through to voters. These difficulties might be attributed to at least three structural factors. First, the *Spitzenkandidaten* generally start from low levels of recognition. This is indicated by the low recognition rates at the end of both the 2014 and the 2019 election campaigns (Popa et al., 2020; Schmitt et al., 2015). This holds true for politicians who were engaged in European politics before, even when they were part of the EC (Schmitt et al., 2015), but also for prominent national figures, who are seldom known outside of their national contexts. Additionally, the lead candidates' recognition levels vary considerably across member states (Gattermann and de Vreese, 2020; Popa et al., 2020; Schmitt et al., 2015). This clearly conflicts with the reform's intention to create a more homogeneous European campaign arena through the *Spitzenkandidaten* process.

Second, the *Spitzenkandidaten* highly depend on national parties' willingness to include them in their election campaigns. Because of the multi-level structure of European politics and diverging incentive structures depending on the national context, they receive varying degrees of attention within the national campaigns (Braun and Popa, 2018; Braun and Schwarzbözl, 2019). However, being included in national party platforms seems crucial for the *Spitzenkandidaten*, as this creates ample opportunities to be exposed to the national electorate (Franklin, 2014) – through direct contact with national campaigns, either offline

or via social media (Popa et al., 2020; Stier et al., 2020b) and websites, or through media coverage of campaign activities (Gattermann, 2020; Schulze, 2016).

Third, framing the *Spitzenkandidaten* process as a race for the EC presidency might naturally narrow the focus on the two most promising candidates. In this vein, candidates of the two major European party families within the EP, namely the European People's Party (EPP) and the Party of European Socialists (PES), should have a major advantage in terms of media coverage. In the 2014 EP election, the candidates of the EPP and PES were the most visible in press coverage by large margins (Gattermann, 2015; Schulze, 2016), even though the pattern was less clear in the 2019 EP election (Gattermann, 2020).

Summing up, the *Spitzenkandidaten* are confronted with a major challenge when trying to become known among European voters. For political scientists, this depicts a rare opportunity to study candidate learning: mostly unknown candidates offer a considerable learning potential while facing severe challenges to actually reach voters. It comes as a surprise that only few studies tried to explain knowledge about the *Spitzenkandidaten* (Gattermann and de Vreese, 2020; Gattermann et al., 2016; Popa et al., 2020) and none of these actually investigated learning processes, that is, the change in knowledge about the lead candidates over the course of a campaign.

## Learning through (online) news media during a campaign

In multiple studies, scholars have shown that voters do not just update their knowledge of party programs but also learn about candidates during election campaigns (see e.g. Chaffee and Kanihan, 1997; Drew and Weaver, 2006; Seeberg et al., 2017). According to Barabas and colleagues (2014), candidate knowledge can be characterized as a kind of short-term surveillance knowledge (compared with rather time-invariant static political knowledge about, for instance, institutions). Several authors argued that, instead of having an all-encompassing set of political factual knowledge, most citizens rely upon rather fragmented short-term knowledge about currently relevant political figures and recent political events to maneuver through politics and make up their minds when casting their ballots (Schudson, 1998; Zaller, 2003).

People primarily learn surveillance facts from the media (Barabas et al., 2014). Multiple studies have demonstrated the importance of traditional mass media to gather relevant information during an election (Arceneaux, 2006; Chaffee and Kanihan, 1997; Jerit et al., 2006). In the EP election context, it has been shown that being exposed to news coverage about a party during the campaign improved knowledge about party positions (Banducci et al., 2017). Being knowledgeable about the *Spitzenkandidaten* at the end of the campaign was also linked to mass media exposure of voters (Gattermann and de Vreese, 2020; Gattermann et al., 2016) and social media activities of parties (Popa et al., 2020).

Getting news through digital media is increasingly common – especially among young people (Newman et al., 2019). This change in voters' media consumption potentially has huge effects on political information flows as the structural underpinnings of online media differ from those of traditional media (Aelst et al., 2017). Against this background, the intriguing question whether citizens learn from online environments has sparked a

growing research interest. Survey-based studies have revealed only a weak or even negative relationship between digital media use and learning – contingent on different types of exposure and types of (political) knowledge (Bode, 2016; Dimitrova et al., 2014; Drew and Weaver, 2006; Van Erkel and Van Aelst, 2021).

