



News, Political Knowledge and Participation: The Differential Effects of News Media Exposure on Political Knowledge and Participation

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This cross-national study investigates the relationship between media and political knowledge and participation. Drawing on panel surveys and news media content analyses the study links exposure and attention to specific media contents to changes in political knowledge and participation. While the literature on this issue is divided, this study shows that the positive effects of news media exposure outweigh the negative effects and that the effects are conditional upon actual content. Exposure to news outlets with high levels of political content (such as public television news and broadsheet newspapers) contributes the most to knowledge gains and increases the propensity to turn out to vote. Exposure to news outlets with less political content has either no effects or slightly positive effects, depending on the type of content. In other words, the effects of news media use on knowledge and participation are rather 'virtuous' than 'vicious'. The results are discussed in the light of research on media effects and political participation.

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Introduction

Public knowledge of and participation in politics are at the core of democratic processes. The quality of citizenship and the health of the collective are preconditioned by political knowledge and there is a positive relationship between knowledge and the act of voting (Delli Carpini and Keeter, 1996). Generally, scholars agree that the media play a role in the process of public learning and engaging in politics. However, the literature is divided on this matter, with some focusing on the informative and mobilizing role of the media (e.g., Neuman *et al.*, 1992; Norris, 2000; Dalton, 2002) and others on the contribution of the media to public cynicism, political inefficacy, and



disengagement (e.g., Robinson, 1976; Cappella and Jamieson, 1997; Schulz, 1998; Putnam, 2000).

This study investigates the relationship between media content and political knowledge and participation in elections. We draw on previous research and address some of the questions arising from the scholarly (and popular) debate about the relationship between media and public knowledge about and engagement in politics. First, we disentangle the term 'the media' and hypothesize different relationships depending on different media outlets. Second, and in our view very importantly, we follow Slater's (2004) advice and relate our media use and exposure measures to the actual content of the media when assessing the impact of exposure on political knowledge and participation. Knowing whether the news in a given outlet reported on, for instance, international affairs topics makes a positive relationship between exposure to news in that outlet and knowledge about international affairs more tangible.

Our study utilizes panel survey data to assess the direction of the relationship between media and citizens' knowledge about and participation in politics. It distinguishes different types of media and hypothesizes differential effects depending on the content of these media. It finally suggests that the effects depend upon individuals' pre-existing levels of knowledge so that media influence is contingent rather than omni-present. We aim to add important nuances to the on-going debate about 'virtuous' or 'vicious' effects of the media by emphasizing actual media *content* as an important part of the equation.

The Independent Variable 'The Media'

Previous research is very heterogeneous with respect to the contribution of 'the media' to democratic processes. Sweeping generalizations about media malaise (e.g., Robinson, 1976) or virtuous circles (e.g., Norris, 2000) are increasingly replaced by differentiating arguments and evidence emphasizing the contingency of media effects. Some research focuses on the differential effects of *newspapers and television*. Robinson and Davis (1990) found that newspaper readers are more informed than those who rely on television, while, for example, Graber (1990) demonstrated television news' superiority in terms of audience learning. Carpini and Keeter (1996, 145–146, 183) found positive effects of newspaper reading on political knowledge and no systematic effects of television news watching. Neuman *et al.* (1992) provide a thorough analysis of the differential effects of television and newspapers as sources of knowledge. They show that whether people learn more from either one of the two sources is contingent upon issue salience and complexity as well as peoples' cognitive skills and level of interest in the issue. Exposure to television is related to



learning about low salience issues, whereas exposure to print is related to learning about high salience issues. 'The abstract, distant, or more difficult issues seem to be more daunting in print than they are on television' (Neuman *et al.*, 1992, 89). Moreover, they demonstrate that people with high cognitive skills are more likely to learn about political issues from newspapers, by contrast to people with average or low cognitive skills.

Others have focused on the differential effects of television depending on the choice of *programming*. Putnam (2000, 230–244) showed negative correlations between considering television the primary form of entertainment and a variety of civic engagement measures. He, however, also demonstrated a positive relationship between frequency of television news watching and civic activity. Prior (2003b) showed that a preference for entertainment programming is negatively related to knowledge. While this finding from the US is cast in the context of availability of cable television — and an abundance of choice in entertainment programming — a similar discussion has advanced in Europe, where *channel preference* has been identified as a key variable. Based on data from the early 1990s, Holz-Bacha and Norris (2001) assessed knowledge levels by *channel preference*. In a multivariate analysis they found, after controlling for education, that preference for public television was associated with higher levels of political knowledge while preference for commercial television was associated with lower levels of knowledge. In addition, they found a significant — though much weaker — positive relationship between frequent news watching and political knowledge. Hooghe (2002) found news consumption to be positively linked to social capital whereas time spent on television watching in combination with an entertainment preference was negatively related to social capital.

The notion of channel preference was indirectly explored by Aarts and Semetko (2003) who identified *patterns of media use*. They found that respondents tended to cluster so that certain groups rely on public television news, read quality newspapers and opinion weeklies while others prefer commercial television news, soaps, and tabloids. Their study suggests that preference for public television news is positively associated with knowledge. Likewise, Newton (1999) found that exposure to broadsheet newspapers and television news was positively associated with knowledge and political mobilization while tabloid-reading and general television use (i.e., not news-watching) was associated with lower levels of mobilization.

While the discussion in Europe has focused on individual-level preferences for public broadcasting or commercial television and broadsheet newspapers vs tabloids, other research has focused on *contextual level* variables. In the US, community-level studies looked at the media environment and suggested that citizens in media rich environments tend to be more knowledgeable. Specifically Chaffee and Wilson (1977) found those citizens in places with



more newspaper titles to be more knowledgeable about issues in their community than those citizens in places with fewer papers. Mondak (1995) found corroborating evidence in a study in which the knowledge level of a group of citizens that had access to a local newspaper reporting about a political campaign was contrasted with that of a group that was deprived of a newspaper (due to a newspaper strike). He found that those who did not have access were considerably less knowledgeable.

