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ORIGINAL ARTICLE

News Media, Knowledge, and Political Interest: Evidence of a Dual Role From a Field Experiment

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Political knowledge and political interest are generally positively influenced by news media exposure. Yet, at the same time, knowledge and interest are among the most important predictors of news media exposure in the first place. We conduct a field experiment (N = 393) as a test of this dual function of knowledge and interest in a realistic news media choice setting. We examine whether preexisting interest and knowledge predict which individuals can be encouraged to read an unfamiliar information-rich newspaper, and if using this newspaper, in turn, has effects on interest and knowledge. Results show that interest and knowledge are predictors of compliance in the experiment. While political knowledge shows some response to the additional news exposure, interest remains stable.

Keywords: News Media Choice, News Media Effects, Knowledge, Interest, Field Experiment.

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The relationship between news media use on the one hand and political interest and knowledge on the other is at the very core of political and communication scholarship. By and large, research has found a positive relationship between news media usage and interest and knowledge, while also pointing out the reciprocal nature of this relationship (Strömbäck & Shehata, 2010). In the changing media landscape, with a proliferation of information sources that citizens can turn to or neglect, we need to reassess some of our knowledge about the news usage—interest/knowledge nexus. Taking a step back to investigate which citizens are most prone to self-selecting information rich news sources and who are not, is a first step in trying to understand the underlying dynamics of choices before looking at the effects of such choices.

In this article, we consider the dual role that political interest and knowledge can play (see De Vreese & Boomgaarden, 2006; Strömbäck & Shehata, 2010). On

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the one hand, political interest and existing knowledge are key predictors of news media usage (e.g., Strömbäck, Jenssen, & Aalberg, 2012); on the other hand, both are important dependent variables to consider in terms of effects of media use. Boulianne (2011, p. 149) aptly summarizes these two perspectives as the media playing a role in “stimulating political interest and engagement” vis-à-vis the news media being “an information tool for those already interested and engaged in politics.” Surprisingly, this dual theoretical proposition has mostly been neglected in extant research that has tended to either address the selection process or the effect side.

We specifically want to integrate the self-selectivity—in a high-choice media environment—with the effect perspective. Most research has looked at interest as an antecedent of media use (e.g., Eveland, Hayes, Shah, & Kwak, 2005), but Strömbäck and Shehata (2010) demonstrate the reciprocal role of interest in media environments. In fact, in some cases, media use might even have a stronger impact on interest than vice versa (Boulianne, 2011). In developing our understanding of this dynamic, we develop hypotheses based on a combination of insights from selective exposure, knowledge gap, and the political learning literature. We explicitly position our study in this intersection of literatures, some burgeoning in current research and some offering a longer standing perspective.

We conducted a field experiment, in which we encouraged participants to use an information-rich newspaper they do not usually read. Using a panel survey design, we then measured changes in interest and knowledge before and after this encouragement. Field designs allow for the simultaneous measurement of news media choice, and an estimation of effects in a real-world setting, leaving the common disadvantage of forced exposure and constructed stimuli behind (Gerber, Gimpel, Green, & Shaw, 2011; Gerber & Green, 2000; Green, Calfano, & Aronow, 2014; Moehler & Conroy-Krutz, 2016). We believe there are fundamental questions of a nontrivial nature underlying our endeavor: Under what circumstances can people’s news use increase and what are the effects of news use?

News media effects and the influence of choice

News media effects research increasingly attempts to determine news media choice, that is, which media are consumed in the first place. This is only natural, as news consumers now have an almost unlimited choice of political news media outlets at their disposal (Neuman, 1996; Prior, 2007). This multiplication of news channels has gone hand-in-hand with more political information in both traditional media outlets (Esser et al., 2012) and in new arenas (e.g., Thorson & Wells, 2016). These changes have contributed to a fragmentation of audiences (Webster, 2005), and selective and opinion-consistent media use behaviors among citizens further increase information gaps. In fact, an increasing number of scholars argue that high-choice media environments make it at least in principle easier for citizens to avoid new political information altogether (Aalberg, Blekesaune, & Elvestad, 2013; Prior, 2005, 2007). In any way, such changes in the media landscape imply that *motivation* is of key importance

for understanding choice (Elenbaas, de Vreese, Schuck, & Boomgaarden, 2014; Prior, 2010).

