

The Divided Electorate: Media Use and Political Involvement

Kees Aarts

University of Twente

Holli A. Semetko

University of Amsterdam

Research examining media effects on political attitudes has put forth broadly conflicting explanations: media use diminishes knowledge and involvement and contributes to political cynicism and declining turnout; media use contributes to learning, political involvement, trust, efficacy, and mobilization. We address these explanations with detailed measures for the Netherlands in 1998. A dual effects hypothesis is supported: regularly watching television news on the public service channels has positive effects on cognition, efficacy, and turnout, whereas regularly opting for commercial television news has negative effects. Viewing behavior thus separates the more knowledgeable, the efficacious, and the politically involved from those who are not, revealing what might be described as a “virtuous circle” for some and a “spiral of cynicism” for others.

Numerous studies drawing on data collected in the United States point to negative effects of the media on political attitudes. In the mid-1970s and early 1980s, the news media, and television news in particular, were linked with growing political malaise, not least because of the emphasis on bad news such as political incompetence, scandals, and corruption (Robinson 1976; Robinson and Sheehan 1983). Subsequent research on U.S. presidential election campaigns between 1960 and 1992 identified trends that are no more heartening: campaign news has become more negative, more interpretative rather than descriptive, and more game oriented than policy oriented (Patterson 1980, 1993). Television news in the United States has been singled out for diminishing what politicians have to say to an ever shrinking soundbite (Hallin 1997), for providing only “episodic” coverage of political issues without making sense of them in their larger thematic or historical context (Iyengar 1994), for reporting complex political issues in sim-

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plistic strategic terms (Capella and Jamieson 1997), and, ultimately, for causing civic disengagement and declining social capital (Putnam 1995).

Other studies, however, have shown that media use is positively associated with various measures of civic engagement and political cognition. Political interest, discussion, and ideological sophistication have increased over the past few decades in a number of countries, and this has been linked to the rise of the media and the educative role of television in particular (Dalton 1996; Inglehart 1990). Television news viewing in the United States, Britain, and a number of other countries has been associated with higher levels of political knowledge, participation, and personal efficacy (Brehm and Rahn 1997; Norris 1996, 2000). The 1997 British election study, for example, revealed a positive association between attention to news and higher levels of political knowledge and civic engagement, and an experiment designed to test the effects of television news in the general election campaign found that exposure to positive news about a party had stronger effects on vote choice than exposure to negative news (Norris et al. 1999).

In sum, research examining the effects of the news media on political attitudes has put forth broadly conflicting explanations. From one perspective, media use diminishes involvement and contributes to political cynicism and declining turnout; from another, media use contributes to political involvement, trust, efficacy, and mobilization. One study comparing the evidence for what has been described as “malaise” versus “mobilization” perspectives concluded that it is media *content* that matters most, and it singled out the effects of the use of specific types of media. Drawing on 1996 British Social Attitudes (BSA) survey data, Newton (1999, 597–98) concluded:

First, even after controlling for income, education, gender, age and party politics, reading a broadsheet is strongly connected with mobilization, not malaise. Secondly, television pulls in different directions, according to its content: television news seems to inform and mobilize; general television has a weak and patchy association with malaise. And thirdly, television news may have a pervasive effect because a large and diverse portion of the population watches it regularly. Although many “fall into” the news—rather than “jumping into” it—they do not seem to suffer from it but, on the contrary, are informed, educated and mobilized. The fact that this large and heterogeneous group of television news watchers is not self-selected, on political grounds, at least, suggests that the association between television news and mobilization is not an artifact of audience self-selection and may well be a genuine media effect.

Newton (1999) takes us further than most of the aforementioned studies by pointing out the important differences between media and, in particular, between newspapers and television, differences that have too often been downplayed in the larger debate. In seeking to explain the “mobilizing” effects of British television news viewing, a conclusion that runs counter to much U.S. literature, Newton (1999, 599) raises the possibility of media system differences and notes, “This suggestion, however, takes us into uncharted comparative waters, which will probably have to be thoroughly explored before much more headway can be made on the issue of mass media effects.”

The United States and Britain are two countries in which competitive broadcasting has been the norm (since the inception of the networks in the U.S. with the launch of radio, and since the launch of Independent Television (ITV) in the 1950s in the UK to compete with the British Broadcasting Corporation (BBC)). Because of the emphasis on U.S. and British data in much of the previous research, little attention has been paid to the continental European context. In western Europe, public service television occupied a monopoly position in most countries until the past decade. Until the late 1980s, most western Europeans had one or two public service broadcasting channels to choose from in their country. Competition was intensified in the 1990s with a rapid expansion of national broadcasting channels, as well as the Internet.

The present study takes us into these uncharted comparative waters and beyond the limitations of the previous research to address key questions in the larger “malaise” versus “mobilization” debate. We draw on a broader range of survey questions concerning media use than has been asked in any previous national election study or Eurobarometer survey to offer a more realistic picture of how media use contributes to media effects in one of the more competitive national media contexts in Europe.

A European Context: The Dutch Case

As a prototypical European multiparty parliamentary democracy, the Netherlands provides an excellent critical case for studying the relationship between media use and political attitudes. The country is ruled by majority governments, but since the late 1890s no single party has secured a majority of the seats in Parliament. The coalitions have often included three or more political parties. The country also provides a valuable case for studying media effects because its media landscape, especially television and radio, has undergone tremendous change over the past decade, and these changes are in line with what a number of other western European countries have experienced.

Television and radio have developed from exclusive, state-controlled cartels of “pillarized” broadcasting organizations in the 1960s into a mixed public-commercial system with a wide variety of channels today (see Lijphart (1975) for a discussion of the pillars that structured life in Dutch society from the early 20th century until the mid-1960s). In the early 1980s, the two public television channels, *Nederland 1* and *2*, held a monopoly position in the country. From the late 1980s onward, private, commercially funded television and radio channels were launched. In 1998, with cable penetration at nearly 100%, a typical household was able to watch three Dutch public service channels, four established Dutch-speaking commercial channels (RTL4, RTL5, Veronica, and SBS6), and a wide variety of other Dutch-speaking, foreign, international, regional, and specialized channels, as well as pay-TV. While the public service channels have a reputation for making a range of serious political news magazine programs, and they broadcast the three main news programs every day in which political news

is often featured (6 pm, 8 pm and 10 pm), the private channels offer considerably more entertainment programming during prime time. Overall, the private channels offer less political coverage in the news in comparison with NOS, the public service news, although there is variation among the commercial channels in the amount of attention paid to politics in the daily news programs. Radio has developed similarly, with more private channels today than ever before, and many of these offer little in the way of political news.