In sum, previous research is not conclusive about the relationship between various media and political knowledge and engagement variables. Moreover, earlier studies leave an important question unanswered. What are the substantive *content-related* differences between either different media (e.g., television and newspapers) or different outlets (e.g., public broadcasting and commercial television news) that create the different effects? Only a content analysis of these media can appropriately answer this question. To understand the relationship between media and knowledge and participation, we need to know if the media provide knowledge-inducing information, on the one hand, and mobilizing information (Lemert, 1981) on the other. The former may include facts and a focus on substantive elements of an issue while the latter could be a focus on political disagreement and conflict, which is known to mobilize citizens. In this study, we distinguish between exposure to different media and outlets and we assess the content of these outlets so as to identify characteristics of the content that may produce differential effects. In doing so, we follow Slater (2004, 169) who argues that 'a primary weakness in the use of global self-report measures (of exposure) is the inevitable uncertainty concerning the exact nature of the relevant content of the media to which respondents are exposed.'

The Dependent Variables: Knowledge and Political Participation

Most scholars agree that knowledge about politics and public participation in political decision-making is beneficial to democracy. Accordingly, there are good reasons to consider political knowledge an important and relevant dependent variable, but simultaneously an equally important independent variable.¹ Previous investigations have treated knowledge *either* as a dependent variable (in, for example, studies on learning) *or* as an independent variable (in, for example, studies on political participation). Political knowledge is a key predictor for engagement in politics, like turnout (Delli Carpini and Keeter, 1996; Neuman, 1986; Verba *et al.*, 1997) and we therefore not only investigate the relationship between media use and knowledge but also the relationships between media use, knowledge and political participation. Few studies in the past have linked media use, knowledge, and participation measures in a single



study (for an example see Scheufele (2002)), although studies of the effects of, for example, news on political cynicism include predictions about the negative effects on participation and democratic processes in general (e.g., Cappella and Jamieson, 1997).

Hypotheses

We are interested in the *dynamics* of the relationship between media use and political knowledge and participation. Our study is designed to assess the direction of the relationship. We seek to advance the precision of the discussion about 'the media' by using measures of media use of individual news outlets. We differentiate between different outlets and expect broadsheet newspapers to report more about politics than tabloid newspapers. In addition, we expect public broadcasting television news programs to report more about politics than commercial television news programs² and to include more relevant political actors in the news (Peter and de Vreese, 2004).

We link media use measures to indicators of actual media content so as to provide a more compelling link between the two which can help us to understand different directions and the strength of the influence. Our expectation (Hypothesis 1) is to find a positive effect of news media use on political knowledge and participation and we expect this relationship to be conditioned by the nature of the content of the news outlets. Specifically, we expect exposure to news outlets (1) reporting more about political issues, (2) including more political actors, and (3) focusing more on conflict and thus presenting a political choice to have a stronger positive effect than exposure to outlets reporting less about politics and including less mobilizing information.

Our next expectation (Hypothesis 2) is that a relative preference for entertainment programming (Prior, 2003a) above news on television has a negative effect on learning and participation in politics. This expectation is in line with Putnam's (2000) findings of negative relationships between reliance on and heavy use of television on the one hand and a series of civic engagement and political participation measures on the other hand. This negative relationship was partially supported by Newton (1999) and Hooghe (2002).

Methods

To investigate the effects of news media use on political knowledge and mobilization, two data sources were used. First, we employ identical two-wave panel surveys with measures of exposure and attention to various media outlets. A cross-sectional survey cannot answer the question whether media use stimulates political knowledge and civic engagement or whether knowledgeable



citizens turn more to news media. We rather rely on a model of *change* in knowledge and mobilization (see also Tan (1980)). A number of previous studies draw upon experimental designs to investigate the relationship between news media, knowledge and participation. Using a panel design, however, is arguably more realistic since learning is not an artifact of forced exposure. Second, we conducted a content analysis of television news and newspapers in the period between our panel waves. We can thereby assess the effects of exposure in the light of the content that citizens reported having been exposed to in the different news outlets.

We conduct our study of political knowledge and participation in the context of European Union politics. The backdrop of European integration is particularly appropriate for investigating the dynamics cross-nationally and the issue is more readily comparable across different contexts than domestic political issues which can be biased by national idiosyncrasies (see also Holzbacha and Norris, 2001). We investigate the dynamics of knowledge and mobilization effects of news media drawing on a quasi-experimental design. To ensure variation in the amount and type of news media coverage we conducted media content analysis and collected panel survey data in two countries. In one country (Denmark) European political leaders met for a European Council meeting while this did not happen in the other country (the Netherlands). Effectively this makes the first country our 'experimental condition' where we expect more political and EU-related news and the second country our 'control condition' where we expect less political news.

We sampled Denmark and the Netherlands because these countries are comparable in terms of the media markets (e.g., commercial television was introduced at about the same time (Brants, 2004; Mortensen, 2004) and both countries have a segmented newspaper market with a comparatively high readership (Lauf, 2001)). Moreover, we know that EU events in the Netherlands cause changes in public opinion (Semetko *et al.*, 2003), which reduces the chance that our findings are idiosyncratic to Denmark. We stress that we are not interested in the *level* of knowledge and participation and how this might differ between countries, but in the *dynamics* of knowledge gains and engagement.

The study was carried out in the period leading up to and including the December 2002 European Council meeting in Copenhagen. Our panel surveys include a pre- and post-Council meeting wave with representative samples of the Danish and Dutch adult population. The surveys were fielded about three weeks prior to and immediately after the summit.³ The response rates were in Denmark 77.9% in wave I and 82.8% in wave II with a net sample of 1,288 respondents participating in both waves and in the Netherlands 70.9% in wave I and 63.3% in wave II with a net sample of 2,136 respondents participating in both waves.⁴



Panel Survey

The *dependent variables* were political knowledge and participation in EU politics. Political knowledge was assessed in both wave I and II. Knowledge was first measured using a five-item (listed in the Appendix) index (Cronbach's alpha in Denmark = 0.64 and in the Netherlands = 0.66). Our knowledge measure in wave two consisted of two open-ended questions pertaining to EU politics, which were recoded as '1' (correct) or '0' (incorrect). The questions were: 'Which country currently holds the Presidency of the EU?' and 'What is the number of countries seeking membership of the EU?'⁵

Participation was operationalized as turnout intention and was measured by asking respondents 'If a referendum were held on the enlargement of the EU, would you go and vote in such a referendum'. Answers were dichotomized into intention to turn out to vote (1) and intention not to turn out to vote (0). Turnout intention was in Denmark in wave I = 75%, and in wave II = 81%. In the Netherlands it was in wave I = 81%, and in wave II = 80%. Our measure of behavioural intention (which may differ from actual behaviour) is subject to potential over-reporting (e.g., Belli *et al.*, 1999; Bernstein, Chadha and Montjoy, 2001). However, the responses are at the level of actual turnout in referendums on issues of European integration in Denmark (e.g., De Vreese and Semetko, 2002) and there is no evidence to suggest a structural bias in the over-reporting. Moreover, we are not making inferences about the substantive level of turnout, but rather focus on the underlying explanations for change in turnout intention.

