The Impact of Everyday Political Talk on Involvement, Knowledge and Informed Voting[1]

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From Aristotle through Tocqueville to the present day, political scientists have routinely presumed that everyday political discussion among citizens is beneficial for democratic processes. One way of evaluating its contributions is to consider it a part of society's deliberative system, which aims at the production of binding collective decisions (Mansbridge 1999). This perspective gave rise to a rich variety of empirical studies, which documented strong tendencies in everyday talk towards (A) avoiding to make one's views truly public and (B) neither listening to nor arguing with opposite views, while (C) perpetuating social inequalities and social distance in patterns of interaction (cf. Conover *et al.* 2002; Duchesne and Haegel 2007; Hansen 2004: 116ff; Mutz 2006; Rosenberg 2007; Walsh 2004). Thus the deliberative potential of everyday talk, i.e. its capacity to generate outcomes that all can accept as just and binding, seems disputable.

This paper evaluates the impact of everyday political talk from another angle. The question asked here is whether everyday political talk contributes to making citizens' political choices more faithfully reflect their underlying preferences – i.e., to make individual citizens more of a sovereign master of their own political fate. The achievement of this criterion poses no a priori demands on the deliberative quality of the process, or the legitimacy of the collective outcome. But the criterion itself introduces a distinction between the underlying unobserved preferences of the individuals as opposed to their observable derived preferences, e.g., their choices, which, as Huckfeldt *et al.* (2005: 512) put it, may be 'discovered' in the course of social interactions. A key assumption is that the underlying preferences remain (largely) fixed while citizens receive new information that may alter their choices. This assumption is of course fundamental for many social science approaches, most obviously for rational choice and marxism, but runs counter to the notion that deliberation can and probably should alter identities and preferences on the way to fair and legitimate outcomes. The discussion will return to the question of what the present results may tell to readers who wish to avoid the assumption of fixed underlying preferences altogether. Prior to that, section one reviews the theoretical motivation of the present inquiry, section two its design, and section three the empirical results.

EVERYDAY TALK AND POLITICAL BEHAVIOUR

Methodologically sophisticated studies demonstrate that participation in everyday political discussions increases mass participation (cf. e.g. Abrams *et al.* 2005; Klofstad 2007; McClurg 2003; Mutz 2006) and enhances political knowledge (Barabas 2002, 2004; Bennett *et al.* 2000; Eveland 2004; Eveland *et al.* 2005; Eveland and Thomson 2006; Holbert *et al.* 2002). It has also been argued that listening to competent sources with a known political bias can be particularly helpful in reaching with imperfect knowledge the same choices that one would make under full information (Lupia and McCubbins 1998).

However, the above findings, while suggestive about the impact of social interactions on empowerment and enlightenment, do not really tell us whether everyday political talk really produces what Jackman and Sniderman (2006: 272) call the very point of deliberation, i.e. increasing "the chances that, at the end of a discussion, people's positions will reflect their most thoroughly considered judgment of the matter." That this last question can be answered affirmatively was already postulated in a theory of two-step information flows by Berelson *et al.* (1954: 109-114). One key insight provided by recent studies of voting behaviour and public opinion is that citizens often make choices in line with their likely preferences even if they know astonishingly little about relevant political facts. This happens partly by chance – everyone has a decent a priori probability of getting the choice right if there are so few alternatives as in an election –, and partly because the competing political actors and their professional observers provide an abundance of information shortcuts. These cues – e.g., interest group endorsements of the parties – then help citizens emulate how they would vote if they were much better informed than they really are (Lupia 1994; Lau and Redlawsk 2006).

Berelson *et al.* (1954) considered interpersonal discussion a promising source of cues. It has an enormous potential for instant feedback from message recipients to message senders; for decentralization and compartmentalization of message construction; and for continuous message adjustment to the interests, attention span, cognitive and other facilities of the message-recipients. Thus, they thought, it may be vastly more successful than mass communication in conveying both useful information and information shortcuts.