The national press remains widely read and is supplemented by a strong regional press. The national daily press is characterized by both serious and substantive newspapers aimed at the highly educated, such as the *NRC-Handelsblad* and the *Volkscrant*, on the one hand, and the more sensationalist and “middle brow” newspaper, the *Telegraaf*, on the other. There are many regional newspapers that could be placed in the middle to the softer end of the substantive-sensationalist continuum. Generally speaking, there has been less in the way of gossip magazines in the country in comparison with its neighbors, but these and the number of women’s magazines are growing. These outlets sometimes offer political content but of a different nature.

In sum, the Dutch case is representative of what can be found in many of the continental western European countries. The country has a multiparty parliamentary system and a strong national press. The broadcasting system, once dominated by public service broadcasters, is characterized today by a number of competing channels that offer a full range of programs.

Research Hypotheses

On the basis of these distinctions across the different media, and in public and private broadcasting outlets and highbrow and lowbrow press outlets in the range and quality of political content, we expect to find certain patterns to emerge in media use. Our first hypothesis is thus:

H(1) An underlying structure to media use will emerge, with distinct components, when we consider the use of television, radio, and the press.

Specifically, we expect to find that exposure falls into two broad categories, one public or more heavily political and substantive, and one private with less political and substantive information.

Our subsequent hypotheses concern how media use relates to political knowledge, political attitudes, and political involvement. We expect to find that exposure to the more political and substantive outlets displays a consistent relationship with the dependent variables that is distinctly different from exposure to the private or the less political and less substantive. We hypothesize:

H(2) A consistent relationship will emerge between the underlying structure of media use and political knowledge.

H(3) A consistent relationship will emerge between the underlying structure of media use and political attitudes.

H(4) A consistent relationship will emerge between the underlying structure of media use and political involvement.

Specifically, we expect to find evidence to support a dual effects hypothesis: *Political knowledge, political attitudes, and political involvement are positively associated with exposure to the public or more politically substantive outlets, and negatively associated with exposure to the private or less political or nonsubstantive media outlets.*

Data and Methods

The data were collected in the Dutch Parliamentary Election Study 1998 (Aarts, van der Kolk, and Kamp 1999), a survey study based on a nationwide sample of enfranchised Dutch citizens.¹ The survey data for this study have been obtained by face-to-face as well as self-completion procedures.²

Dependent Variables

Our dependent variables are divided into three types. First, we look at the effect of media use on some indicators of political knowledge. These are relatively direct measures of the cognitive capacities of voters, which make it possible to address the relationship between political sophistication and media use. The three indicators of political knowledge are candidate recognition, ability to place political parties on position issues, and ability to identify the parties cooperating in the incumbent Dutch government coalition. Details of question formats and index construction for all variables used can be found in the Appendix.

The second set of dependent variables consists of three political attitudes: external political efficacy, internal political efficacy, and trust in institutions. All three are based on various indicators of the underlying concept, measured with fairly standard survey questions.

Thirdly, we consider reported turnout in the 1998 election. This variable depicts the strength of the relationship between the respondent and the party-political system and thus summarizes an important prerequisite for the legitimacy of the political system in the Eastonian sense.

¹ The Dutch Parliamentary Election Study 1998 was conducted by Kees Aarts, Henk van der Kolk, and Marlies Kamp on behalf of the Dutch Electoral Research Foundation (SKON). The study was funded by the Dutch Organization for Scientific Research (NWO), the Ministry of the Interior and Kingdom Relations (BZK), the Ministry of Health, Welfare and Sports (VWS), the Social and Cultural Planning Office (SCP), the University of Amsterdam, and the University of Twente. All study information can be found in Aarts, van der Kolk, and Kamp 1999.

² Face-to-face, computer-assisted personal interviews with a sample of the Dutch electorate were held before and after the May, 6, 1998, parliamentary election (short-term panel design). After the postelection interview, respondents were asked to fill out a drop-off questionnaire and send it in by mail. The drop-off questionnaire contained the media use questions that are analyzed in this paper.

Explanatory Variables

The main explanatory variables are measures of media exposure. The relevant data have been collected in the drop-off questionnaires that respondents to the postelection wave of interviews were asked to complete and return by mail.³ The drop-off questionnaire contained a large set of items asking about the frequency of viewing specific television programs, listening to various named radio stations, and reading any of the named daily newspapers and weekly magazines. The twenty television programs include all major news programs on the (then seven) nationwide Dutch-language networks, four of which were commercial and three public. In addition, the other most widely viewed daily TV programs (broadcast at least five times per week) were included on the list. Most of these were entertainment programs such as soaps. The names of these programs were listed along with the network. The eleven radio stations listed include all five public stations (Radio 1–5), each of which has a strong profile. Radio 1, for example, is known as the “news station” and Radio 3 as the “pop music station.” In addition five commercial stations were included, four pop music stations and the regional public radio station. Finally, the seventeen press outlets mentioned in the questionnaire include all six nationwide daily newspapers (four of which are commonly regarded as the “quality daily newspapers”), the regional daily newspaper, three opinion weeklies, and seven other weekly magazines, including three gossip magazines. Further details can be found in the Appendix.

Other explanatory variables served primarily as controls. These include the respondent’s age, level of education, and subjective political interest.

Methods

The results are presented in two steps. First, principal components analyses of the media use data are reported. These analyses are performed for data-reduction purposes. We expect a limited variety of types of media exposure, and the factor scores can be regarded as more reliable indicators of media use than the basic exposure data for various programs, stations, and press publications. The factor scores are composite measures that share more variance with the underlying concept than would any of the single indicators. Secondly, the results of regression analyses of the dependent variables on patterns of media use are reported.

We assume that there is a structure underlying people’s use of these types of media (H(1)). In order for that structure to be seen, factor analysis seems the appropriate methodology. However, there are two important concerns about the data that should be addressed before we proceed.