Unsurprisingly, these changes have important implications for news media effects research. Among questions of a new minimal effect paradigm (Bennett & Iyengar, 2008), operating in a high-choice media environment requires an increased systematic amalgamation of concepts from the media choice literature into news media effects studies. Within the media choice literature, individual self-determination of media exposure is central (e.g., Arceneaux & Johnson, 2010; Donsbach, 1991; Garrett, Carnahan, & Lynch, 2013; Knobloch-Westerwick, 2015). For instance, research on selective exposure has shown that individuals habitually choose political information that matches their beliefs, and therefore avoid new and unfamiliar information (Garrett et al., 2013; Zillmann & Bryant, 2013). This suggests that the outcome-centered view that many news media effects studies take might not be realistic for much longer. Traditionally, scholars that focus on news media effects tend to rely on theories that describe how individuals process and are influenced by the news (McCombs, Holbert, Kioussis, & Wanta, 2011; Scheufele & Tewksbury, 2007). Most available studies thus forcefully expose individuals to news coverage, and measure the process and extent of any following effects. Their conclusions are, obviously, challenged by the fragmented and high-choice media environments discussed above.

We argue that the way forward is the combination of choice and effects mindsets in mass communication research, which requires the simultaneous empirical study of what *predicts* news media choice, alongside a measurement of what its *effects* are (Eveland & Schmitt, 2015). This requires the setup of realistic choice sets in empirical studies, which pair observations of an individual voluntarily exposing her or himself to novel or unfamiliar news content with the measurement of its effects (Green et al., 2014; Moehler & Conroy-Krutz, 2016). We present such a research design in the form of a field experiment. We perform a comprehensive choice-effect study, where participants are encouraged (and not forced) to use an unfamiliar quality newspaper during a 4-week period of time. This allows us to test both what predicts choice, as well as the effects of this choice. To enhance the viability of such a study, we focus on two variables that play an important role in predicting news media choice as well as in its effects: political interest and political knowledge.

Political interest and knowledge: A two-way street

Recent research in communication has paid increased attention to developing reciprocal models of media effects, where both contextual and individual variables may function as predictors of news media effects, but are also influenced by them (e.g., Möller & de Vreese, 2015; Slater, 2007; Valkenburg & Peter, 2013). Along these lines, media effects are conceptualized as an over-time process of reinforcing structures and habitual media use. This process is particularly intriguing when one factors in the dynamics of media choice as expressed above. Certain individual-level variables predict media choice, but are then in turn reinforced, changed, and dented by

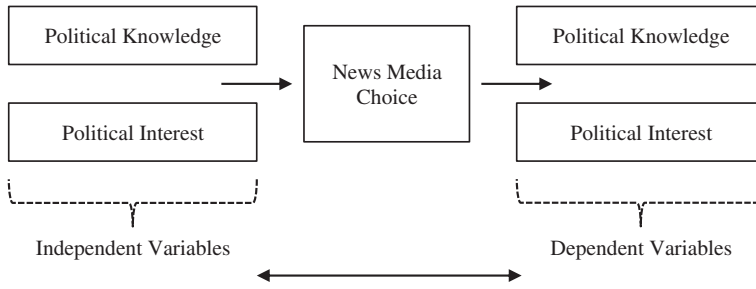


Figure 1 The dual role of political knowledge and political interest in news media effects.

consequential media choices. If this occurs, it will render discussions of minimal effects with more nuance, as choice made based on previous preferences does not immediately lead to the absence of media effects.

To study these choice-effects dynamics, we look at two key concepts that have long played a two-edged role in news media effects research: interest and knowledge. Some people are more interested in politics than others and this is vastly important—in the words of Prior (2010, p. 747), “because political interest is typically the most powerful predictor of political behaviors that make democracy work.” Political knowledge is in part a function of political interest and one of the most crucial concepts in understanding democratic citizenship and political participation (Delli Carpini & Keeter, 1997). Indeed, research has shown that knowledge and interest function as *predictors* of news media choice and avoidance. However, the concepts are also *affected* by news use. A dynamic model of news media choice and effects thus depends on a two-step assumption including interest and knowledge as both independent and dependent variables (see Figure 1).

Route 1: Political interest and knowledge predict news media choice

Research on the role of interest and knowledge in news media choice is most often approached in knowledge gap research, where scholars consider the circumstances under which individuals can learn from the news (Tichenor, Donohue, & Olien, 1970). Knowledge gap research was originally focused on a lack of ability to understand and process political information, resulting in limited information gain for those at the lower end of the educational scale. Yet, in many developed countries, this lack of ability is less of a pertinent issue, given that rising education levels and limited effects of media on interest and knowledge are connected to lack of motivation or the preference of entertainment content over political content. However, there is evidence that *encouraging* citizens to use news can be successful (Scheufele & Nisbet, 2002), under certain circumstances. If this is the case, civic education initiatives and those interested in increasing news media literacy are validated in their efforts to convince a weary citizenry to consume more “hard” news.