The literature typically identifies two possible drawbacks of online news for political learning. First, online news may impede political learning through its highly selective nature (Bennett and Iyengar, 2008). The non-linearity of online media as compared to, for instance, print newspapers complicates the process of identifying the most relevant news stories (Tewksbury and Althaus, 2000). Additionally, the hyperlinked structure of online news websites invites readers to explore more of their favorite news subjects, steering them away from other relevant yet unnoticed news items (Kruikemeier et al., 2018). As a consequence, this lack of guidance in combination with a high degree of user control most likely exacerbates selective exposure tendencies. Such selective use of news typically fits with existing predispositions – be it an entertainment-orientation and preference to avoid news (Prior, 2007) or political leanings such as party preference (Iyengar and Hahn, 2009) or populist attitudes (Stier et al., 2020c). Countervailing these claims, other research has shown that people are also exposed to news during their nonpolitical online activities (Scharkow et al., 2020). It is not unusual to stumble upon a news article on Facebook shared by a friend or on the starting page of one's favorite email portal. This increases the likelihood of inadvertent news exposure, mitigating the presumed selectivity of online news.

Second, researchers wondered whether specific affordances of digital media *per se* affect political learning. For instance, online media outlets offer content in a dynamic and rather unstructured manner (Kruikemeier et al., 2018). The lack of linearity compared with traditional media channels might complicate learning because it requires more cognitive resources to process the information offered, for example, in terms of the importance of the news items (Eveland et al., 2002). Similarly, it has been argued that the sheer amount of information offered in digital media could result in information overload, which in turn might limit awareness of single news items and thus hinder learning (Van Erkel and Van Aelst, 2021). At the same time, digital media articles that were deliberately chosen by participants in an eye-tracking study impacted learning even more than reading print articles (Kruikemeier et al., 2018). Similarly, it has been shown that selective exposure across political issues also results in differential learning effects (Eveland and Schmitt, 2015). Not least due to a lack of ecologically valid measures, whether people acquire specific political knowledge in high-choice digital media environments (Aelst et al., 2017) is therefore still an underexplored question.

## **Hypotheses**

For our empirical tests, we derive hypotheses on specific explanatory factors of learning about the *Spitzenkandidaten*. Drawing on previous research (Barabas et al., 2014; Gattermann and de Vreese, 2020), we assume news media exposure to be the central path for gathering information about the candidates. Those who read print newspapers

and/or watch television news should have more opportunities to get in touch with the *Spitzenkandidaten* than those who do not or only to a limited extent.

H1: More offline news media exposure increases the likelihood to learn about the Spitzenkandidaten.

Moreover, the *Spitzenkandidaten* present themselves to the electorate by participating in televised debates. The most iconic debate is the *Eurovision Debate* organized by the European Broadcasting Union which features all pan-European candidates and is hosted by the EP itself (Gattermann, 2020; Maier et al., 2018). But the *Spitzenkandidaten* do also participate in national debate formats (for an overview of the German EP election campaign in 2019 see Landeszentrale für politische Bildung Baden-Württemberg, 2019). By regularly attracting large audiences (Prior, 2012), televised debates are especially advantageous opportunities for candidates to make themselves known among voters (Benoit et al., 2003). Quasi-experimental evidence demonstrates that watching the *Eurovision* televised debate in 2014 increased knowledge about the participating *Spitzenkandidaten* (Baboš and Világi, 2018; Maier et al., 2018).

*H2:* Watching a televised debate in which a candidate participates increases the likelihood to learn about the respective *Spitzenkandidat*.

This study puts a special focus on online news as a pathway for learning about the *Spitzenkandidaten*. In principle, visiting online news media should be a valuable source of information about the EP election and the pan-European candidates. Online media outlets (in particular the predominantly visited online versions of established news brands) provide meaningful election coverage. However, the fundamental contrast to traditional news media channels is the high degree of selectivity (Prior, 2007; Tewksbury and Althaus, 2000). As a consequence, more exposure to online news alone should not necessarily translate into more exposure to and hence more opportunities to learn about the *Spitzenkandidaten*.

*H3a:* More online news media exposure does not increase the likelihood of learning about the *Spitzenkandidaten*.

It would, however, be premature to preclude any learning effects from online news in principle. Once users overcome the selectivity hurdle, i.e. when they open and read online news articles mentioning one or several candidates, they should gather knowledge about the mentioned candidates. In other words: we assume it is not the channel *per se* hindering learning processes, but rather its highly selective nature.

Despite recent measurement advances combining self-reports of news exposure with content analysis (Banducci et al., 2017; Scharkow and Bachl, 2017; Schuck et al., 2016), the commonly employed methodological toolkit does not provide information about the exact news items an individual was exposed to. As a consequence, observational studies have not been able to establish a direct link of exposure to *specific content about a* 

political actor or an issue and related changes in knowledge about this specific political actor or issue. Yet as Eveland and colleagues (2015: 182) observed, 'if measures of exposure could be more closely tied to the specific content expected to produce learning of specific facts – through computer tracking or some other technique – and knowledge measures more closely tied to news content, we believe assessments of the effects of news media use would be much more consistent and much more powerful'. Our unique study design linking surveys, web tracking and a web crawling of content seen by respondents allows us to single out specific exposure to specific news items. As self selection into exposure becomes an observable feature in this research design, we can formulate a second, more specific expectation regarding the effects of online news exposure.

