



UvA-DARE (Digital Academic Repository)

What affects first- and second-level selective exposure to journalistic news? A social media online experiment

Ohme, J.; Mothes, C.

DOI

[10.1080/1461670X.2020.1735490](https://doi.org/10.1080/1461670X.2020.1735490)

Publication date

2020

Document Version

Final published version

Published in

Journalism Studies

License

CC BY-NC-ND

[Link to publication](#)

Citation for published version (APA):

Ohme, J., & Mothes, C. (2020). What affects first- and second-level selective exposure to journalistic news? A social media online experiment. *Journalism Studies*, 21(9), 1220-1242. <https://doi.org/10.1080/1461670X.2020.1735490>

General rights

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (<https://dare.uva.nl>)

What Affects First- and Second-Level Selective Exposure to Journalistic News? A Social Media Online Experiment

Jakob Ohme & Cornelia Mothes

To cite this article: Jakob Ohme & Cornelia Mothes (2020) What Affects First- and Second-Level Selective Exposure to Journalistic News? A Social Media Online Experiment, *Journalism Studies*, 21:9, 1220-1242, DOI: [10.1080/1461670X.2020.1735490](https://doi.org/10.1080/1461670X.2020.1735490)

To link to this article: <https://doi.org/10.1080/1461670X.2020.1735490>



© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



View supplementary material [↗](#)



Published online: 17 Mar 2020.



Submit your article to this journal [↗](#)



Article views: 1494



View related articles [↗](#)



View Crossmark data [↗](#)

What Affects First- and Second-Level Selective Exposure to Journalistic News? A Social Media Online Experiment

Jakob Ohme^a and Cornelia Mothes^b

^aAmsterdam School of Communication Research, University of Amsterdam, Amsterdam, The Netherlands;

^bDepartment of Media and Communication, Technische Universität Dresden, Dresden, Germany


ABSTRACT


On social media, journalistic news products compete with entertainment-oriented and user-generated contents on two different stages of news use: First, users navigate their attention through a continuous stream of information in their newsfeed and, second, they potentially click on some of these posts to spend time with the actual full-contents. The present study conceptualizes these two types of news use behaviors in social media environments as first- and second-level selective exposure. Based on this new approach, we investigated main drivers of journalistic news exposure on both exposure levels in an online survey experiment before the German federal election in 2017 ($N = 210$). To achieve high ecological validity, we developed a Newsfeed Exposure Observer (NEO)-Framework to recreate realistic user settings for online experiments studying selective exposure in the digital era, where news posts are complemented by popularity cues like social endorsements or individual recommendations. Findings show that, at the first level of selective exposure, attention to journalistic news posts is particularly affected by political interest. However, the decision to click on posts in the newsfeed and to spend time with the linked contents seems more strongly driven by social factors than by individual predispositions.

KEYWORDS

Political news; journalistic news; social media; social endorsements; selective exposure; news use; political interest; ecological validity

Journalists' role as providers of political news for the public has changed with the emergence of intermediary social media platforms like Facebook or Twitter (Hermida, Fletcher, Korell, and Logan, 2012). These platforms, based on algorithmic decisions, integrate journalistic products with entertainment and personal content into a steady stream of posts within users' personal newsfeeds. As a result, the line between journalistic products and non-journalistic content becomes blurry, causing an increasingly fierce competition for user attention among information providers on social media. Although social media have become increasingly important as news sources for the audience, surprisingly little is known about how exactly journalistic news products prevail in exposure situations where alternative user options are present and reactions by other users additionally

CONTACT Jakob Ohme  j.ohme@uva.nl

 Supplemental data for this article can be accessed <https://doi.org/10.1080/1461670X.2020.1735490>.

© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

direct attention through social endorsements. In order to further our understanding of how the interplay of audience and message characteristics determines the performance of journalistic products on social media platforms—and thereby the future of political news in general—the present study proposes a new methodological approach that allows for examining media users' selective exposure patterns in a controlled, yet highly ecologically valid social media environment.

How changing news environments affect political journalism has been addressed in various ways in communication and journalism research. Studies have looked at altered journalistic role conceptions and performances, changing ways of news production and distribution, and diversified patterns of news consumption as indicated by phenomena such as “incidental” or “inadvertent” exposure (Brundidge 2010; Karnowski et al. 2017). These areas of research provide important insights into the structural challenges that new media environments such as social media create for journalism and digital democracies. However, little is known so far as to *why* audiences do or do not select journalistic content on these platforms. The small number of studies looking at causal explanations for (non-)exposure to journalistic news may partly be explained by methodological challenges that arise when studying selective exposure on social media: First, news selection in a high-choice—or more so even constant-choice—environment becomes more difficult to reproduce with artificial selection tasks in laboratory experiments; second, the social context of news exposure adds another layer to the list of important predictors of selective exposure; and third, new types of selection patterns, such as news snacking, have become more relevant but can only partly be studied with classic experimental designs or self-reported data (Molyneux 2018).

To address these challenges, we conducted an online survey experiment during the 2017 German federal election campaign that closely mimicked a Facebook newsfeed. The newly developed Newsfeed Exposure Observer (NEO) framework gave respondents the choice to select from 100 randomly sampled real-world journalistic news and entertainment posts that were published on the same day. Aiming at a more natural exposure situation of high ecological validity, we randomly manipulated three types of Facebook's original social endorsements that were presented around each item. The effects of these social characteristics that commonly accompany journalistic news in contemporary media environments were tested alongside more traditional news use predictors, especially political interest, with regards to three outcome-measures of selective exposure: *visibility time* as a first-level indicator and *click decision* as well as *exposure time* as second-level indicators of selective exposure to journalistic news, in comparison to equally available entertainment contents. Based on this new methodological approach, our findings support suggestions to conceive of selective exposure in more realistic exposure settings as less straightforward than implied by more traditional empirical designs (e.g., Trilling and Schoenbach 2015).

Studying Selective Exposure on Social Media: Introducing the Concept of First- and Second-Level Exposure

Selective exposure generally refers to the limited psychological capacity of human beings to give equal attention to all environmental stimuli they encounter in their daily lives (Zillmann and Bryant 1985). Accordingly, in a media use context, users choose certain media

messages over others, based on message cues, situational circumstances, as well as personal characteristics and content preferences (Knobloch-Westerwick, Mothes, and Polavin 2020). Recently, selective exposure is mainly investigated in a partisan media context (e.g., Stroud 2010). However, “exposure is always selective” (Lazarsfeld, Berelson, and Gaudet, 1944, p. 164) and—especially with respect to the question of whether journalism prevails in constant-choice environments—starts at a more general level of deciding whether or not to attend political information at all (Skovsgaard, Shehata, and Strömbäck 2016). Hence, selective exposure to journalistic news can be understood as a main prerequisite for more subordinate selection patterns, such as partisan selective exposure, and thus plays a decisive role in preceding more specific content- and/or attitude-driven effects on exposure in the realm of political communication. Hence, the term selective exposure is used here to denote that individuals constantly select information from the media environment and show preferences in this selection.

The need for making constant exposure choices becomes even more pronounced on social media where news and entertainment coincide with additional information from users’ social networks (Messing and Westwood 2014). This changing news context seriously challenges the distribution of journalistic news on political and public affairs, which ideally builds the basis of an informed and active citizenry (Delli Carpini and Keeter 1996; Prior 2007). On social media platforms, more so than in the context of other online and offline media outlets, people are often incidentally exposed to news content and a great variety of other pre-filtered messages they routinely scan (Karnowski et al. 2017). Hence, incidental exposure is a result of the newsfeed *supplying* a plethora of algorithmically pre-selected information that users did not initially seek. Selectively scanning information can thus be understood as a user *behavior* that subsequently helps filtering relevant information from the abundance of pre-selected posts (Molyneux 2018), potentially leading to a more thorough examination of contents by clicking on the posts and approaching the linked information.