The first concern pertains to the selection of media items and its effect on the data reduction process. Merely factor analyzing the exposure data for the media

³ The response of the main part of the Dutch Parliamentary Election Study was: preelection: 2,101 (50% of the gross sample); postelection: 1,814 (86% of preelection wave); drop-off questionnaire: 1,199 (66% of postelection wave).

items and seeing what comes out is not just unsatisfactory from a theoretical perspective, but may also lead to invalid conclusions about the underlying structure of media use. Suppose, for example, that one of the major dimensions in TV viewing involves a contrast between soap viewers and news viewers. Since there are four soaps and thirteen news and current affairs-related programs on the list, a person who regularly watches all of these news programs would obtain a much higher loading on this dimension than someone who regularly watches only three news programs. But from the viewpoint of contrasting soaps with TV news, it is hardly interesting to distinguish between these two persons. The relevant thing to know is how often a person views TV news as a *type* of media use, and how the intensity of viewing TV news is correlated with the intensity of watching soaps, as another *type* of media use. The same reasoning applies to the radio and the press items.

We have therefore distinguished five types of TV use, four types of radio use, and five types of press use. The types of TV use are Public TV Afternoon/Evening News, Public TV News Magazine, Commercial TV Evening News, Commercial TV News Magazine, and Commercial TV Soaps. These are defined in more detail in the Appendix. Three items from the questionnaire that did not fit into one of these types were omitted from the analyses. Radio use involves four types: News, Entertainment, Pop Music, and Classical Music. Finally, the five types of press use are Quality Newspaper, Popular Newspaper, Opinion Weekly, Gossip or Light Magazine, and Ladies' Magazine. Each of these types of media use covers at least two items from the questionnaire. To determine the intensity with which a person uses a certain type of media, simply the highest intensity of use from the items constituting a type was recorded. If, for example, a person listens one to eight hours per week to Radio 5 (score 3) and eight to sixteen hours per week to Radio 1 (score 4), his score on the type radio news use is 4.

The second concern is about the level of measurement of the media use items. Use of the media has been measured by means of five-point scales indicating the intensity. Ordinary factor analysis assumes interval-level measurements. These scales are measured on the ordinal level, rather than the interval level. This is not a major problem provided that the distribution of observations on the ordinal scales resembles a normal distribution. However, many of the media use items—even after collapsing them into types of media use as discussed above—show distributions that are skewed to the left; in other words, relatively many respondents indicate that they make relatively little use of that particular type of media. Disregarding the skewed nature of these distributions will result in unreliable factor solutions.

The solution to this problem is applying a variant of factor analysis in which the ordinal character of the original scales is acknowledged and that subsequently leads not just to a factor solution, but also to an estimate of interval scale values of the categories on this scale. This is what can be done with a principal components analysis using optimal scaling. Using an Alternating Least Squares algorithm, the media exposure data are (optimally) scaled *and* the principal axes are determined (Gifi 1990, 177–79; for a short introduction see Jacoby 1991, 74–80). We used the SPSS-procedure *Principals*.

In the second stage of the analysis, the common factors are used as explanatory variables in a series of regression analyses. For reasons of interpretability, we have used the linear model, even though the dependent variables have in all cases ordinal or dichotomous categories.⁴ Controls for subjective political interest, age, and education have consistently been added to the models.

Even when controlling for subjective political interest, there is a clear danger of endogeneity in the regression model. Media use may not just be one of the causes of, but may also be dependent on, political knowledge, attitudes, and behavior, regardless whether this is a direct dependency or one that results from omitted variables. When a mutually reinforcing effect exists, merely introducing control variables could easily lead to mistaken conclusions (Lieberman 1985, chapter 2). Therefore, the regression analyses for the eight dependent variables (see above) reported here have been performed either by means of ordinary least squares estimation (OLS), or by means of two-stage least squares (2SLS). In order to determine whether OLS would be adequate, we conducted Hausman tests of endogeneity.⁵ In all cases where the evidence convincingly pointed toward endogeneity, the results of 2SLS are reported; otherwise we report OLS results.

Finally, some of our dependent variables have only two categories, which might result in heteroskedasticity. This problem can be solved by applying a so-called “sandwich” or “robust” estimator for obtaining the (co-)variances of the estimators. We have computed robust variance estimates with all regressions, since these estimates are in general robust to violations of some of the assumptions underlying regression, notably the independence between the explanatory variables and the error term, and the identical distribution of error terms.

Findings

Principal Components Analysis

We begin with the underlying structure of media use data. As explained above, for each of three types of media—television, radio, and the press—exposure to

⁴ While the substantive results of OLS are usually not different from those obtained by logit or probit models, OLS can be interpreted more easily. Especially when dealing with structural models rather than single equations, the interpretation of logit/probit becomes awkward. That the substantive results obtained by logit models are usually not different from those obtained by OLS can be seen when the OLS-equations for the two dependent variables that are dichotomous—knowledge of government coalition, and turnout in the 1998 election—are estimated by means of a simple logistic model. In both cases, the order, signs, and approximate level of significance of the effect parameters and the relative amount of explained variance are *identical* for OLS and logistic regression. (These results can be obtained from the authors.) Of course, such straightforward comparisons cannot be made when the dependent variable has more than two categories.

⁵ The Hausman test statistic compares the results of an efficient, but possibly inconsistent OLS estimation with those of a less efficient, but consistent, 2SLS estimation procedure. The statistic is approximately distributed as Chi-square with the number of potentially endogenous regressors as degrees of freedom (Johnston and DiNardo 1997, 339). We have selected a Type I error risk of 5%. Results were obtained using Stata 7.0.

TABLE 1

Principal Components with Optimal Scaling Analyses of Media Use

A. Television.

Type of television use	Component loading
1 Public TV Afternoon/Evening News	.633
2 Public TV News Magazine/Current Affairs	.616
3 Commercial TV Evening News	-.719
4 Commercial TV News Magazine/Current Affairs	-.642
5 Commercial TV Soaps	-.649
Total fit (normalized eigenvalue) = .426 n = 1,053	Multiple loss ^a = .574 Single loss = .000

^aThe Princals computer program minimizes a loss function of fitting principal axes and quantifying the scales of the variables in the analysis. The loss function can be partitioned into a part that is attributable to the set of variables—multiple loss—and a part that is unique for the single variables—single loss. Total fit equals $1 - (\text{multiple loss} + \text{single loss})$. For details, refer to Gifi (1990, 172–79).

