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ABSTRACT

This study examines the extent to which politicians' visibility in traditional news coverage explains individual politicians' visibility on social media, and vice versa. We also explore whether these relationships depend on commonly identified characteristics of individual politicians. We collected data for all elected candidates from the 2012 Dutch national elections covering each 15 days prior to the election day ($N = 2250$). This includes 2736 newspaper articles and 77,597 mentions on Facebook and Twitter. Our results show that the traditional news agenda and social media agenda impact each other, but that the reciprocal influence is not independent of politician characteristics.

News coverage is important for political actors during election campaigns in order to convey their political viewpoints to the electorate. Positive visibility might ultimately contribute to electoral success (Hopmann et al. 2010; Strömbäck and Van Aelst 2013). Against the backdrop of the personalization thesis, which stipulates that the focus increasingly lies on individual politicians instead of the political party they represent (e.g., Adam and Maier 2010; Van Aelst, Sheafer, and Stanyer 2012), research also reports that media visibility increases the chances that voters recognize individual electoral candidates (Gattermann and De Vreese 2017). Yet, media visibility is determined by journalistic selection criteria (e.g., Galtung and Ruge 1965; Shoemaker and Reese 1996; O'Neill and Harcup 2009); and consequently not every candidate receives the same amount of attention (Elmelund-Præstekær, Hopmann, and Nørgaard 2011; Vos 2014). This is consequential for electoral outcomes, as media biases have a considerable impact on people's attitudes and vote choices (Eberl, Boomgaarden, and Wagner 2017). At the same time, the personalization of politics has become even more present in today's digitalized media environment as online communication can bring politics closer to citizens (Kruikemeier et al. 2013). Politicians have their own individual social media accounts, putting more emphasis on individual candidates, which can have a positive impact on votes for the respective candidates (Kruikemeier et al. 2014).

These developments prompt questions about the cross influences between politicians presence on traditional and social media. For instance, are politicians who are less popular in traditional media able to get more attention in social media? And, could this in turn affect their news coverage in traditional media? Or, do those candidates who are frequently reported upon in traditional media also gain more popularity in social media? Alternatively, are the traditional and social media agendas independent of each other when it comes to attention paid to individual candidates?

Recently, scholars have become interested in the extent to which politicians' visibility in different media overlaps by identifying correlations between the agendas of traditional media and social media (Van Aelst et al. 2017) and television and campaign blogs (Sweetser, Golan, and Wanta 2008). Yet, research examining the *dynamic*, that is the causal relationship between traditional news visibility of individual political actors and their visibility on social media, is limited. Existing research has so far often focused on investigating intermedia dynamics between traditional and social media with respect to issue dominance and presentation (Meraz 2011; Neuman et al. 2014; Sung and

Hwang 2014; Conway, Kenski, and Wang 2015; Vargo, Basilaia, and Shaw 2015), the development of debates (e.g., Ceron, Curini, and Iacus 2016), and news stories (Harder, Sevenans, and Van Aelst 2017).

In this article, we study candidate visibility during the 2012 Dutch parliamentary election campaigns, comparing how often candidates are mentioned in the traditional media and social media through the theoretical lens of intermedia agenda setting. We focus on Twitter and Facebook because both are prominent in today's election campaigns in Western democracies (e.g., Enli and Skogerbø 2013; Skovsgaard and Van Dalen 2016). Our main research question is (RQ1): To what extent does candidate visibility in the traditional media influence visibility in social media, and vice versa? Further, and importantly with regard to the presence of visibility bias in the media (Eberl, Boomgaarden, and Wagner 2017), we also explore the conditionality of this dynamic relationship between traditional and social media agendas. Since attention towards individual politicians is selective both in traditional news (depending on the selection processes by journalists, Tresch 2009; Schoenbach, De Ridder, and Lauf 2001) and social media (depending on selection processes by audiences, Graf and Aday 2008), we also ask (RQ2): To what extent is the relationship between visibility in traditional and social media moderated by individual characteristics of the candidates such as status, seniority, party characteristics, gender, and age?

Unpacking intermedia agenda setting dynamics between traditional and social media

Intermedia agenda setting is defined as "those instances when the media agenda is shaped by other media" (Sweetser, Golan, and Wanta 2008, 199). The reasons why one medium may be influenced by other media include the following: a report by another medium may serve as an information short-cut for the salience and newsworthiness of an issue (e.g., Dearing and Rogers 1996; Harder, Sevenans, and Van Aelst 2017; Vliegenthart and Walgrave 2008); and given intense competition and scarce resources, following other media ensures that a particular medium can keep up with its competitors in securing the audience's attention (Mathes and Pfetsch 1991; Harder, Sevenans, and Van Aelst 2017).

There is a vast amount of research on intermedia agenda setting effects among traditional media: elite newspapers in particular have been found to impact television agendas (e.g., Golan 2006; Vliegenthart and Walgrave 2008), the agendas of local newspapers (Protess and McCombs 1991), and Internet news bulletins (Lee, Lancendorfer, and Lee 2005). However, we still

know relatively little about intermedia agenda setting between traditional media and the social media agenda. Meraz (2011) finds that agenda setting effects from traditional media to online blogs only occur under certain conditions such as depending on the political leaning of the blog. On the other hand, Rogstad (2016) finds that Twitter constitutes an additional independent agenda. On the basis of their big data analysis, Neuman et al. (2014, 211) even go as far to claim: "social media provide ample evidence that their characteristic issue attentiveness and issue framing are not slavishly dependent upon, but rather quite independent of, the voice of the traditional media, official institutional spokespersons, and professional journalism." Other research suggests, however, that the traditional media and the social media agendas are indeed related. Lee (2007), for instance, finds that during the 2004 U.S. Presidential campaigns, the agendas of blogs and mainstream media, including among others *The New York Times* and CNN, were similar. Scharkow and Vogelsang (2011) show a correlation between the traditional news agenda and the public agenda measured through Google search enquiries about an individual public figure during the 2005 German election campaigns. Van Aelst et al. (2017) found that in Belgian election campaigns attention paid by newspapers to individual candidates on Twitter is positively correlated with popularity of these candidates.

