

Media Message Flows and Interpersonal Communication

The Conditional Nature of Effects on Public Opinion

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This study investigates the differential effects of exposure and attention to news and of interpersonal communication on change in public opinion under the condition of one-sided or two-sided information flows. Based on Zaller's theory of public opinion dynamics, for less politically sophisticated individuals, we expected media to influence changes in opinion under the condition of a one-sided message flow. We further expected politically sophisticated individuals to rely more on cues for opinion change stemming from interpersonal communication. The study draws on two-wave panel surveys and media content analyses of television news and national newspapers. The results confirmed our hypotheses and showed media effects for less politically sophisticated individuals under the condition of a one-sided message flow and effects of interpersonal communication for politically sophisticated individuals. Media had no effect under the condition of a two-sided message flow. The study concludes with a discussion of the conditionality of media effects and the moderating role of political sophistication.

Keywords: *public opinion; John Zaller; media message flow; interpersonal communication; political sophistication*

Communication scholars argue that in addition to internalized, more or less stable political predispositions, citizens (increasingly) make use of flows of information in forming and determining the direction of their political attitudes. Television, newspapers, and conversations about politics with other people expose citizens to messages carrying evaluative content. Therefore, both mass communication and interpersonal communication are important sources of political information and antecedents of formulating and changing political attitudes.

Several scholars stress the influence of the flow of information from the mass media (e.g., Bartels, 1993; Dalton, Beck, & Huckfeldt, 1998; Zaller, 1996). However, a key antecedent of public attitudes, interpersonal communication about politics,

needs to be better integrated in our understanding of public opinion dynamics (see Chaffee & Mutz, 1998; and Reardon & Rogers, 1988). The simultaneous influences of mass-mediated information and interpersonal communication have rarely been investigated in the same study (for exceptions, see Beck, Dalton, Greene, & Huckfeldt, 2002; and Mutz, 1998). Glynn, Herbst, O'Keefe, and Shapiro (1999) concluded that “oddly, most of the recent studies of communication influences on public opinion have left out the role of interpersonal conversation and discussion, the most common grounding for opinion development and change” (p. 409). In this study, we look at both the effects of mass media and of interpersonal communication on changes in public opinion. We moreover investigate the conditional nature of the way both mass media and interpersonal communication affect changes in public opinion by identifying the intensity and patterns of evaluations in media messages and by specifying how political sophistication moderates the effects.

Mass Media and Interpersonal Communication

The effects of message flows on public opinion and policy preferences have been subject to considerable scholarly scrutiny. The theorizing by John Zaller (1992) provides guidance to studies of communication flows and public opinion formation and change. Zaller proposed a model of how citizens form considerations in response to information. The reception and acceptance of new information is contingent on an individuals' level of political awareness: The higher a person's level of political awareness, the greater the likelihood that the individual receives new messages, for example from the news. Attitude change then for some individuals occurs as a result of the composition of messages and ideas to which they are exposed.²

Although Zaller's initial work (1992) on attitude change focused in particular on the role of political elites, he later framed his argument in terms of the effects of mass communication (Zaller, 1996). As he argues, the effects of elite and mediated communication are related because “politicians and journalists communicate to the public mainly through the mass media” (p. 21). Indeed, the observation that most information about politics reaching citizens is mediated is shared by many authors (see e.g., Bennett & Entman, 2001). If the news media are to impact on political attitudes and public policy preferences, it is assumed that their content needs to provide a consistent directional bias—a *one-sided information flow* (Zaller, 1992, 1996). Moreover, audiences must be attentive to such cues for news media to have measurable effects. The condition under which news media are least likely to have an effect is if the public is exposed to both sides of an issue. The effects of exposure to mixed evaluative content are likely to cancel each other out. This condition is dubbed the *two-sided information flow* (Zaller, 1992, 1996). This dynamic can occur at the individual level—if an individual is exposed to mixed cues—and at the aggregate level considering the direction bias of a media market or a country's media.

A consistent directional bias of news (one-sided message flow), however, which may entail either an ideological bias or an emphasis on either positive or negative aspects of an event or issue, can have a significant impact on the issue perception and

behavioral intention of citizens. The psychological process underlying responses to an issue presented in either positive or negative terms has been demonstrated in the classical work by Kahneman and Tversky (1983) that deals with individual decision-making under the condition of a perceived risk. By describing two identical scenarios either in terms of potential gains or potential losses, they find that individuals are risk-seeking when the outcome is discussed in terms of losses but risk-averse when the outcome is discussed in terms of potential gains. People are generally more willing to take a risk to avoid a loss than to achieve a gain. Accordingly, the effects of exposure and attention to news media on political attitudes and policy support are contingent on the consistency of the tone of the news.