Previous studies looked into these gradual selection processes by using digital trace data from real-world online environments, yet often without tying personal user characteristics to them (e.g., Nelson and Webster 2017). Others used experiments with social endorsement manipulations to examine their impact on selective exposure or exposure intention (e.g., Dvir-Gvirzman 2019; Kaiser, Keller, and Kleinen-von Königslöw 2018; Messing and Westwood 2014; Winter, Metzger, and Flanagin 2016). However, the limited number of selection choices and variations used in classic (online) experiments and the rather artificial exposure environment they create still leave us with an incomplete picture of genuine selection processes on social media.

Furthermore, previous research commonly uses rather classic unobtrusive exposure measures such as *exposure frequency* and *exposure time* (e.g., Knobloch-Westerwick, Mothes, and Polavin 2020). Assessing exposure frequency as an indicator of selective exposure relies on the assumption that users are able to instantly oversee all the choices they have to select from. In a situation, however, where an indefinite number of choices are available to users, exposure frequency and time appear to become subordinate measures of a preceding stage of selective exposure when “people assign (visual) attention according to their own (political) self and the information they are presented with” (Marquart, Matthes, and Rapp 2016, 2576). In other words, the great number of choices available in a newsfeed shapes exposure patterns more strongly

towards an initially quick skimming of information along the lines of selective perception and attention (Bode, Vraga, and Troller-Renfree 2017; Sülflow, Schäfer, and Winter 2019). We therefore suggest differentiating between two stages of selective exposure on social media: *First-level selective exposure* describes the attention dedicated to a post while browsing a newsfeed. At this stage, users decide to slow down, or even stop scrolling through their newsfeed, to look more carefully at a specific post, based on message cues that are immediately visible in the newsfeed (e.g., topic, source, headline, picture, or social endorsements). This stage is then followed by clicking on a post and spending time with the linked contents, which we refer to as *second-level selective exposure*.

The first stage of selective exposure is increasingly important for studying news use on social media, since users primarily skim through—instead of carefully reading—messages in their newsfeed (Molyneux 2018). The unlimited choice of available posts makes such a behavior necessary, but it also leads to a more sketchy “snacking” of news and “grazing” through information (Sveningsson 2015). Accordingly, today’s click-through rates are as low as one click per 1000 times a post was viewed on social media (Smartinsights 2018). But although users spend more time scrolling through posts on social media than actually selecting contents and engaging with them, the information that is visible to users while scrolling is far from meaningless. According to “informational utility” as early proposed by Atkin (1973), a “routine scanning of messages” (238) goes along with users being generally receptive to information—which, on a normative level, translates into what Schudson (1998) described as the foundation for “monitorial” citizens to keep track of important social, political, and economic developments. Hence, information that users see in their newsfeed but do not click on, can still shape their attitudes, views, or knowledge about reality. The main difference to a closer engagement on a second level of exposure is that such first-level information consists mostly of headlines, pictures, and teasers, and thereby refers to a more superficial level of cognitive reflection.

Despite its relevance, first-level selective exposure on social media is largely understudied, especially when it comes to journalistic news. With news use motivations on social media being generally low, the question arises which factors potentially instigate an initial interest in journalistic news when users scan information. Extant research suggests two particularly important drivers of news exposure in this context: political interest and the social utility of information. Political interest was constantly shown to substantially affect exposure to political online news (Dahlgren, 2019; Strömbäck, Djerf-Pierre, & Shehata, 2013), with high-choice online environments potentially further increasing the role of political interest as a personal guidance to select information and creating a “news exposure gap” between citizens with high and low political interest (Kruikemeier and Shehata 2017). However, online news reading appears to be additionally affected by social cues attached to news posts, that is, social endorsements such as recommendations, likes, or user statistics (Messing and Westwood 2014). This new, social layer of news use has received relatively little attention so far as a factor potentially driving selective exposure and competing with political interest as the main individual factor impacting news use patterns. We thus examine how both political interest and social endorsements guide users’ attention to and selection of information from a sheer unlimited number of choices in their newsfeed.

Political Interest and Social Endorsements as Predictors of Selective News Exposure

Political interest refers to citizens' intrinsic motivation to learn about politics (Shehata and Amnå 2017). It is positively related to a variety of political involvement indicators such as political knowledge, political efficacy, or political participation (Prior 2007). Additionally, users scoring higher on political interest generally follow news more often and more closely (Kruikemeier and Shehata 2017). However, little is known about how political interest drives news selection in more diverse and complex online settings (but see Bode, Vraga, and Troller-Renfree 2017). While some research implies that political interest gains importance as a predictor of news exposure in fragmented online spaces (e.g., Strömbäck, Djerf-Pierre, & Shehata, 2013), others suggest that higher diversity of available contents online rather increases incidental news exposure for politically less interested users (Brundidge 2010; Prior 2007). Since there is limited empirical evidence for answering the question of which perspective holds when studying news exposure on a first and second level, we investigate the following research question:

RQ1: How does political interest affect (a) the visibility time of journalistic news in a newsfeed (i.e., first-level selective exposure) and (b) click decisions and exposure time (i.e., second-level selective exposure)?

Beyond individual preferences, news use has become an increasingly social activity in online environments. According to Chaffee and McLeod (1973), information-seeking has always been a "function of anticipated social utility" (245). The digital media environment, however, has substantially reinforced this social component of news by making social feedback an inherent element in the presentation of news. On social media, every newsfeed post is augmented by social endorsements such as personal recommendations, emotional reactions, and popularity measures. These indicators signal the prominence of a post and become an important orientation for users to decide upon what information deserves their attention (Knobloch-Westerwick et al. 2005, 297). Social endorsements can additionally function as heuristics to make exposure decisions in constant-choice situations on social media, where continuous central processing becomes cumbersome. Relying on the evaluation of others instead of following own interests requires less cognitive effort and thus allows users to at least peripherally process the constant stream of information (Chaiken, 1987; Cacioppo and Petty 1979; Knobloch-Westerwick et al. 2005). Evaluating information against the background of their usefulness in social situations, within and beyond their social online networks, may thus provide significant guidance for users beyond their personal preferences.

Accordingly, previous research suggests that higher ranked articles are more often read, as users expect positively evaluated content to be of higher relevance and value (Knobloch-Westerwick et al. 2005). Other experimental studies have confirmed such positive effects of social endorsements on selective exposure to political information specifically in the context of social media (Dvir-Gvirsman 2019; Messing and Westwood 2014; Winter, Metzger, and Flanagin 2016). The present study aims to extend this research by looking at which role perceived social utility of information plays for first- and second-level selective exposure in a constant-choice situation. People should utilize social endorsements on a first level in order not to miss out news that is relevant to their social network

and on a second level in order to review the details for future social interactions (Leiner et al. 2018). We therefore expect:

H1: The presence of social endorsements increases the likelihood of first- and second-level selective exposure on social media.

Previous research has often entirely focused on political news when investigating the role of social endorsements in selective exposure (Messing and Westwood 2014; Winter, Metzger, and Flanagin 2016). It is an open question, however, how social endorsements affect exposure in a more realistic environment where additional entertainment content is present, such as celebrity news or sports. Hence, the effect of social endorsements on selective news exposure may depend on content type, with political news potentially instigating a stronger need for social validation than entertainment news, due to its relevance for public opinion formation and for citizens to cast an informed vote, particularly before elections (Downs 1957). Since this moderation effect has not been examined yet, we investigate:

RQ2: Do effects of social endorsements on first- and second-level selective exposure differ between journalistic news and entertainment?

In most cases, newsfeed posts are complemented by a variety of different social endorsements at the same time. Previous research has mostly looked into the role of aggregated endorsements, such as the number of reads or likes of an article (Messing and Westwood 2014; Winter, Metzger, and Flanagin 2016). Dvir-Gvirsman (2019), however, found that users dedicated most attention to personal recommendations and, thus, to individual endorsements typically displayed above the posts in a Facebook newsfeed. Individual endorsements mostly stem from contacts within one's personal network and should therefore be perceived as more relevant, given that people more strongly orient themselves towards their closer social ties (Kaiser, Keller, and Kleinen-von Königslöw 2018). Yet, since a comparison of exposure effects between individual and aggregated endorsements is missing so far, we ask:

RQ3: Are potential effects of social endorsements on first- and second-level selective exposure to journalistic news stronger for aggregated or individual endorsements?