In this study, we are—for one part—interested in whether the extent to which traditional news media pay attention to individual candidates influences the salience of these candidates on the social media agenda. Investigating this requires taking a dynamic perspective. On the one hand, there are some reasons for why we expect that traditional news coverage of politicians would have a positive effect on the social media agenda in terms of attentiveness to candidates. Traditional – and particularly mainstream—media are well established and professional, and thus enjoy considerable legitimacy among the public. Conway et al. (2015, 366) argue that this legitimacy explains why newspapers affected the Twitter activity of presidential primary candidates in the 2012 U.S. elections, although the size of this influence was dependent on the type of issue. Likewise, Sweetser et al. (2008) suggest that the television news agenda impacted on candidates' online blogs during the 2004 U.S. presidential election, while Rogstad (2016) observes that Twitter users more often engage in issues picked up from the mainstream media than vice versa. Moreover, traditional media might be considered highly reliable and trustworthy given their experience, professionalism, and resources. For instance, Messner and DiStaso (2008) show that web blogs comprehensively rely on traditional media as a source. Moreover, Watson (2016) finds that the coverage of BP Oil Spill crisis in 2010 by journalists

and Twitter users evolved similarly and converged in some aspects, e.g., both often relied on official as opposed to unofficial sources. Put differently, it implies that Twitter users equally rely on official sources, and hence also traditional media coverage should be a relevant source for social media users. Following the above elaboration, we hypothesize that visibility in traditional media positively affects the visibility of candidates in social media (H1).

On the other hand, the rather basic question why and under what conditions online content influences the traditional media agenda have remained largely unexplored (Meraz 2009; Meraz 2011). Yet, there are also reasons to expect an additional and reverse chain of causation, i.e., social media are able to influence the agenda of traditional media. An increasingly competitive media market and the fact that news nowadays can be published and distributed instantly on social media, such as directly from the scene where an event occurs, has fundamentally altered the news production process. As a consequence, journalists are not only under pressure to follow suit, but may also consider social media a cost-efficient information source. Indeed, research shows that journalists increasingly use online and social media as news sources (Lecheler and Kruikemeier 2016; Broersma and Graham 2012). Messner and DiStaso (2008), for instance, show that *The New York Times* and *The Washington Post* increasingly rely on web blogs as sources.

Moreover, following Zhou and Moy's (2007) rationale, some political candidates might receive less attention in traditional media. Yet, it might be that citizens—for whatever reason, show a greater interest in some of these less visible candidates and engage in discussion with or talk about these candidates online. "Online discussion adds meaning and news value to the event" (Zhou and Moy 2007, 83). Based on the social influence theory (see also Meraz 2011), it is likely that journalists are influenced by these online discussions about political actors and consequently report about them. For instance, Jacobson (2013) finds that television broadcasts follow up Facebook discussions surrounding a U.S. television show, while Meraz (2011) reveals that blog networks or political blogs can affect traditional media. In addition, Van Aelst et al. (2017) found that Twitter popularity positively affected media attention during an election campaign. We therefore expect that candidates' visibility in social media positively affects candidates' visibility in traditional media (H2).

Exploring the conditionality of the dynamic relationship

Thus far, we have argued that the relationship between visibility in traditional and social media is reciprocal, yet unconditional. However, we also need to take into account the different characteristics of politicians that render them newsworthy and/or popular in the first place. We may expect that these characteristics moderate the extent to which visibility in traditional and social media affect each other. Importantly, the traditional media agenda is shaped by newsmakers' decisions on what to prioritize in news reporting. The social media agenda, on the other hand, is "not the result of a particular actor's underlying agenda", but rather—as in the case of Twitter "the product of various Twitter users' individual actions, and the reinforcing effects from retweeting" (Rogstad 2016, 2). Put differently, the traditional media agenda is perhaps more selective than the social media agenda. As Salmon and Murray-Johnson (2013, 101) put it: "Media agendas are limited, for example, in terms of the number of issues for which time, energy, monetary support, and attention that can be devoted to it." The social media agenda, by contrast, is not constrained by resources, and thus not limited per se. What does this mean for the amount of attention paid to different types of individual politicians in either media?

With regard to journalistic selection criteria, journalists follow certain routines when covering political affairs in their day-to-day business. And we know that despite new technological developments, journalists still tend to stick to their common routines, such as relying on official sources as they would in traditional news production (Livingston and Bennett 2003). On the one hand, journalists apply organizational routines (Tuchman 1972) which incentivize them to report about politics in an unbiased way, that is "mirroring" political reality (e.g., McQuail 1992). During routine periods, this, for example, entails that journalistic attention is proportional to legislative activity of politicians (e.g., Tresch 2009; Midtbø 2011). During election campaigns, this may result in more attention to political challengers and opposition members notwithstanding the incumbency bonus of the government due to journalistic norms of providing unbiased and balanced coverage of political affairs (Green-Pedersen, Mortensen, and Thesen 2017).