However, everyday political talk typically occurs between socially and politically rather similar people (Robinson 1976; Bennett *et al.* 2000; Ikeda and Huckfeldt 2001; Mutz 2006; but cf. Huckfeldt *et al.* 2005), and is structured by the purpose of having an agreeable, possibly entertaining, and reassuring chat (Rosenberg 2007). The contribution of such discussions to political behaviour does not always give reasons to celebrate (cf. Renno's chapter in this volume), for much the same reasons that make the socio-political homogeneity of residential neighbourhoods depress participation in local politics (Oliver 2001), and the greater choice of niche media reduces political involvement (Prior 2007). Indeed, Eveland (2004) shows that political discussion increases knowledge not through exposure to information but through cognitive elaboration, which, according to Huckfeldt *et al.* (2004), is facilitated by disagreement with discussion partners. Huckfeldt *et al.* (2004) and Nir (2005) also find that exposure to political disagreement with peers helps the development of more considered choices, while Druckman (2004) and Sniderman and Theriault (2004) show a similar effect of exposure to competing arguments and frames (but cf. Jackman and Sniderman 2006). Thus, a lot of what we know about the beneficial impact of everyday discussions leaves us in doubt about the true

contribution of everyday talk in contexts where discussant networks are as politically homogeneous as they have come to be in the country providing the data for the present analysis, i.e. Hungary in the early 2000s (cf. Lup in this volume).

Admittedly, the spread of infotainment options raises doubts about the contribution of mass communication to political sophistication in the electorate too (cf. e.g. Prior 2007). Yet mass media are still likelier to convey a broad variety of views and information than interpersonal communication (Mutz and Martin 2001). Hence it could be the case that everyday political talk – in spite of being more likely than mass media to increase the political knowledge level of the participants and to provide them with accessible, emotionally loaded models of relating to current leaders, issues and developments – is less likely than media exposure to facilitate the making of political choices that would be congruent with the underlying preferences of the individual.

Informed voting[2], i.e. citizens' ability to make the choices that they would if they were much better informed, is a recurrent concept in the argument above and requires a discussion before we proceed. Applications of this concept presume that the underlying preferences regarding ultimate goals and needs remain fixed while derived preferences (like observable choices between political parties) are becoming, ceteris paribus, a more reasonable expression of these underlying preferences as the choosers' information level rises. Empirical applications use comparisons between actors who share some information-resistant determinants of preferences but differ in their political knowledge (cf. Lupia 1994; Bartels 1996; Delli Carpini and Keeter 1996; Lau and Redlawsk 2006). If the observed choices – typically, this is measured as particular probabilities of supporting various vote options – vary by knowledge, then we can talk about an information effect on the political choices of individuals with similar underlying preferences. These effects are likely to vary both in size and in political direction across groups with different preferences – e.g., Catholics, ceteris paribus, may move closer to the socially more conservative party while women may do the opposite as their political knowledge level increases (cf. Bartels 1996).

Checks against objective criteria (cf. Lupia 1994) as well as self-reports of experimental subjects who reviewed their imperfectly informed choices after obtaining more information (cf. Lau and Redlawsk 2006) confirm that more knowledgeable individuals appear to make choices that are more consistent with their apparent interests and are more likely to be recognized as the right choice by their

[2] I avoid here the term 'correct voting' that Lau and Redlawsk (2006) use to denote a similar phenomenon because their terminology implies that there is a realistically attainable knowledge level at and above which political preferences remain unaffected by further information gains. This assumption may well hold for their own laboratory experiments but seems problematic in real-life situations.

more fully informed self. Knowledge effects on choices thus signal the presence of at least some bad choices. The novel contribution of this paper is to ask whether the impact of everyday political talk on political choices is similar to the effects of political knowledge: are the people who, all else equal, moved by extra information towards a particular choice, also drawn the same way by discussing politics more? If not, then political discussions probably fail to make the individuals more capable of mastering their own fate through their political choices. If, however, the answer – in the context of contemporary Hungarian data – is yes, then we will see that everyday talk contributes to the development of informed preferences even if political discussant networks show an unusually high political homogeneity to begin with.

HYPOTHESES AND DATA

Given the extant research reviewed above, we should expect everyday political talk to increase citizens' cognitive and behavioural involvement with politics (Hypothesis 1) and to do so more powerfully than mass media (Hypotheses 2). The knowledge gains that occur this way should mean that everyday talk helps citizens make more informed choices (Hypothesis 3).