Method

Overview

To address research questions and hypotheses, a 24-hours field experiment was conducted as part of an online survey launched three weeks before the 2017 German federal elections. Aiming at high ecological validity, a Newsfeed Exposure Observer (NEO) framework was developed that presented participants with a Facebook newsfeed, which contained 100 original posts from the 20 most popular German Facebook pages that were published on the same day. This allowed for a more natural scrolling experience without an abrupt end, thereby creating a constant-choice environment demanding a more realistic level of selectivity. The posts and linked contents were subsequently content analyzed by two coders to distinguish between journalistic news and entertainment posts. Selective exposure was captured with an exposure task administered within

the NEO framework. Subsequently, respondents indicated their political interest, among other variables. To examine effects of social endorsements, the study utilized a $2 \times 3 \times 3$ within-subjects design. The NEO framework randomly manipulated the presence of an *individual recommendation* by a non-specified friend above a post, the presence of *reactions* below a post, and the presence of *statistics* displayed below a post. A more detailed description of the functionalities of the framework can be found in the online Appendix.

Participants

The experiment was conducted among German Internet users. Respondents were recruited using an international pollster's database, which was screened for active social media users that were born in Germany. Participants received a monetary incentive in return for their participation. Of all respondents who were invited, 358 respondents participated in the study, which corresponds to a response rate of 12.4 percent. Of those who completed the survey, 77 cases had to be excluded due to server problems and 33 further respondents were screened out, for they participated via smartphone; in both cases, the validity of the recorded data could not be ensured. Lastly, 38 respondents did not comply with the experimental instructions and were therefore additionally excluded from the analyses. The final dataset thus consisted of 210 valid cases. The sample was 55% male with a mean age of $M = 35$ years ($SD = 9$ years). Hence, participants were younger than the average German population (44 years, German Federal Statistical Office 2018a). On the three levels of education, only small differences existed: 52% (German population = 51%) were holding a secondary school certificate, 28% (population = 28%) a higher (technical) education entrance qualification, and 17% (population = 19%) a degree in higher education (German Federal Statistical Office 2018b).

Procedure

Before the exposure task, respondents were informed how to scroll through the news items, how to access the full articles or videos by clicking on the posts, and how to return to the newsfeed. Respondents were asked to simply browse the newsfeed as they would normally do and to select posts or videos they find interesting, for they would not have enough time to review all articles. No additional task was given, since the browsing of a newsfeed without a clear goal comes closer to the actual exposure situation most people find themselves in on social media. Respondents were told to browse the website for at least two minutes and a maximum of ten minutes. This time frame was chosen to measure a relevant number of exposure choices in a realistic setting, keeping the burden and potential drop-out risk low, while giving respondents enough time to explore all posts they potentially find interesting. On average, participants spent 4.50 min on the newsfeed website ($M = 290$ sec, $SD = 162$, $Min = 121$, $Max = 600$). At the end of the survey, participants were informed about the purpose of the exposure task and thanked for their participation.

Newsfeed and Stimulus Material

The Newsfeed Exposure Observer (NEO) framework was developed to allow for simulating a website that ought to resemble the layout of a Facebook newsfeed as closely as possible

(see Figure 1). To keep up the timely “news value” of the posts, the newsfeed contained 100 posts and related articles that were randomly chosen from the 213 posts that were published before noon on the day of the study by the 20 most prominent German Facebook pages at that time (1000flies 2017). Hence, all participants were presented with the same 100 newsfeed posts. These included news pages like *Spiegel Online* or *Bild.de*, celebrity news pages such as *Promiflash*, sports news pages like *sport1*, and miscellaneous online news by providers such as *Huffington Post Deutschland*. In order to avoid selection biases based on the rank of the posts, the display order of posts was randomized. The content of the posts appeared exactly as in the original Facebook post, including source, headline, subheading, picture, and teaser. The NEO framework, however, allowed us to manipulate the social endorsements adjacent to each of the posts separately based on a $2 \times 3 \times 3$ within-subjects design (see Figure 2), randomly varying the *individual recommendation* by a non-specified friend above a post (recommendation vs. no recommendation), the *reactions* below a post (none vs. like-only vs. genuine reactions of the original post), and the *statistics* displayed below a post (none vs. views vs. shares¹). Individual recommendations were manipulated by signaling that one or some “of your friends” shared this post, while it was not further specified who these friends were. Genuine reactions referred to emoticons that contained more than just a “Like”, such as *Angry* or *Love* icons. We used the genuine user reactions that each post had actually instigated in the online community instead of manipulated reactions to avoid mismatches between post content and the reactions they have caused. Hence, each post with genuine reactions was presented with the original types of emoticons in their original order, if reactions contained more than just a “Like”.

Content Analysis

The original Facebook posts and the accompanying articles or videos were analyzed post hoc by two coders as to whether they referred to journalistic political news or entertainment content. Following criteria for analyzing political news as suggested by Reinemann et al. (2012), 42 of the 100 posts (Krippendorff's Alpha = .807) and 52 of the linked contents (Alpha = .699) were coded as journalistic political news, dealing with national and international politics, while entertainment posts and linked contents primarily dealt with topics like celebrities or sports.

Measures

Selective Exposure

Exposure to each post was tracked by the NEO framework. Three types of exposure measures were recorded for each participant: (1) visibility time of a post in the newsfeed (in milliseconds, ms), (2) click on the post (0 = no, 1 = yes), (3) and time of exposure to the original article or video (in ms).

Previous research assessed attention to posts while browsing mainly by the use of eye-tracking (Dvir-Gvirsman 2019). We propose to track the time that a post is visible on a user's screen as another and maybe more widely applicable method. We therefore captured visibility time of a post in a user's newsfeed as a measure of first-level selective exposure by attaching a digital meter point to the picture that



Figure 1. Example of the mimicked newsfeed (downsized visualization). Note: Normally, only one full post at a time was visible in the browser window.

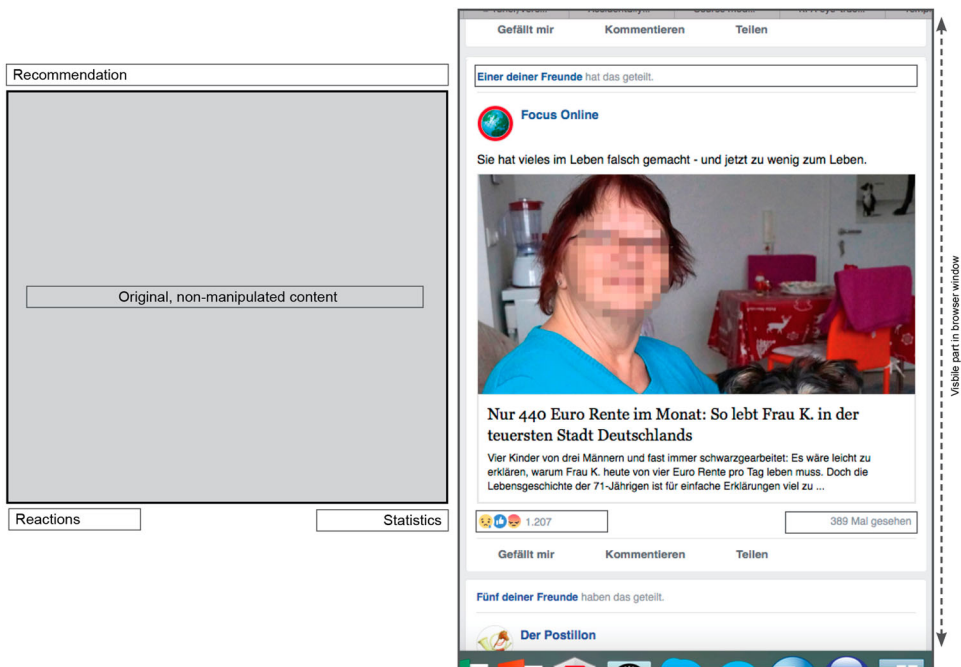


Figure 2. Manipulations of posts.

accompanied each post, as attention is typically dedicated to visual information like pictures first (Vraga, Bode, and Troller-Renfree 2016). The meter point counting visibility time was placed in the center of each post's picture. With an average screen resolution and usage situation, only one meter point was visible on the screen at a time (see Figure 2).² Given that exposure measures cannot give a valid assessment of attention allocation, if users did not see the post—by not scrolling at all or scrolling over it very quickly—we only included posts in the analyses that were visible for at least 50 ms, as people are able to identify pictures at rates between 80 and 13 ms (Potter et al. 2014). Furthermore, we only included posts that were visible for less than 15 s (15.000 ms) in order to avoid including posts that people did not engage with but were still visible on the screen.³

Applying this procedure, on average, 40 posts ($SD = 48$) were visible on participants' screens for longer than 50 ms. While some participants were scrolling through the entire newsfeed at a slow pace, others started scrolling and stopped at one specific post, clicked on it, and spent all of the exposure time with the content of the linked article or video. This reflects the diversity in selection patterns people exhibit in realistic exposure settings, when they have no clear goal to pursue. An overview about the descriptive statistics of participants' selection patterns can be found in Table 1.