On the other hand, because of, for example, commercial pressures (Strömbäck and Esser 2014) journalists make use of audience-oriented routines by taking into account their audience's interests (Shoemaker and Reese 1996, 111). As a consequence, not every candidate receives the same amount of media attention; their newsworthiness depends, for instance, on news values (e.g., Galtung and Ruge 1965; Shoemaker and Reese 1996; O'Neill and Harcup 2009). Following this rationale, journalists tend to report more prominently about those politicians who hold leadership positions or high political office (e.g., Schaffner and Sellers 2003; Midtbø 2011; Gattermann and Vasilopoulou 2015; Schoenbach, De

Ridder, and Lauf 2001; Vos 2014), have more experience in office (e.g., Schoenbach, De Ridder, and Lauf 2001; Sellers and Schaffner 2007), or belong to the government and are thus considered powerful (Van Aelst et al. 2008). Socio-demographic characteristics, including gender and age, also play a role: Female politicians tend to be under-represented in television (Hooghe, Jacobs, and Claes 2015) and newspapers (e.g., Ross et al. 2013), although Vos (2014) argues that such a bias might be spurious and others find mixed effects (e.g., Elmelund-Præstekær, Hopmann, and Nørgaard 2011; Gattermann and Vasilo-poulou 2015); younger politicians are also more likely to receive newspaper coverage (Vos 2014).

With respect to social media selection criteria, politi-cians' visibility depends on the number of people who actively mention them, talk about them online, or share posts about them. The number of followers of their social media accounts itself is important, and also the extent to which social media opinion leaders pick up news concern-ing politicians and spread them to a large audience (see Lazarsfeld, Berelson, and Gaudet 1944). At the individual level, similar political and non-political characteristics of politicians matter for visibility in social media, albeit some of them have contrary effects compared to journalistic news selection criteria. This has to do with the politicians' own activities on social media. We may assume that the more active a politician is, the more likely it is that other social media users will engage with her and thereby increase her visibility on social media. Skovsgaard and van Dalen (2013, 737), for instance, find "[c]hallengers and less experi-enced candidates are more likely to use social media to compensate for lack of attention from the mainstream media." As these candidates use social media to a larger extent, they might also instigate more visibility and men-tions among the online public. However, Jacobs and Spier-ings (2016) note that high-profile politicians (with a network and expertise) are more likely to deploy high-qual-ity presence on social media. Therefore, while the extent to which an individual politician is active on social media may be one pre-condition, it may not be the sole determinant of visibility in social media. The audience has to be receptive and spread the news in order for visibility to increase, which may also be a reason why some find that age and gender do not *per se* explain the level of a politician's online visibility (Lim and Park 2011). With regard to political characteris-tics, Vaccari and Nielsen (2013) find that candidates with more distance from power (challengers and political candi-dates competing for an open seat) were more popular online. However, there is empirical evidence that, just as in traditional media, politicians with lengthier careers are more likely to receive more mentions online, for instance on blogs (Lim and Park 2011). Van Aelst et al. (2017) note that candidates with better list positions[1] and younger

candidates seem to be more popular on Twitter. Interest-ingly, they found that differences in popularity on Twitter between parties are minimal, only the Flemish nationalist party seems to be more popular on Twitter.

In sum, based on the aforementioned studies, specific candidate characteristics may play a role in determining the visibility of politicians, both in traditional and social media. But they might also affect the strength of the recip-rocal relationship between online and offline visibility, as the listed characteristics might also make individuals (both journalists and citizens) more (or less) sensitive towards incoming information about certain politicians. If greater sensitivity exists, it is more likely that changes in offline visibility translate into changes in online visibility and vice versa, thus strengthening the reciprocal relationship between the two. To understand whether we find a condi-tional reciprocal relationship between visibility of political candidates in traditional and social media, we ask:

To what extent is the relationship between visibility in traditional and social media moderated by individual characteristics of the candidates, including status, senior-ity, party characteristics, gender and age? (RQ2)

The case of the Netherlands

The Netherlands is an exemplary case because Members of Parliament (MPs) are elected via a closed-list system that allows for preferential votes. Although political par-ties play a central role in Dutch politics (see Andeweg 1997), voters have the opportunity to choose their pre-ferred candidates regardless of their position on the party list. As a consequence, a candidate with high number of preferential votes can get elected to parliament even if her list position is low. While some argue that "personal-ized electoral incentives are largely absent" in the Neth-erlands (Louwerse and Otjes 2016, 779), the system does encourage individual candidates to actively seek visibility in traditional or social media to increase their chances that voters take note of them. Also, since the entire coun-try constitutes a single electoral district, local campaign-ing gets deemphasized (see also Gattermann and De Vreese 2017). Furthermore, in the Netherlands, a leader in Europe in Internet use, almost every household has an Internet connection (Eurostat 2017) and Dutch politi-cians are keen users of social media during election cam-paigns (Jacobs and Spierings 2016).

Methodology

Data

We collected data on newspaper and social media visibil-ity of MP candidates during the 2012 Dutch national

election campaign. We covered all MP candidates who got elected to the national parliament (150 in total). We acknowledge a potential bias because we disregard unsuccessful candidates. However, we believe that our data has sufficient variation in the dependent and independent variables, the details of which we provide below. The time period covers fifteen days prior to the day of the election, i.e., from August 28th to September 11th. Taken together, these candidates were mentioned in 2736 newspaper articles and 77,597 online entries (i.e., Twitter and Facebook) that we retrieved via LexisNexis and Coosto, respectively. In addition, we collected background characteristics from politicians including list position on the ballot, party affiliation, left-right position of their party, current and former office, whether a candidate was elected for the first time or not, as well as gender and age.