*H3b:* More exposure to online news articles mentioning a specific *Spitzenkandidat* increases the likelihood to learn about the respective *Spitzenkandidat*.

## Research design

We employ a research design that combines original panel surveys with online web tracking data from German voters during the EP election campaign in 2019. The data base allows us to track over-time changes in knowledge about the *Spitzenkandidaten* and offers fine-grained information about respondents' media exposure.

#### Data

Study participants were recruited from the web tracking panel of the market research company *Netquest* that includes a continuous web tracking of visited URLs. Panelists receive additional incentives for installing plugins that track their online behaviour on desktop computers and/or smartphones. The data collection is done with the informed consent of participants and fully compliant with the EU General Data Protection Regulation.<sup>1</sup>

All members of the German web tracking panel were invited to a baseline survey in March 2019 to get fundamental information about panelists such as demographics and stable traits like political interest. Of the 2086 panelists who received the invitation, 1913 persons completed the survey. The same set of participants was asked to assign the *Spitzenkandidaten* to their respective European parties in follow-up surveys that were in the field from 23 April to 11 May 2019 (with the bulk of responses in the first few days; wave 1) and 27 May to 7 June 2019, immediately after the EP election (wave 2). A total of 1683 respondents participated in wave 1, 1472 respondents in wave 2. The sample is skewed towards younger, female and medium educated citizens compared with the general population (see the Online appendix). Therefore, we constructed post-stratification survey weights based on German population margins for the wave 2 participants. The Online appendix reveals a high congruence between the responses of study participants and the post-election survey *European Election Study* (Schmitt et al., 2020) and also shows that participants had similar privacy attitudes as online panelists without web tracking tools installed.

In line with the question wording from the *European Election Study* we captured knowledge about the *Spitzenkandidaten* by presenting the respondents with the names of six pan-European candidates: Manfred Weber (running for the EPP), Frans Timmermans (PES), Ska Keller (European Green Party/EGP), Margrethe Vestager (Alliance of Liberals and Democrats for Europe/ALDE), Jan Zahradil (Alliance of European Conservatives and Reformists/ECR) and Nico Cué (European Left Party/EL). We then asked the participants to link these candidates to their respective national parties or European party families in both waves. The resulting dummy variables coded correctly linked candidates as 1, while no answer or a wrong answer were coded 0.

Offline news media exposure was measured using self-reports that capture how many days per week a respondent got news from the legacy press, tabloid press, public broadcast TV news and commercial broadcast TV news. The lists of the news outlets with the highest reach for each news type were taken from the Reuters Digital News Report (DNR; Newman et al., 2019). An evaluation in the Online appendix demonstrates that our respondents got offline news from the same outlets as participants in the benchmark survey DNR, also conducted in 2019. Additionally, we asked respondents whether they watched one of five televised debates shown on German television during the campaign. From this we created a dummy variable identifying the respondents who watched at least one televised debate in which a given candidate took part. Some candidates were only present in the Eurovision Debate (e.g. Margrethe Vestager, Jan Zahradil, Nico Cué) while other candidates participated in other national debates as well (e.g. Manfred Weber, Frans Timmermans, Ska Keller).

The web tracking data includes the full URL of each website visit, the time of access and the duration. We identified news websites based on a coding of national and international news websites including not just legacy press or public broadcasting websites, but also digital-born information sources (such as *HuffPost* or the right-wing website *Tichy's Einblick*) (Stier et al., 2020c). The Online appendix shows that the news exposure of web tracking panelists corresponds closely with news website visits made by the general German population. We used this information to determine the total number of *news website visits* per respondent, which is our corresponding measure for general online news exposure.

The textual content of all news website visits of study participants was crawled using the R library *rvest* and the article text parsed using the Python library *newspaper*. We searched for the full names of the *Spitzenkandidaten* (e.g. 'Manfred Weber') in the article text and ruled out false positives by carefully checking the articles identified by the dictionary. To account for automatically refreshing browser tabs, we merged subsequent visits of the same URLs. The respective number of relevant website visits between the two survey waves was then aggregated for each panelist. For comparative reasons, we also identified online news articles on the EP election in general ('europawahl OR eu-wahl'). These numbers serve as a benchmark for the descriptive analysis of candidate-related online news exposure. Due to their skewed distribution, these variables are included as logged variables in the regressions. Before the log transformation, we added +1 to take into account the zeros in observations, that is,

respondents who were not exposed to any article about a given candidate (see plots of the dependent variables in the Online appendix).