Political Interest

Following earlier measures of political interest (Strömbäck, Djerf-Pierre, & Shehata, 2013), respondents were asked how interested they generally were in politics, measured on a 10-point scale (1 = *not interested at all*, 10 = *very interested*), $M = 7.3$, $SD = 2.3$.

Table 1. Descriptive statistics of selective exposure measures.

	M	SD	Min	Max	n
<i>Journalistic News Posts</i>					
First-level selective exposure Visibility time (in milliseconds)	3708.2 (3.7 sec.)	3292.3	318	14995	3,147
Second-level selective exposure Click decision (yes/no)	.054 (5.4%)	.226	0	1	3,147
Exposure time (in milliseconds)	36699.5 (36.7 sec.)	48849.3	2001	295993	188
<i>Entertainment Posts</i>					
First-level selective exposure Visibility time (in milliseconds)	3572.8* (3.5 sec.)	3199.7	351	14999	5,335
Second-level selective exposure Click decision (yes/no)	.038 *** (3.8%)	.190	0	1	5,335
Exposure time (in milliseconds)	27025.6 * (27.0 sec.)	34527.7	2001	290001	217
<i>Combined</i>					
First-level selective exposure Visibility time (in milliseconds)	3623.0 (3.6 sec.)	3234.9	318	14999	8,482
Second-level selective exposure Click decision (yes/no)	.043 (4.3%)	.204	0	1	8,482
Exposure time (in milliseconds)	31516.2 (31.5 sec.)	42014.9	2001	295993	405

Note: Only posts with visibility time above 50 ms and below 15,000 ms and exposure time above 2000 ms included.
* $p < .05$, ** $p < .01$, *** $p < .001$: Significance level of differences between exposure to journalistic news and entertainment posts.

Analytical Procedure

After linking exposure measures with participants' survey data, the dataset comprised up to 100 data points for each participant and each selective exposure measure, based on the valid number of posts that each participant looked at. The final dataset thus reflects the repeated measurement approach the study took, with exposure measures of each individual post being nested in subjects. On the visibility level, capturing first-level selective exposure, the dataset contained 8,482 observations nested within 210 participants. Given this hierarchical data structure, the subsequent analyses therefore used multilevel modeling, with respondent ID being used as the grouping variable, to assess the influence that individual characteristics and message characteristics had on exposure decisions. This procedure allows for examining selection patterns that differ within a respondent as well as between respondents. All calculated mixed models investigated fixed effects with random intercepts and rely on centered predictor variables, using a grand mean centering approach (Paccagnella, 2006). While political interest and message characteristics were included as fixed effects, the random component represents the effects of unobserved time-invariant variables, in our case personal characteristics of participants. This analytical strategy allows for an investigation of how the independent variables affect exposure decisions, if all other things are considered equal.

Results

Regarding research question RQ1a about the role of political interest as an individual predisposition potentially affecting first-level selective exposure to journalistic news, we first fit the null model with visibility time as the dependent variable. The standard deviation between subjects ($SD = 1626.0$) is smaller than the standard deviation within subjects ($SD = 2897.8$), indicating that visibility time differs more strongly within participants than between participants, which is also suggested by the residual intraclass correlation

of $ICC = .239$ ($SE = .021$). In other words, respondents were very selective in their exposure to posts but did differ less from other respondents in terms of their selection patterns (although content selections potentially differed). When adding content type (i.e., journalistic news vs. entertainment) as a covariate to the model, findings yield a small but significant difference in that journalistic news posts were longer visible than entertainment posts (Table 2, Model 1). The longer visibility time of journalistic news post, however, depended on the participants' political interest that had no direct effect on visibility time (Table 2, Model 1) but showed a significant positive interaction with content type (Table 2, Model 2). Hence, participants with a higher level of political interest were more attentive to journalistic news posts than to entertainment posts.

When testing for effects on second-level selective exposure to journalistic news (RQ1b), the same structure of analysis was applied, but with respect to content selection. Hence, multilevel logistic models were calculated with click decision as the dichotomous dependent variable. When fitting the null model, random intercepts showed high variance between subjects, with the standard deviation (1.495) being considerably higher than the standard error (.141). The residual intraclass correlation ($ICC = .404$, $SE = .045$) suggests that a good, but not the major share of variance in the decision to click on a post was accounted for by the between-subject correlation. As with visibility time, click decision varied more within than between participants. Again, journalistic news posts had a higher chance of being clicked on than entertainment posts (Table 3, Model 6). Regarding participants' click decisions, this effect was not moderated by the level of political interest (Table 3, Model 7). Hence, participants clicked on journalistic news posts more often, regardless of their level of political interest.

In a last step, the second indicator of second-level selective exposure is analyzed. This model only includes those respondents that actually clicked on a post; hence, this model is based on a reduced sample size of 405 cases. For the actual exposure time spent with linked contents, the standard deviation between subjects ($SD = 29203.5$) was again lower than the standard deviation within subjects ($SD = 32562.2$) in the null model. Hence, also the time participants spent with linked contents differed more within than between individuals. Regarding journalistic news exposure, the analyses yielded no effect of content type, but interestingly, a negative effect of political interest on exposure time (Table 4, Model 11). That is, higher political interest predicted shorter exposure, which may potentially indicate the monitorial nature of information acquisition especially among politically interested citizens (Mothes, Knobloch-Westerwick, and Pearson 2019). However, no interaction between political interest and content type was found (Table 4, Model 12). Thus, political interest did not affect the time spent on journalistic news articles or videos.

In sum, political interest only affected first-level selective exposure to journalistic news, but not second-level exposure. As can be seen in Figure 3, journalistic news instigated a higher visibility time among politically interested media users in constant-choice settings; further engagement with journalistic content (i.e., click decision or exposure time), however, did not depend on users' level of political interest.

Turning to the impact of social endorsements, all three endorsement types were first included as main effects in the models predicting visibility time (Table 2, Model 1), click decision (Table 3, Model 6), and exposure time (Table 4, Model 11). Across all three exposure measures, analyses yielded no significant effects on selective exposure. Hence,

Table 2. First-level selective exposure - predicting visibility time (multilevel model).