However, these (presumably small) effects on choices may be easily exceeded by other influences of discussions. These might include the provision of cognitive and affective shortcuts to choice; a change in discussion partners and topics that may result from rising political involvement; social incentives for following the particular partisan direction that dominates the given information channel; and so forth. The research question here is not whether these factors impact vote choice – they surely do –, but whether they are beneficial for the ability of the individuals to emulate what their informed choice behaviour would be. Note that neither prior empirical research nor theories provide strong hypotheses on this issue. Nevertheless, one might expect citizens to socialize with peers who share many of their underlying preferences, and thus peer influence should increase the chances of informed choice behaviour (cf. Katz and Lazarsfeld 1955). Hence hypothesis 4 posits that everyday political talk help citizens make informed political choices over and above any influence of discussion-induced knowledge gains.

Finally, the last hypothesis builds on Lupia and McCubbins (1998) who find that a key precondition for effective information shortcuts helping out low-information actors is that the source of the shortcut is competent on the subject matter, while the identity of interests between the source and the actor is fairly irrelevant. This means that mass media ought to be a better provider of useful information shortcuts than lay discussion partners, and hence media exposure will promote informed voting more than everyday talk – at least after we discounted for the greater ability of the latter to increase general political knowledge (Hypothesis 5). Note that hypotheses 4 and 5 could be true simultaneously if the best – though probably rarely occurring – way to

enlightenment is to discuss information obtained from highly competent sources with like-minded souls.

Hypotheses 1 and 2 apply to multiple aspects of political involvement and any number of mass media. Their testing is not easy because it is entirely possible that the oft-documented positive correlations between participation in political discussion on the one hand and variables like knowledge, political interest and participation on the other disappear when past values of all these variables are controlled for. This can happen if discussion shares some unobserved determinants with involvement, or if participation in discussions itself is the result of involvement (Eveland *et al.* 2005; Eveland and Thompson 2006). That is why panel studies of respondents interviewed repeatedly over a period of time will be used here to address hypotheses 1 and 2.[3]

The first wave of the Hungarian study analysed here interviewed 1500 respondents – obtained with stratified random sampling with a 42 percent response rate – in November 2003. Next, 312 of an N=481 subsample taken from among the 1500 original respondents were re-interviewed in June-July 2005. In April-May 2006, 242 of the same 481 people were successfully re-interviewed for a third wave of interviews. While the panel attrition rate was substantial, it was largely accidental who dropped out of the initial random sample, and did not impede our ability to generalize the findings.[4] Crucially for the testing of hypotheses 1 and 2, the panel data facilitate controls for the possible endogeneity of political discussion to the variables that it is expected to influence.

The test of Hypotheses 1 and 2 only uses the data on the 242 respondents who were interviewed in both the 2003 and 2006 waves of the interviews, and relies on four indicators of political involvement. However, the findings obtained with the 2003-2005 panel and a broader set of indicators for political involvement are substantially similar (see Tóka 2006).[5] Here, the dependent variables are exclusively based on 2006 data, while the independent and control variables are exclusively based on the

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[3] The first survey was funded by the Hungarian Ministry of Education and the Ministry of Communication and Informatics and the second and third waves partly by the Center for Policy Studies at the Central European University and mainly by "The Integration of Hungarian Polity in the Political System of the European Union" project, funded by the Bureau for Research Development and Utilization (KPKI, a Hungarian government agency) under registration # 5/079/2004.

[4] Regressing response to the second wave interviews (yes or no) on the full set of 2003 variables listed in the Appendix yields a very low (.02) pseudo R-squared and only religiosity and rural residence record statistically significant (though weak) effects; the political involvement variables in particular do not.

[5] The 2005-2006 comparison is unfortunately not possible because the items on political discussion were omitted from the 2005 survey.

2003 observations. Appendix A provides a detailed technical description of the variables in the analysis.