B. Radio.

Type of radio use	Component loading
1 News	-.775
2 Entertainment	-.632
3 Pop music	.422
4 Classical music	-.754
Total fit (normalized eigenvalue) = .437 n = 1,053	Multiple loss = .551 Single loss = .013

C. Press.

Type of press use	Component loading
1 Quality newspaper	.798
2 Popular newspaper	-.530
3 Opinion weekly	.628
4 Gossip or light magazine	-.398
5 Ladies' magazine	-.306
Total fit (normalized eigenvalue) = .313 n = 1,053	Multiple loss = .686 Single loss = .001

four (radio) or five (TV and press) types of media use have been distinguished. In three separate principal components analyses with optimal scaling, the unidimensionality of media use has been assessed. The results are summarized in Table 1.

For all three types of media, the principal components analyses clearly point to a single, dominant underlying dimension, which accounts for over 40% of the

variance in types of media use in the cases of TV and radio and for 31% in the case of the press.⁶

Television viewing behavior appears to vary predominantly along a dimension contrasting public television news with commercial television news. Types of TV use that include news programs from NOS, the Dutch public service broadcaster (co-)responsible for the main news programs, and political and current affairs magazine programs such as *NOVA-Den Haag Vandaag* display high positive loadings on this factor, whereas types of TV use including news programs on commercial television show strongly negative loadings. *NOVA* is a late night news and current affairs program that might be described as the Dutch equivalent of Britain's *Newsnight* on the BBC, or Germany's *Tagesthemen* on ARD or *Heute Journal* on ZDF, though the Dutch program also includes a component that covers the day's events in Parliament (titled "The Hague Today"). Most of the other news programs on commercial TV are more sensationalist and contain much less political coverage than the regular news programs and current affairs programs on NOS (Semetko and Valkenburg 2000).

The dominant dimension underlying types of radio use contrasts pop music stations with all other types of stations: news, entertainment, and classical. Finally, types of press use are to a considerable extent structured according to what might be called a "heavy" versus "light" dimension. The types of press use loading high on this component include the quality newspapers and the opinion weeklies, whereas the so-called popular newspapers define the opposite end of the continuum.

The factor scores of each respondent on each of the three components have been saved for the subsequent analyses. These factor scores indicate the positions of the respondents on the components.

Formulating Regression Models

According to our hypotheses H(2)–H(4), the three sets of dependent variables—political knowledge, political attitudes, and party adherence and turnout—would show a consistent relationship with types of media use. In order

⁶The results were obtained by fixing the number of components at 1. When the number of components to be extracted is not specified, the analysis of types of TV use points to a second component with eigenvalue 1.336 (normalized: .273) that appears to distinguish primarily between watching soap shows and watching news. In our further analyses, it is disregarded. For radio use, the eigenvalue of a second component just exceeds 1.00 and was disregarded as well. The five types of press use point to a second component that in terms of explained variation is almost as important as the first (.297 and .237), but it lacks a straightforward interpretation. Because of the obvious interpretational advantages of single dimensions (no rotation problem) and the small number of items analyzed, we stick to the results of the confirmatory analyses with a single component. We report only the results of the principal components analyses, not the results of the optimal scaling procedure. The latter can be obtained from the authors.

to avoid attributing explanatory power to media use that is actually an artifact of audience or readership selection processes, we have performed two-stage least squares regression analyses whenever that seemed appropriate based on a test for endogeneity.

In 2SLS regression, the endogenous predictors (here, three factor scores, one for each media type) are first regressed on the exogenous variables in the system. These are subjective political interest, age, and education, and a number of variables that are considered to be important for media use but, in our model, not important for political characteristics. These instrumental variables are marital status, paid job or not, subjective social class, religious or not, the frequency with which politics was discussed at home when the respondent was adolescent, and gender. The predicted values of media use resulting from these regressions are no longer correlated with the error terms in the equations for political characteristics. These predicted values are then used in the second phase as explanatory variables for political characteristics. There is of course a price to be paid: when the model is properly specified with endogenous media use, the standard errors of the estimates will usually increase because of multicollinearity as the three types of media use have been regressed on the same set of explanatory variables. However, the estimates will be unbiased.

We report only the results of the final stage of the regression analysis in Tables 2–4.⁷ When the Hausman test, which is also reported, indicates endogeneity, we use 2SLS; otherwise we report results from OLS. For six dependent variables (candidate recognition, placing parties on issues, composition of government coalition, internal efficacy, trust, and strength of party adherence), there is indeed strong evidence of endogeneity. For the remaining two (external efficacy, and turnout in the 1998 election), the Hausman test statistic is not significant at the .05 level, and OLS results are reported.

Results of the Regression Analyses

The results of the regression analyses are discussed in three steps. We comment on the results for three clusters of dependent variables: political knowledge, political attitudes, and party adherence and voting.

Table 2 shows the results of regression analyses of three indicators of political knowledge on media use, controlling for age, education, and political interest. Because for all three models the Hausman test statistic points to endogeneity, the estimates presented have been obtained by 2SLS. The three columns of Table

⁷Results of the first stage can be obtained from the authors. The proportion of explained variance in the media exposure variables in the first stage is: .191 for Television, .167 for Radio, and .221 for Press. These relatively low figures result in relatively unreliable results in the second stage, which in turn may lead to unwarranted nonfindings (cf. Bartels 1993). Given the absence of relevant panel data, little can be done about this.

2 show the results for each regression. The columns provide the regression coefficients and standard errors. We do not present R^2 coefficients as these are meaningless in the context of 2SLS.⁸

The unstandardized b 's for the explanatory variables indicate the change in the y as a result of a one-unit change in that variable. To take an example, the only statistically significant effect in the model for Candidate Recognition is for "type of TV use," where higher values indicate a more frequent exposure to public TV news rather than commercial TV news. The positive effect means that persons who are more frequently exposed to public TV news rather than commercial TV news tend to be better in recognizing candidates. As a result of the linearity assumption, predicted values of the dependent variable may be out of the range of 0–12 for this particular variable.