	Visibility time				
	(1)	(2)	(3)	(4)	(5)
Main effects					
Journalistic News Post (Reference: Entertainment Post)	140.4* (65.62)	135.8* (65.64)	140.4* (65.62)	140.7* (65.60)	141.1* (65.63)
Political Interest	8.668 (51.58)	8.297 (51.56)	8.684 (51.58)	8.894 (51.53)	8.907 (51.59)
<i>Recommendations</i> (Reference: No Recommendations)					
Recommendation by Friends	59.97 (63.53)	59.51 (63.51)	60.02 (63.53)	60.36 (63.51)	59.31 (63.54)
<i>Statistics</i> (Reference: No Statistics)					
Views	-25.96 (107.4)	-26.72 (107.4)	-26.02 (107.4)	-28.39 (107.4)	-26.94 (107.4)
Shares	-93.87 (107.3)	-92.41 (107.3)	-94.00 (107.3)	-96.12 (107.3)	-94.25 (107.3)
<i>Reactions</i> (Reference: No Reactions)					
Like only	39.28 (101.1)	40.41 (101.1)	39.69 (101.1)	40.92 (101.1)	41.52 (101.3)
Genuine Reactions	132.6 (103.5)	130.5 (103.5)	132.8 (103.5)	133.8 (103.5)	135.5 (103.7)
Interaction terms					
Political Interest × Journalistic News Post		57.60* (28.11)			
Recommendations × Journalistic News Post			-31.42 (131.9)		
Views × Journalistic News Post				59.18 (221.2)	
Statistics × Journalistic News Post				316.3 (221.1)	
Like only × Journalistic News Post					89.53 (214.0)
Genuine Reactions × Journalistic News Post					9.204 (217.9)
Intercept	1628.1*** (92.28)	1627.3*** (92.25)	1628.1*** (92.28)	1628.1*** (92.28)	1628.1*** (92.28)
Residual (within subject)	2896.1*** (22.53)	2895.4*** (22.53)	2896.1*** (22.53)	2895.4*** (22.53)	2896.0*** (22.53)
N	8482	8482	8482	8482	8482

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3. Second-level selective exposure - predicting click decision (logistic multilevel model).

	Click Decision				
	(6)	(7)	(8)	(9)	(10)
Main effects					
Journalistic News Post (Reference: Entertainment Post)	.395*** (.113)	.400*** (.114)	.397*** (.113)	.381*** (.116)	.396*** (.113)
Political Interest	.036 (.058)	.038 (.058)	.036 (.058)	.038 (.058)	.036 (.058)
Recommendations (Reference: No Recommendations)					
Recommendation by Friends	-.091 (.113)	-.090 (.113)	-.103 (.114)	-.093 (.113)	-.092 (.113)
Statistics (Reference: No Statistics)					
Views	.050 (.188)	.051 (.188)	.048 (.188)	.112 (.197)	.051 (.188)
Shares	.0062 (.189)	.0052 (.189)	.053 (.188)	.022 (.199)	.008 (.189)
Reactions (Reference: No Reactions)					
Like only	-.105 (.175)	-.105 (.175)	-.107 (.175)	-.092 (.175)	-.109 (.175)
Genuine Reactions	-.108 (.179)	-.106 (.179)	-.110 (.179)	-.099 (.179)	-.110 (.180)
Interaction terms					
Political Interest × Journalistic News Post		-.023 (.052)			
Recommendations × Journalistic News Post			.164 (.227)		
Views × Journalistic News Post				1.047* (.435)	
Statistics × Journalistic News Post				1.526*** (.435)	
Like only × Journalistic News Post					.198 (.359)
Genuine Reactions × Journalistic News Post					.158 (.367)
Intercept	1.494 (.141)	1.493 (.141)	1.494 (.141)	1.487 (.140)	1.493 (.141)
N	8482	8482	8482	8482	8482

* $p < .05$, ** $p < .01$, *** $p < .001$.

the presence of any social endorsements alone did not increase the likelihood of users to attend to or select a specific social media post, rejecting H1. Regarding RQ2, social endorsements did not increase the visibility time of journalistic news posts in comparison to entertainment posts either (Table 2, Model 3–5). However, they affected click decisions as indicated by significant interaction effects between content type and usage statistics displayed below a post (Table 2, Model 8). While personal recommendations and user reactions did not interact with content type, social endorsements that indicated how often a post was either viewed or shared in the broader social network significantly increased the likelihood of media users to select journalistic news posts in order to get further information⁴ (Table 3, Model 8; see Figure 4). Hence, regarding RQ3, usage statistics appear to be more effective in influencing click decisions than personal recommendations by friends or user reactions. Exposure time to journalistic news, however, was again not affected by any type of social endorsement (Table 3, Model 13–15), which may indicate the limitation of effects of social endorsements to the social media environment that dissolve when leaving to other (external) websites.

In sum, our results indicate that political interest remains a decisive factor for selective news exposure on a first level, that is, regarding the attention users pay to a post in their newsfeed. On the second level, however, when it comes to clicking on a journalistic news post, social recommendations appear to counteract this effects to a certain extent by increasing click decisions independent of users' political interest (see Table 5 for a general result overview).

Table 4 . Second-level selective exposure - predicting exposure time to linked contents (multilevel model).

	Exposure Time				
	(11)	(12)	(13)	(14)	(15)
Main effects					
Journalistic News (Reference: Entertainment Post)	6294.0 ⁺ (3769.3)	6221.0 ⁺ (3768.5)	6178.5 (3790.4)	6339.5 ⁺ (3771.5)	6447.0 ⁺ (3774.0)
Political Interest	-3377.8** (1290.0)	-3440.0** (1305.5)	-3365.1** (1289.3)	-3391.0** (1291.9)	-3344.6** (1288.7)
Recommendations (Reference: No Recommendations)					
Recommendation by Friends	3236.5 (3625.7)	3168.0 (3626.8)	3497.3 (3717.8)	3195.3 (3625.0)	3280.5 (3626.1)
Statistics (Reference: No Statistics)					
Views	8374.3 (6267.4)	8383.7 (6263.2)	8385.3 (6267.8)	8216.7 (6274.6)	8680.2 (6304.1)
Shares	3567.9 (6127.9)	3574.9 (6123.2)	3574.1 (6128.6)	4078.2 (6178.9)	3751.2 (6132.8)
Reactions (Reference: No Reactions)					
Like only	4597.8 (5590.8)	4863.8 (5635.3)	4640.3 (5593.2)	4958.4 (5642.7)	4128.6 (5634.2)
Genuine Reactions	3169.9 (5596.4)	3227.1 (5594.7)	3254.2 (5602.8)	3651.1 (5674.4)	3119.9 (5664.0)
Interaction terms					
Political Interest × Journalistic News		643.1 (1801.1)			
Recommendations × Journalistic News			-2502.3 (7901.4)		
Views × Journalistic News				1893.8 (12901.6)	
Statistics × Journalistic News				-3271.2 (12706.7)	
Like only × Journalistic News					6815.8 (11012.5)
Genuine Reactions × Journalistic News					3144.5 (11111.8)
Intercept	27047.1*** (2986.6)	27187.3*** (3011.7)	26991.3*** (2993.5)	27131.9*** (2987.5)	26966.1*** (2990.9)
Residual (within subject)	32585.0*** (1464.1)	32533.5*** (1467.4)	32597.9*** (1466.1)	32535.5*** (1462.5)	32587.7*** (1465.3)
N	405	405	405	405	405

* $p < .05$, ** $p < .01$, *** $p < .001$.