Of the four dependent variables, *Turnout* refers to behavioural involvement in politics while the others to distinct aspects of political sophistication, i.e. the differentiation and integration of an individual's political belief system, the key trait behind informed voting. *Political knowledge* refers to the estimated size of one's stock of factually correct beliefs about the political world and is widely considered the best simple, one-dimensional measure of political sophistication (cf. Delli Carpini and Keeter 1993, 1996; Lau and Erber 1985; Luskin 1987; Zaller 1992).[6] Previous studies in the US (see above) showed that knowledge and turnout are positively influenced by political discussions. However, since everyday talk tends to occur in contexts where political disagreement is rarely articulated, we may doubt whether the same result should also hold for such aspects of sophistication that require more than just picking up some facts. Here I use two measures to explore this issue and thus extend the tests of hypotheses 1 and 2 beyond the usual indicators. *Interest in politics* refers to the sheer curiosity about the political world that brings attention to political news as well as discussions about it, and thus facilitates a range of activities including learning and participation (see Graber 1984: 118; Franklin 2004: 156-9; Luskin 1990). The *Richness of political reasoning* scale, in turn, counts the number of reasons the respondents offer for their party sympathies. This measure of political sophistication was developed by Kessel (1980) and its reliability and validity are demonstrably high, rivalling those of knowledge scales (Smith 1989: 53ff).

The theoretically relevant independent variables combine information from nine variables on how often the respondent attends to political news in different types of media and how often the respondent discusses politics with various peers. A principal

[6] Prior and Lupia (2008) recently questioned the validity of conventional knowledge quizzes in surveys by showing that respondents can get 11 to 24 percent more answers right if they are given a whole day to think and/or some monetary incentives to get their responses right. However, this unsurprising finding does not at all disqualify my knowledge scales as measures of relative differences between the respondents' knowledge level. Prior and Lupia (2008: Table 4) only find a single coefficient – out of 13 coefficients examined in two separate comparisons – that shows a predictor of knowledge level having a significantly ($p<.05$) different effect in the usual survey situation than in their experimental conditions. One rogue coefficient out of 26 tries is, of course, what one would expect to occur by chance alone, and thus supports exactly the opposite conclusion than the one reached by Prior and Lupia (2008) regarding the validity of knowledge scales administered in conventional surveys. For comprehensive rebukes of other recent criticism regarding the validity of the type of knowledge scales used in this study, see Luskin and Bullock (2005) and Sturgis *et al.* (2008).

component analysis of the items separated three distinct factors with an eigenvalue exceeding one (see Table XXX.1). The four political discussion items define the first; three items detecting exposure to widely used media (radio, television, newspapers) the second; and the items detecting exposure to less widely used, more specialized media (i.e. weekly magazines and the internet) form the third. The items referring to each of the three sets formed three scales referring to the respondents' *Participation in political discussion*, *Exposure to mainstream media* and *Exposure to niche media* (see Appendix A).

The most important control variables in testing Hypotheses 1 and 2 are the 2003 values of the same four variables from the 2006 data (turnout, knowledge, interest in politics; richness of political reasoning) that take their turns as dependent variables in Table XXX.2. This way the analysis offers a particularly demanding test of whether participation in discussions (and exposure to various media) in 2003 had a lasting influence on the individuals' political involvement and sophistication compared to the starting value in 2003. Socio-demographic controls (age etc.) were also added to the model because otherwise their possible effects on both participation in political discussion and its supposed cognitive and behavioural consequences might conceivably create some spurious correlations in the results. These control variables are listed in Table XXX.2 and Appendix A, and are all likely suspects for having an impact on both political involvement and party choice in the Hungarian context.

The original bit of the analysis concerns how media exposure and political discussions impact on informed voting. The testing of Hypotheses 3-5 require seven variables (*Knowledge effects*, *Discussion effects*, *Mainstream media effects*, *Niche media effects*, plus slightly adjusted replicas of each of the last three), which show how the given individuals reported party preference may change if (A) their general political knowledge level; (B) their frequency of discussing politics with peers; (C) their exposure to mainstream media; and (D) their exposure to niche media increased to a comparable degree. All these hypotheses are tested by calculating pairwise correlations between *Knowledge effects* and the other six variables (see Table XXX.3). What exactly these correlations reveal will be discussed after clarifying what the effect variables stand for.