An alternative channel for learning about the *Spitzenkandidaten* might be direct *campaign contact*, for example, through visiting a campaign event, checking a campaign website or talking with friends about the upcoming election. We therefore asked respondents after the campaign how often they engaged in these three activities and combined the responses in an index. Furthermore, we included control variables capturing individual predispositions and demographics: *propensity to vote* in the EP election (taken from wave 1), an index of *political knowledge* concerning the EU, *general interest in politics*, *party identification*, *EU integration attitude*, level of *formal education*, *gender* and *age*. Descriptions of the question wordings, response scales and descriptive statistics for all variables are shown in the Online appendix.

### Modelling strategy

We model the knowledge about a candidate's party (measured in wave 2) as a function of a respondent's offline news media use and different measures of online media exposure. Since the aim of the study is to identify learning rather than being knowledgeable, we included previous levels of knowledge about the candidate's party (measured at wave 1) among the independent variables. Furthermore, we stacked the data set so that the combination of candidate and respondent is our unit of analysis. We clustered the standard errors on the respondent level to account for intra-individual dependencies. Additional dummies for each of the candidates were included. Finally, we controlled for the variables listed above.

#### Results

The analysis is divided into a descriptive part, which focuses on learning about the *Spitzenkandidaten* and exposure to *Spitzenkandidaten*-related online news, and an explanatory part, which links learning to specific information exposure and a set of individual-level covariates.

## Descriptive analysis

As Figure 1 demonstrates, the level of knowledge about the pan-European candidates was generally low.<sup>3</sup> In fact, only about half of respondents (49.5%) were able to correctly link at least one of the six *Spitzenkandidaten* to his or her respective party after election day. Still, we found evidence that voters learned about the *Spitzenkandidaten* during the election campaign. For instance, the share of respondents being able to link at least one candidate to his or her party at the beginning of the study period was significantly lower (31.3%). However, learning was unevenly distributed across the *Spitzenkandidaten*. While we found noteworthy increases in knowledge about Manfred Weber (+17.0 percentage points), Frans Timmermans (+14.9 percentage points) and Ska Keller (+10.6 percentage points), there was almost no growth in knowledge concerning

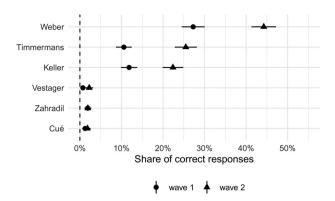
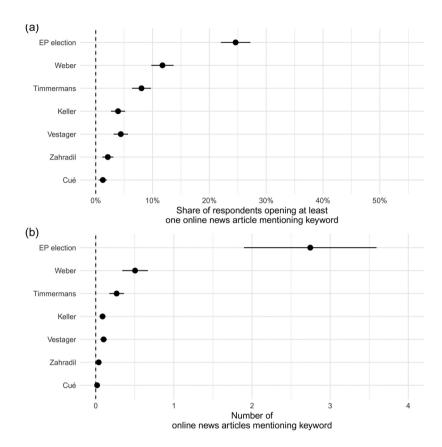


Figure 1. Ability to correctly link candidate and party. Weighted sample means with 95% confidence intervals.

Margrethe Vestager (+1.52 percentage point) and none concerning the remaining two candidates. Thus learning seemed to be limited to a particular set of candidates who could build on a small but noteworthy stock of recognition at the beginning of the campaign. Additionally, the discrepancies can clearly be related to the challenges discussed in the theory section: the candidates for which we detected substantial learning effects were either running for one of the two major European party families (Weber and Timmermans) or were affiliated with a German party (Weber and Keller).

Figure 2 shows that internet users were exposed to election-specific coverage, but at a generally low level. Three observations merit a closer inspection here. First, only about a fourth of participants was actually exposed to any news coverage of the EP election online during the study period (Figure 2(a)). In other words: about 75% of respondents did not get in touch with any EP election-related news in the first place. This considerably restricts the base for learning effects from online news. Second, encountering a *Spitzenkandidat* in this channel was even more unlikely, as not more than a mere 12.7% of participants opened at least one news article mentioning any of the six pan-European candidates. Third, the two candidates of the major European party families stick out: 11.7% saw at least one article about the EPP candidate Manfred Weber and 8.1% saw at least one news item mentioning PES candidate Frans Timmermans during the campaign period. Articles mentioning the liberal candidate Margrethe Vestager and Green candidate Ska Keller were rarely opened on the devices of the respondents. Nico Cué (EL) and Jan Zahradil (ECR) were basically absent from the online news diets of German voters.