Traditional media content

To measure politicians' visibility in offline media content, we counted the number of articles in Dutch newspapers[2] that referred to each candidate on a given day. Although newspapers do not represent all offline media in the Netherlands, their influence is widespread, including influencing coverage of television news (Kleinnijenhuis 2003, 184). Our newspaper sample is comprehensive and comprises 12 newspapers. This selection includes not only the largest newspapers of the Netherlands (NRC Handelsblad, Trouw, De Volkskrant) but also specialized broadsheets (Het Financieele Dagblad, Nederlands Dagblad, NRC.NEXT, Reformatorisch Dagblad), several popular paid-for dailies (Algemeen Dagblad and De Telegraaf), the local newspaper of the municipality of Amsterdam (Het Parool) and free newspapers (Spits, Metro). Table 1 provides an overview of our newspaper sample.

In order to be selected, articles had to contain a minimum of one reference to both the first and last name of a candidate. Nicknames, which are very common in the

Netherlands, were factored in. We used the aggregate number of articles per candidate per day across all newspapers as the measure of our first dependent variable, newspaper visibility. This aggregate number ranged from 0 to 52 ($M = 1.22$, $SD = 4.76$, $N = 2,250$). On average, each candidate was mentioned in 18.24 newspaper articles over the course of the fifteen days leading up to the election ($SD = 62.29$; $N = 150$). Thirty-three out of the 150 candidates studied received no newspaper coverage at all. Mark Rutte, the re-elected Prime Minister, received the most extensive newspaper coverage (450 articles in total). For interpretation purposes, we z-standardized this variable (standardized range: –0.26 till 10.31).

Social media content

The data—posts on Twitter and Facebook about individual politicians—were collected using Coosto (www.coosto.nl), a tool widely employed for qualitative online data analysis (Jong and Dückers 2016). To check whether the information provided by Coosto was systematic, another person repeated the automatic coding for half of the sample. Both measures correlated almost perfectly ($r = .9995$, $p < .001$; $n = 1125$ for Twitter and $r = .9936$, $p < .001$; $n = 1125$ for Facebook). We used a sum score of Twitter and Facebook posts to measure social media content. Therefore, the measure of our second dependent variable social media visibility ranges from 0 to 3,632 ($M = 34.5$, $SD = 177.7$, $N = 2,250$). On average, each candidate had a total of 517.31 online entries over the course of the 15 days leading up to the election ($SD = 2,147.36$; $N = 150$). Four candidates received zero mentions online. The lowest number of hits during the entire period was 0 entries; the highest number was 20,170 (in total), which was for Geert Wilders, the leader of the populist right wing Party for Freedom (PVV). He was followed by Mark Rutte, who was as mentioned above most visible offline, with 15,159 hits (in total). For interpretation purposes, we also z-standardized this variable (standardized range: – 0.19 till 20.25).

Independent variables

In order to address RQ2, we added several independent variables to the models. At the individual level, we included dummy variables that indicated whether a politician was a party leader; female or male; elected for the first time to the parliament. The list position of each individual is a continuous variable ranging from 1 to 41 in our data. Age was also included (measured in years). At the party level (there are eleven parties in total, see Table A2) we measure with a dummy whether the party was in government or not; the left-right ideological position, and the absolute difference from the weighted

Table 1. Number of articles by newspaper.

Newspaper	N	Percent	Cum. percent
Volkskrant	347	12.7	12.7
NRC Handelsblad	377	13.8	26.5
Financieele Dagblad	193	7.1	33.5
Telegraaf	185	6.8	40.3
Algemeen Dagblad	269	9.8	50.1
Parool	323	11.8	61.9
Metro	160	5.8	67.8
NRC Next	166	6.1	73.8
Nederlands Dagblad	234	8.6	82.4
Reformatorisch Dagblad	25	.9	83.3
Spits	104	3.8	87.1
Trouw	353	12.9	100.0
Total	2736	100.0	

mean on the left-right ideological scale to measure extremism (extremist parties have higher scores than mainstream parties), based on the Chapel Hill Expert Survey 2010 (Bakker et al. 2015) and 2014 (for 50Plus, Polk et al. 2017). All descriptive statistics can be found in the Appendix.

Models

For the analyses, we rely on ordinary least squared regression models with panel corrected standard errors (PCSE, Beck and Katz 1995). Our data resembles a panel structure (with days nested in candidates). This requires attention to four particular issues: autocorrelation, heterogeneity, group-level heteroscedasticity, and contemporaneous correlation. To deal with autocorrelation and heterogeneity (that is, the differences across candidates that are not explained by variables in our model), we include lagged dependent variables (t–1). Our data show contemporaneous correlation for both politicians and media, which means that scores on the same day correlate across candidates. Additionally, group-level heteroscedasticity (Breusch-Pagan test) is present, which means that both online and offline visibility of different candidates differ in their variance. These characteristics make OLS with PCSE a valid analytical approach. Additionally, for the analysis with newspaper visibility as a dependent variable, we replicated the OLS models using a negative binomial regression, since it is a count variable, which resembles an overdispersed Poisson

distribution. Results of this analysis are reported in Table A3 in the Appendix.

Results

In the following discussion, we assess the dynamic relationship between the visibility of individual politicians in traditional and social media. We begin with their visibility in social media. The results are reported in Table 2. Model 1 shows that the lagged effect of newspaper on social media visibility is positive and significant, holding everything else constant. Our first hypothesis (H1) is thus supported; we find an agenda setting effect of traditional media onto social media in terms of candidate visibility.

Turning to the moderating effects of politician characteristics to answer RQ2 (Model 2), we find two significant interaction effects, which are plotted in Figure 1. Figure 1 (a) shows that list position matters for the extent to which offline visibility affects candidate visibility on social media: comparing top and bottom list positions, those placed higher on the list, are more visible on social media with an increasing number of newspaper articles referring to them. By contrast, social media visibility is declining for candidates at the bottom of the list when they receive more newspaper coverage. Lastly, we find that candidates belonging to a party that scores higher on the extremism scale tend to be more visible on social media with rising

Table 2. Predictions of social media visibility.