The type of TV use has a significant positive impact on all three indicators of political knowledge. The sign indicates that people who more frequently watch public TV news rather than commercial TV are more knowledgeable about politics (in the sense that they are better in recognizing politicians, placing political parties on issue scales, and naming the government coalition parties) controlling for the most obvious selection effects *and* for the endogeneity of the type of TV use. This result confirms our second expectation, H2, formulated above.

It holds, however, for type of TV use only. For type of radio use and type of press use, there is no significant effect on measures of political knowledge, with the exception of a small effect of press use on the ability to place parties on issues. The other explanatory variables in Table 2, age, education and interest, have at most a small impact. Note that these three variables also appeared in the first-stage regressions.

We conclude that there are clear effects of the type of TV exposure on political cognition and that the effects of watching commercial channel news are opposite to those of watching public channel news. We can rephrase this conclusion. If one may choose between watching news on the public service channels and news on the commercial channels, then to regularly opt for the former will have positive effects on political cognition, whereas to regularly opt for the latter will have negative effects.

Does this central result also hold when we consider other dependent variables? Table 3 shows the same explanatory models as in Table 2, but now with three indicators of political attitudes as dependent variables: external efficacy, internal

⁸Two-stage least squares estimates a structural model rather than a single equation. In our case, the structural models consist of four equations: one for the dependent variable of interest (which is reported here), and three for the endogenous variables measuring type of media use. When one ignores the latter three equations in the model and focuses on the first, an R^2 might be computed, but it would be based on the wrong predictors—the predictions of the endogenous variables—rather than on the actual values of these variables. In other words, one would neglect the very reason why a structural model is estimated rather than a single equation. This issue is discussed in the FAQs on Stata's Web site (<http://www.stata.com>).

TABLE 2
Political Knowledge and Media Use

	Candidate recognition (0–12)		Placing parties on issues (0–30)		Composition of government coalition (0–1)	
	b	r.s.e.	b	r.s.e.	b	r.s.e.
Television	5.091**	1.678	10.636*	4.179	.388*	.174
Radio	.897	1.839	3.812	4.422	-.185	.189
Press	1.550	.887	4.476*	2.005	.083	.092
Age	.010	.024	-.078	.053	-.006*	.002
Education	-.184	.159	-.765*	.375	-.018	.017
Political interest	-.079	.508	-.832	1.174	-.047	.056
Constant	6.145**	.275	25.228**	.622	.717**	.028
Hausman test statistic	34.33 (7), p = .000		58.72 (7), p = .000		37.89 (7), p = .000	
n =	1,019		1,019		1,019	

Note: Results from two-stage least squares analyses with robust standard errors (r.s.e.)

* $p < .05$, two-tailed test.

** $p < .01$, two-tailed test.

TABLE 3
Political Attitudes and Media Use

	External efficacy score (0-5) &		Internal efficacy score (0-3)		Trust index (0-10)	
	b	r.s.e.	b	r.s.e.	b	r.s.e.
Television	.046	.052	1.210*	.535	.468	.898
Radio	-.090	.050	.484	.582	-1.271	.985
Press	.168**	.047	.819**	.250	-.133	.449
Age	-.022**	.003	-.012	.007	-.074**	.013
Education	.065**	.020	-.076	.046	-.035	.079
Political interest	.231**	.086	.076	.149	-.039	.277
Constant	2.985**	.053	1.456**	.078	4.854**	.133
Hausman test statistic	8.62 (7), p = .281		40.26 (7), p = .000		15.59 (7), p = .029	
n =	1,019		1,019		1,019	

Note: Results from two-stage least squares analyses with robust standard errors (r.s.e.) unless indicated by "&" (OLS with robust standard errors).

* $p < .05$, two-tailed test.

** $p < .01$, two-tailed test.

efficacy, and trust in institutions. The questions underlying these index scores can again be found in the Appendix.

Note that the equation for external efficacy has been estimated with OLS rather than 2SLS, since the Hausman test in this case does not point to endogeneity.

The type of press use has a relatively strong positive impact on both internal and external efficacy. This means that people who devote more time to reading quality newspapers and opinion weeklies, rather than to reading popular newspapers and other weeklies, tend to have a more positive view of the responsiveness of the political system and of their own potential role in that system. The type of TV use also has a positive impact on internal efficacy. Apart from the apparent absence of exposure effects on trust, these findings are consistent with our expectation (H3), and they also conform to the pattern that we already found for measures of political knowledge. The type of radio use again appears to have no significant impact.

Finally, Table 4 shows the result of the regression analysis for voting. This variable contains no reference to political parties: it is only the question of *whether one voted* or not (for any party) that is considered.

The result for voting in the 1998 election was obtained by OLS. We once again find a significant impact of the type of TV use. Persons who watch public TV news rather than commercial TV tend to vote more often. Political interest also has a significant positive impact on turnout.

Some of the results reported here may also be illustrated graphically. The four panels in Figure 1 show the impact of one of the media use variables, namely the type of TV use, on a selection of four dependent variables: candidate recogni-