Looking at the weighted mean exposure frequencies (Figure 2(b)) confirms the differences in the reach: with an average number of 2.2 articles about the EP election, the general campaign coverage was more present in the online news diets of the respondents than articles mentioning any of the *Spitzenkandidaten* (e.g. the average respondent opened only half an article about Manfred Weber during the campaign period). Yet one should be careful when interpreting these weighted averages given the zero inflated and highly skewed distribution patterns on the exposure variables (also see the respective



**Figure 2.** Descriptive statistics of exposure to online news about the EP election in general and the *Spitzenkandidaten* during the campaign period. The figures show the share of respondents who saw at least one online news article mentioning the EP election or a given candidate (a) and the number of visits of online news articles mentioning the EP election or a given candidate (b). Dots represent weighted means, lines indicate 95% confidence intervals.

histograms in the Online appendix). We therefore used the log-transformed exposure measures for the remaining analyses.

## Explaining candidate learning through (online) media exposure

To estimate the effects of media exposure on learning about the *Spitzenkandidaten* in multiple regression models, we restricted the data set to the three candidates for which we actually detected some degree of learning. We estimated two models for each of our three sets of hypotheses. The first model includes only the respective news media exposure variables while the second model introduces relevant control variables.

H1 posited that learning about the Spitzenkandidaten would be enhanced by offline news exposure. Models 1 and 2 in Table 1 reveal heterogeneous effects across the most

**Table 1.** Regression models of learning about the Spitzenkandidaten.

|                    | General offline news  |          | General online news |                      | Spitz. online news     |         |
|--------------------|-----------------------|----------|---------------------|----------------------|------------------------|---------|
|                    | (1)                   | (2)      | (3)                 | (4)                  | (5)                    | (6)     |
| Online news        |                       |          | 0.07**              | 0.03                 | 0.05*                  | 0.01    |
| general            |                       |          | (0.02)              | (0.02)               | (0.02)                 | (0.02)  |
| Online news Spitz. |                       |          |                     |                      | 0.51***                | 0.34**  |
| •                  |                       |          |                     |                      | (0.13)                 | (0.13)  |
| Legacy press       | 0.01                  | -0.02    | 0.01                | -0.02                | 0.01                   | -0.02   |
| - , .              | (0.03)                | (0.03)   | (0.03)              | (0.03)               | (0.03)                 | (0.03)  |
| Tabloid press      | 0.06                  | 0.10*    | 0.06                | `0.10 <sup>*</sup>   | 0.06                   | 0.10*   |
| ·                  | (0.04)                | (0.04)   | (0.04)              | (0.04)               | (0.04)                 | (0.04)  |
| Public TV news     | 0.19***               | 0.08**   | 0.19***             | 0.07**               | 0.19***                | 0.08**  |
|                    | (0.02)                | (0.02)   | (0.02)              | (0.02)               | (0.02)                 | (0.02)  |
| Commercial TV      | -0.08***              | -0.06**  | -0.08***            | -0.06 <sup>*</sup> * | -0.08****              | -0.06** |
| news               | (0.02)                | (0.02)   | (0.02)              | (0.02)               | (0.02)                 | (0.02)  |
| TV debate seen     | `0.81 <sup>*</sup> ** | 0.67***  |                     | 0.68***              | `0.83 <sup>*</sup> *** | 0.69*** |
|                    | (0.13)                | (0.14)   | (0.13)              | (0.14)               | (0.13)                 | (0.14)  |
| Knowledge W1       | 2.28***               | 1.71***  | 2.28***             | `I.72***             | 2.26***                | 1.71*** |
| 0                  | (0.13)                | (0.14)   | (0.13)              | (0.14)               | (0.13)                 | (0.14)  |
| Timmermans         | 0.02                  | 0.03     | 0.02                | 0.02                 | -0.01                  | 0.00    |
|                    | (80.0)                | (0.09)   | (80.0)              | (0.09)               | (80.0)                 | (0.09)  |
| Weber              | 0.66***               | 0.89***  |                     | 0.89***              | 0.62***                | 0.85*** |
|                    | (80.0)                | (0.09)   | (80.0)              | (0.09)               | (80.0)                 | (0.09)  |
| Campaign contact   | (*****)               | -0.10    | (*****)             | -0.10                | (****)                 | -0.12   |
| 10                 |                       | (0.14)   |                     | (0.13)               |                        | (0.14)  |
| Propensity to vote |                       | 0.24***  |                     | 0.24***              |                        | 0.24*** |
| ŴΙ ΄               |                       | (0.06)   |                     | (0.06)               |                        | (0.06)  |
| EU integration     |                       | 0.03     |                     | 0.03                 |                        | 0.03    |
| attitude           |                       | (0.02)   |                     | (0.02)               |                        | (0.02)  |
| Own candidate      |                       | 0.09     |                     | 0.09                 |                        | 0.09    |
|                    |                       | (0.11)   |                     | (0.11)               |                        | (0.11)  |
| Political interest |                       | 0.35***  |                     | 0.34***              |                        | 0.33*** |
|                    |                       | (0.09)   |                     | (0.09)               |                        | (0.09)  |
| European political |                       | 0.34***  |                     | 0.34***              |                        | 0.34*** |
| knowledge          |                       | (0.05)   |                     | (0.05)               |                        | (0.05)  |
| Age                |                       | 0.02***  |                     | 0.02***              |                        | 0.02*** |
| 0                  |                       | (0.00)   |                     | (0.00)               |                        | (0.00)  |
| Female             |                       | -0.39*** |                     | -0.38**              |                        | -0.37** |
|                    |                       | (0.12)   |                     | (0.12)               |                        | (0.12)  |
| Medium education   |                       | 0.04     |                     | 0.05                 |                        | 0.04    |
|                    |                       | (0.14)   |                     | (0.14)               |                        | (0.14)  |
| High education     |                       | 0.52***  |                     | 0.51***              |                        | 0.51*** |
| 0                  |                       | (0.15)   |                     | (0.15)               |                        | (0.15)  |