	Model 1		Model 2	
	b	(SE)	b	(SE)
Constant	− 0.21*	(0.10)	− 0.15	(0.15)
Social media visibility (t–1)	0.50**	(0.18)	0.33	(0.20)
Newspaper visibility (t–1)	0.26*	(0.11)	0.12	(0.77)
Party leader	0.22	(0.20)	0.69**	(0.28)
Female	0.02	(0.01)	−0.01	(0.03)
Newcomer	0.02	(0.01)	0.02	(0.04)
List position	− 0.00	(0.00)	−0.01**	(0.00)
Age	0.00	(0.00)	−0.00	(0.00)
Left-right scale	0.02	(0.02)	0.02	(0.01)
Extremism left-right	0.03*	(0.01)	0.04*	(0.02)
Government party	− 0.06	(0.06)	− 0.09*	(0.04)
Newspaper visibility * Party leader			− 0.33	(0.21)
Newspaper visibility * Female			− 0.09	(0.16)
Newspaper visibility * Newcomer			0.06	(0.17)
Newspaper visibility * List position			− 0.02**	(0.01)
Newspaper visibility * Age			− 0.01	(0.01)
Newspaper visibility * Left-right scale			0.09	(0.07)
Newspaper visibility * Extremism left-right			0.15*	(0.07)
Newspaper visibility * Government party			− 0.26	(0.17)
Observations	1800		1800	
R^2	0.5234		0.5597	
Number of MPs	150		150	

Note: Both newspaper and social media visibility are z-standardized; SE = Het-corrected standard errors; Mondays are not included, as Sunday newspaper coverage cannot influence visibility on Monday,
***$p < .001$, **$p < .01$, *$p < .05$, +$p < .10$.

levels of newspaper coverage, compared to candidates belonging to a less extreme party (Figure 1b).

We now move to the reversed relationship and assess the effect of online social media onto offline newspaper visibility. Table 3 presents the findings for the analyses with newspaper visibility as the dependent variable. The first model presents the main effect and thus tests our second hypothesis (H2). We find that more social media visibility on the previous day results in higher newspaper visibility on the next day. This confirms our second hypothesis. This effect remains significant, even if we control for a wide variety of characteristics of the individual politician and her party as well as the lagged effect of the dependent variable (see Model 1). Since we standardized both offline and online visibility, the coefficients in Table 2 and Table 3 can be compared. We see that the effect of online visibility on offline visibility ($b = .26$) and vice versa ($b = .28$) are highly comparable and

not significantly different. In other words, there is not one dominant agenda.

We are also interested in whether this effect differs across various individual- and party-level characteristics (RQ2). We find several interaction effects (Table 3, Model 2) and display those in Figure 2. In particular, we find that while for those who do not hold a party leadership position (Figure 2a), the effect of social media visibility on newspaper visibility is higher than for party leaders. This increase is similar for male candidates, whereas more visibility on social media hardly increases the chances for women to receive newspaper coverage (Figure 2b). Furthermore, newcomers benefit more considerably from being visible on social media than those who were re-elected to Parliament when being reported upon in the national newspapers (Figure 2c). The list position of a candidate also matters (Figure 2d): The positive effect of visibility in social media on traditional news coverage is stronger for those with a higher place on the party list. For those who are placed towards the bottom of the list, social media visibility is not beneficial for the extent to which they are reported upon in newspapers. In a similar vein, younger candidates who receive more attention on social media also receive more attention in traditional media, compared to older candidates (Figure 2e). Lastly, we find a steeper increase of the effect of social media on newspaper visibility for candidates of left-wing parties compared to those belonging to right-wing parties (Figure 2f). The effects are also stronger for extremist parties than for mainstream parties (Figure 2g). It is, however, important to emphasize that effects are often small and do not result in substantial differences across the range of online visibility, as becomes clear from the overlapping confidence intervals in several of the graphs from Figure 2. The negative binomial regression as reported in the appendix largely replicates the findings from Table 3: the effect of online visibility on offline visibility is positive and significant, and moderated by several of the other independent variables. The only clear deviation in results is the interaction effect with the position on the list, which turns from negative to positive, but is in both instances limited in size.

Discussion and conclusion

The aim of this paper was to assess the dynamic relationship between politicians' visibility in traditional media and the agenda of the social media. For this, we studied the visibility during the campaign of all candidates who got elected to the parliament in the 2012 election. We expected the relationship between the traditional and
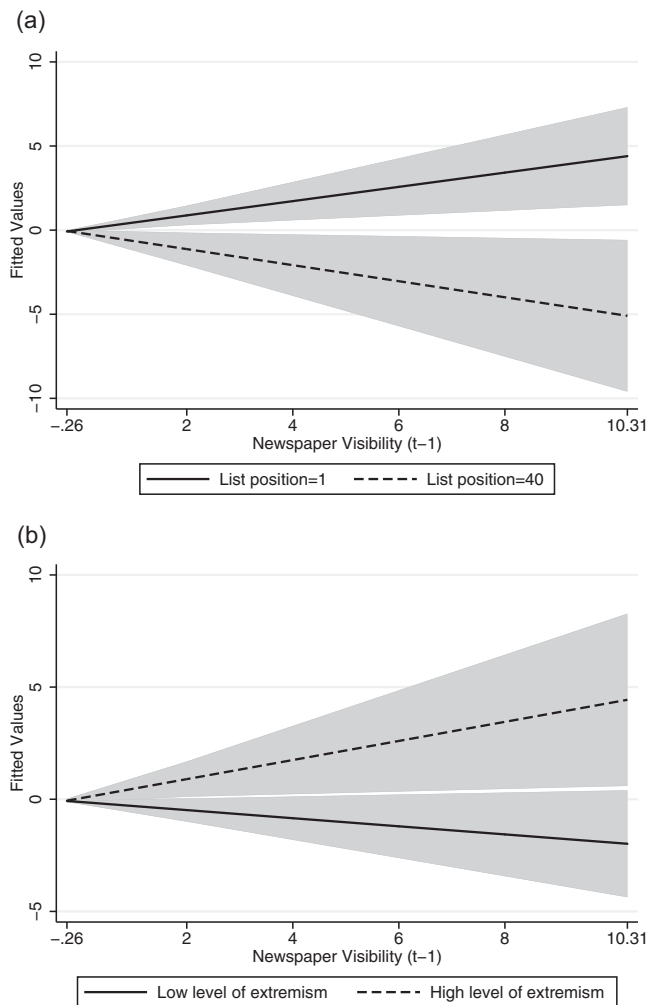