Using repeated measures in a panel raises the question of sensitization. However, sensitization tends to be minimal when it requires a lot of effort by the respondents to follow through in terms of knowledge acquisition (Graber, 1988). To test for possible sensitization effects in the panel, a fresh sample of respondents in the Netherlands was also probed for the knowledge questions during the fieldwork for the second wave. The level of knowledge in the fresh sample (that had not participated in wave I) was very close to the level of knowledge among panel respondents. This suggests that no discernable degree of sensitization took place among the panel respondents.

Our key *independent variables* relate to media use. We specifically assessed exposure and attention to EU news on public and commercial television newscasts as well as in broadsheet and tabloid newspapers. As we are probing respondents for knowledge in a rather confined issue area, it is important to not only take overall news exposure, but also attention to the specific issue into account (Chaffee and Schleuder, 1986). Separate measures were included for exposure and attention to public broadcasting news (*DR TV-Avisen* (9 p.m.) in Denmark and *NOS Journaal* (8 p.m.) in the Netherlands), commercial television news (*TV2 Nyhederne* (7 p.m.) in Denmark and *RTL Nieuws* (7.30



p.m.) in the Netherlands), exposure and attention to a quality newspaper (in Denmark: *Politiken*, *Berlingske Tidende*, or *JyllandsPosten*; in the Netherlands: *de Volkskrant*, *NRC*, *AD*, *Trouw*) or to a tabloid newspaper (in Denmark: *EkstraBladet* or *BT*; in the Netherlands: *Telegraaf*).⁶

We acknowledge that there are many different ways to create exposure measures to investigate news effects, that is exposure to individual outlets or to all outlets could be computed. Our main argument here, however, is that exposure measures should be created on the basis of the actual content of the news. It is not the medium or its financing source that matters, but the way issues are dealt with in the news content the public is exposed to. For instance, if media use measures show that individuals watch news show X and read newspaper Y, these could be treated as separate or combined independent variable(s). In fact, exposure to X and Y *should* be treated together if (and only if) the content of X and Y is similar. If the content is dissimilar, however, exposure to X and Y *should* be treated independently. We found the content of public broadcasting news to differ substantially from that of commercial news with regards to the variables of interest and therefore use exposure to these outlets as different independent variables. Furthermore, the content of broadsheets on the one hand and tabloid papers on the other was different concerning most of the aspects of interest here. Accordingly, we employ individual measures of exposure to broadsheet and tabloid newspapers. The effects of these variables will be interpreted in light of the different content characteristics.

We next included a measure of relative entertainment preference (see Prior, 2003a) in which respondents were asked to choose from a range of news, current affairs, and entertainment programs and movies. 'Imagine it is 8 o'clock at night and you have to choose one of the following television programs. Which one would you choose first? (see list in Appendix). The preference was dichotomized into a variable expressing 'preference for entertainment content'.

In all analyses, we include gender (coded as female), age (in years), education,⁷ and interpersonal discussion of EU affairs, because interpersonal discussion about politics may affect learning (Scheufele, 2002). In our analysis of change in political knowledge, we control for political interest (Carpini and Keeter, 1996) and initial levels of political knowledge. In our analysis of political participation, we control for political interest and knowledge and the lagged term for turnout intention in wave I (see Markus (1979)). We ran additional models assessing the interaction between initial knowledge and exposure to the different types of news media and these are discussed separately. By controlling for previous levels of knowledge and mobilization we examine actual *change*. The descriptive statistics for all variables as well as the specific wording of all items can be found in the Appendix. The specified



regression models are an Ordinary Least Square (OLS) model for the knowledge index and a logistic regression model for the dichotomous mobilization measure.

Content Analysis

To assess the visibility of politics in general and EU news in particular, more than 3,000 stories on national television news and in daily newspapers were analyzed in the period between the two waves of the survey.⁸ The sample consisted of the most widely watched public broadcasting and commercial news programs in each country. A total of 1,477 news stories were coded from these four outlets.⁹ The newspaper sample included the front-page of the five most widely read dailies in Denmark (published seven days a week) and in the Netherlands (published Monday through Saturday). A total of 1,797 newspaper articles were analyzed.¹⁰ The sample of news outlets covers the most important sources of political information. The content analysis was completed by two native Dutch speakers and two native Danish speakers (MA-students at the University of Amsterdam). Coders were trained and supervised frequently.

In this study, we are interested in, on the one hand, the *visibility of news about European integration topics and other political news*, and on the other hand the *frequency and share of EU-level actors* in the news since this gives us an idea of the relevant information diet presented by the different news outlets.¹¹ News about European affairs and the presence of actors affiliated with EU institutions are content features that facilitate knowledge. We additionally look at the presence of *political conflict* in the news coverage of European affairs since a focus on alternative explanations and viewpoints is considered 'mobilizing information' (Lemert, 1981) and can encourage political engagement and turnout (De Vreese and Tobiasen, 2007).¹² The inter-coder reliability test showed Cohen's Kappa's ranging from 0.87 to 1.00 for the topic, actor, and conflict indicators.¹³ We expect exposure and attention to news outlets reporting more intensively about the EU and EU actors to affect knowledge positively and exposure to political news in general and especially conflict-driven EU news in particular to positively affect turnout.

Results

We first turn to the content of the different media outlets. We expected public broadcasting news and broadsheet newspapers to devote more attention to EU affairs and political news and to include more EU-level actors than news on commercial channels and tabloid newspapers. As we included a country



hosting an important EU-event (Denmark) and a non-host country (the Netherlands) we also expected more news about the EU in Denmark than in the Netherlands. Figure 1¹⁴ shows the proportion of news about the EU and 'other political news' in the various outlets in the two countries.