A first argument in this study is that such encouragement of news media use depends heavily on preexisting levels of political interest and knowledge. We test this by means of an active intervention where the choice set for a citizen is expanded by offering an opportunity to get access to an information rich news medium. As we have argued above, there is ample evidence that both interest and knowledge predict the use and processing of political news (e.g., Eveland et al., 2005). For instance, Strömbäck and Shehata (2010) find that political interest strongly predicts attention to news. Equally, Möller and de Vreese (2015) show a strong influence of political knowledge on news use (see also, e.g., Eveland et al., 2005). This tallies with results from news media effects research, where political knowledge is often used as a predictor of the acceptance of media content (e.g., Schuck & De Vreese, 2006; Slothuus, 2008). Drawing from this research showing that interest and knowledge are predictors of news selection, we thus expect:

H1a: Individuals with high levels of political interest are more likely to accept an unfamiliar information-rich news media choice than those with low interest.

H1b: Individuals with high levels of political knowledge are more likely to accept an unfamiliar information-rich news media choice than those with low knowledge.

Route 2: News media use influences political interest and knowledge

The question of how disengaged citizens can be rendered more politically interested and knowledgeable about politics by means of news media exposure has interested mass communication scholars for decades (Aalberg et al., 2013; Albaek, van Dalen, Jebriil, & de Vreese, 2014). Studying effects on interest and knowledge is crucial, as these two variables are seen as important antecedents of political and civic participation, as well as good citizenship (Delli Carpini, 2004). While there are competing hypotheses on the activating or disengaging effects of news use on interest and knowledge in the literature (De Vreese, 2005), the available empirical evidence clearly suggests a positive relationship between political news use and interest and knowledge (Aalberg et al., 2013).

Effects on political interest are most commonly studied in longitudinal panel studies (Boulianne, 2011; Kenski & Stroud, 2006; Strömbäck & Shehata, 2010), probably because its stability is often not seen as conducive to the short-term nature of survey experimentation. However, by and large, studies that monitor interest over time support the idea that news use increases interest. However, they also find that any positive effects depend on the content and form of the news that is consumed. For instance, Strömbäck and Shehata (2010) show that increased news media use has positive effects on political interest, but only when quality or substantive news media, such as public broadcasting, are consumed. Equally, watching television news has been shown to have the largest influence on interest, above reading news in print (Boulianne, 2011).

Political knowledge seems even more dependent on news media exposure, and scholars have repeatedly argued that the mass media are one of the main sources of

political knowledge for citizens (De Vreese & Boomgaarden, 2006). As is the case for interest, the available research on political learning or knowledge frequently finds that increased use of political news is related to knowledge gain (Chaffee & Kanihan, 1997; Eveland & Scheufele, 2000; Kenski & Stroud, 2006). However, naturally, this gain varies according to a number of variables, such as age, gender, or education levels (Prior, 2005).

While there is thus ample evidence stemming from panel survey or cross-sectional data on the positive effects of news on interest and knowledge, what is largely missing from the literature are attempts to integrate these findings with media *effect* studies. So far, only a few experimental studies have used political knowledge and interest as their dependent variable. A recent exception is presented by Eveland and Schmitt (2015), who test the effects of political news and discussions on knowledge. Interestingly, their findings support previous research on the positive effects of substantive news exposure on knowledge gain. While this suggests that existing findings stemming from observational studies also hold in an experimental design, there are questions regarding the magnitude of this effect, particularly given the high-choice media environment many individuals in the Western world find themselves in (Jerit, Barabas, & Clifford, 2013). That said, Shehata, Hopmann, Nord, and Höijer (2015) showed that knowledge gains can also happen inadvertently, even in a high-choice environment. Using four-wave panel data, they show that watching public service news, regardless of motivation, created learning. Underlying this finding is a question of how influential supply is. Will the clearly beneficial effects of news use still hold when news exposure is only encouraged and not forced? We formulate our hypotheses based on prevalent theory, and argue:

H2a: Encouraging participants to read an unfamiliar information-rich newspaper will lead to an increase in political interest.

H2b: Encouraging individuals to read an unfamiliar information-rich newspaper will lead to an increase in political knowledge.

Methodology

Many studies focusing on the role of political knowledge and interest in communication have opted for observational designs (e.g., Aalberg et al., 2013). Yet, observational designs have an inherent shortcoming: Supply side, not random experimental assignment, determines exposure to new media choices. This means that the effects of novel media choices cannot be directly connected to changes in political interest and knowledge. This shortcoming holds true, even when “researchers control for an impressive array of possible confounding variables in an effort to mitigate the threat of bias” (Green et al., 2014, p. 168).