Figure 1. Visualization of the interaction effects on social media visibility using marginal means. *Note*: Lines represent predicted values and shadowed areas 95% confidence intervals; calculations based on Model 2 in Table 2.

Table 3. Predictions of newspaper visibility.

	Model 1		Model 2	
	b	*(SE)*	*b*	*(SE)*
Constant	0.12[*]	(0.06)	0.48[***]	(0.12)
Newspaper visibility (*t*–1)	0.69[***]	(0.09)	0.31[***]	(0.08)
Social media visibility (*t*–1)	0.28[***]	(0.07)	3.71[***]	(0.73)
Party leader	0.61[***]	(0.17)	0.87	(0.06)
Female	− 0.05[***]	(0.01)	−0.22[***]	(0.03)
Newcomer	− 0.02	(0.02)	− 0.01	(0.01)
List position	− 0.00[***]	(0.00)	− 0.01[**]	(0.00)
Age	0.00	(0.00)	−0.01[**]	(0.00)
Left-right scale	− 0.02[*]	(0.01)	−0.02[**]	(0.01)
Extremism left-right	0.01	(0.01)	0.03[*]	(0.01)
Government party	0.08[*]	(0.03)	0.01	(0.04)
Social media visibility [*] Party leader			− 0.54[*]	(0.21)
Social media visibility [*] Female			− 1.25[***]	(0.20)
Social media visibility [*] Newcomer			0.52[+]	(0.32)
Social media visibility [*] List position			− 0.02[*]	(0.01)
Social media visibility [*] Age			− 0.04[**]	(0.01)
Social media visibility [*] Left-right scale			− 0.17[***]	(0.04)
Social media visibility [*] Extremism left-right			0.16[*]	(0.07)
Social media visibility [*] Government party			0.11	(0.20)
Observations	1800		1800	
R^2	0.7694		0.8447	
Number of MPs	150		150	

Note: Both newspaper and social media visibility are z-standardized; *SE* = Het-corrected Standard Errors; Sundays are not included, as social media coverage can-
   not influence visibility on newspapers on Sunday,
[***]$p < .001$, [**]$p < .01$, [*]$p < .05$, [+]$p < .10$.

social media agenda to be reciprocal in nature, yet not unconditional.

Our results confirm our hypotheses: we found a positive effect of offline media coverage in terms of newspaper attention on the extent to which individual candidates are visible in social media one day later. At the same time, the social media agenda also positively predicts the number of newspaper articles referring to an individual candidate one day later. These findings are important for research on intermedia agenda setting. Traditional media, particularly mainstream newspapers, have been repeatedly described as a strong agenda-setter for other media (e.g., Golan 2006; Vliegenthart and Walgrave 2008) given their professionalism and long-standing expertise. We have shown that this also holds for news coverage of candidates standing in election campaigns and argued—in line with other research (e.g., Conway, Kenski, and Wang 2015)—that traditional media coverage of individual politicians is also relevant for the extent to which these politicians receive attention on social media. Others have doubted any strong influential role of traditional media and have argued that online media would become more independent and develop dynamics of its own (e.g., Meraz 2011; Neuman et al. 2014). Our results do not seem to support that claim, but additionally suggest that social media have a considerable influence on the traditional media agenda when it comes to the visibility of individual politicians. In fact, standardized effect sizes of social on offline media

and vice versa are very comparable, suggesting that both agendas are equally influential and there is no clear dominant agenda.

Yet, we have also shown that these reciprocal effects vary across different candidates. For instance, those with a higher list position tend to benefit more from visibility in traditional and social media. This is in line with the news value theory, which may partially explain why journalists are more attentive to certain individuals than others—as these candidates have specific characteristics that fit better with certain news values, such as power, status, influence and expertise, and are thus considered more newsworthy (e.g., Galtung and Ruge 1965; Shoemaker and Reese 1996; O'Neill and Harcup 2009). We also found that politicians from more extremist parties are more likely to receive additional attention in traditional media when they are more visible on social media. It has been suggested that more extreme politicians receive more news coverage (Vos 2014), because they are "colorful" and add balance to the news story (Cook 1986). Due to these news routines, journalists might pay more attention to more extreme politicians, who are popular on social media.