According to our expectations there was more EU news (which is related to our dependent knowledge measure in the survey) in Denmark where a high profile political event took place. As shown by the black bars, Danish television news had more coverage about the EU than Dutch news with on average 28% in Denmark and 5% in the Netherlands. Newspapers on average spent 18% in Denmark and 4% in the Netherlands of the front-page news on the EU. We also found, as expected, that public broadcasting had more news about the EU (32%) than commercial news (24%) in Denmark and in the Netherlands (6 and 4%, respectively). Finally, the broadsheet newspapers had more news about the EU (12%) than tabloids (6%) in Denmark and in the Netherlands (5 and 3%, respectively) although for the latter differences are admittedly small. Differences between the countries in terms of visibility of political news in general were less pronounced. Whereas television newscasts

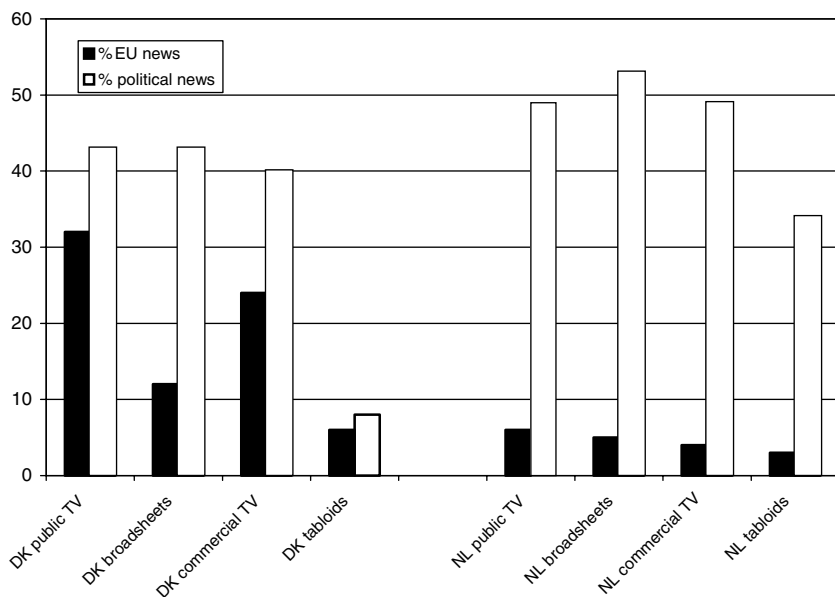


Figure 1 Share of EU news and other political news on public vs commercial television news and in broadsheet vs tabloid newspapers. *Note:* Entries are percentages of news stories about the EU and other political topics. The base is the entire news program and the front page of the newspapers.

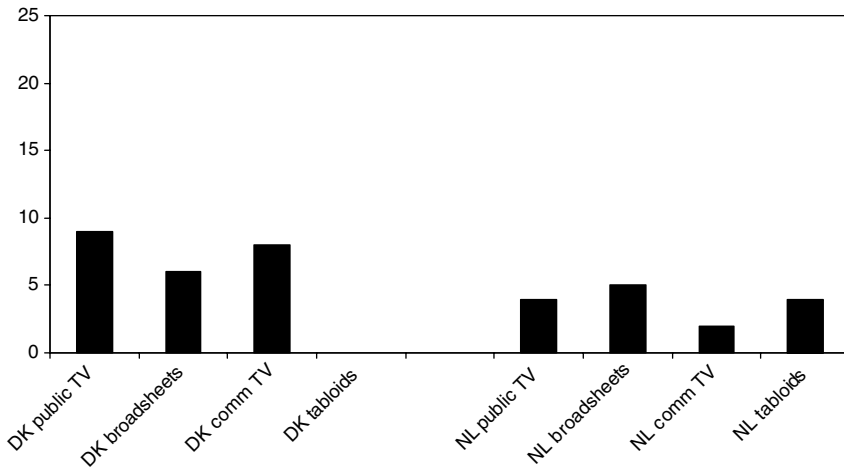


Figure 2 Share of EU actors on public vs commercial television news and in broadsheet vs tabloid newspapers. *Note:* Entries are percentages of EU actors of all actors coded within EU related news stories. The base is all EU related news stories in a TV news program and on the front page of the newspapers ($n = 308$).

and broadsheets devoted between 40 and 54% of the coverage to political news in both countries, only tabloid newspapers featured considerably less political news, especially so in Denmark.¹⁵

Figure 2 illustrates the proportion of EU actors of all actors in EU related news stories. In general EU-actors compose only a small portion of all actors ($< 10\%$). Danish television news included EU-level actors more often than its Dutch counterparts. Also, public broadcasting news featured more EU-actors than commercial news in both countries, though the difference is more pronounced in the Netherlands than in Denmark. Furthermore, Danish newspapers featured overall more EU-actors than Dutch papers. Danish broadsheets included about 6 percent EU-actors, while Danish tabloid papers did not include EU actors at all. Dutch broadsheets carried 5% EU actors, while the Dutch tabloids carried 3% EU actors.

We additionally assessed the degree to which news about the EU was framed in terms of conflict since conflict-news may positively affect turnout. Overall, as shown in Figure 3, we find a higher share of conflict driven news in the Dutch outlets than in the Danish ones. In the Netherlands, conflict was particularly visible in newspapers, which framed almost 60 percent of the EU news stories in terms of conflict. In Denmark, television news and broadsheet papers have between 35 and 40% conflict driven news, whereas tabloids do not use a conflict frame at all. So, although there is considerable less EU news

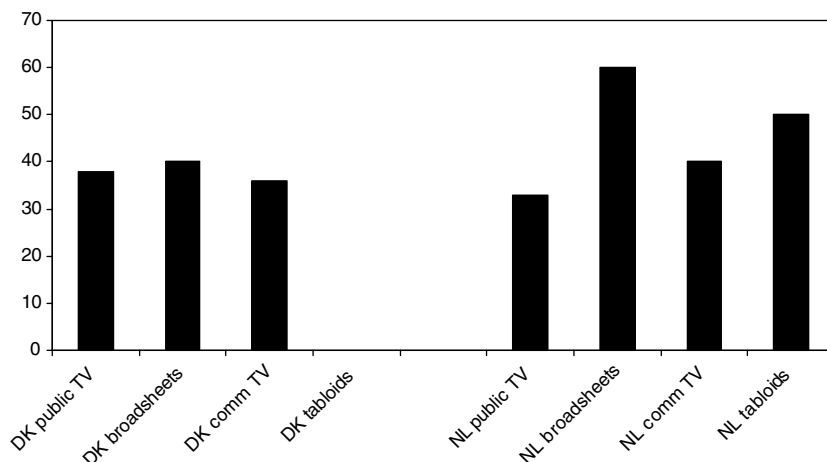


Figure 3 : Share of conflict driven news on public *vs* commercial television news and in broadsheet *vs* tabloid newspapers. *Note*: Entries are percentages of news stories about the EU containing conflict. The base is all EU related news stories in a TV news program and on the front page of the newspapers ($n = 308$).

coverage in the Netherlands than in Denmark, it is on average much more conflict driven.