(continued)

| _  |   |      | _   |      |      |
|----|---|------|-----|------|------|
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|    |   |      |     |      |      |

|                       | General offline news |                 | General online news |                 | Spitz. online news |                 |
|-----------------------|----------------------|-----------------|---------------------|-----------------|--------------------|-----------------|
|                       | (1)                  | (2)             | (3)                 | (4)             | (5)                | (6)             |
| AIC                   | 4045.91              | 3617.99         | 4029.05             | 3617.33         | 4011.84            | 3611.36         |
| Log Likelihood        | -2013.96             | -1790.00        | -2004.53            | -1788.67        | -1994.92           | -1784.68        |
| Deviance<br>Num. obs. | 4027.91<br>4407      | 3579.99<br>4368 | 4009.05<br>4407     | 3577.33<br>4368 | 3989.84<br>4407    | 3569.36<br>4368 |

Note: Results from logistic regression models on a stacked dataset. 'Low education' is the reference category for education. 'Keller' is the reference category for the dummies identifying candidates. \*\*\*p < 0.001; \*\*p < 0.05.

important offline news types, which remained consistent when including relevant control variables. Exposure to public television (TV) news was positively related, while relying on commercial TV news was negatively related to the likelihood of learning about the pan-European candidates. Turning to newspapers, we found that tabloid news exposure was associated with more learning, while the coefficients of legacy press exposure did not reach any level of statistical significance. While the null effect presents an interesting puzzle, the positive effect of tabloid newspaper exposure might be explained through the tabloid media's tendency to personalize news coverage (Vliegenthart et al., 2011). Their comparatively strong focus on politicians instead of institutions or organizations resonates well with the need of the *Spitzenkandidaten* to gain media attention. This lends partial support to the first hypothesis: citizens do learn from offline news channels about the pan-European candidates, though the effects differ between news types.

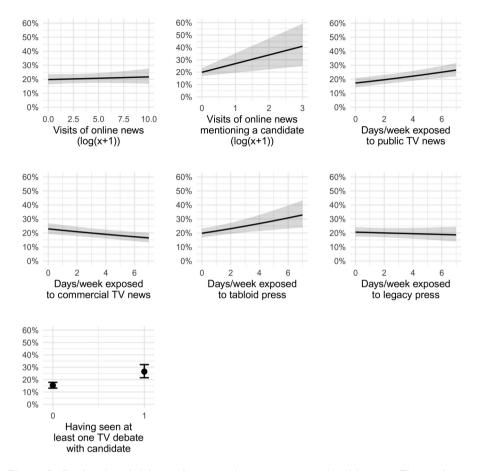
The most personalized media platforms during election campaigns are clearly provided through televised candidate debates. Unsurprisingly, we observe a pronounced positive effect of watching such a debate in which a particular candidate was involved. We thereby demonstrated in an observational study what quasi-experimental studies (Baboš and Világi, 2018; Maier et al., 2018) have already shown: these 'miniature campaigns' (Maier and Faas, 2011) provide fruitful opportunities for voters to learn about the *Spitzenkandidaten*. All six model specifications in Table 1 provide consistent support for *H*2.