It is often suggested that the traditional criteria, such as power and status of politicians, also apply to the social media agenda (see Van Aelst et al. 2017), with more attention being given to those who have higher public standing, and hence receive attention by traditional media in the first place. We indeed found that lead
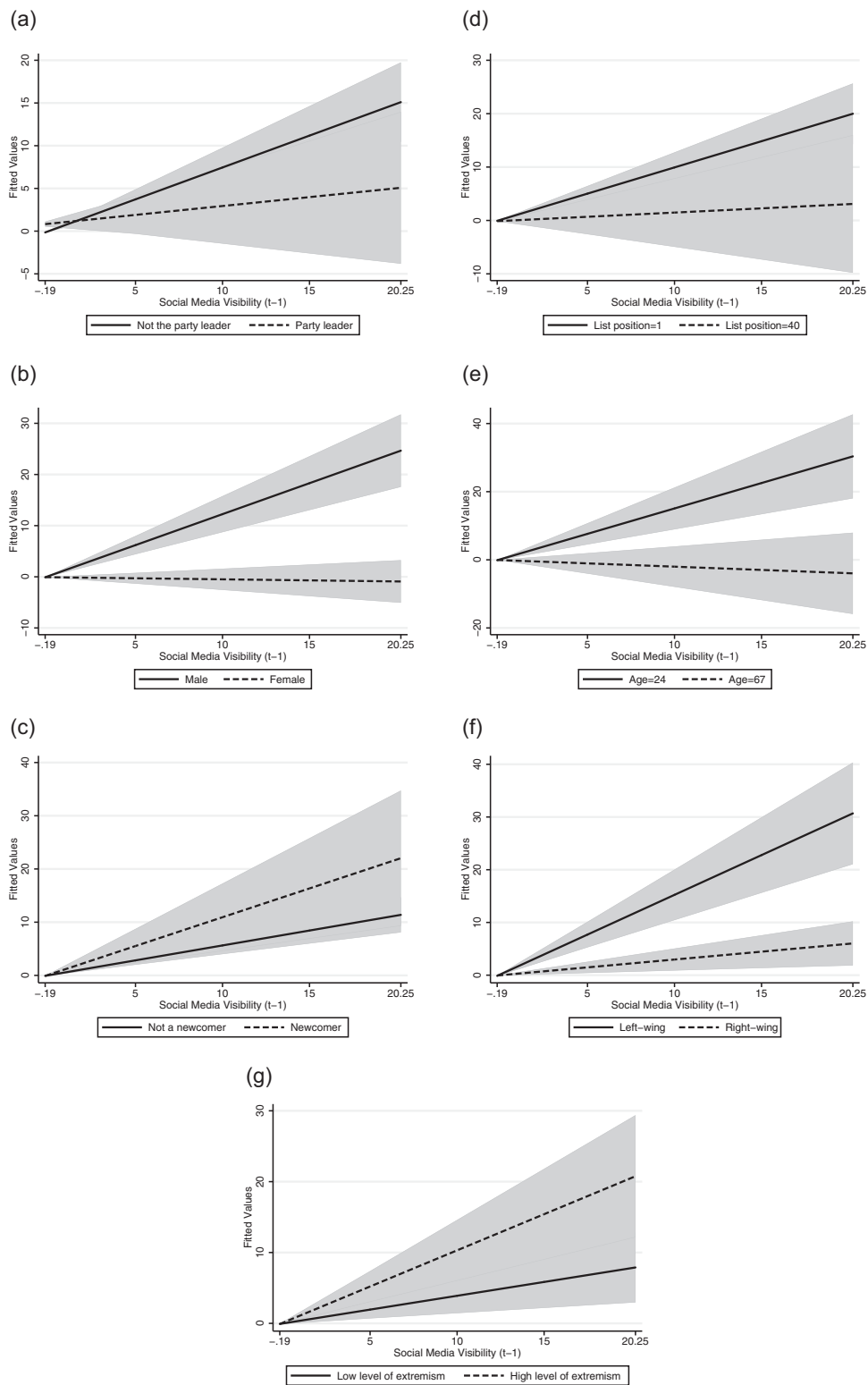
Figure 2. Visualization of the interaction effects on newspaper visibility using marginal means. *Note*: Lines represent predicted values and shadowed areas 95% confidence intervals; calculations based on Model 2 in Table 3.

candidates benefit from increasing visibility in newspapers compared to other candidates as the former also gain popularity on social media. This shows support for the normalization (or politics as usual) hypothesis—

social media replicate existing imbalanced representations in traditional media (Vaccari and Nielsen 2013). Contrary to popular belief, social media are not more democratic in terms of allowing equal access and

participation of individuals. Moreover, those who receive little attention in traditional media, such as female politicians or candidates with a lower position on electoral lists, also face more difficulties translating social media visibility into exposure in the traditional media.

However, we found some exceptions to the rule—it appears that especially younger politicians, newcomers or those who are not leader of their party are "rewarded" to some extent, as greater visibility on social media gives them more attention in newspapers relative to older politicians leaders. Also in line with Van Aelst et al. (2017), we found that left-wing politicians seem to profit from attention on social media, as more visibility on social media increases the likelihood of receiving more attention in newspapers. Also politicians from more extremist parties (compared to more mainstream parties) are more likely to benefit from social media visibility.

Our study is obviously not without limitations. First, we were unable to account for the communication activities of each individual candidate on social media channels. Instead, we studied their sheer visibility to assess the dynamic relationship between the traditional and social media agenda. However, certain politicians may be particularly active on social media and hence able to trigger discussion and discourse about themselves. Others may have employed staff in order to steer discourse in their favor. Similarly, certain politicians may have built a large popular base over a longer period of time, and their "followers" might refer to them more often regardless of the issue at stake. Newspaper journalists, on the other hand, also take the type of issue into account when reporting about politics; and this usually complies with traditional news selection criteria such as proximity and impact. Similarly, we are unable to assess dynamics of second-level agenda setting, i.e., how candidates are referred to in offline or on social media. While for traditional media negativity and scandals are an important news selection criterion, positive news might possibly receive more attention on social media. Future research should thus investigate second-level agenda setting dynamics between the social and the traditional media agenda.