TABLE 4
Voting and Media Use

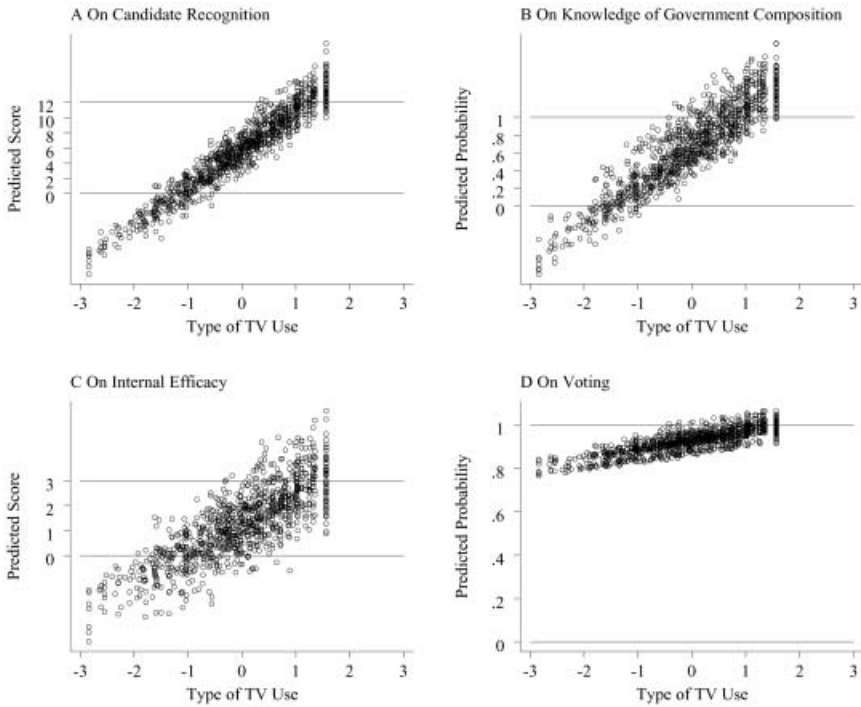
	Voted in 1998 election (No-yes)	
	b	r.s.e.
Television	.031**	.010
Radio	-.014	.008
Press	.003	.007
Age	.000	.001
Education	.002	.004
Political interest	.045*	.018
Constant	.929**	.010
Hausman test statistic	3.34 (7), p = .852	
n =	1,019	

Note: Results from OLS with robust standard errors (r.s.e.).

*p < .05, two-tailed test.

**p < .01, two-tailed test.

FIGURE 1
The Impact of Type of TV Use



tion, knowledge of the party composition of the incumbent government coalition in the Netherlands, internal efficacy, and voting in the 1998 parliamentary election. In these panels, the y-axis shows the predicted values of the dependent variable. The range of actual values is indicated in each graph by two horizontal lines; it is clear that many predicted values are out of range. The x-axis depicts the explanatory variable “type of TV use” in the range of minus three to plus three standard deviations around the mean score of 0. “Average” media use is thus represented by a standardized factor score of zero; “-3” stands for an extremely high negative score on this factor, and “+3” for an extremely high positive score. We have chosen to present predicted values rather than regression lines because the scattergrams nicely illustrate the price paid for a more realistic structural model: as a result of multicollinearity, the range of predicted y-values obtained by 2SLS is very wide in panels A–C. Panel D, however, which depicts the OLS-effect of type of TV use on the probability of having voted, shows how narrow the range can be when the problem of multicollinearity is less serious (though by no means absent). Lacking better models or data, however, in the end one should of

course prefer the more realistic outcome over an efficient but seriously biased model.

Discussion

The media landscape in Europe has undergone considerable change over the past decade, and many of these changes are part of the Dutch experience. The 1998 Dutch Parliamentary Election Study (DPES) was designed to measure the range and context of media use, with an unprecedented and exhaustive list of different types of information and entertainment sources, to gain a better understanding of the impact of this competitive information environment on political cognition, attitudes, and involvement. Our study finds support for the hypothesized underlying structure to media use in the competitive media market in this established western European democracy.

Media use, conceived as the frequency of watching a variety of information and entertainment-type TV programs, listening to various radio channels and reading different types of daily and weekly press and magazines ranging from hard news outlets to gossip magazines, appears to be structured according to a limited number of exposure patterns.⁹ Our study shows that television viewing behavior varies predominantly along a dimension contrasting public television news with commercial television news. The dominant dimension underlying types of radio use contrasts pop music listeners from those who listen to any other types of stations (news, entertainment, classical). To a large extent press use is structured along what might be called a “heavy” versus “light” dimension, with quality newspapers and opinion weeklies loading on the heavy end.

Our analysis of the relationships between types of media use and various measures of political involvement focuses on three types of dependent variables: political knowledge, political attitudes, and political involvement as measured by reported turnout in the last general election. The type of television use is the most important statistically significant predictor of political knowledge and in one case the only statistically significant influence on political knowledge. Using 2SLS for each dependent knowledge variable, the type of television use has a significant positive impact on all three indicators. This means that those who more often watch public television news rather than commercial television are more knowledgeable about politics, controlling for the most obvious selection effects and appropriately taking into account the problem of endogeneity. Our findings suggest that in this established European democracy, political awareness—Zaller’s (1992) term for political knowledge—is consistently but differently influenced by the types of television news programs to which one is exposed regularly and that the direction of this influence is positive for public and negative for commercial channels’ news and current affairs programs.

⁹The three major types of TV, Radio, and Press use are moderately intercorrelated. The Pearson correlation coefficient between TV and Radio use is $-.328$; between TV and Press, $.246$; and between Radio and Press, $-.210$.

Although the importance of political knowledge as a predictor of political involvement is acknowledged in the literature, there remains disagreement over how it should best be measured (see, for example, Delli Carpini 1993; Delli Carpini and Keeter 1996; Graber 2001; Luskin 1987; Mondak 2001). Recent research likens the factual political knowledge questions used in most survey-based studies to a high school civics exam and questions their ability to measure actual political understanding and awareness (Graber 2001; Mondak 2001).

Our measures of political knowledge are designed to tap knowledge about current political affairs in the country in an election campaign, and we believe them to be better measures of citizens' political awareness than a set of standard civics questions. Based on these knowledge questions (placing the parties on the issues, identifying the parties in the current coalition government, and recognizing political leaders), the answers to which can reveal an awareness and understanding of contemporary politics, we find that the type of television use can be all-important to diminishing citizen ignorance. Radio use and press use had little or no influence on these measures of political knowledge. Our findings reinforce Graber's (2001) about the importance of television as a medium for political learning. Graber attributes this influence to the fact that political information on television is better processed and retained by citizens because of the visual nature of the medium.

Our other dependent measures of political attitudes and political involvement include internal and external efficacy, trust in institutions, and willingness to vote. Television use is a significant predictor of internal efficacy, and turnout or having voted in the last national election, when controlling for political interest, age, and education and taking into account endogeneity. Internal efficacy refers to one's beliefs about one's ability to be active in and to understand politics and political issues. Our study shows that regularly watching public television news tends to enhance these beliefs, while watching commercial television news regularly might decrease internal efficacy. Press use also has an impact on internal and external efficacy.