Given the features of the news coverage as outlined above, we would expect exposure to Danish television, both commercial and public, and to broadsheet newspapers to contribute to knowledge gains between the panel waves. Also, exposure to these outlets should positively influence turnout, since there is not only a fair amount of (political) coverage, but the coverage is also framed to a considerable degree in terms of conflict. By contrast, exposure to Danish tabloid newspapers should affect neither knowledge nor turnout, since there was hardly any EU news at all, EU actors were not visible, and news was not conflict driven. For the Netherlands, based on the content of the news outlets we would expect media exposure to only have negligible effects on knowledge since coverage of EU affairs was much less visible. We would, however, expect exposure to Dutch news outlets to contribute to turnout given the considerable conflict focus in the relatively modest amount of EU news.

Turning next to our survey data, we first look at the change model for political knowledge shown in Table 1. We find, after controlling for social-demographics and the respondents' initial level of knowledge (measured at wave I), that exposure to public broadcasting news affected the knowledge level in the second wave of our panel in both Denmark and the Netherlands. In Denmark, exposure to commercial television news also positively affected the

Table 1 Predicting change in political knowledge

	Denmark		Netherlands	
	<i>Std. beta coefficient</i>	<i>SE</i>	<i>Std Beta coefficient</i>	<i>SE</i>
Gender (female)	−0.11***	0.03	−0.08 ***	0.03
Age (in years)	0.03	0.00	0.04	0.00
Education	0.04	0.02	0.05**	0.02
Entertainment preference	0.03	0.03	0.01	0.03
Interpersonal discussion EU affairs	0.04	0.02	0.06**	0.02
Political interest	0.06	0.02	−0.03	0.02
Public broadcasting news exposure and attention EU	0.11*	0.00	0.07***	0.00
Commercial broadcasting news exposure and attention EU	0.08*	0.00	0.01	0.00
Broadsheet reading and attention EU	0.01	0.00	0.01	0.00
Tabloid reading and attention EU	0.01	0.00	0.01	0.00
Knowledge (t1)	0.20***	0.01	0.47***	0.01
Adjusted R^2	0.11		0.32	
<i>N</i>	1127		2122	

Note: OLS regressions. Entries are standardized beta coefficients and SE.

*** $P < 0.001$, ** $P < 0.01$, * $P < 0.05$.

dependent knowledge measure. Exposure to private television news in the Netherlands and newspaper reading in both countries did not significantly affect the level of political knowledge. This confirms the first part of Hypothesis 1, though with few qualifications. We expected Danish news, except for tabloids, to positively affect knowledge. This was the case for television newscasts. We explain the finding that reading broadsheets did not affect knowledge with a ceiling effect. Readers of broadsheet newspapers in wave I reported about 50 percent more correct answers to the knowledge measures than non-broadsheet readers. Therefore, it was unlikely a priori that broadsheet readers should show strong knowledge gains. In the Netherlands, news exposure did not matter for knowledge, except for exposure to public broadcasting news, which did actually feature most of the little news there was compared to the other outlets.¹⁶

A relative preference for entertainment programming above news did not affect the level of knowledge in wave II in either of the countries. Hypothesis 2 was therefore not confirmed. Finally, we found a negative impact of gender (female relative to male) in both countries and education and interpersonal discussions of EU affairs was positively related to knowledge in the Netherlands. The latter is addressed below.



Table 2 Change in voter mobilization

	Denmark			Netherlands		
	<i>B</i>	<i>Exp(B)</i>	<i>SE</i>	<i>B</i>	<i>Exp(B)</i>	<i>SE</i>
Gender (female)	-0.61***	0.54	0.19	-0.25	0.78	0.14
Age (in years)	-0.01	0.99	0.01	-0.01	0.99	0.01
Education	0.01	1.01	0.11	0.19	1.22	0.13
Entertainment preference	-0.09	0.92	0.22	0.04	1.04	0.15
Interpersonal discussion EU affairs	0.25*	1.28	0.11	0.34***	1.41	0.09
Political interest	0.07	1.08	0.14	0.30**	1.35	0.09
Political knowledge	0.34*	1.40	0.17	0.01	1.01	0.07
Public news exposure and attention EU	0.05***	1.05	0.01	0.02**	1.02	0.01
Commercial news exposure and attention EU	0.04***	1.04	0.01	0.02**	1.02	0.01
Broadsheet reading and attention EU	0.02*	1.02	0.01	0.04 #	1.04	0.02
Tabloid reading and attention EU	0.02	1.02	0.02	0.03**	1.04	0.01
Turnout intention (t1)	2.05***	7.72	0.18	2.43***	11.33	0.14
Nagelkerke Pseudo R^2	0.34			0.41		
Model χ^2	266.70***			627.75***		
% Correctly classified	85			86		
<i>n</i>	1127			2122		

Note: Logistic regression analysis with dependent variable (turnout intention) coded as 1 (yes) or 0 (no). Entries are *B*, Expected *B* and *SE*.

*** $P < 0.001$, ** $P < 0.01$, * $P < 0.05$, # $P < 0.10$.

Turning to our change model of voter mobilization in Table 2 we find, after controlling for social-demographics and the respondents' initial intention of turning out to vote, that news media exposure affected mobilization positively. Exposure to television news on public and commercial channels and reading broadsheet newspapers had a positive effect on turnout intention in Denmark. Tabloid reading had no effect. This is in line with what could be expected based on the content of the news, since television news and broadsheets featured much more EU news than Danish tabloids and news in these outlets was much more conflict driven.

In the Netherlands, we find exposure to all types of news outlets to positively contribute to turnout intention. We interpret these results by considering the conflict nature of the Dutch EU news coverage. The small amount of news that we found was highly conflict driven which explains the positive effects on turnout. Moreover, we know that news coverage about the enlargement of the EU in the Netherlands for instance was rather negative (De Vreese and Boomgaarden (2006)) which might indicate that news exposure was also mobilizing in terms of the direction of vote intention. We therefore find the second part of Hypothesis 1 somewhat confirmed.