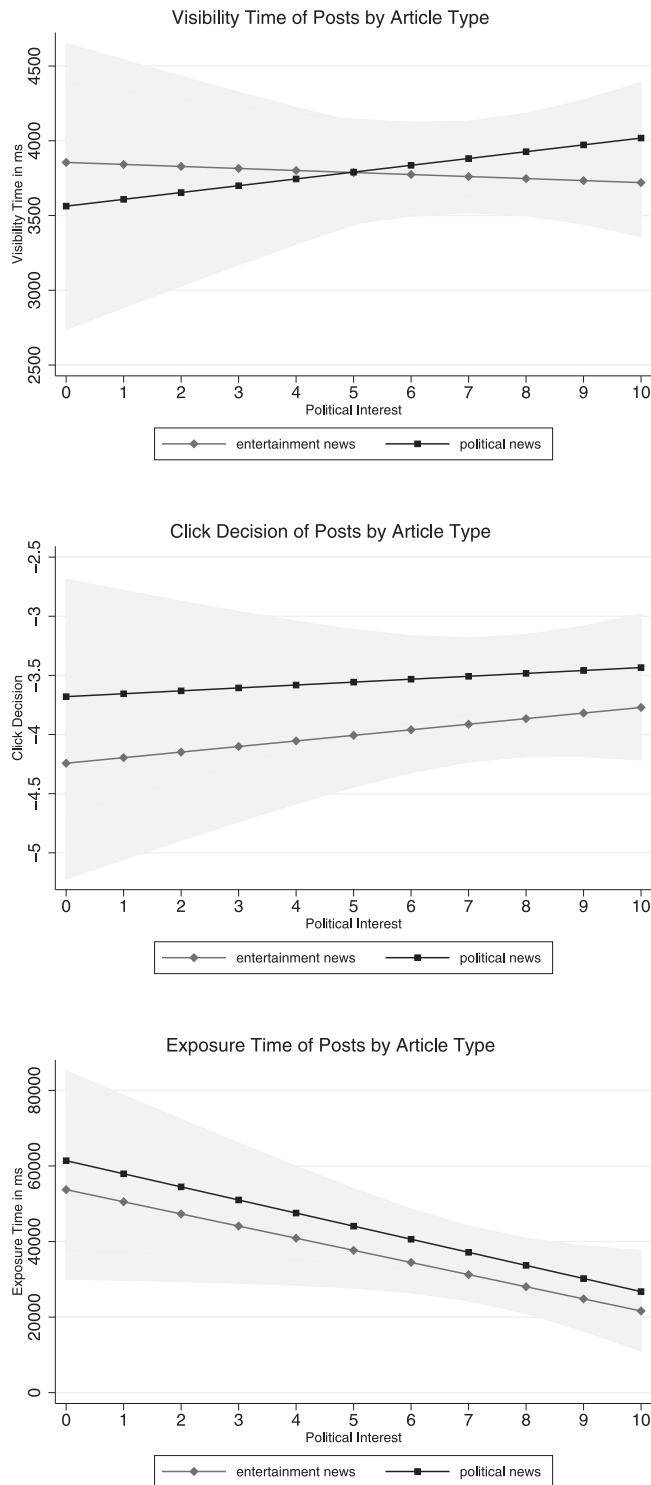


Figure 3. Selective exposure to journalistic news vs. entertainment by political interest. Note: Graphs show the interaction between content type and political interest as a predictor of first- and second-level selective exposure. Full models (2, 7, and 12, see tables) estimated. For reasons of interpretability, non-centered predictor variables were estimated for the margins plot.

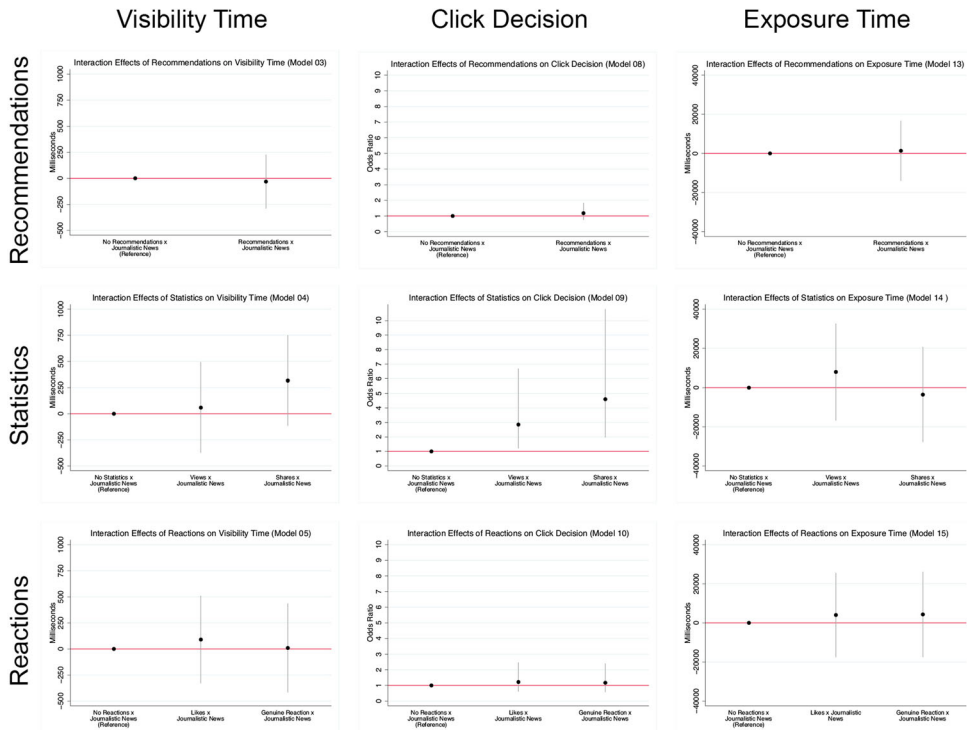


Figure 4. Interaction effects of social endorsements and type of post on click decision. Note: Graphs present coefficients and confidence intervals for each interaction between social endorsement and content type, compared to the respective reference category. Full models from Tables 2–4 were estimated but only interaction effects with non-centered predictors were plotted.

Discussion

To study media exposure in a constant-choice environment, where news consumption becomes a progressively social experience, our study developed and tested a Newsfeed Exposure Observer (NEO) framework. This new methodological tool allows for studying the influence of individual and message characteristics on first- and second-level selective exposure in a Facebook online experiment with high ecological validity.

We find that from 100 posts available in a newsfeed, user only clicked on 4% to engage further with — while social media statistics refer to even lower estimates (Smartinsights 2018). These numbers illustrate the importance to conceptually distinguish between first- and second-level exposure modes in a digital and social media environment, as

Table 5. Selective exposure to journalistic news posts on social media.

	Selective Exposure Within a Newsfeed	
	First Level (i.e., visibility time)	Second Level (i.e., click decision and exposure time)
<i>Individual Characteristics</i>		
Political Interest	✓	–
<i>Message Characteristics</i>		
Social Recommendations	–	(✓)

suggested in our study. We find that users are already selective at the stage where they routinely scan their newsfeed (i.e., first-level selective exposure). Already then, users extract a number of relevant information by, for example, looking at a post's picture or headline. Given the high number of posts people view but do not further engage with, this more peripheral mode of information elaboration (Cacioppo and Petty 1979; Knobloch-Westerwick et al. 2005) is likely to become more important in digital information societies. Additionally, when journalistic news increasingly merges into a mix of information, entertainment, and social interaction, individual predispositions, such as political interest, may become less important for selection decisions. By specifically looking at the distinction between journalistic news posts and entertainment posts, our study finds that political interest still remains an important predictor of selective exposure on social media, but only during user's routine scanning of information. In other words, users with higher political interest slow down or stop at posts of political relevance, but surprisingly, they do not click on it more often or spend more time with the linked contents. This finding has theoretical as well as methodological implications.

First, it shows that Schudson's (1998) idea of the monitorial citizen still applies in a social media environment. Second, politically interested citizens may primarily benefit from news being increasingly available on social media on a more superficial information level, that is, through exposure to headlines, teasers, or pictures. This corroborates earlier research by Mothes, Knobloch-Westerwick, and Pearson (2019) showing that users with higher perceived political understanding preferred fragmented, event-focused news over more detailed, background-oriented political content. If politically interested users do not click on journalistic posts or expose themselves to journalistic articles more frequently than politically uninterested users, journalistic news may indeed lose the competition for attention against other, more hedonic contents on social media. Hence, increasing social media news use may eventually result in lower levels of political knowledge, even among citizens with high political interest.

From a more positive angle, however, our findings may also imply that the constant-choice environment in a social media newsfeed may be simultaneously suited to reduce the "news exposure gap" between citizens scoring high and low on political interest, rather than widening it (Aalberg, Blekesaune, and Elvestad 2013; Kruikemeier and Shehata 2017). If politically interested and less interested users—although showing different patterns of attention to journalistic posts in their newsfeed—are equally likely to click on journalistic posts, then even politically uninterested users appear to at least occasionally select political news. This may partly be explained by them being inadvertently exposed to news on social media (Schäfer, Süßlow, and Müller 2017), but could also point to additional content cues, such as social endorsements, that to a certain degree counteract individual preferences.