The lack of a relationship between media use and trust in institutions found in our study is in contrast to previous research. Norris (2000, 243, 289), for example, argues on the basis of 1996 Eurobarometer data and 1998 American National Election Study data that media use is a consistently significant predictor of "positive institutional confidence." Our results are also in contrast to those of Moy and Pfau (2000), who found that exposure to U.S. network news has a negative effect on trust in U.S. government institutions.

Our study establishes that although media use can be clearly linked to some aspects of political involvement, the relationship is more complex than is often assumed in the literature. To take the example of television, watching public television news regularly has a positive influence on a number of political involvement measures including knowledge, internal efficacy, and turning out to vote, whereas regularly watching commercial television news has a negative impact on these aspects of political involvement. This pattern supports a dual effects

hypothesis. All of these relationships remain significant when controlled for political interest, age, level of education, and other types of media exposure. We also address a problem that is central to media effects research, the problem of endogeneity. Lacking panel data, we use 2SLS to address these concerns. We believe this is appropriate and that it strengthens our conclusions because it largely rules out self-selection.

Our findings for media effects on political involvement in the Dutch case are in line with recent results for Britain reported by Newton (1999). He sets out by asking whether media exposure leads to mobilization or malaise and whether it is the form (TV versus newspapers) or the content (TV news versus general TV, and broadsheets versus tabloids) of the media that matters in this respect. Drawing on data from the 1996 BSA survey, he concludes that it is the *content* of the media that matters, not the form, and that depending on those contents, the effects of media use are either mobilizing or demobilizing. The results of our analysis of Dutch data (as was shown in Tables 2–4) suggest that in this respect the British and the Dutch cases are similar. There is, however, an important difference in the precision of the measurement of media use: the BSA survey contains only general questions into the frequency of watching TV news and general TV, respectively, and reading broadsheet and tabloid newspapers, whereas the DPES survey contains detailed lists of different news programs and other types of TV programs.¹⁰

¹⁰Other research on the 1994 and 1998 Dutch elections relies upon more limited measures of media use, and this has consequences for any discussion on media effects. Research on election news has concluded that the campaign contents of television news is fairly similar on public (NOS) and commercial (RTL4) television main evening news programs in terms of the emphasis on politicians, parties and political issues (Meurs, van Praag, and Brants 1995); and van der Brug and van der Eijk (2000) find no impact of watching the two main public and commercial news programs on trust in politicians or on the probability to vote for various parties. These assertions, however, are based on a comparison of only two news programs: the NOS *Journal* and RTL4 *Nieuws*. Although these are undoubtedly the most widely watched news programs, a variety of other news and current affairs programs on Dutch TV report about politics, and they and other nonpolitical programs were captured in our study.

Our survey data include measures of use of the full variety of news programs and a number of other frequent and widely watched television programs, together with comparable measures of radio and press use. This enables us to gain more reliable insight into the use of media than merely the frequency of watching the two main evening competing news bulletins. It may not be the political content of the news programs that marks the difference between public and commercial, but there are differences in style and focus that apparently contribute to the differential impact on involvement.

Another Dutch study claims that “the news is responsible for a considerable part of the changes in political preferences,” not just on the medium term, but also on the short term (Kleinnijenhuis et al. 1998, 146). Their argument is based on the indirect evidence provided by comparing developments in and contents of the news (in particular, campaign and political news in five nationwide newspapers and in NOS and RTL4 news programs), with changes in political preferences among the voters over time using aggregate cross-sectional polling data from the Dutch electorate. Although they distinguish among newspaper readers and television viewers among the supporters of the various parties, they do not control for media use or political preference (1998, 128). Thus, their evidence remains highly circumstantial.

A Democracy Divided by Media Choices

With a multiparty parliamentary system, a strong national press, and a broadcasting system once dominated by public service broadcasting organization(s) but now characterized by a number of competing channels that offer a full range of programs, the Netherlands typifies the system characteristics that prevail in most of the other western European countries. This leads us to think about whether similar results might be found in other continental western European countries, if the appropriate data were available to address this question. Since 1998, when the DPES data were collected, there also has been an increase in the number of commercial television channels available in the Netherlands and in other European countries. Some forms of news are now being offered on these channels, but it is too early to assess the possible consequences for media use and political involvement. We can expect, however, that these channels aim to attract younger viewers, and this could mean the potential for smaller audiences for public service news channels in the long run.

Our analysis of media use and its effects on political involvement gives us the opportunity to reflect upon what may be the beginning of a more serious development in Dutch democracy, one that may also threaten other European countries that have experienced increasing competition in their broadcasting systems in recent years. We refer to a democracy divided between the involved and the uninvolved because of media choices. Viewing behavior separates the more knowledgeable, the efficacious, and the politically involved from those who are not, revealing what might be described as a “virtuous circle” for some and a “spiral of cynicism” for others. Our findings suggest that the virtuous circle described by Norris (2000) may only exist in a European context for those who rely largely on public television for their news, and this number has diminished as competition for audiences increases. At the same time, commercial news viewing in the Netherlands and probably in a number of other European countries, if not ultimately contributing to what Capella and Jamieson (1997) have dubbed a spiral of cynicism, then at least is contributing to diminishing political involvement.

The relatively recent competitive developments in the broadcasting systems of western Europe are for the most part anchored in more than four decades of press freedom and free elections with established party systems and comparatively strong political parties. In eastern Europe and the former Soviet Union, however, similar competitive developments in the broadcasting systems occur when citizens have little experience with free elections, the political parties are very weak, and party systems are in their infancy. In Russia and the former Soviet republics, since most people can hardly afford a daily newspaper, television is arguably an even more important source of information and entertainment than in the West. The role of television in politics in these countries today is under conditions quite apart from those under which research on this subject first began (contrast, for example, Blumler and McQuail (1968) on Britain with Mickiewicz (1999) on

Russia). In these societies in transition, as well as in Latin America, research suggests there is a positive relationship between media use and satisfaction with democracy, trust in institutions, and other measures of political attitudes.¹¹ But given the limited range of questions about media use in the surveys that establish this correlation, such a general conclusion may mask a more complex set of relationships.