Interpersonal communication impacts on attitudes and behavior in several ways. Talking politics—meaning engaging in talking, discussing, or arguing about political issues—is at the core of democracy (Barber, 1984). Interpersonal communication, either among individuals or in groups, facilitates a better understanding of political issues and can lead to significant changes in attitudes and support for policies (e.g., Fishkin, 1991; Fishkin & Laslett, 2003). Engaging in political conversations also enhances the quality of opinions (Price, Cappella, & Nir, 2002) and is an antecedent for political participation (Kim, Wyatt, & Katz, 1999; McLeod, Scheufele, & Moy, 1999). In fact, in the absence of other sources of information, interpersonal communication is the most influential source of attitude change (Mondak, 1995). However, only few, recent investigations of vote choice and political participation have addressed the simultaneous and interactive effects of mass media and interpersonal communication.

Beck et al. (2002) found that interpersonal communication weighed heavier in voters' decision on whom to vote for than cues obtained from the mass media. One study showed interpersonal communication to moderate the effects of mass media because citizens' react and make use of information provided by the media differently (Scheufele, 2002). Another study found interpersonal communication to 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). All studies point to the need to better integrate both types of communication in our understanding of public opinion dynamics.

The Moderating Function of Political Sophistication

Changes in public opinion mostly do not imply the replacement of a crystallized belief by another but rather a change in the balance of positive and negative considerations relating to a given issue. The magnitude of change is contingent on a person's political predispositions.³ Resistance to change as a result of new information tends to be more pronounced among highly politically aware persons, because they are more likely to possess the contextual information necessary to perceive the implications of new arguments for a given issue. However, these effects can be quite different, depending on the relative intensity of the opposing messages and individuals' prior stores of information. Generally speaking, moderately aware individuals are most

likely to be both exposed to and affected by new information. However, the least aware persons are most susceptible to influence in situations in which the information flow is very intense (Beck et al., 2002; Zaller, 1992).

The literature on media effects also emphasizes the differential effects of media as a function of political sophistication. However, there is inconsistent evidence with respect to the impact of mass media among individuals with high or low levels of political sophistication.⁴ Political sophistication may enhance media learning (McLeod, Kosicki, & McLeod, 2002) but may moderate other effects. Agenda-setting effects appear to be moderated by political sophistication with less knowledgeable individuals being more susceptible (Iyengar & Kinder, 1987). Similarly, in priming research Krosnick and Kinder (1990) found politically knowledgeable persons to be less susceptible to priming effects. Krosnick and Brannon (1993), however, demonstrated that political expertise facilitates priming effects. This was specified by Miller and Krosnick (2000) who found the strongest priming effects for politically knowledgeable citizens that also trust media sources. In framing effects research, Kinder and Sanders (1990) showed that persons with lower levels of political information were more susceptible to framing effects, and Valentino, Beckman, and Buhr (2001) found stronger framing effects on turnout intention for participants with lower levels political sophistication. Considering both the results from studies of media effects and Zaller's (1992) observations, we expect when investigating opinion change, those individuals who are less politically aware, but still exposed to media messages, to be most affected.

When looking at how political sophistication moderates effects of interpersonal communication, our theoretical expectations are to a lesser degree drawing on previous research. Highly politically sophisticated people are more likely to talk about politics and are more likely to develop better opinions (Kim et al., 1999). More importantly, individuals high on political sophistication are more likely to rely on interpersonal cues than on media cues (Atwater, Salwen, & Anderson, 1985). Linking this finding with Zaller's (1992, 1996) argument that in a situation where the media coverage is one-sided, the most highly aware persons are likely to resist the media message flow, we expect that under the condition of a one-sided mass media information flow, highly politically sophisticated individuals are more likely to resist mass media messages and resort to interpersonal conversations for cues to opinion change.

However, interpersonal communication can also contribute to attitude change for less politically sophisticated individuals. Mondak (1995) demonstrated that in a situation where media are absent, interpersonal communication is the most influential source of attitude change. In the absence of mass media information flows, this effect, according to Zaller's (1992) reasoning, is likely to be most pronounced for individuals with low levels of political awareness. When exposed to new arguments, these individuals have less preexisting knowledge to draw on and are, therefore, more likely to react to arguments put forward in conversations and discussions. We may thus expect that in a situation in which media coverage about an issue is almost absent or ambiguous,

interpersonal communication about this issue affects individuals with lower levels of political sophistication.