In fact, our study shows that social utility indicators such as user recommendations can determine selective exposure on social media as well. More specifically, our analyses revealed that social endorsements positively contributed to the selection of journalistic news in that posts were more often clicked on, if they contained usage statistics indicating how often the post was previously viewed or shared. Hence, in a constant-choice environment like the Facebook newsfeed, social endorsements seem to play a role especially on a second level of selective news exposure, when it comes to click decisions. While the first level of selective exposure was more clearly determined by individual political interest,

actual click decisions on political news was more strongly driven by information on how often other users read and shared it. This effect did not emerge with regards to entertainment posts, indicating a higher importance of social cues for public affairs news in comparison to more hedonic content of less societal relevance. This is in line with previous research that found popularity cues to increase the likelihood of selecting certain political articles over others (Dvir-Gvirsman 2019; Messing and Westwood 2014; Winter, Metzger, and Flanagin 2016). Our study now adds evidence that such patterns also apply to a more dynamic exposure situation, where political posts compete with non-political information for user attention. Our finding thus corroborates the social utility of information (Chaffee and McLeod 1973) for the digital age. Yet, it is possible that this pattern is especially pronounced before elections, making further testing of this relationship in times of political routine necessary. Further, reactions, such as likes, angry or happy emoticons, that did not show any discernible effects on exposure decisions in our study, may be of greater importance for more specific types of selective exposure, such as partisan selective exposure (see Mothes and Ohme 2019). In sum, social endorsements were shown to counteract the effects of political interest on news use to a certain extent, particularly on the second stage of selective exposure, when it comes to deciding whether or not to look deeper into linked contents.

Limitations

Our study has several limitations. First, we waved using a student sample and instead relied on a sample of German Internet users. Yet, the sample characteristics are not fully representative, although close to the general population. However, fixed effects were calculated by controlling for individual variance, thereby reducing the risk of false inference. In addition, we had to exclude a significant number of respondents from the analyses. Despite thorough pretests of the newly developed NEO framework, we underestimated the server workload in the real study situation. Hence, we decided to only include the data of respondents who participated after we had moved the server to a stable environment. This problem exemplifies the technical challenges that the creation of a more realistic selective exposure environment in the digital age entails. With that said, our study does not allow for examining selective exposure in an entirely realistic exposure situation, although partially improving the validity of social media experimental designs. The reason that we did not find any relationship between the display of personal recommendations and exposure decisions, for instance, may partly be due to the fact that we did not display the names of network contacts that were known by the user (for a different approach, see Kaiser, Keller, and Kleinen-von Königslöw 2018). On a related note, our study focused mostly on the presence and non-presence of social cues, which is different from research that was mostly interested in the number of endorsements (Dvir-Gvirsman 2019; Messing and Westwood 2014). Investigating the overall effect of displaying endorsements helped to keep the complexity of the present study's design at a manageable level and waived an ad-hoc decision of what may be a high versus low level of endorsements. Although additional analyses were run to ensure the robustness of our findings (see footnote 5), future studies should elaborate on how to differentiate low and high numbers of endorsements in a content-related, meaningful way. In addition, our study measured first-level selective

exposure by the visibility time of a post on respondents' screens. This measure can only be seen as a proxy to actual user attention dedicated to a post, since we cannot guarantee that participants actually gave their full attention to a post while it was visible on their screen. On a technical note, we also could not entirely rule out that the use of the digital meter point led to inflated assessments of visibility times in rare instances (see footnote 2). Hence, more research is needed to compare the measure applied here to eye-tracking measures to assess its validity. In addition, future research should move beyond the dichotomous distinction of a post's political relevance by including other content characteristics, such as political topic or news values. Lastly, the used framework mimicked the newsfeed of Facebook, which is by far the most used social media platform in Germany (Frees and Koch 2018). However, our findings may be limited in their generalizability to social media platforms with different layouts and functionalities, such as Twitter.

Despite these limitations, our study may help shed some light on how journalistic news prevails in constant-choice media environments—not only among politically interested users. The social context of news exposure on social media platforms appears to facilitate news consumption on a second level of selective exposure, even for users with lower levels of political interest and even if more entertaining content is promptly available. These positive effects of social media for informed citizenry, however, can only sustain if societally relevant content remains visible in the users' newsfeeds at the first level of selective exposure so that journalistic news gets a chance of being selected.

Notes

1. The categories of numbers displayed was (1) 1–6, (2) 20–48, (3) 127–406, (4) 934–3677, determined by a pretest that recorded the number of views and shares at 12pm (noon) of the respective 20 Facebook pages. Based on frequencies, we created seven equally sized groups. To make categories more distinctive, every second group was selected. Within the four range categories, numbers were randomly manipulated for each post.
2. It cannot be ruled out that in few cases, more than one meter point was visible on the screen, which would result in slightly inflated visibility times. However, the randomization of post order prevents that visibility time is systematically inflated for some posts more than for others.
3. On average, 2% of posts were excluded from the analysis for each participant, with values ranging from 0% to 7%.
4. To further probe this result, we estimated if the significant interaction effects differed across posts with different numbers of views and shares. Analyses showed that the mere display of user statistics significantly increased the likelihood of a post to be clicked on across almost all frequency categories: (views 1–6, odds ratio = 3.2, $p = .026$; views 20–48, odds ratio = 4.2, $p = .010$; views 127–406, odds ratio = 2.3, $p = 0.10$; views 934–3677, odds ratio = 2.4, $p = 0.094$; shares 1–6, odds ratio = 7.7, $p = .001$; shares 20–48, odds ratio = 3.9, $p = .008$; shares 127–406, odds ratio = 4.1, $p = .006$; shares 934–3677, odds ratio = 4.1, $p = .008$).

Acknowledgements

We express our gratitude to Erich Stadler for his tremendous efforts in developing the software application used in this study. We furthermore thank Erich Stadler and Claudia Seifert for their help in crawling the news post material.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

References

- 1000flies. 2017. Die Likemedien-Top-100 im Juni 2017. [The 'Like'-media top 100 in June 2017.] <http://blog.1000flies.de/2017/07/>.
- Aalberg, T., A. Blekesaune, and E. Elvestad. 2013. "Media Choice and Informed Democracy: Toward Increasing News Consumption Gaps in Europe?" *The International Journal of Press/Politics* 18 (3): 281–303. doi:10.1177/1940161213485990.
- Atkin, C. 1973. "Instrumental Utilities and Information Seeking." In *New Models for Mass Communication Research*, edited by P. Clarke, 307–307. Oxford, England: Sage.
- Bode, L., E. K. Vraga, and S. Troller-Renfree. 2017. "Skipping Politics: Measuring Avoidance of Political Content in Social Media." *Research & Politics* 4 (2): 2053168017702990. doi:10.1177/2053168017702990.
- Brundidge, J. 2010. "Encountering "Difference" in the Contemporary Public Sphere: The Contribution of the Internet to the Heterogeneity of Political Discussion Networks." *Journal of Communication* 60: 680–700. doi:10.1111/j.1460-2466.2010.01509.x.
- Cacioppo, J. T., and R. E. Petty. 1979. "Effects of Message Repetition and Position on Cognitive Response, Recall, and Persuasion." *Journal of Personality and Social Psychology* 37 (1): 97–109. doi:10.1037/0022-3514.37.1.97.
- Chaffee, S. H., and J. M. McLeod. 1973. "Individual vs. Social Predictors of Information Seeking." *Journalism Quarterly* 50 (2): 237–245. doi:10.1177/107769907305000204.
- Chaiken, S. 1987. "Attitudes and Attitude Change." *Annual Review of Psychology* 38 (1): 575–630.
- Dahlgren, P.M. 2019. "Selective Exposure to Public Service News over Thirty Years: The Role of Ideological Leaning, Party Support, and Political Interest." *The International Journal of Press/Politics* 24 (3): 293–314.
- Delli Carpini, M. X., and S. Keeter. 1996. *What Americans Know About Politics and Why it Matters (Revised)*. Princeton, NJ: Yale University Pr.
- Downs, A. 1957. "An Economic Theory of Political Action in a Democracy." *The Journal of Political Economy* 65: 135–150.
- Dvir-Gvirman, S. 2019. "I Like What I see: Studying the Influence of Popularity Cues on Attention Allocation and News Selection." *Information, Communication & Society* 2 (22): 286–305. doi:10.1080/1369118X.2017.1379550.
- Frees, V. B., and W. Koch. 2018. "ARD/ZDF-Onlinestudie 2018 [ARD/ZDF Online Study 2018]." *Media Perspektiven* 9: 398–413.
- German Federal Statistical Office. 2018a. Durchschnittsalter auf Grundlage des Zensus 2011 [Average age based on census 2011]. Accessed March 25, 2019. <https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Bevoelkerung/Bevoelkerungsstand/Tabellen/durchschnittsalter-zensus.html>.
- German Federal Statistical Office. 2018b. Datenreport 2018 - Kapitel 3: Bildung. [Data report 2018, Chapter 3: Education]. Accessed March 25, 2019. <https://www.destatis.de/DE/Service/Statistik-Campus/Datenreport/Downloads/datenreport-2018-kap-3.html>.
- Hermida, A, F Fletcher, and D Korell. 2012. "Share, Like, Recommend." *Journalism Studies* 13 (5-6): 815–824. doi:10.1080/1461670X.2012.664430.
- Kaiser, J., T. R. Keller, and K. Kleinen-von Königslöw. 2018. "Incidental News Exposure on Facebook as a Social Experience: the Influence of Recommender and Media Cues on News Selection." *Communication Research*. doi:10.1177/0093650218803529.
- Karnowski, V., A. S. Kümpel, L. Leonhard, and D. Leiner. 2017. "From Incidental News Exposure to News Engagement: How Perceptions of the News Post and News Usage Patterns Influence Engagement with News Articles Encountered on Facebook." *Computers in Human Behavior* 76: 42–50. doi:10.1016/j.chb.2017.06.041.
- Knobloch-Westerwick, S., C. Mothes, and N. Polavin. 2020. "Confirmation Bias, Ingroup Bias, and Negativity Bias in Selective Exposure to Political Information." *Communication Research* 47 (1): 104–124. doi:10.1177/0093650217719596.