Our study, conducted in an established democracy, shows that the reality is more complex than previous research contributing to the “malaise” versus “mobilization” debate suggests. Future research on media and democracy would benefit from closer measurement of media use to better understand the contribution of news and information sources to political involvement in different national contexts.

Appendix

Measurement of Media Use

Television Programs. The respondents were asked to indicate for 20 television programs: “On average, how often per week do you watch the following programs?”

1 never; 2 less than once per week; 3 one or two times per week; 4 three or four times per week; 5 (almost) every day; 6 don’t know (missing value)

The programs were presented by network.

For the analyses reported here, five types of television use were distinguished, as indicated in the table. Respondents were assigned the *highest valid code* that they reported *per type*. The same procedure was used for radio (four types) and press use (five types).

Three television programs were not used: one news show had actually ceased to exist years ago (the item was included for methodological purposes); one game show and the daily childrens’ news could not be assigned to one of the types.

A “news show” is a program of 30 minutes to one hour highlighting some news items of the day or week. An “evening news” or “afternoon news” program (less than 30 minutes) provides a summary of the main news of the day.

Type	Programs (Network)
1 Public TV Afternoon/Evening News	NOS 6 uur journaal (Ned. 2) NOS 8 uur journaal (Ned. 1) NOS 10 uur journaal (Ned. 3)
2 Public TV News Magazine/ Current Affairs	2 Vandaag (Ned. 2) Netwerk (Ned. 1)

¹¹ See, for example, Norris 2000.

	Barend & Witteman (Ned. 3) NOVA-Den Haag Vandaag (Ned.3)
3 Commercial TV Evening News	RTL4 journaal (RTL4) RTL5 journaal (RTL5) Actienieuws (SBS6)
4 Commercial TV News Magazine/ Current Affairs	5 Uur Show (RTL4)
5 Commercial TV Soaps	Vijf in het land (RTL5) Hart van Nederland (SBS6) Goede tijden slechte tijden (RTL4) The bold and the beautiful (RTL4) Goudkust (SBS6) Onderweg naar morgen (Veronica)

Radio Stations. “On average, how many hours per week do you listen to the following radio stations?”

1 never listens; 2 less than one hour per week; 3 one to eight hours per week; 4 eight to sixteen hours per week; 5 more than sixteen hours per week; 6 don’t know (missing)

Type	Stations
1 News	Radio 1 Radio 5
2 Entertainment	Radio 2 Regional station
3 Pop music	Radio 3 Radio 10 Gold Veronica Radio 538 Sky Radio
4 Classical music	Radio 4 Radio Klassiek

Daily newspapers. “On average, how many hours per day do you spend on reading the following newspapers?”

1 never reads; 2 less than 15 minutes per day; 3 15 to 30 minutes per day; 4 30 minutes to one hour per day; 5 more than one hour per day; 6 don’t know (missing)

Weekly magazines. “On average, how many hours per week do you spend on reading the following magazines?”

1 never reads; 2 less than one hour per week; 3 one to two hours per week; 4 two to three hours per week; 5 more than three hours per week; 6 don’t know (missing)

Type	Publication
1 Quality newspaper	NRC Handelsblad Volkskrant Trouw Parool
2 Popular newspaper	Telegraaf Algemeen Dagblad Regional newspaper
3 Opinion weekly	De Groene Amsterdammer Elsevier Vrij Nederland
4 Gossip or light magazine	Story Weekend Privé Panorama
5 Ladies' magazine	Viva Margriet Libelle

Measurement of Other Variables

For more details regarding distributions etc., refer to the documentation of the 1998 Dutch Parliamentary Election Study (available at <http://www.bsk.utwente.nl/skon/data.htm>).

Age. In years, centered around median value (43)

Education. In 10 levels, centered around median category (4 “secondary completed”)

Subjective Political Interest (preelection interview). Are you very interested in political topics, fairly interested, or not interested?

(-1: not interested at all; 0: fairly interested; 1: very interested)

Candidate recognition (preelection interview). Count of correct answers into name, function, and party of four politicians (Jacques Wallage, Thom de Graaf, Annemarie Jorritsma, Piet Bukman) presented on photographs. Unidimensionality assessed by Mokken scaling; coefficient of homogeneity $H = .62$.

Placing parties on issues (preelection interview). Count of number of “don’t know” or “no answer” codes in response to questions about placing six political parties (PvdA, VVD, CDA, D66, GL, GPV) on five position issue scales (euthanasia, income differences, admitting asylum seekers, speed of European unification, integration of ethnic minorities). In the analyses, the difference between 30 (the total number of questions) and this number has been used.

Composition of government coalition (preelection interview). Incorrect (0) or correct (1) answer to open-ended question into the parties participating in the incumbent government. Correct answer: PvdA, VVD, D66.

External Efficacy Score (postelection interview). Count of the number of “not true” answers to the following questions: “Members of parliament do not care about the opinions of people like me”; “Political parties are only interested in my vote and not in my opinions”; “People like me have absolutely no influence on governmental policy”; “So many people vote in elections that my vote does not matter”; “Usually our representatives in the Second Chamber quickly lose contact with the people in the country”.

Unidimensionality assessed with Mokken scaling; coefficient of homogeneity $H = .54$.

Internal efficacy score (postelection interview). Count of the number of “positive” responses to the following questions:

“I am well qualified to play an active role in politics” ((fully) agree); “I have a good understanding of the important political problems in our country” ((fully) agree); “Sometimes politics seems so complicated that people like me cannot really understand what is going on” ((fully) disagree).

Unidimensionality assessed with Mokken scaling; coefficient of homogeneity $H = .47$.

Trust in Institutions (Drop-off questionnaire). Count of answers “very much” and “fairly much” on the question:

“Would you tell me for each of the following Dutch institutions whether you have very much, fairly much, not so much confidence, or no confidence at all in them?”

Institutions presented: Churches, Army, Judges, Press, Police, Second Chamber (Parliament), Civil Servants, Big Corporations, European Union, NATO. Unidimensionality assessed (Cronbach’s $\alpha = .776$).

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Kees Aarts is associate professor of research methodology, faculty of public administration and public policy, University of Twente, The Netherlands.

Holli A. Semetko is professor of audience and public opinion research, faculty of behavioral and social sciences, University of Amsterdam, 1012 CX Amsterdam, The Netherlands.