During recent years, a growing number of communication scholars have therefore opted for experimental designs when studying news media effects (Gaines, Kuklinski, & Quirk, 2007; Moehler & Conroy-Krutz, 2016). These designs have the advantage of

control of treatment and randomized groups. Yet, they also generally function on the basis of forced exposure, and participants know in advance that they are required to read certain news material. This substantially influences how participants process and respond to news media (Jerit et al., 2013). Experimental designs examining selective behavior often give participants the choice between different headlines or news outlets (Arceneaux, Johnson, & Murphy, 2012). Still, participants in these studies are aware that they have to make a choice, and that this choice will be observed. One solution for this problem is the use of a field experiment. While field experiments are a standard in medical and economic research, they are somewhat less common in communication effects research (see Gerber, Karlan, & Bergan, 2009). Field experiments comprise all of the benefits of the more common laboratory designs, but test effects in a natural setting, using only encouraged and not forced experimental treatment (Gerber & Green, 2000; Graves, Nyhan, & Reifler, 2016; Green et al., 2014).

Design and procedure

To test our hypotheses, we conducted a randomized field experiment. This means that, after filling in a recruitment questionnaire, participants in our study were randomly assigned to either a treatment or a control group. We then exposed those assigned to the treatment group to our experimental manipulation of news media choice, that is, the offer of a free subscription to a quality newspaper, which they do not regularly read, for a period of 4 weeks. After this time, we measured the dependent variables by means of a follow-up online questionnaire. Instead of asking participants to read the newspaper, we simply encouraged the media choice by sending them an invitation for a free month-long newspaper subscription. As stated above, this represents a simple, but also effective, form of measuring encouragement and media effects by means of experimental manipulation. By abandoning forced exposure, we ensure that treatment effects are closer to “real-life” effect sizes.

However, in line with our hypotheses, we add another layer of analysis to this field experiment. The average treatment effect based on randomized assignment consists of comparing the control group to the treatment group, which in turn consists of those who went on to read the newspaper (compliers), and those who rejected the encouragement and did not read the newspaper (noncompliers). Given our focus on news media *choice* and the success of encouragement to increase news media use, we are also interested in zooming in on the question of why some participants accepted the treatment, while others did not. This requires the analysis of our data of compliers as a de facto nonrandomized field experiment. In this way, we are able to determine what the infusion of additional knowledge into a system does to a randomized group, as well as to those who accept or do not accept this media choice. However, the use of both randomized and nonrandomized data has important consequences for our data analysis, which we describe further below.

We embedded the field experiment within a larger election panel wave survey conducted at the University of Amsterdam in the run-up to the 2014 European Parliamentary (EP) Elections. This panel survey consisted of four waves, and collected

observational data about electoral behavior before and during the 2014 EP elections in The Netherlands (De Vreese, Azrout, & Möller, 2014). The experiment was conducted by using the last two waves of the panel survey. Four weeks before Election Day, a group of panel participants was branched off from the bigger panel survey sample. These participants were asked whether read the quality newspaper *NRC Handelsblad*; those that did not were chosen for the experiment. *NRC Handelsblad* is one of the most widely read broadsheets in The Netherlands, and usually contains rich and high-quality Europe-related news coverage. For the field experiment, the researchers obtained free online subscriptions for use in their study from *NRC Handelsblad* as a research partner.

We randomly distributed participants into the treatment and control group. We then offered participants in the treatment group a free 4-week subscription to the e-version of the newspaper, using the following text¹:

On behalf of NRC Handelsblad, TNS Nipo and the University of Amsterdam, we would like to distribute a number of free online subscriptions to participants in this survey. With this online subscription, you will be able to read the newspaper on your mobile, tablet, e-reader, and computer during the coming weeks. The subscription is free, and no other obligations are connected to it. The subscription will be ended automatically at the end of the indicated period of time.

Please click on the following link [weblink] to activate your access. Use the following login and password during the activation process: [login/password].

We hope you enjoy this free subscription to NRC Handelsblad!

Kind regards,

TNS Nipo and the University of Amsterdam.

Four weeks later, we sent all participants the posttest questionnaire.