Secondly, social media move faster compared to offline media, and printed newspapers in particular. Our unit of analysis is daily measures. By the time a newspaper goes into print, online discourse might have already moved on. Yet again, while this might affect the scope of the reciprocal relationship, our results still show that both agendas influence one another. Future research might find a way to dig deeper into these dynamics, for instance by focusing on online news sites. In addition, a longitudinal analysis might provide answers to whether this dynamic relationship is changing over a longer period of time. Will the social media agenda gain the upper hand? Or will the traditional media continue to be a major source of reference for the social media agenda?

Thirdly, a Dutch election campaign might be a "most-likely" case to find intermedia agenda setting effects between traditional and social media with regard to the visibility of politicians. Due to preferential voting, a high use of social media among politicians (Jacobs and Spiering 2016) and citizens (Eurostat 2017), and the increased attentiveness to candidates among both journalists and citizens in the run-up to the elections, visibility effects might be more likely to occur compared to other countries and other contexts. This could make it more difficult to generalize the results to other countries and contexts. This remains foremost an empirical question and since research rarely examines candidate visibility on both news agendas (Van Aelst et al. 2017), it is interesting to examine the (causal) relationship between social and traditional media in different contexts in future work.

Lastly, we did not include television content. One might, on the one hand, expect that television news is more personalized and more widely consumed, thus effects on visibility on social media might be stronger. On the other hand, the opportunity for politicians to take part in television programs or get included in news items is very small (often exclusively for very popular politicians). This would again mean that only few politicians benefit from offline visibility in order to gain popularity in social media.

Notwithstanding these limitations, we provide a first analysis of the dynamic relationship between politician visibility in social and traditional media, showing evidence of intermedia agenda setting. We are aware that these results stem from a single case analysis, whose particularities make it likely that an effect is found. We hope that our results stimulate further research into this phenomenon, also in other contexts and in comparative research. After all, they have important implications for research that studies effects of political communication, determinants of news production in the digital age, online/social media content as indicator of public opinion developments, and obviously intermedia agenda setting.

Notes

1. In many countries that rely on proportional representation, such as the Netherlands, Austria and Belgium, political parties have to publish electoral lists for elections. Voters can vote for a specific politician on the list. However, the total number of votes a party receives determines the number of seats it gets in parliament. Consequently, higher-ranked candidates are more likely to enter parliament.
2. We also created two other measures based on the number of references instead of articles: one that uses the unweighted number of mentions and one that uses the number of mentions, weighted by placement in newspaper

(front page or not) and article (headline or not; see Vliegenthart, Oegema, and Klandermans 2005). These two measures correlate highly with the number of articles ($r = .99$ and $.97$, respectively) and analyses yield similar results.

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Appendix

Table A1. Descriptive statistics.

Variable	N	Min	Max	M	SD
Newspaper visibility	2250	0	52	1.22	4.76
Social media visibility	2250	0	3632	34.49	177.65
Party leader	2250	0	1	0.07	0.25
Female	2250	0	1	0.40	0.49
Newcomer	2250	0	1	0.29	0.45
List position	2250	1	41	13.83	11.43
Age	2250	24	67	43.95	8.56
Left-right scale	2250	1.64	8.62	5.61	2.26
Extremism left-right	2250	0.26	4.00	2.03	0.99
Government party	2250	0	1	0.36	0.48

Table A2. Overview of entries per party.

Party Name	Frequency	Percent	N candidates
50Plus	30	1.3	2
CDA	195	8.7	13
ChristenUnie	75	3.3	5
D66	180	8.0	12
GroenLinks	60	2.7	4
PvdA	570	25.3	38
PvdD	30	1.3	2
PVV	225	10.0	15
SGP	45	2.0	3
SP	225	10.0	15
VVD	615	27.3	41
Total	2250	100.0	150

Table A3. Predicting newspaper visibility (negative binomial regression).

	Model 1		Model 2	
	b	(SE)	b	(SE)
Constant	− 0.54	(0.33)	− 0.83***	(0.33)
Newspaper visibility (t-1)	0.05***	(0.01)	0.31***	(0.08)
Social media visibility (t-1)	0.02***	(0.00)	0.01*	(0.01)
Party leader	1.57***	(0.17)	2.05***	(0.18)
Female	− 0.22*	(0.10)	−0.16	(0.11)
Newcomer	− 0.54	(0.13)	− 0.65***	(0.15)
List position	− 0.07***	(0.01)	− 0.06***	(0.01)
Age	0.02	(0.01)	0.01*	(0.01)
Left-right scale	− 0.06*	(0.03)	− 0.01	(0.03)
Extremism left-right	− 0.08	(0.05)	−0.04*	(0.05)
Government party	0.75***	(0.12)	0.55***	(0.13)
Social media visibility Party leader			− 0.01*	(0.00)
Social media visibility Female			− 0.00	(0.00)
Social media visibility Newcomer			0.01**	(0.00)
Social media visibility List position			0.00*	(0.00)
Social media visibility Age			0.00	(0.00)
Social media visibility Left-right scale			− 0.00**	(0.00)
Social media visibility Extremism left-right			0.00	(0.00)
Social media visibility Government party			−0.01	(0.00)
Observations	1800		1800	
Number of MPs	150		150	
Log likelihood	−1707.70		−1667.64	

Note: SE = Standard errors; Sundays are not included, as online coverage cannot influence visibility on newspapers on Sunday,
***$p < .001$, **$p < .01$, *$p < .05$, +$p < .10$.