The seven effects were estimated with a simulation method that was introduced by Bartels (1996) and successfully validated in experiments as a measure of information effects by Gilens (2001) and Sturgis (2003). The details of the procedure are described in Appendix B. Suffice to note here that the method uses cross-sectional data – in our case the random sample of 1500 respondents to the November 2003 survey – to estimate a vote function where the party preference of the respondents depends on underlying preferences (a total of j variables denoted as X_i in Equation 1), a measure of political information (*Info*), the j linear interaction terms between each X_i variable and *Info*, and an error term (epsilon).

$$Party\_preference = \beta_0 + \sum_{i=1}^{j} \beta_i X_i + \beta_k Info + \sum_{l=k+1}^{l+j} \beta_l X_i Info + \varepsilon \qquad (1)$$

Then, the empirically estimated beta parameters generate predictions about how the party preferences of the same individuals may change if their *Info* changed in a certain way – namely, increased by one standard deviation –, but their values on the X_i variables remained the same. The key innovation of the present paper is to estimate such information effects not only for the situation when *Info* is measured with *Political knowledge* (which generates the *Knowledge effect* variable). Rather, the same analysis is repeated with *Participation in political discussions*, *Exposure to mainstream media* and *Exposure to niche media* each taking their turns as the *Info* variable in the equation. This procedure provides the *Discussion effect* and the media effect variables. The correlation of these three variables with *Knowledge effect* should however be affected by correlations between *Political knowledge* on the one hand, and the discussion and media exposure variables on the other. Therefore the *Discussion effect, Mainstream media effect* and *Niche media effect* variables are recalculated once more after *Participation in political discussions*, *Exposure to mainstream media* and *Exposure to niche media* were 'purified' of any correlation with knowledge. This was achieved by regressing each of these variables on *Political knowledge*, and then using the residuals from these three regressions as the *Info* variable of Equation (1) while calculating the *Residual discussion effect, Residual mainstream media effect* and *Residual niche media effect* variables. The correlations of these adjusted variables with *Knowledge effect* appear in the last three rows of Table XXX.3.

If hypothesis 3 is correct, and everyday political talk increases knowledge that in turn increases informed voting, then we should find a significantly more positive correlation between *Knowledge effect* and *Discussion effect* than between *Knowledge effect* and *Residual discussion effect*, since the difference between the two is solely due to the observed correlation of knowledge and participation in discussions. The correlation of *Knowledge effect* with *Residual discussion effect* should however be positive and significant if Hypothesis 4 is correct and everyday talk provides helpful rather than misleading information shortcuts. Hypothesis 5 suggests that mass media actually do this better than discussions with peers and thus the correlation between *Knowledge effect* and *Residual discussion effect* will be less strongly positive than one or more of the two correlations between *Knowledge effect* on the one hand, and *Residual mainstream media effect* and *Residual niche media effect* on the other.

Note that the predictions about all seven information effects are somewhat uncertain due to the sampling errors of the model parameters and the inability of the vote functions to explain party preferences fully. Thus the whole process – from the

estimation of the four vote functions to the calculation of the pairwise correlations between knowledge, discussion, and mainstream/niche media effects – was bootstrapped.[7] The bootstrapping provides the standard error estimates reported in Table XXX.3.

RESULTS

The best way of reading Table XXX.2 is from bottom up. The lagged value of the dependent variable is clearly a major influence in all four equations: 2003 knowledge predicts 2006 knowledge and so forth. The effects of the socio-demographic variables, save education, are nearly all insignificant. This does not mean that political involvement in Hungary is not affected by these variables, but only that the over-time changes in involvement occurred fairly evenly across social groups except that the (existing) education gap in turnout and sophistication grew bigger in the 2003-2006 period under investigation.

The key finding in Table XXX.2 is that all five dependent variables show much more evidence of being positively influenced by participation in political discussion than by exposure to mainstream media. This is remarkable since the simple pairwise correlation of 2003 knowledge is virtually the same (.40) with mainstream media exposure as with participation in discussion (.39), and the same holds for all other dependent variables in Table XXX.2. However, neither mainstream nor niche media exposure has any positive effect on turnout and knowledge. The first even records a negative influence on the richness of reasoning: the more people attend to television, radio and newspapers, the less inclined they become to give multiple reasons for their political sympathies. Hence the positive correlation of mainstream media exposure with knowledge (as well as the other indicators of involvement) mentioned in the text above must be due to shared causes or the impact of political involvement on media exposure.

In contrast, the over-time effects of discussion on involvement are all in the theoretically expected positive direction, and reach statistical significance in two of the four columns of Table XXX.2 – hence hypothesis 1 is supported, at least with respect to political knowledge and turnout. Interestingly, exposure to niche media appears to have some positive influence too, though not on knowledge or turnout but on interest and the richness of reasoning. Therefore, hypothesis 2 is only supported with respect to mainstream media, while niche media's capacity to stir political involvement differs from that of discussion effects only in the details.