Sample

As this field experiment was part of a larger panel survey, participants were members of an existing panel, recruited by *TNS Nipo*, a national research company. The sample used for the field experiment comprises adult citizens, roughly comparable to the census breakdown on key social demographics. As indicated above, we branched off a number of participants in a running panel wave survey during the 2014 EP election campaign. The research company contacted participants and asked them if they usually read *NRC Handelsblad*, then allocated those answering “no” to the experiment. Initially, 447 participants were routed into the experiment trajectory and asked whether they read the newspaper we had indicated as stimulus. Of those who answered in the negative, 90 participants were routed to complete both waves for the control group, and 303 participants for the treatment group. The number of participants in the treatment group was larger, because we expected many participants not to accept the treatment. Overall, participants were between 18 and 85 years old

($M = 49.40$, $SD = 16.03$), and 51.4% of the sample was female. For a manipulation check, we asked participants in the posttest whether they had received an invitation for a free subscription to *NRC Handelsblad* (yes = 303; no = 90).²

Stimulus material and interim period

We obtained free subscriptions to *NRC Handelsblad* from the newspaper as a research partner. These free subscriptions were not limited to any particular part of the newspaper or day of the week. As mentioned above, we chose *NRC Handelsblad* because it typically produced information-rich coverage on the EP election campaign during the subscription period. In addition, it is a respected and balanced newspaper, and we did not expect many participants to reject the subscription based on ideological reasons (as would, e.g., be the case for a tabloid or explicitly partisan news outlet). During previous EP election campaigns, *NRC Handelsblad* offered a lot of coverage in the weeks leading up to the elections. Results from a content analysis (reported in De Vreese et al., 2014) conducted leading up to and during data collection confirmed these assumptions. This content analysis ($N = 643$) showed that, in a random sample of articles taken from the political section of *NRC Handelsblad*, 39.1% of all articles analyzed explicitly dealt with the EP elections, and that 41.7% of stories mentioned the European Union or its institutions and policies at least once.³

Measures

News media choice

To test our first set of hypotheses, we needed to know the extent to which participants accepted the encouragement for an additional news media outlet. We thus asked participants whether they made use of the offered newspaper subscription. Within the treatment group, 54 participants answered “yes,” while 249 answered “no.” This equals an 18% compliance rate within our field experiment.

Political interest

We measured political interest in the European Union (EU) by means of two items in pre- and posttest: interest in the EU in general, and interest in the EP election campaign specifically. We used a 7-point Likert-type scale, ranging from “not at all interested” to “very interested” (pretest: $M = 6.46$, $SD = 3.08$; posttest: $M = 6.29$, $SD = 3.10$). Cronbach’s alphas were .874 in the pretest and .780 in the posttest (see Table A1 for full item wordings).

Political knowledge

We measured general political knowledge about the EU by means of three factual knowledge questions in pre- and posttest. We asked about the correct number of Dutch Members of the European Parliament (MEP) after the 2014 elections, the current number of EU member states, and the current EP president. Each question was multiple choice with five answer categories and a “do not know” option (see Table A1 for full item wordings). We recoded all three items into “1” for a correct, and “0” for

false answer, and then added them up to a scale ranging from 0 to 3 (pretest: $M = .74$, $SD = 1.07$; posttest: $M = .92$, $SD = 1.00$). In addition, we also measured *media-specific knowledge* in the posttest. This means that we asked participants three knowledge questions regarding the actual content of the newspaper during the last 4 weeks. We again recoded these knowledge questions into “1” correct and “0” incorrect, and added into a scale from 0 to 3 ($M = .76$, $SD = .28$).

Analysis

We analyzed H1a and H1b by means of logistic regression. For this regression, we only focused on the treatment group, distinguishing between compliers and noncompliers of our extra newspaper choice. To test H2a and H2b, we analyzed the data obtained from our field experiments in two steps: First, we conduct an intention-to-treat analysis (ITT), comparing all those assigned to a treatment group to the control group. This is the most accepted method of analyzing field experimental results (Armijo-Olivo, Warren, & Magee, 2009; Gerber et al., 2009), because randomization is guaranteed. ITT shows how effective the treatment is in a real-life media choice situation. A second step for H2a and b contains an as-treated analysis, which takes into account effects on those that actually accepted the experimental treatment (compliers vs. noncompliers). In this sense, we do not long consider who was assigned the treatment in the first place, but only focus on those who actually reported to have received as well as read the newspaper in question. Naturally, the as-treated analysis introduces bias into the analysis, as randomization is no longer guaranteed. We examine the consequences of this bias in our Discussion section. What this analysis can say, however, is how the acceptance of additional media choice will influence participants later on. The absence of randomization in an as-treated analysis requires the inclusion of control variables, and we control for age and gender and education in this analysis.⁴

Results

Interest and knowledge predict news use

As reported above, 54 participants in the treatment group accepted the additional media choice. This is a noncompliance rate of 82%. To test, whether political interest (H1a) and political knowledge (H1b) predict this choice, we conduct a logistic regression, with compliance/noncompliance towards the additional news media choice as a dependent variable (Table 1). We additionally control for age and gender in this model.⁵ As predicted, increased political interest was associated with an increased likelihood to comply ($b = .115$, $SE = .053$, $p < .01$, $OR = 1.122$), as was increasing political knowledge ($b = .263$, $SE = .134$, $p < .05$, $OR = 1.301$). The chi-square for the model was 13.013 at $p < .05$. This means that H1a, as well as H1b, are supported.