Based on these considerations, we test a model of how media message flows and interpersonal communication affect public opinion. We expect that exposure and attention to news media affects public policy support. We hypothesize that this is a conditional relationship. Following Zaller (1992, 1996), we assume that a two-sided information flow—in which the advantages and disadvantages of a political issue are both present—is likely to result in no media effects, as the different cues cancel each other out. We further expect that a one-sided information flow produces media effects. These can be effects of a consistent negative bias, presenting an issue in terms of risks and losses, which will lead to lower levels of support for the policy as individuals will tend to favor the status quo situation, thereby invoking risk-averse behavior. Conversely, consistently positive news coverage of the issue, focusing on the potential gains and advantages, invokes gain-seeking behavior and increases support.

Hypothesis 1: The impact of exposure and attention to news media coverage on change in public policy support is contingent on the consistency of the message flow. A one-sided (positive or negative) message flow leads to change in public support, whereas a two-sided information flow yields no media effects.

We expect the impact of mediated information, under the condition of a one-sided information flow (see Hypothesis 1), to be moderated by political sophistication.

Hypothesis 2: The impact of mass media on change in policy support is moderated by political sophistication. Highly politically sophisticated individuals are less likely to be affected by mass media content. Less politically sophisticated individuals are more likely to be affected by mass media content.

We further expect that interpersonal communication affects attitude change differentially, as specified above, contingent on an individual's level of political sophistication and the presence of either a one-sided or two-sided media message flow.

Hypothesis 3: The impact of interpersonal communication on change in policy support is moderated by political sophistication and message flows. Highly politically sophisticated individuals are affected by interpersonal communication under a condition of a one-sided media message flow. Politically less sophisticated individuals are affected by interpersonal communication under the condition of an absent or two-sided media message flow.

Table 1 synthesizes our theory-driven expectations. It illustrates the differential effects taking context in terms of message flow as well as personal predispositions in terms of political sophistication into account.

Table 1
Expected influences of mass media message flows and interpersonal communication conditioned by level of political sophistication

	Media Message Flow	
	One Sided	Two Sided
High political sophistication	No media effect Interpersonal communication effect	No media effect No interpersonal communication effect
Low political sophistication	Media effect No interpersonal communication effect	No media effect Interpersonal communication effect

Methods

In this article, we further pursue John Zaller's ideas. As noted by Zaller (1996), it is challenging to study the differential effects of media message flows because mass communication is "relatively stable over time" (p. 19) and thereby creates a problem of variance in the message flow. To test the differential effects of mass and interpersonal communication moderated by political sophistication under the condition of either one-sided or two-sided message flows, we need a design with variation in the intensity and tone of communication flows and individual-level differences in political awareness.

To effectively study the dynamics of public opinion, a controlled experimental design in which we manipulate the tone of the news that randomly assigned participants were exposed to could be considered. However, our expectations derived from the theory suggest that only a consistent tone in the news, either positive or negative, is likely to have an effect. This proposition implies a temporal component, which is not easily built into experiments that tend to use single-exposure designs. Previous studies have relied on cross-sectional survey data and proxies for indications of media content. As acknowledged by Zaller (1996), this is, however, "essentially a dynamic argument applied to static, or cross-sectional data" (p. 55).

To test our hypotheses, we therefore rely on a content analysis of television news and newspapers and two identical two-wave panel surveys with nationally representative samples including measures of interpersonal communication and exposure and attention to various media outlets (subject to the systematic content analysis). To investigate the effects of news media and interpersonal communication, we focus on the issue of the enlargement of the European Union. This topic is particularly suitable for comparative research in which contextual differences (such as the valence of media content) are expected to be of influence. We are interested in the dynamics in public opinion. First, we add to our understanding of how information flows affect political attitudes by investigating the impact of media and interpersonal communication in one model. Second, we look at actual media content to assess message flows

and understand differential effects of exposure and attention to news in different message-flow environments. Third, given our interest in the dynamics of public opinion, we do not draw on cross-sectional survey data but rather on a dynamic model of change in public opinion.

We investigate the dynamics of public opinion and the role of media message flows and interpersonal communication by drawing on a quasi-experimental design. To ensure variation in the level and type of news media coverage, we conducted a media content analysis and collected panel survey data in two countries. As explained in the Results section, in one country (Denmark), the news coverage was strongly positive (a one-sided message flow, our experimental condition), whereas in the other country (the Netherlands), the news was mixed (a two-sided message flow, our control condition). The study was carried out during a European Council meeting in which the European leaders met in Denmark in 2002. Choosing the Netherlands as the comparison was done because it is one of the few countries from which we know that media coverage of a similar meeting of the European Council in 1997 had significant effects on public opinion (see Semetko, van der Brug, & Valkenburg, 2003).