- Knobloch-Westerwick, S., N. Sharma, D. L. Hansen, and S. Alter. 2005. "Impact of Popularity Indications on Readers' Selective Exposure to Online News." *Journal of Broadcasting & Electronic Media* 49 (3): 296–313. doi:10.1207/s15506878jobem4903_3.
- Kruikemeier, S., and A. Shehata. 2017. "News Media use and Political Engagement among Adolescents: An Analysis of Virtuous Circles Using Panel Data." *Political Communication* 34 (2): 221–242. doi:10.1080/10584609.2016.1174760.
- Lazarsfeld, P.F., and B. Berelson. 1944. *The people's choice*. New York, NY: Columbia University Press.
- Leiner, D. J., L. Kobilke, C. Rueß, and H.-B. Brosius. 2018. "Functional Domains of Social Media Platforms: Structuring the Uses of Facebook to Better Understand its Gratifications." *Computers in Human Behavior* 83: 194–203. doi:10.1016/j.chb.2018.01.042.
- Marquart, F., J. Matthes, and E. Rapp. 2016. "Selective Exposure in the Context of Political Advertising: A Behavioral Approach Using eye-Tracking Methodology." *International Journal of Communication* 10: 2576–2595. doi:1932–8036/20160005.
- Messing, S., and S. J. Westwood. 2014. "Selective Exposure in the age of Social Media: Endorsements Trump Partisan Source Affiliation When Selecting News Online." *Communication Research* 41 (8): 1042–1063. doi:10.1177/0093650212466406.
- Molyneux, L. 2018. "Mobile News Consumption." *Digital Journalism* 6 (0): 634–650. doi:10.1080/21670811.2017.1334567.
- Mothes, C., S. Knobloch-Westerwick, and G. D. H. Pearson. 2019. "The PFAD-HEC Model: Impacts of News Attributes and use Motivations on Selective News Exposure." *Communication Theory* 29 (3): 251–271. doi:10.1093/ct/qty033.
- Mothes, C., and J. Ohme. 2019. "Partisan Selective Exposure in Times of Political and Technological Upheaval: A Social Media Field Experiment." *Media and Communication* 7 (3): 42–53. doi:10.17645/mac.v7i3.2183.
- Nelson, J. L., and J. G. Webster. 2017. "The Myth of Partisan Selective Exposure: A Portrait of the Online Political News Audience." *Social Media + Society* 3 (3): 2056305117729314. doi:10.1177/2056305117729314.
- Paccagnella, O. 2006. "Centering or Not Centering in Multilevel Models? The Role of the Group Mean and the Assessment of Group Effects." *Evaluation Review* 30 (1): 66–85. doi:10.1177/0193841X05275649.
- Potter, M. C., B. Wyble, C. E. Hagmann, and E. S. McCourt. 2014. "Detecting Meaning in RSVP at 13 ms per Picture." *Attention, Perception, & Psychophysics* 76 (2): 270–279. doi:10.3758/s13414-013-0605-z.
- Prior, M. 2007. *Post-broadcast Democracy: how Media Choice Increases Inequality in Political Involvement and Polarizes Elections*. New York: Cambridge University Press.
- Reinemann, C., J. Stanyer, S. Scherr, and G. Legnante. 2012. "Hard and Soft News: A Review of Concepts, Operationalizations and Key Findings." *Journalism: Theory, Practice & Criticism* 13 (2): 221–239.
- Schäfer, S., M. Süßflow, and P. Müller. 2017. "The Special Taste of Snack News: An Application of Niche Theory to Understand the Appeal of Facebook as a News Source." *First Monday* 22 (4). doi:10.5210/fm.v22i4.7431.
- Schudson, M. 1998. *The Good Citizen: A History of American CIVIC Life*. New York City: Simon & Schuster.
- Shehata, A., and E. Amnå. 2017. "The Development of Political Interest among Adolescents: A Communication Mediation Approach Using Five Waves of Panel Data." *Communication Research*, 0093650217714360. doi:10.1177/0093650217714360.
- Skovsgaard, M., A. Shehata, and J. Strömbäck. 2016. "Opportunity Structures for Selective Exposure: Investigating Selective Exposure and Learning in Swedish Election Campaigns Using Panel Survey Data." *The International Journal of Press/Politics* 21 (4): 527–546. doi:10.1177/1940161216658157.
- Smartinsights. 2018. *Facebook Advertising Benchmarks 2018, May 24*. Accessed March 8, 2019. <https://www.smartinsights.com/social-media-marketing/facebook-marketing/facebook-advertising-benchmarks-2018/>.
- Strömbäck, J., and M. Djerf-Pierre. 2013. "The Dynamics of Political Interest and News Media Consumption: A Longitudinal Perspective." *International Journal of Public Opinion Research* 25 (4): 414–435. doi:10.1093/ijpor/eds018.

- Stroud, N. J. 2010. "Polarization and Partisan Selective Exposure." *Journal of Communication* 60 (3): 556–576. doi:10.1111/j.1460-2466.2010.01497.x.
- Süllflow, M., S. Schäfer, and S. Winter. 2019. "Selective Attention in the News Feed: An Eye-Tracking Study on the Perception and Selection of Political News Posts on Facebook." *New Media & Society* 21 (1): 168–190. doi:10.1177/1461444818791520.
- Sveningsson, M. 2015. "It's Only a Pastime, Really': Young People's Experiences of Social Media as a Source of News About Public Affairs." *Social Media + Society* 1 (2): 2056305115604855. doi:10.1177/2056305115604855.
- Trilling, D., and K. Schoenbach. 2015. "Challenging Selective Exposure." *Digital Journalism* 3: 140–157. doi:10.1080/21670811.2014.899749.
- Vraga, E., L. Bode, and S. Troller-Renfree. 2016. "Beyond Self-Reports: Using Eye Tracking to Measure Topic and Style Differences in Attention to Social Media Content." *Communication Methods and Measures* 10 (2–3): 149–164. doi:10.1080/19312458.2016.1150443.
- Winter, S., M. J. Metzger, and A. J. Flanagin. 2016. "Selective Use of News Cues: A Multiple-Motive Perspective on Information Selection in Social Media Environments." *Journal of Communication* 66 (4): 669–693. doi:10.1111/jcom.12241.
- Zillmann, D., and J. Bryant. 1985. *Selective Exposure to Communication*. London: Routledge.