Following this, we conducted *t*-tests to test how compliers and noncompliers differed regarding other variables. Results showed that there are other significant differences between the groups in terms of political cynicism (compliers: $M = 4.51$, $SD = 1.06$, noncompliers: $M = 4.96$, $SD = 1.24$, $t(301) = -2.44$, $p < .05$ test, for

Table 1 Predicting Compliance (vs. Noncompliance) to Encouragement

	<i>B</i>	<i>SE</i>	<i>OR</i>
Political interest	.115**	.053	1.122
Political knowledge	.263**	.134	1.301
Age	.002	.010	1.061
Gender	.059	.313	1.002
Intercept	-2.684***	.648	.068
Correctly predicted (%)	82.2		
χ^2 (degrees of freedom)	11.351(4)**		
Nagelkerke R^2	.069		
<i>N</i>	303		

Note: Binary logistic regression (unstandardized beta coefficients, standard error, exp.[*B*]/odds ratios).

* $p \leq .10$; ** $p \leq .05$; *** $p \leq .01$ (two-tailed).

example, “*Most politicians are in politics for their personal gain*”) and EU attitudes (compliers: $M = 2.97$, $SD = 1.12$, noncompliers: $M = 2.61$, $SD = 1.10$, $t(301) = 2.176$, $p < .05$, for example, “*Decision-making within the European Union is transparent*”), but not media cynicism (compliers: $M = 3.50$, $SD = .70$, noncompliers: $M = 3.44$, $SD = 1.03$, $t(301) = .404$, $p > .05$, for example, “*The media report the news honestly and balanced*”).

Encouragement has effects on interest and knowledge

Our second set of hypotheses stated that, when encouraged to use a new newspaper, participants will experience an increase in interest in the EU (H2a) and will gain knowledge (H2b). We test this hypothesis by first considering the randomized treatment group in comparison to a control group. Table 2 shows that, in the ITT analysis, there was no significant interest of EU interest between treatment and control group ($t(391) = .760$, $p > .05$). The same is true when comparing within-subject differences for the treatment group at the outset of the experiment and 4 weeks later. This suggests that reading the newspaper has not led to an increase in interest ($t(302) = .887$, $p > .05$). An analysis of covariance (ANCOVA) including control variables for the as-treated analysis shows a systematic difference between compliers and noncompliers within the sample, suggesting that compliers have a higher level of EU interest after exposure to the newspaper ($F(1, 301) = 10.93$, $p < .01$). However, the within-subject comparison also displayed in Table 2 shows that this difference was already apparent before experimental treatment. In sum, H2a was not supported.

H2b tested whether participants could increase their levels of knowledge by using an unfamiliar newspaper. Again, the ITT analysis shows no significant average treatment effect on knowledge in a between-subject comparison. However, as Table 2 shows, the within-subject ITT analysis suggests a small but significant increase ($t(302) = -3.19$, $p < .01$; Cohen's $d = .19$). Comparisons showed an increase in

Table 2 Effects of Encouragement on European Union (EU) Interest and Knowledge

	Intention-to-Treat Analysis				As-treated Analysis			
	Between-subjects		Within-subjects		Between-subjects		Within-subjects	
	Treat (N = 303)	Control (N = 90)	Pretreat (N = 303)	Posttreat (N = 303)	Compliers (N = 54)	Noncomp. (N = 249)	Pretreat (N = 54)	Posttreat (N = 54)
EU interest	6.30 (3.10)	6.24 (3.09)	6.41 (3.10)	6.30 (3.10)	7.72 ^a (2.85)	6.00 ^b (3.07)	7.57 (3.05)	7.72 (2.85)
EU knowledge	.950 (1.02)	.822 (.931)	.752 ^a (1.09)	.950 ^b (1.02)	1.35 ^a (1.08)	.863 ^b (.986)	1.14 ^a (1.23)	1.35 ^b (1.08)