Arguably, there are differences between Denmark and the Netherlands but also many similarities in terms of political system (coalition governments), media system (high newspaper readership and competitive broadcasting market with remaining strong public service ethos [see e.g., Lauf, 2001]) and standard of living. We are not interested in the level of policy support (for which differences between the countries would be particularly relevant) but rather in the antecedents and dynamics of change. Moreover, the potential differences between the two countries are expressed in our time one-measure (where the level of policy support is different). Between our two time points, the key difference was that Danish news had a one-sided media coverage, whereas Dutch news had a two-sided coverage. In this design, therefore, we aim to meet Zaller's (1992, 1996) call for investigations in contexts with different flows of information. We elaborate by investigating individual-level change for a single issue (as opposed to analyzing different issues to illustrate differential effects).

Our surveys were fielded about 3 weeks ahead of the summit and immediately after the summit.⁵ The response rates in Denmark were 77.9% in Wave I and 82.8% in Wave II with a net sample of 1,288 respondents participating in both waves. In the Netherlands, this was 70.9% in Wave I and 63.3% in Wave II with a net sample of 2,136 respondents participating in both waves.⁶ To assess the quality of our data, we included the standard Eurobarometer support-for-country's-EU-membership question in our survey (Eurobarometer 58/European Commission, 2003). Sixty percent 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 EB 58, which was fielded in October 2002.

Survey

The dependent variable was an eight-item index forming a scale of EU enlargement support. Questions were answered on 5-point agree-disagree scales and included

questions such as “The enlargement of the EU is important for the future of the EU” (all items are listed in the appendix). The items were recoded when appropriate to form a scale of EU enlargement support.⁷ The means and scale consistencies were Denmark Wave 1: $M = 3.10$, $SD = .84$, $\alpha = .92$; Wave 2: $M = 3.26$, $SD = .81$, $\alpha = .93$; the Netherlands Wave 1: $M = 2.87$, $SD = .68$, $\alpha = .87$; Wave 2: $M = 2.84$, $SD = .70$, $\alpha = .88$.

The key independent variables included a combined measure of exposure to television news and newspapers and attention to news about the EU. We include attention given the potential inaccuracy of relying solely on exposure measures (Chaffee & Schleuder, 1986).⁸ We use a combined measure of television news and newspaper exposure given the similarity in terms of coverage between the media outlets in each of the countries (see the description of the results of the content analysis below). A greater diversity of the news media coverage would favor using our detailed exposure measure to each of the different outlets but given the similarity in content we use an additive index. The index includes number of days watching television news (0 to 7) and reading a newspaper (0 to 7 in Denmark and 0 to 6 in the Netherlands) plus attention to EU affairs (ranging from 1 to 4). Our second important independent variable, *interpersonal communication about EU affairs*, was tapped by a 4-point scaled measure of frequency of ‘discussing EU affairs with family, friends or colleagues’ (Denmark $M = 2.87$, $SD = .89$; the Netherlands $M = 2.05$, $SD = .96$). We note that Zaller (1992) is highly critical of conventional media exposure measures given potential measurement error. Zaller (1996), however, also stresses (following Bartels, 1993) that when different levels of exposure or exposure to specific media outlets are important, one needs to include actual exposure measures rather than proxies.

To provide a conservative test of communication effects, a number of control variables are added to the model. Public support for European integration has been explained in terms of rather stable predispositions and fluctuating perceptions of domestic politics and the economy. Among the latter utilitarian, economic considerations (e.g., Gabel & Palmer, 1995) and satisfaction with the incumbent government (e.g., Franklin, van der Eijk, & Marsh, 1995; Ray, 2003) are the most developed predictors. EU citizens in different socioeconomic situations experience different costs and benefits from integrative policy that affects their level of support. Accordingly, individuals with more positive economic outlooks are more likely to support integration (Anderson & Reichert, 1996; Gabel, 1998). Furthermore, studies suggest that citizens resort to proxies when formulating their view on integration and that these proxies are likely to be based on national political considerations (Anderson, 1998; Franklin, Marsh, & Wlezien, 1994). Given the low level of actual information about the integration process, evaluations of the incumbent government drive opinions about integration (Franklin et al., 1994; Franklin et al., 1995). To control for the impact of domestic political considerations, we used respondents’ assessment of the domestic government ranging on a 5-point scale from *very bad* to *very good*. To test the utilitarian perspective, we included a measure of prospective economic evaluations (following Anderson, 1998) ranging from *a lot worse* to *a lot better*.⁹

To investigate the potentially differential effects on individuals with varying levels of political sophistication, we divided our sample into high and low politically sophisticated respondents at the mean (see Beck et al., 2002, for a similar procedure). Political sophistication was a combined measure of factual political knowledge and political interest (Denmark $M = 2.78$, $SD = .89$; the Netherlands $M = 1.96$, $SD = .91$). All independent variables ranged from 1 to 5; and the means, standard deviations, and internal consistency of our scales as well as the specific wording of all items can be found in the Appendix.