Table 1, Model 3 further shows that people who were exposed to more online news were more likely to learn about the *Spitzenkandidaten*. However, this effect vanished once we controlled for individual differences that capture political interest, early intention to vote in the EP elections and levels of European political knowledge (Model 4 in Table 1). This pattern fits with the notion of online news media being highly selective (*H3a*): effects from general exposure to online news fail to materialize when holding constant individual covariates, which might be linked to users' motivation to actually seek out information on the EP election. We thus cannot link general online news exposure to more learning about the pan-European candidates.

paradoxically, we found that people still learned about Somewhat Spitzenkandidaten from online news – once they self-selected into exposure to news articles that mention those candidates. The unique data structure allows us to directly estimate the effect of self-selected exposure itself. The results from Model 5 (Table 1) posit that people who are exposed to online news mentioning a specific pan-European candidate are more likely to learn about his or her candidacy status. This effect diminishes in size when introducing individual-level controls into the regression, but is still statistically significant (Model 6 in Table 1). As expected in H3b, direct exposure to online news mentioning a candidate has a positive effect on the likelihood to learn about the specific candidate. This finding is further substantiated through Likelihood Ratio tests, which yield no gain in model fit when comparing the basic offline news exposure model and the general online news exposure model (Models 2 and 4 in Table 1 respectively,  $\Delta X^2(df=1)=2.66$ ; p=0.103). Yet, contrasting Model 2 with the full Model 6 including the candidate-specific online news exposure reveals a significant gain in explanatory power ( $\Delta X^2(df=1) = 10.63$ ; p = 0.005; models taken from Table 1).

To illustrate the substantive effects of online news exposure on learning about the Spitzenkandidaten, Figure 3 visualizes the predicted probabilities of knowing about the candidates' parties after the election. To put the learning effects into perspective, i.e. the change in knowledge about the candidates, we also display predicted probabilities for the offline news media channels and thereby allow for a rough comparison across these channels. Observing the plots, we can draw at least three conclusions: First, while we did not observe noteworthy growth in candidate knowledge through general online news exposure, the effect of actual exposure to online news articles mentioning a candidate was quite substantial. Increasing the number of read articles mentioning a candidate from 0 to a hypothetical number of 6.4 (which equates to a numerical value of 2 on the log-transformed count scale) increased the likelihood to correctly link a candidate to his or her party by approximately 14 percentage points. Second, televised debates stood out as effective platforms for candidate learning. Among those who saw at least one debate with the respective candidate, the likelihood of linking this candidate correctly to her or his party was about ten percentage points higher. Third, among the traditional news media channels, tabloid newspapers seem to be the most powerful promoters of the Spitzenkandidaten. Reading a tabloid paper 6 days a week (compared to not reading tabloid news at all) increased the likelihood of being knowledgeable about a candidate from 20% to 30%.

We conducted additional robustness tests, which can be found in the Online appendix. First, in order to synchronize the media exposure measures, we constructed offline media exposure as the sum of weekly usage days. The resulting variable was then  $\log(x+1)$  transformed to take into account the excess zeros. The respective regression results resembled the ones in the main analysis. Second, taking into account that there might be indirect knowledge gains from exposure to other *Spitzenkandidaten*, we use an unstacked dataset to model any knowledge about any *Spitzenkandidat* as dependent variable and media exposure to any *Spitzenkandidat* as independent variable. Results again show the same robust effect patterns. Finally, we ran separate models for each of the three main candidates. Getting exposed to news about a specific candidate is positively



**Figure 3.** Predicted probabilities of news media exposure on political learning. The predictions were taken from Model 6 in Table 1.

associated with increased knowledge about the respective candidate, insignificantly in the case of Timmermans but with significant positive effects for Weber and Keller.

#### **Conclusion**

The pan-European *Spitzenkandidaten* were introduced to personalize EP elections, potentially boost turnout and make European considerations more prominent in voters' minds. Two elections after the adoption of this system, we asked whether these candidates are actually able to get through to voters in the first place (Gattermann and De Vreese, 2020). Making themselves known to a transnational electorate admittedly is a huge challenge for these candidates (Braun and Popa, 2018; Popa et al., 2020) but also a necessary precondition for meaningful effects on election

outcomes. In this study, we therefore explored how much learning about the *Spitzenkandidaten* takes place during the EP election campaign and how this learning might be connected to the information behaviour of the electorate, especially to online news media exposure.

Drawing on data from the German 2019 EP election, this article is the first to show that people actually learn about the European *Spitzenkandidaten*, yet, with two limitations. First, overall learning effects were rather restricted in size. This resonates with the notion of second-order elections where general awareness of the campaign and associated news media coverage is low (Reif and Schmitt, 1980; Schmitt, 2005). Second, the degree of learning differed between the candidates. While study participants gained at least some additional knowledge about three of the six candidates, those candidates were either running for one of the two major European party families or were affiliated with a German party. The other three candidates included in the study remained fairly unknown throughout the campaign.