Note: Table shows means (standard deviations). Intention-to-treat refers to a comparison in a randomized experiment, that is, between all participants allocated to the treatment or control group at the outset of the experiment. As-treated refers to an analysis of just those who would accept the experimental treatment between pre- and posttest within the experiment (interim period: 4 weeks). The as-treated analysis contains the following control variables: age, gender, and education. Different *ab* superscripts indicate a significant difference ($p < .05$) between treatment and control groups at the posttest (*between-subject*), and between pre- and posttest (*within-subjects*) for those in the treatment group (intention-to-treat), or those who accepted the treatment (as-treated) in the experiment; higher mean values indicate greater interest and knowledge about the EU.

knowledge for the treatment group of .20, whereas the control group only showed an increase of .12. This provides initial support for the second hypothesis. The as-treated analysis corroborates this finding: Compliers had a significantly higher level of EU knowledge after reading the newspaper, compared to noncompliers ($F(1,301) = 7.38$, $p < .01$). This comparison holds in a within-subject comparison. A repeated measures ANCOVA shows that time plays a significant role in increasing EU knowledge ($F(1, 53) = 6.65$, $p < .05$, $\eta^2 = .12$). However, importantly both compliers and noncompliers showed an increase in knowledge (compliers = .21; noncompliers = .20).

In addition, we tested this hypothesis by asking compliers to answer a range of questions regarding content that was specifically displayed in the newspaper during the data collection period (“media-specific knowledge”). Participants in the treatment group answer these knowledge questions better ($M = .089$, $SD = .307$) than those in the control group ($M = .033$, $SD = .183$), but the average treatment effect is not significant ($t(391) = 1.63$, $p > .05$). Yet, the as-treated analysis shows that compliers display significantly higher media-specific knowledge ($M = .296$, $SD = .536$) compared to noncompliers ($M = .044$, $SD = .205$, $F(1,301) = 30.30$, $p < .001$). This further supports first conclusions regarding a learning effect (H2b) of the encouragement intervention.

Discussion

Understanding why citizens turn to political news and what the effects of their news media choices are belongs to the absolute core of the communication science research agenda. In this study, we investigated the dual role that political knowledge and interest play in this dynamic. Our findings show that both knowledge and interest predict the likelihood that an individual will accept an additional news media choice. Once they have done so, compliers can experience a knowledge gain, while interest remains stable. This highlights the two-sided role that these concepts play. We offer empirical support for the idea that political knowledge is more malleable than political interest. While knowledge and interest both predict usage, the effects are in particular found on knowledge.

We argue that this has at least five implications for political communication research going forward. First, it dovetails with extant research that suggests that political interest is a relatively stable concept—as eloquently put by Prior, who suggested that you either “have it or not” (Prior, 2010). As Prior points out, “politically uninterested people can more easily avoid news exposure than in the past, while the interested seek out more news, learn more about politics, and participate at higher rates” (2010, p. 747). This is not to say that political interest cannot be affected and more generally this seems to point more in the direction of a reciprocal relationship (see also Strömbäck & Shehata, 2010) for which conditionalities still need to be specified. For now, this means that future research should use political interest as a predictor and moderator, but that it could be of less use as a dependent variable in media effects designs.

Second, we can illustrate the crucial role that political knowledge plays when considering news media effects as an over-time process. Showing a similar choice-effect pattern with the related concept of political efficacy, Möller, de Vreese, Esser, and Kunz (2014) had previously suggested that news usage affects internal political efficacy positively. This boost in internal efficacy is then, in turn, a significant predictor for first-time voting. Such an indirect “pathway to political participation” through internal political efficacy may thus also be extrapolated from our study when looking at knowledge, where knowledge both drives media selection and is positively affected by this choice, thus increasing the likelihood of, and motivation for, future selection of information-rich sources (see also Elenbaas et al., 2014). This also corroborates findings by Eveland and Schmitt (2015), who show the positive effects of substantive news exposure on knowledge gain.

This also contributes to (future) research on the reciprocal nature of the relationship between political knowledge and media use in younger citizens. Möller and de Vreese (2015) suggested that news media are indeed an impetus for learning, but that this process is also optimized when there are higher levels of existing knowledge. Pursuing the notion of “spirals” (Slater, 2007), they used panel data and growth curve modeling supporting the idea of a spiral of political learning. Möller and de Vreese (2015) found that the influence of political knowledge on news use was higher than the other way around, which—in a more general sense—points to the importance of considering not only news media as an initial source of knowledge, but also the broader social context as well as educational resources. Considering other potentially positive influences beyond news media is also important in the light of the high degree of noncompliance in our study. First, noncompliers in our study scored higher on for example political cynicism, which could imply that opting out of opportunities for (additional) political information is stronger among some citizens, and that such behavior does not necessarily depend on media-related predictors. This would indeed square well with observations about how the current media landscape is far from conducive to all citizens in terms of participating in democratic processes (Knobloch, 2011), and expressions of public opinion (Herbst, 1993). The strong focus on political knowledge in our field is thus justified, and political knowledge is a crucial variable in estimating media effects over time.