Content Analysis

To assess the flow of media messages in terms of salience and evaluative tone, a content analysis of television news and daily newspapers was carried out in the period between the two waves of the survey (from November 25 to December 16). The sample consisted of the most widely watched public broadcasting news programs *DR TV-Avisen* (9 pm) in Denmark and *NOS Journaal* (8 pm) in the Netherlands and the most widely watched commercial television news programs *TV2 Nyhederne* (7 pm) in Denmark and *RTL Nieuws* (7:30 pm) in the Netherlands. A total of 1,477 news stories were coded from these four outlets.¹⁰ The newspaper sample included the front-page of the five most widely read dailies in Denmark (*Politiken*, *JyllandsPosten*, *Berlingske Tidende*, *BT*, and *EkstraBladet*, all published Monday through Sunday) and in the Netherlands (*de Volkskrant*, *Telegraaf*, *NRC Handelsblad*, *Algemeen Dagblad*, and *Trouw*, all published Monday through Saturday). A total of 1,797 newspaper articles were analyzed.¹¹ The sample of news outlets covers the most important sources of political information and includes broadsheet and tabloid newspapers as well as public service and private broadcasting news programs.

The content analysis was completed by two native Dutch speakers and two native Danish speakers (all were MA-students at the University of Amsterdam). Coders were trained and supervised frequently and the inter-coder reliability test conducted in pairs of coders for each language on a sample of 50 news stories, randomly selected from the news outlets included in the study, produced Cohen K ranging from .87 to 1.00 for the measures relevant to this study. We report the visibility of news stories about the EU enlargement, European integration, and the EU, which were defined as stories “about the EU, its institutions, policies, politics etc. when these terms are mentioned in at least two complete, independent sentences.” To assess the tone of these stories, we use a measure of explicit evaluations of the EU enlargement. Using each news story as the unit of analysis, it was coded whether the story as a whole portrayed the enlargement in a neutral way, in a favorable way (highlighting advantages, opportunities, and positive aspects), in an unfavorable way (highlighting disadvantages, risks, and negative aspects), or in a mixed manner (combination of favorable and unfavorable). We calculated a mean evaluation for each news outlet ranging from -1 to +1 by subtracting the number of negative evaluations from the number of positive evaluations and dividing this by the total number of stories mentioning the EU enlargement.

Results

We first look at the dynamics in public opinion at the aggregate level. Using our index of support for the EU enlargement, we found a significant increase in support in the case of a one-sided message flow (Denmark) from $M = 3.10$ to 3.26 . In the case of a two-sided message flow (the Netherlands), the level of support remained stable between the two waves ($M = 2.87$ and 2.84). We next turn to the news media coverage in the period between the two waves. We are particularly interested in assessing the visibility and tone of news about European integration. The number of stories varied, and Danish news media devoted much more attention to the topic. Danish television news carried more than 250 stories, and there were more than 80 front-page stories in the press. Dutch television news aired 25 news stories and there were 70 newspaper front-page stories.¹²

Looking at the evaluative tone of stories about the EU enlargement, we find that Dutch news was mixed and the overall average was $M = .00$. In 60% of the news, there was no explicit evaluation, whereas in 7% there was an explicitly negative evaluation, in 25% a mixed evaluation and in 7% an explicitly positive evaluation.¹³ Danish news was strongly biased towards positive evaluations and the overall average was $M = +.14$. In 51% of the cases, there was no explicit evaluation, whereas in 6%, there was an explicitly negative evaluation, in 16% a mixed evaluation and in 27% an explicitly positive evaluation.

Given that we know that most news tends to be either neutral (with few evaluations and most evaluations equally present) or slightly negative (Kepplinger, 2005; Kepplinger & Weissbecker, 1991), we can conclude that Dutch news conformed to general expectations and provided a mixed, two-sided coverage. Danish news, however, was biased towards positive evaluations and, therefore, provides a context with a one-sided message flow. We acknowledge that Danish news was not 100% positive. However, this is a rather unrealistic expectation. With more than 50% of the news neutral and more than 50% of the news with a clear evaluation being positive, this is as close as we can get to a one-sided message flow in a democratic society where news tends to highlight opposing arguments (see Zaller, 1996, for a similar reasoning).