[7] For the bootstrap, 10,000 random samples – about 50 percent of the respondents in each – were taken from the whole 2003 data set with replacement, and the whole process leading to the estimation of the Pearson correlation in question was repeated for each of them.

Table XXX.3 reports the direct test of whether participation in political discussions and mass media exposure pave the way to better informed choice behaviour. The more positively the effect of an information source correlates with the effect of knowledge, the more support is found for the idea that the given source acts as a functional equivalent to general political knowledge in emulate informed choices. Recall that the first three correlations in the table are influenced by the invariably strong and positive correlations between *Political knowledge* on the one hand, and *Participation in political discussions*, *Exposure to mainstream media* and *Exposure to niche media* on the other. The last three correlations, in contrast, were 'purified' of the impact of these correlations.

That these last three correlations are essentially zero suggests that whatever effect participation in discussion and exposure to mass media have on party preferences over and above of knowledge effects, these influences are orthogonal to the impact of knowledge. That is, discussions and media may move some people towards the left, some to the right, but these movements are as often similar as often contrary to the movements triggered by changes in political knowledge level. Hypotheses 4 and 5 are therefore not supported, and the shortcuts provided by everyday political talk and mass media are, by and large, no more useful than throwing a dice.

It follows from this that the sizeable (though not always significant) positive correlations in the upper half of the table are almost entirely spurious and merely due to the positive correlations between knowledge and information sources. As we saw in Table XXX.2, participation in everyday political talk has a long-term effect on political knowledge. The significant positive correlation between *Knowledge effect* and *Discussion effect* shows that the effects of these knowledge gains on party preferences are not cancelled out by the other influences of everyday talk on party preferences. Thus, Hypotheses 3 is supported: political discussion has a positive effect on informed voting via the knowledge gains that it generates. Mass media, in its turn, have no effect on political knowledge levels (see Table XXX.2). Thus, the statistically insignificant but nevertheless sizeable positive correlations between knowledge effects and media effects in the upper half of Table XXX.3 must be due to either the dependence of media exposure on knowledge level, or some shared causes of media exposure and knowledge, like age and education.

DISCUSSION

This paper utilized non-experimental data to assess the political impact of everyday political talk. This way we could go beyond arguments about ideal speech situations and can instead examine the impact of political discussions with peers as they actually occur in everyday life. The results confirm that participation in face-to-face

political discussion with peers has a genuine positive effect on political participation and citizens' political knowledge. They also suggest that informed choice behaviour is indirectly promoted by everyday political discussions to the extent that the latter leads to knowledge gains.

However, the other ('residual') effects of everyday talk on party choice are orthogonal to the effect of knowledge. Thus, whatever shortcuts everyday talk provides for party preferences, they are not leading the typical citizen in the same direction as actual knowledge would. In other words, they are simply not useful as shortcuts to better political information than what the individual already had without them.

Some may want to counter to this that the knowledge variable is based on quiz items that inquire about name recognition and the like – not necessarily the kind of things citizens 'need to know' to vote smartly. But correct answers to any conceivable knowledge item tend to be positively correlated (cf. especially Delli Carpini and Keeter 1996). Hence whatever the reader may consider really useful political knowledge is more likely to be present among the respondents who score high than among those who score low on the present scale, and therefore this objection is unconvincing.

A more intriguing objection could suggest conceiving knowledge in a somewhat Orwellian way, i.e. as the means of making a particular political bias dominate everyone's thinking, rather than assume that it treats all political alternatives neutrally and according to its true merit. In principle, this objection cannot be refuted, but there are reasons for not being too much troubled by it. First, the present data come from a highly competitive two-party system that produced very close general election results in both 2002 and 2006, with the loser of these elections winning the mid-term European election in 2004. Second, an application of Equation 1 to 2006 postelectoral data suggests that the losing party may have done significantly better if citizens had higher knowledge level (data not shown). Thus, as far as party choice was concerned, the information environment of the respondents in the analysis above was probably not overtly unbalanced.