Furthermore, in both countries, a relative preference for entertainment programming above news had no effect on the likelihood to vote (thereby not providing supportive evidence for Hypothesis 2). Women were less likely to turn out in Denmark, and political knowledge had a positive effect in Denmark and political interest a positive effect in the Netherlands. Last, interpersonal discussion of EU affairs was a positive predictor of turnout in both countries.¹⁷

Discussion

This study explored the relationship between exposure to specific media content and political knowledge and participation in politics. We investigated the dynamics of this relationship by looking at change in knowledge and participation, utilizing two-wave panel surveys with repeated measures and a news media content analysis between the panel waves. We draw on a quasi-experimental design in which we contrast a context in which a high profile EU event was held with a context without such an event. This design was clearly reflected in the amount of news about European affairs: Danish news media provided substantially more news about the EU than their Dutch counterparts. Moreover, 'quality' news outlets such as public broadcasting news and broadsheet newspapers provided more news about the EU and more often included EU-level actors in the news than 'commercial' news outlets such as private television news and tabloids. This difference was most pronounced in the Danish case. Conflict was a common feature of EU news in both countries, though the share of conflict driven news was overall slightly higher in Dutch news coverage. We demonstrate that these content features affect whether and how news exposure matters for knowledge gains and increases in turnout intention.

Our study investigated the differential impact of exposure to different news media outlets, including both public and commercial television news and broadsheet and tabloid newspapers, while linking this to the actual content of the news outlets. We demonstrated that news media exposure affects knowledge and political participation positively. However, exposure also positively affected the likelihood to vote. Overall, this suggests that the relationships between news watching and knowledge and participation are rather more positive than negative. Accordingly, it is less consequential whether people watch the news on a public or a commercial station, but rather whether people do watch the news at all or turn to entertainment programming. Especially the relationship between public broadcasting news exposure and knowledge and participation was strong.

Generally, we find the relations between exposure to different news outlets and changes in knowledge and participation to be contingent on the actual



content of the outlets citizens are exposed to. When news contains a lot of relevant and substantial content, that is when news is informative about the topic of interest, exposure has a positive effect on knowledge gains. Thus, it is not the medium as such that matters, but the content of the news. For participation, we find the sheer volume of relevant coverage, but also the conflict nature of news content to matter for changes in turnout intention. Effects are stronger in the Netherlands than in Denmark, which indicates that although Dutch news carried less items on EU matters, the rather highly conflict driven nature of this coverage mattered for citizen's participation. This somewhat counters initial expectations, and might be confounded with a rather negative coverage in the Netherlands that could have contributed to positive change in turnout intention. Future research needs to disentangle whether it is a conflict driven news coverage or a high negativity that affects participation.

We have shown that also exposure to commercial news — given a relevant political content — yields a positive effect on knowledge and on turnout. Though the effect is smaller than the impact of exposure to public television news, it nevertheless positively contributes to the public's political cognition and engagement. This conclusion should be made with a number of reservations. We found that in the country with a lower visibility of political news, the positive effects were less pronounced. Therefore, while the proliferation of commercial news may not be worrying it is important to note that if news is moved to the periphery of prime time programming, as for instance in Great Britain (e.g., Semetko, 2000), there is reason to worry about negative consequences for the political process. If informational programs become less popular and the public's interest and attention shifts further towards entertainment and fiction, then some segments of the public might indeed be caught in a downward spiral of ever less political knowledge and engagement.

Other research has suggested that strong preferences for entertainment media content is negatively related to political knowledge and participation. With the introduction of commercial television in Europe and cable in the US, the availability of news *and* entertainment has proliferated. Prior (2003b) argues that in an environment of increased choice, a relative preference for entertainment above information is likely to affect political knowledge and turnout negatively, despite the overall increase in availability of information. We did not find a negative effect of entertainment preferences for levels of knowledge and participation. However, we rely on a preference measure, which is arguably different from real behaviour. While some respondents say that they would prefer watching news, they might in fact turn to other programs instead. Future research with even more detailed measures of media use is needed to disentangle this pattern.

We finally found that interpersonal communication is important for understanding both knowledge gains and an increased propensity to turn out



to vote. This finding is in line with much scholarship suggesting that discussions of politics are at the core of democratic citizenship (for an overview, see Schudson (1998)). In this vein, some evidence suggests that interpersonal communication can weigh heavier in voters' decision on whom to vote for than cues obtained from the mass media (Beck *et al.*, 2002). Interpersonal communication may also mediate the influence of mass communication so that mass media information is either reinforced or rejected depending on the structure of citizens' discussant networks (Schmitt-Beck, 2003). Previous research has also found strong evidence to support the notion that interpersonal discussion of politics is a key antecedent of political participation (e.g., Scheufele, 2002). In some cases interpersonal discussions about politics override effects of news exposure (McLeod *et al.*, 1999). We found the effect of interpersonal discussion to be particularly strong in the Dutch case in which the media reported comparatively less about EU affairs. Our interpretation of this finding is that in a context of moderate availability of mass mediated information, interpersonal communication becomes an important source of information that can increase knowledge and the propensity to vote. This finding is of course subject to further verification in studies in which there are variation in the level of information available through the media and differences in the degree of engagement in interpersonal discussion about politics.

In the broader discussion in political communications research, our study adds to the emerging body of literature that suggests that media effects are not general, but rather conditional in nature. We found significant differential effects of media exposure as a function of already existing knowledge. This finding corroborates 'classical' work on differential knowledge effects of the media known as the 'knowledge gap hypothesis' (Tichenor *et al.*, 1970). These original studies showed that better educated people know more about different issues and also pick up more from news and thus are advantaged compared to individuals with lower socio-economic status. We moreover found different strengths in the relationship between media exposure and knowledge and turnout depending on the content of the news. Accordingly, we emphasize the importance of taking *content* into account when investigating the relationship between media and political knowledge and engagement. It is not sufficient to rely on exposure measures and to merely speculate about media content.

Knowledge and participation are key variables in the discussion of the role of the media in democratic processes. The relevance, conceptualization, and measurement of knowledge and participation are subject to critical scrutiny (e.g., Graber, 2001; Mondak, 2001) and there is disagreement on how to operationalize and measure both knowledge and participation. Mondak (2001) demonstrates the imprecision of measurement and the implications in subsequent analyses using political knowledge. Graber (2001) explicitly



questions the relevance of multiple choice exam-style questions. A common criticism against conventional measures of political knowledge is that factual questions do not necessarily tap *understanding* of concepts and issues. Political sophistication is generally defined as factual knowledge about, for example, dates and names, but this may be different from understanding concepts, as pointed out by Mondak (2001) and in the literature on educational testing (e.g., Aiken, 1988).