Turning to the multivariate analysis in which the effects of interpersonal and mass media communication under the condition of different media message flows were assessed simultaneously, we find the following when controlling for our time1-measure (see Table 2). Exposure and attention to news affected politically less sophisticated individuals under the condition of a one-sided media message flow. There were no media effects amongst highly politically sophisticated individuals. As expected, there were also no media effects in the condition in which the media message flow was two-sided. Interpersonal communication affected individuals with a high level of political sophistication when the media message flow was one-sided and individuals with a low level of political sophistication when the media content was minimal and two-sided. Technically speaking, our expectations predict an interaction between interpersonal discussion and political sophistication. For reasons of presentational clarity, we present separate regressions for high and low political sophisticates. In two

Table 2
Impact of Message Flow and Interpersonal Communication on Change in Public Opinion

	Low Political Sophistication				High Political Sophistication						
	One-Sided Message Flow ¹		Two-Sided Message Flow ²		One-Sided Message Flow ¹		Two-Sided Message Flow ²				
	Beta	SE	n	Beta	SE	n	Beta	SE	n		
Policy support (t1)	.76***	.03		.70***	.02		.82***	.02		.75***	.02
Evaluation domestic government	.08**	.02		.01	.01		.06**	.02		-.01	.01
Economic expectations	.04	.02		.17***	.01		.09***	.02		.17***	.01
Interpersonal communication	.03	.02		-.04*	.01		.04*	.02		-.03	.01
Media exposure and EU politics attention	.08**	.02	472	-.01	.01	1,137	.02	.01	705	.02	.02
n											920
R ²		.65			.63			.73			.68

Note: OLS regressions. Entries are standardized beta coefficients and standard errors.

1 = context with consistent, one-sided message flow (Denmark); 2 = context with two-sided message flow (the Netherlands).

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

separate regression models (one in each country; regressions not reported here), we included the interaction term between interpersonal communication and political sophistication. The interaction terms were significant in the hypothesized direction. Hypotheses 1, 2, and 3 are therefore confirmed.

In both countries, positive economic assessments and positive evaluations of the incumbent government affected change in public opinion. Following our expectations, economic evaluations were a consistent positive predictor and positive evaluations of the government were positively related to support in Denmark.

To further put our hypotheses to test, we return to our media content analysis. Although all Danish news outlets reported predominantly positively about the EU enlargement, one newspaper deviated from this pattern and provided a mixed (i.e., two-sided) coverage. This newspaper (*Politiken*) carried 23% neutral, 30% negative, 23% mixed, and 23% positive stories. Following our hypothesis, we expected readers of this particular newspaper, who did not rely on other mass media information sources and were therefore exposed to a two-sided message flow, not to be influenced by the news coverage because the two-sided messages cancel out each others' effect. Moreover, we expected individuals with a low level of political sophistication to draw on interpersonal sources whereas individuals with higher levels of sophistication were not expected to be affected.

Table 3 confirms these expectations. Exposure to the two-sided media content did not affect opinions. Individuals with a low level of political sophistication were affected by interpersonal communication, whereas individuals with higher levels of education were not affected by interpersonal communication. These findings are statistically significant despite the limited number of cases and it provides additional evidence to the hypothesized relationships.

Discussion

Our study of the dynamics of public opinion showed that news media mattered when the message flow was one-sided but not when the flow was two-sided. Under the condition of a one-sided media message flow, media effects were found among individuals with a lower level of political sophistication. This evidence corroborates Zaller's (1992, 1996) two-sided information flow hypothesis that suggests that mixed cues are likely to cancel each other out, whereas a consistent and pervasive directional news bias may shift public opinion. We add to this knowledge that interpersonal communication affected individuals with a high level of political sophistication when the media message flow was one-sided and individuals with a low level of political sophistication when the media content was minimal in terms of visibility and two-sided.

We confirmed our hypotheses in two contexts. In one country, the news coverage was two-sided and public opinion was not affected by citizens' exposure and attention to media content. In another country, the news coverage was one-sided and public opinion was affected, albeit moderated by the level of individuals' political sophisti-

Table 3
Impact of Interpersonal Communication Conditioned by
Political Sophistication Under a Two-Sided Message Flow

	Two-Sided Message Flow ^a					
	Low Political Sophistication			High Political Sophistication		
	Beta	SE	<i>n</i>	Beta	SE	<i>n</i>
Policy support (t1)	.85***	.08		.84***	.05	
Evaluation domestic government	-.06	.06		.11*	.04	
Economic expectations	.11	.06		.08	.04	
Interpersonal communication	.24*	.07		.07	.06	
Exposure and EU politics attention	-.06	.08		.01	.05	
<i>n</i>			39			9
<i>R</i> ²			.76			.78

Note: OLS regressions. Entries are standardized beta coefficients and standard errors.

a. The analysis is based on the readers of the newspaper *Politiken* which provided a two-sided news coverage in the period of the study. Exposure denotes number of days reading the newspaper. Dependent variable is policy support at t2.