A different objection may question whether everyday talk leaves – and whether it ought to leave – the underlying preferences of the individuals unchanged. While normative political theory would loose much of its reference point if citizens turned out to be lacking fixed preferences, this constellation would not be inconsistent with the present findings, though it is not implied by them either. But only details in the phrasing of our conclusions depend on whether the underlying preferences are fixed. If we give up this assumption, the present results may mean either of two things. The first is exactly the same conclusion that obtains under the assumption of fixed preferences, just with the added caveat that the underlying preferences conceivably

could, though probably did not change when the information level or sources changed. The second is that the underlying preferences probably changed, but changed differently in response to changes in knowledge level than changes in the frequency of political discussion or media exposure.

The choice between the two conclusions is a matter of taste, but does not shed the impact of everyday talk in a more or less favourable light. The way people would vote if they were better informed remains a relevant normative benchmark under either assumption on both a priori grounds and in the light of the finding that a decreasing gap between actual and simulated informed voting behaviour – established with the help of Equation 1 – leads to some improvements in relatively consensual aspects of good governance across democracies (Toka 2008). It requires further research to establish whether similar public goods are associated with higher levels of everyday political talk among citizens. The present study could only identify two plausible candidates: higher electoral participation and political knowledge – and consequently somewhat more informed voting – among citizens. This may stop short of the kind of effects observed under appropriate conditions for deliberation, where political discussions among peers produces 'better citizens' in a number of respects (Luskin and Fishkin 2002; Searing *et al.* 2007). But it compares relatively favourably with all observed effects of mainstream media in the present study.

APPENDIX A: VARIABLES IN TABLE XXX.2

Turnout: in 2006, the survey was administered shortly after the parliamentary elections and the turnout question inquired about voting in the first round of the election. In 2003, the turnout question asked if the respondent would vote if there were a national election next weekend, and the responses were recorded on a four-point scale from 1=surely not to 4=surely yes.

Political knowledge: the number of correct responses to a number of quiz items. In 2003, the items included six open-ended questions about which party proposed various policies; multiple choice items about the name of the finance minister, eligibility to vote in national elections, the progressivity of income taxation, who elects the head of state, rules for government investiture, local versus national government responsibility for primary education, and local versus national government responsibility for unemployment benefits; open-ended questions about who the president of central bank, the leader of the main opposition party and the chief judge of the Constitutional Court are. In 2006, the battery included one items for each relevant party about whether they supported a particular referendum initiative in 2004; three open-ended questions about which party proposed various policies in the 2006 campaign; multiple choice items about who elects the head of state and the rules for government investiture; open-ended questions about which party the minister of education belongs to and who the president of central bank and the chief judge of the Constitutional Court are.

Interest in politics: self-declared interest in politics, measured on a 1 (low) to 4 (high) scale. Identical questions were asked in both 2003 and 2006.

Richness of (political) reasoning: number of reasons mentioned by the respondent in response to what s/he likes and s/he dislikes about each of the four major parties (eight open-ended questions in total, up to two responses coded for each). Identical questions were asked in both 2003 and 2006.

Participation in political discussion: the highest reported frequency (1=never, 3=often) of discussing politics with either (a) family members; (b) friends; (c) neighbours; or (d) workmates.

Exposure to mainstream media: simple additive scale summarizing the 2003 responses regarding the frequency (1=never, 5=every day) of following political news in (a) newspapers; (b) radio; (c) television.

Exposure to niche media: simple additive scale summarizing the 2003 responses regarding the frequency (1=never, 5=every day) of following political news (a) in weekly magazines; (b) on the internet.

Age: the respondent's age in years.

Sex: the respondent's sex, 0=men, 1=women.

Education: formal educational qualification of the respondent, measured on a 1 (low) to 5 (high) scale.

Income: natural logarithm of net monthly family income per capita. Missing values were single-imputed using the summed z-scores of seven dichotomous variables registering the possession of seven durable consumer goods by the household.

Rural residence: coded 1 for residents of rural areas and 0 otherwise.

Former CP membership: membership in the former communist party before the transition to democracy in 1990 (1=yes, 0=otherwise).

Religiosity: frequency of church attendance from 1=never to 5=at least once a week.