We were able to link the acquisition of candidate-related knowledge to various types of media exposure. While more offline media exposure is positively related to learning in general, there are nuanced differences between media channels. In line with previous research (Maier et al., 2018), televised debates stick out as unique opportunities to learn about the *Spitzenkandidaten*. Among traditional news media, tabloid news — which tend to personalize political news coverage (Vliegenthart et al., 2011) — and to a lesser extent public broadcasting news were particularly effective channels for candidate learning. Based on a combination of web tracking data and surveys, we were able to link actual exposure to news about the respective *Spitzenkandidaten* to substantial learning about them. At the same time, general exposure to online news did not yield a comparable learning effect. In other words, online news as a channel provided a fruitful environment for learning effects once users came across articles mentioning the *Spitzenkandidaten*. However, we found exposure to such news articles to be highly selective: only few participants were exposed to online news items about the *Spitzenkandidaten*.

What do these findings suggest about the ability of *Spitzenkandidaten* to make themselves known to European electorates? On a positive note, we find that the *Spitzenkandidaten* as such do stick in voters' minds. When we were able to observe candidate-specific media exposure – in form of online news articles or a televised debate – voters seemed to learn about them. At the same time, we detected little exposure to candidate-specific online news items, a media environment granting users a great degree of control. One might therefore conclude that the *Spitzenkandidaten* appeal to voters, but that the broader public does not get in touch with them frequently.

Even though the idea that political learning runs through media exposure seems uncontroversial, scholars have been struggling to uncover empirical evidence – not least due to a lack of measurement accuracy on both knowledge gains and media exposure (Eveland and Garrett, 2017; Eveland and Schmitt, 2015). Based on the combination of panel surveys and web tracking, our study is one of the first to confirm that the assumed micro-level mechanisms underlying political learning can actually be detected using observational data. Fine-grained measures of media exposure on the article level are clearly desirable (Prior, 2012), even more so when studying the

effects of online news exposure. A neglect of topic-specific self selection might also be one of the reasons for the minimal media effects identified by linkage designs that combine survey self-reports and content analysis on the level of entire news sources (Scharkow and Bachl, 2017).

Despite significant measurement advances, our research design also has limitations. While the study is able to disentangle the process of self-selection into content and the effects of being exposed to specific news items, it remains unclear which mechanisms govern the actual selection procedure. Further research should combine passive tracking data with (field) experimental encouragement designs in order to stimulate selection into exposure. Furthermore, we did not assess possible interactions between offline and online media exposure. Following the notion of 'intramedia mediation' (Shen and Eveland, 2010) the combination of multiple news channels might yield more complex intertwined learning processes. Additionally, more ephemeral forms of exposure to news, for example, via headlines on starting pages of online news websites or social media should be addressed in future studies (Munger et al., 2020).

The study was conducted against the backdrop of a low-salience election (Reif and Schmitt, 1980). On the one hand, the low baseline knowledge allowed us to reveal considerable learning processes, while the limited news exposure provided a hard test for the none-theless detected media effects. On the other hand, future research will have to apply a similar research design in the context of first-order national elections where the higher supply of campaign coverage provides a richer opportunity structure for learning processes. Finally, with regard to the *Spitzenkandidaten per se*, our case selection most likely resulted in an overestimation of the absolute levels of learning, since two of the pan-European lead candidates came from Germany. Yet this peculiarity should not affect the media effects we identified.

The findings contribute to various strands of literature. First, the study addresses the *Spitzenkandidaten* process and the ongoing debate about its impact by showing that exposure to *specific* media coverage of this institutional innovation has a lasting impact on voters' knowledge. One conclusion might be that a broader mass media platform for these candidates would make them more salient in voters' minds. Only when reaching a certain level of recognition, the *Spitzenkandidaten* will be able to mobilize more voters or change the nature of voting in future EP elections. Second, the article contributes to the wider literature on voters' knowledge acquisition during election campaigns by emphasizing the important role of news coverage as a source for learning. Importantly, online news channels contribute to learning processes, even in the context of a low-salience election. Third, the inquiry demonstrates how combining passively collected digital behavioural data and surveys can advance knowledge in the fields of political communication, electoral campaigning and public opinion. Digital media have not just become deeply ingrained in all forms of political processes, but also provide unique insights into political behaviour during EP campaigns and beyond.

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#### Supplemental Material

Supplemental material for this article is available online.

#### Notes

- The data collection was part of a bigger project that received IRB approval from the Oxford Internet Institute's Departmental Research Ethics Committee (Ref Number SSH IREC 18 004).
- Most of the pan-European candidates were already nominated months before wave 1 was fielded.
- The knowledge levels with regard to Spitzenkandidaten in wave 2 are similar to estimates obtained from the European Election Study 2019 (Schmitt et al., 2020) (see the Online appendix).
- 4. For the visualization we restricted the range of candidate-specific online news exposure to the range of 0-3 due to the skewed nature of our data. This range includes about 99.8% of the observations on the candidate-specific online news exposure variable. All other variables were fixed at their mean values.

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