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

cation. However, within the context of one-sided news coverage, the readers of one newspaper were in fact exposed to two-sided media content. For this group, public opinion was left unaffected by media content, as we hypothesized.

Our study points to the importance of integrating mass mediated and interpersonal communication (as suggested by Reardon and Rogers, 1988) and differentiating between the effects on different groups of citizens. We draw our conclusion based on two-wave panel surveys and media content analyses in two different contexts: one with a one-sided media message flow and one with a two-sided message flow. This quasi-experimental design enabled us to assess the differential role played by the media in the public opinion formation process.

This study informs both about the conditional nature of the effects of media message flows and of interpersonal communication on the dynamics of public opinion. The media mattered to change in public opinion but only in the context in which the news media reported considerable in amount and in a consistent tone about a political event. We see this conditional nature of media effects on public policy support and preferences as an important contribution to our knowledge of how media can influence public opinion. Future research needs to specify the conditions in more detail. Zaller (1996, 2002) argued that news media need to provide a reasonably extensive coverage of an issue for it to have (measurable) effects. We would expect this pattern to be moderated by the type of issue. For issues that are not obtrusive and for which citizens rely almost entirely on news media as their source of information, it can be expected that even peripheral cues, if consistent, are picked up by the attentive citizen.

We found that patterns of interpersonal communication were an important addition to our understanding of change in public opinion. We found interpersonal communication to affect citizens differently depending on their level of political sophistication and—as a contextual factor—the information flow from mass media. We note that the direction of the effect was different in our two conditions. In one case, interpersonal communication contributed to an increase in public policy support (under condition of a one-sided message flow), whereas in the other case, it contributed to a decrease (under condition of a two-sided message flow).

Our study does not allow us to assess the contents of the interpersonal discussions. Potentially, the cues in these conversations differed in valence (as did the news coverage). Future research would benefit from indicators of the content and tone of interpersonal communication so as to investigate whether interpersonal interactions are one-sided (and potentially reinforcing of media content) or two-sided, providing oppositional information. Moreover, the issues about which individuals engage in conversations about politics and the diversity of their network of discussants are eminent questions (see e.g., Hovland, Janis, & Kelley, 1953; and Scheufele, 2002).

Following these considerations, we acknowledge that our study has a number of caveats. First, the conceptualization of interpersonal communication is limited and future studies need to further enhance the measurement of the strength of engagement in interpersonal discussions about politics. In combination with a more detailed assessment of the content of interpersonal discussions, this might also help understanding the different directions of the impact of interpersonal political discussion. Second, the model of differential effects of media message flows and interpersonal communication moderated by political sophistication needs to be expanded to other policy issues. Although we consider it an asset for reasons of comparability to study the same issue within the same time frame under different circumstances, future research needs to consider the potentially moderating role of the issue under investigation. These shortcomings notwithstanding, for the study of public opinion change, it is evident that future research must integrate interpersonal communication patterns and media use in one model while also assessing the contents of both so as to better understand when and why effects occur.

Appendix

Variable	<i>M</i>		<i>SD</i>		alpha	
	NL	DK	NL	DK	NL	DK
Support EU enlargement (t1)	2.87	3.10	0.68	0.84	.87	.92
Support for EU enlargement (t2)	-2.84	-3.26	-0.90	-0.81	-.88	-.93

1. The EU should be enlarged with countries from the former East bloc such as Lithuania and Poland,
2. The EU should be enlarged with Turkey,
3. The enlargement of the EU is important for the future of the EU,
4. Denmark OR the Netherlands will experience more advantages than disadvantages from the enlargement,

5. For me personally, the enlargement brings more advantages than disadvantages,
6. The enlargement of the EU will have negative effects on the Danish OR Dutch economy,
7. The enlargement is necessary for peace in Europe,
8. The enlargement should wait until the current Union functions better.

News exposure and attention EU news 3.68 4.37 1.02 0.98

Frequency of media exposure (additive) and attention EU:
 number of days watching television news (0 to 7)
 reading a newspaper (0 to 7 in Denmark and 0 to 6 in the Netherlands)
 attention for EU affairs (1 to 4).

Recoded to range from 1 to 5.