Our study does not fall short of these criticisms and we rely on measures of factual knowledge. However, our questions were open-ended questions, thereby circumventing problems identified with multiple-choice like measures. Moreover, we acknowledge that knowledge of EU politics is a rather confined conceptualization of political knowledge, however, having the advantage of being readily comparable across different contexts. We endorse Graber's (2001) call for more work on different types of political knowledge. We realize that it is an empirical question to demonstrate the effects of the media in other and more diverse notions of knowledge, but the primary goal of our study is to argue that this advancement needs to be accompanied by more detailed understanding of the actual content of the (news) media. We provide merely a beginning of this and there is room for improvement in the content analytic indicators. Our study was not designed to improve the measures of political knowledge, but to show a dynamic. Further research must specify whether this is generally applicable or contingent upon the area of knowledge.

In addition, we rely on a rather specific notion of political participation as the act of voting. Previous research has focused strongly on voting (e.g., Rosenstone and Hansen, 1993), but citizens may participate in the democratic process in numerous other ways. In fact, voting might be distinct from other forms of political participation (Verba *et al.*, 1995). While we do not want to extrapolate our results to other acts of participation, future research must address the question of whether the antecedent dynamics behind voting are different from or similar to other kinds of participation.

On a final note, we stress the importance of looking at knowledge as a dependent as well as independent variable. While knowledge is influenced by media exposure, both media exposure and knowledge impact on participation in politics. This emphasizes the double-barreled role that news media play for the public's engagement in politics.

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Appendix

Description of variables in the regression models and item wording in questionnaires

Dependent variables

Knowledge index wave II: Two open-ended questions pertaining to EU politics were included in the second wave of the study: (1) Which country currently holds the Presidency of the EU? (correct answer 'Denmark', coded as 1; otherwise as 0), (2) What is the number of countries seeking membership of the EU? (correct answers 10, 12 and 13 coded as 1; otherwise coded as 0). Denmark $M = 1.70$, $SD = 0.52$, the Netherlands $M = 0.72$, $SD = 0.75$. The answers to the two questions correlated at $r = 0.70$, $P < 0.001$ in Denmark and $r = 0.24$, $P < 0.001$ in the Netherlands.

Political participation: Turnout intention was tapped with a measure asking respondents 'If a referendum were held on the enlargement of the EU, would you go and vote in such a referendum'. Answers ranging from 1 (certainly) to 5 (certainly not) were dichotomized into intention to turn out to vote (1) and intention not to turn out to vote (0). Turnout intention



Denmark wave I = 75%, wave II = 81%, the Netherlands wave I = 81%, wave II = 80%.

Independent variables

Gender: Female = 1; Male = 0.

Age: in years.

Education: was recoded in to four categories, comparable across the two countries, ranging from 1 (primary school), 2 (high school or equivalent (about 13 years of training)), 3 (BA or three years vocational training or equivalent (16 years)), and 4 (Masters or post-graduate training (19+ years)).

Knowledge index wave I: Five questions forming an index of political knowledge. Denmark $M = 1.93$, $SD = 1.26$, $\alpha = 0.63$, The Netherlands $M = 0.99$, $SD = 1.28$, $\alpha = 0.67$. Question wording: What is the number of Commissioners in the EU Commission (open-ended, correct (20) coded as 1, otherwise as 0), What is the name of the current President of the European Commission (open-ended, correct (Prodi) coded as 1, otherwise as 0), What is the name of the Danish OR Dutch Commissioner (open-ended, coded as 1 or 0), Which country currently holds the Presidency of the EU? (correct answer 'Denmark' coded as 1; otherwise coded as 0), (2) What is the number of countries seeking membership of the EU? (correct answers 10, 12 and 13 coded as 1; otherwise coded 0).

Political interest: one item scaled response from 1 (no political interest) to 4 (high political interest). Denmark $M = 3.09$, $SD = 0.70$; the Netherlands $M = 2.56$, $SD = 0.82$.

Interpersonal discussion of EU politics: A four-point scale ranging from 1 to 4 where 1 equals never discussing EU affairs in the past weeks and 4 equals often discussing EU affairs. Denmark $M = 2.88$, $SD = 0.89$, Netherlands $M = 2.04$, $SD = 0.96$.

We assessed exposure and attention to EU news on a scale from 1 (none) to 4 (a lot) and added this to the four exposure measures (Netherlands: public broadcasting news exposure plus attention $M = 11.9$, $SD = 11.1$; commercial broadcasting news and attention $M = 10.3$, $SD = 10.8$; broadsheet newspaper reading and attention $M = 7.1$, $SD = 8.7$; tabloid reading and attention $M = 1.1$, $SD = 4.5$; Denmark: public broadcasting news exposure plus attention $M = 6.4$, $SD = 9.9$; commercial broadcasting news and attention $M = 9.3$, $SD = 10.6$; broadsheet newspaper reading and attention $M = 6.8$, $SD = 10.5$; tabloid reading and attention $M = 2.1$, $SD = 6.2$).

Relative entertainment preference: Respondents were asked 'Imagine it is 8 o'clock at night and you have to choose one of the following television



programs. Which one would you chose first? [1] national news, [2] local news, [3] movie, [4] game show, [5] documentary, [6] soap, [7] police series. The choice options were recoded in to five categories ranging from (a) national news, (b) local news, (c) documentary, (4) movie, and (5) game show, soap or police series. All non-news choices (1 and 2) were recoded into a dummy entertainment preference variable (Denmark $M = 0.73$, $SD = 0.44$, the Netherlands $M = 0.61$, $SD = 0.48$).