Third, increasing news media supply (Esser et al., 2012), which arguably lowers the accessibility and cost, is indeed a necessary but evidently not sufficient condition. Additional nudging or knowledge from other influences also appears to be necessary. However, it is also important to note that in the absence of a sufficient supply of political information in the public sphere, such mechanisms are thus much less likely to enter into effect. As observed by Bennett and Entman (2000, p. 6), the “political communication environment shapes both the information available and the ways ordinary people use it in thinking about politics.” Comparative studies, such as by Soroka et al. (2013), have also pointed to such context factors; Soroka points out that citizens in countries with strong public broadcasters with more independence and public finance have greater political knowledge than citizens in other contexts, thus

highlighting the importance of systemic factors (see also Iyengar, 1990). In sum, who can learn from news, and under which conditions, promise to be fruitful endeavors for future research (Kruikemeier, Lecheler, & Boyer, in press).

Fourth, our study teaches us a number of lessons with respect to the topic under study: the EU. EU topics have generally not been at the center stage of politics or political news in Europe (Boomgaarden, Vliegthart, De Vreese, & Schuck, 2010). However, this is changing in the wake of the economic crisis, the current migrant crisis, and Brexit, and previous research has highlighted how specific information in the news can positively affect EU knowledge (Elenbaas et al., 2014). Our study shows that such an upward knowledge spiral can be stimulated by increasing access to EU information in the media. Knowledge about the EU is an important outcome in and of itself, but it is even more relevant because it relates to EU attitudes more broadly (Karp, Banducci, & Bowler, 2003), which at the end of the day affects the legitimacy of the EU.

Lastly, we want to stress that field experimentation seems to be the way forward in producing externally valid estimates on media and news effects (see Gerber et al., 2009; Graves et al., 2016). During recent years, a growing number of studies have criticized the use of laboratory or online survey experiment to gauge the effects of news exposure (Jerit et al., 2013). In this line, field experiments seem to be the way to go to enrich findings from laboratory experiments with results that show how citizens interact with media in “real life” (Gerber & Green, 2000; Green et al., 2014). Beyond that, they also have an inherent longitudinal aspect, thereby answering questions that have been posed regarding the longevity and strength of news media effects (Baden & Lecheler, 2012). Also, field experiments are well suited for future research studying the dual role of political knowledge and interest in contemporary media use environments, such as on social media networks (Bakshy, Messing, & Adamic, 2015).

The study has a number of caveats. First and foremost, our sample is modest for a field experiment and given the low, albeit expected, rate of compliance, we experience serious limits as to both the analysis options and the power of the study. Ideally, field experiments are “grandier” in scope but obviously, this puts the bar even higher for moving outside the lab. Second, we have no doubt that our observations are limited by more in-depth data as to *how* participants used the provided online newspaper subscription. Because our study was part of a larger design, we saw no website statistics as to who logged in and how long they read the provided news content. Therefore, we put in place a number of manipulation checks to gauge media choice. Future studies focusing on online news reading could work with a combination of such checks and user tracking data to better define the independent variable. Third, we acknowledge that we focused on one medium outlet in this study. In future research, we would like to increase the number of outlets so as to create a choice set for the participants and approach the selection dynamics in even greater detail. A fourth caveat is the single topic of the field experiment, the EU, which does not allow us to draw inferences about effects that might be conditioned by the nature of the topic. A fifth caveat is our as-treated analysis. Only the ITT analysis provides ideal conditions for causal

inference. As is, the relationship between the “compliers” group and political knowledge and interest is no longer based on randomization, and we can no longer purely attach any experimental effects to our manipulation. However, we chose to include the as-treated analysis, simply because our hypotheses focus on differences between compliers and noncompliers within the context of encouragement to use additional news media. These caveats notwithstanding, our field experiment provides an innovation in the study of media, knowledge, and political interest, both in terms of research design and in terms of theoretical insights.

Notes

- 1 Text translated from Dutch into English.
- 2 This “perfect” score for the manipulation check can be explained by our method of data collection: The field experiment was part of a large-scale election panel study, where individuals received the invitation as part of their participation within the panel.
- 3 Detailed documentation on the content analysis is available from the authors upon request.
- 4 Age ($M = 49.40$, $SD = 16.03$), gender (61.4% female), education (measured from 1 to 7, with 7 indicating Master-level education; $M = 4.32$, $SD = 1.64$).
- 5 Given the small size of compliers within our study, we test a parsimonious model, including only four predictor variables.

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