Interpersonal communication (1-4) 2.05 2.87 0.96 0.89

Frequency of discussing EU affairs

Political sophistication 1.96 2.78 0.91 0.89

Combined index political knowledge and political interest:
 What is the number of commissioners in the EU commission? (20)
 What is the name of the current president of the European commission? (Prodi)
 What is the name of the Danish OR Dutch commissioner? (Nelson OR Bolkestein)
 Which country currently holds the presidency of the EU? (Denmark)
 What is the number of countries seeking membership of the EU? (10, 12, 13) 1 = *correct*,
 0 = *incorrect*
 How interested are you in politics? (1 = *no interest*; 2 = *some interest*; 3 = *considerable interest*;
 4 = *high interest*)

Index recoded to range from 1-5.

Evaluation domestic government (1 to 5) 3.25 3.65 1.06 1.08

How do you think the current government is handling its job? 1 = *very bad*, 2 = *bad*,
 3 = *neither good nor bad*, 4 = *good*, 5 = *very good*

Economic evaluation (1 to 5) 3.07 3.65 0.82 1.08

What do you expect the Dutch economy to be like a year from now? 1 = *a lot worse*, 2 = *worse*,
 3 = *neither worse nor better*, 4 = *better*, 5 = *a lot better*.

NL = Netherlands; DK = Denmark.

Notes

1. The study was made available through a research grant from the Danish Social Science Research Council to the first author. Claes de Vreese thanks the Minda de Gunzberg Center for European Studies at Harvard University for providing a stimulating work environment when the first version of the manuscript was written. The Dutch Science Foundation is thanked for its travel grant. The authors thank the anonymous reviewers for helpful suggestions.

2. Zaller's (1992) theory also deals with the nature of political attitudes and how these are transformed into answers to survey questions. These particular contributions are not the focus of this study.

3. Particularly important in this model is ideology that is a key predictor in the, by-and-large, two-party American political system.

4. We recognize the different conceptualisations and measurement of political sophistication. These are called differently in the literature. Zaller (1992), for example, speaks of political awareness and measures political knowledge. We use the term *political sophistication* that is based on a measure of political knowledge and interest (see Mondak, 2001, for a discussion of these issues).

5. The specific fieldwork days were Denmark Wave I: November 21 to 28, 2002, Wave II: December 14 to 18, 2002; the Netherlands Wave I: November 19 to 26, 2002, Wave II: December 17 to 21, 2002.

6. In Denmark, the sample was drawn from the GfK Danmark database. A nationally representative sample of 1,807 Danish adult (age 15+) individuals was invited to participate in the study out of which 1,444 did (response rate 77.9%). The same sample was approached in Wave 2 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 & 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 because of question-and-response category layout were taken into account (Dillman, 2000). We consider it an asset that our study does not rely on Eurobarometer data (Eurobarometer 58/European Commission, 2003). 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.

7. A principal component analysis with varimax rotation confirmed the single-factor loading and yielded one factor with an Eigen value of 5.08, explaining 56% of the variance.

8. We note, however, that using the exposure measure only (without the attention to EU news measure) yields very similar results and does not in any way substantively alter the conclusions.

9. Previous research has identified a number of additional relationships between stable individual characteristics, attitudes, and support, such as gender (men being more supportive) education and occupational status (Gabel, 1998), materialist versus postmaterialistic values (Inglehart, 1990), ideology (i.e., not strong right or left profile; Gabel, 1998), and attitudes toward immigrants (de Vreese & Boomgaarden, 2005). These characteristics are stable and do not change between the panel waves. To account for these influences and to study change, we use a lagged term for support for EU enlargement at Wave I (see Markus, 1979, for discussion of the use of lagged specifications in panel data). This enables us to control for the level of initial support and to assess change during the period between the two waves. We are particularly interested in attitude change. Therefore, we do not include the control variables as separate variables in our model here because the explanatory power of these variables is largely absorbed by the lag-term.

10. 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.

11. 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, and *Trouw* = 145. The low number of articles from *EkstraBladet* and *BT* is because of the tabloid format of the newspaper and the layout of the front page that includes only one or two stories per day.

12. The distribution during the 3 weeks was Danish television (weekly number of stories) = 14, 50, and 188; Dutch television = 4, 11, and 10; Danish newspapers = 12, 29, and 43; Dutch newspapers = 10, 32, and 28.

13. In the Netherlands, there were only minor differences between the outlets. Television news was generally more negative than the newspapers but included both positive and negative evaluations. The newspaper *de Volkskrant* had an overall positive evaluation, but given the low number of stories ($n = 3$) in this newspaper, we do not draw substantive conclusions from this finding.

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