Notes

- 1 Price and Zaller (1993) compared self-reported measures of media use, interpersonal communication, and knowledge levels as predictors for recalling current news events. They find knowledge to be the strongest and most reliable predictor of recall and conclude that when investigating reception of political communications, knowledge is a better predictor than media use. However, when looking at change in knowledge it becomes necessary to assess the diet of information that individuals are exposed to and not merely predicting knowledge as a function of knowledge due to potential imprecision in exposure and media use measures (see also Bartels (1993)).
- 2 This expectation is cautious. Though studies show that private news shows focus more on soft news and infotainment and less on politics (Pfetsch, 1996; Blumler, 1997; Norris, 2000), there is conflicting evidence (see van Praag and Brants, 2000 for the Dutch case).
- 3 The specific fieldwork days were: Denmark, wave I November 21–28, 2002, wave II December 14–18, 2002, the Netherlands wave I November 19–26, 2002, wave II December 17–21, 2002.
- 4 In Denmark, the sample was drawn from the *GfK Danmark* database. A nationally representative sample of 1,807 Danish adults (age 15+) was invited to participate in the study out of which 1,444 did (response rate 77.9%). The full sample was approached again in wave II and generated a response rate of 82.8%. In Denmark the questionnaire was a postal self-administered paper and pencil questionnaire. Response rates of this magnitude are not unusual for survey research in Scandinavia, where actual turnout is also high (Granberg and Holmberg, 1991). In the Netherlands, the sample was drawn from the *ITM International* database with more than 55,000 respondents. A nationally representative sample of 5,321 Dutch adults (age 15+) was invited to participate in the study out of which 3,375 did (response rate 70.9%). Of these 2,136 participated in the second wave resulting in a 63.3% response rate. In the Netherlands the questionnaire was Web-administrated. Making use of a similar lay-out of the questionnaire in the two countries, potential confounds due to question and response category layout were taken in to account (Dillman, 2000). We consider it an asset that our study does not rely on Eurobarometer data. First, this is a cross-sectional survey instrument and does not allow for studying change at the individual level. Second, the media exposure and attention measures in the Eurobarometer do not allow for making a compelling link between survey measures and analyses of media content. Studies drawing on data collected outside the Eurobarometer instrument are therefore a welcome addition to our knowledge base. To assess the quality of our data we included the standard Eurobarometer 'support for country's EU membership'-question in our survey. In all, 60% of our respondents in Denmark and 66% in the Netherlands reported considering the membership of their country in the EU a good thing. This compares to 61 and 69%, respectively in the fall EB 58, which was fielded in October 2002.



- 5 We considered several answers to the second question correct. At the time of the survey, 10 countries were completing negotiations for membership in the EU. An additional two countries (Bulgaria and Romania) had already been identified and there was discussion about starting membership negotiations with Turkey as well. We therefore consider the answers 10, 12, and 13 correct. Following Delli Carpini and Keeter, (1996) and Mondak (2001, 229), we distinguish between 'incomplete' and 'incorrect' answers. Strictly speaking 10 would be the correct answer, but 12 and 13 display relevant partial understanding and knowledge of the issue.
- 6 Our measure includes attention to EU news (Chaffee and Schleuder, 1986). It should be noted, however, that using our exposure measures only does not alter our findings. This corroborates the finding that exposure to television news can lead to 'incidental' learning for which attention is not required (Keeter and Wilson, 1986). We note the dual status of Danish TV2 as receiving both public funding and generating revenue from commercials.
- 7 Respondents' reported level of completed education was recoded due to differences in the educational systems, see Appendix.
- 8 The content analysis was conducted between November 25 and December 16, 2002.
- 9 The entire news bulletin was coded. This included 554 stories from *TV-Avisen*, 458 stories from *TV2 Nyhederne*, 220 stories from *NOS Journaal* and 245 stories from *RTL Nieuws*.
- 10 The entire front-page of each newspaper was coded. If stories commencing on the front-page continued inside the newspaper, these stories were coded in full. A single headline (with no adjacent story) was not coded. Bullets (a headline and a few short, but full sentences) were included. The following number of articles was coded per newspaper: *Politiken* 260, *JyllandsPosten* 224, *Berlingske Tidende* 223, *EkstraBladet* 90, *BT* 89, *de Volkskrant* 214, *NRC* 231, *AD* 186, *Telegraaf* 135, *Trouw* 145. The low number of articles from *EkstraBladet* and *BT* is due to the tabloid format of the newspapers and the layout of the front page, which includes only one or two stories per day.
- 11 An EU actor was as any member of, group in or EU institution in its entirety.
- 12 The presence of political conflict was operationalized with three items: Does the story refer to two or more sides of an issue? Does the story contain controversy and/ or disagreement? Does the story contain reproach?
- 13 The inter-coder reliability test was performed in pairs of coders for each language. The reliability test was conducted on a sample of 50 news stories (25 Dutch and 25 Danish), randomly selected from the news outlets included in the study.
- 14 The base for the reported percentages is the number of stories reported in Endnotes four and five.
- 15 The Dutch tabloid paper *Telegraaf* could be considered less tabloid-style than its Danish counterpart, which explains the differences between the two tabloid papers reported here.
- 16 Media effects are not necessarily across-the-board and some citizens are more likely to be influenced than others. Extant research on media effects provides conflicting evidence on the moderating role of political sophistication. Kinder and Sanders (1996) found that framing effects were most pronounced for individuals with lower levels of political information, while Nelson, Clawson and Oxley (1997) found individuals with higher levels of political information to be most susceptible. In research on media *priming*, Krosnick and Kinder (1990) found politically knowledgeable persons to be less susceptible to priming effects while Krosnick and Brannon (1993) found that political expertise facilitates priming effects. When looking at the process of news *learning* there is generally agreement that pre-existing knowledge and cognitive skills correlate highly with news learning. Individuals who already know something have to make less of an effort to increase their knowledge (Neuman *et al.*, 1992). In research terms this implies an interaction between news exposure and preexisting knowledge so that those individuals already knowledgeable who are then exposed to media with relevant political content are likely to pick up more from this content than individuals with lower levels of prior



knowledge. In additional analyses, we indeed found a positive interaction effect between public broadcasting news exposure (and commercial news exposure in Denmark) and between reading a broadsheet paper and existing levels of political knowledge in both countries. This suggests that those with higher levels of preexisting political knowledge who turned to quality media outlets reporting elaborately about EU affairs and politics displayed a stronger gain in knowledge than those with lower levels of political knowledge. Also, we in addition analysed the knowledge change model using the matched pair of knowledge questions in wave I and wave II. This did not alter the results at all and the effects shown in Table 1 remain substantially the same.

- 17 We also estimated the turnout models using the 5-point scale dependent measure on turnout intention. This did not substantively affect the results shown in Table 2. We also looked at interaction effects. There was no clear picture concerning interaction effects of news exposure and prior turnout intention in our turnout models.