APPENDIX B: THE CONSTRUCTION OF THE VARIABLES IN TABLE XXX.3

The beta parameters of Equation 1 – which itself is a slightly modified form of Bartels' (1996) model – were estimated with OLS using November 2003 survey data on the 1392 respondents with complete data. The X_i and *Info* variables will be discussed below. The respondents' party preference is measured as the difference between their 2003 ratings of the two main parties on seven-point feeling thermometer scales. Note that this difference is considered here the best available measure of party preference because (A) in the 2003-2006 panel, it is much more closely correlated (r=.79) with vote in the 2006 election (coded as 0=right, 1=left, 0.5=did not vote) than the 2003 vote intention (r=.56 when coded 0=right, 1=left, 0.5=do not know, no answer); and (B) other parties always commanded less than 10 percent of all voting intentions in the polls throughout this period.

The empirically estimated beta parameters are of no substantive interest and merely help estimating how particular individuals may change their party preference if their information level (or indeed information source, when that is what the *Info* variable refers to) changed. Note that *Info* interacts with all other variables in the model, and thus the estimation allows for the very real possibility that some people (say women) increase their support for a particular party as *Info* changes, while others (say the religious) do the exact opposite, and yet another group (say low income earners) are not affected at all. Obviously, all individuals belong to a number of such groups and may thus be subject to contradictory pulls. The impact of information change on any individual was calculated by:

1. replacing *Info* with *Info**, which equals each individual's observed value on *Info* plus the sample standard deviation of *Info*; then
2. using the empirically estimated beta coefficients to estimate how the given respondents may vote should their *Info* shifted to *Info**, but their characteristics along the X_i variables remained the same; and then
3. subtracting these predicted preferences from those expected (not observed!) under the same model with the observed *Info* level of the respondents.

This procedure yields a variable showing information effects – i.e., the expected impact of the postulated change in *Info* on each individual. As explained in the main text, this whole procedure was repeated for seven different information variables (*Political Knowledge*, *Participation in political discussion*, *Exposure to mainstream media*, *Exposure to niche media*, and then the 'purified' versions of the *Participation in political discussion*, *Exposure to mainstream media*, and *Exposure to niche media variables*) taking the place of the *Info* variable in Equation (1). This then resulted in the seven variables for which Table XXX.3 shows the correlations of interest.

The X_i variables entering Equation (1) in the creation of all seven information effect variables were age, age-squared, gender, education, income, rural residence,

religiosity, and former CP-membership (see Appendix A). Obviously, these variables provide a rather poor explanation of party preferences – with R-squared=0.11 – even when they are interacted with knowledge. As a result, the estimated information effects are not very precise because individuals with different attitudes, say liberals and conservatives, may move in different political directions as their *Info* level changes. Nevertheless, the omission of attitudinal variables from Equation (1) is a must because citizens' attitudes themselves may change as a result of information gains, and thus the inclusion of attitudes in the model would unpredictably distort the estimated information effects. The only way to avoid this is to increase another error in the estimates that comes from the assumption that information effects are the same for any two individuals who perfectly match each other in terms of the independent variables of the vote function.

On the positive side, however, the average information effect – as long as the OLS model assumptions[8] hold – is still correctly estimated for all groups of such matching individuals. Thus, the only concern for the present analysis is that the vote function does not capture the within-group variance in information effects among such matching individuals. In practice, this inability of the vote function should deflate the observed correlations between the estimated information effects and other variables that were not included the vote function, and also contribute to the large bootstrap standard errors in Table XXX.3. There is no apparent reason, however, to believe that the error in the estimates obtained this way would change the direction of the correlations of interest here. The possible impact of the errors remain open to speculations, but two independent experiments show that the method as described above generates estimates that correspond reasonably well to the actual changes that occurred between two time points in the political opinions of the respondents who gained new political knowledge in laboratory and quasi-experiments (see Gilens 2001; Sturgis 2003), while Lau and Redlawsk (2006) provide evidence that higher knowledge greatly increases the probability that imperfectly informed experiments subjects make a vote choice that they then recognize as their best choice after receiving full information.

[8] I.e. the effects listed in Equation (1) are additive, *Info* and the *X* variables are exogenous vis-à-vis *Vote*, and the epsilon error term is approximately normally distributed.

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Table 1: Principal component analysis of information sources (2003 data)

Variables	*Loading on factor 1*	*Loading on factor 2*	*Loading on factor 3*
How often discusses politics with family members	0.68	0.26	0.16
How often discusses politics with friends	0.81	0.19	0.17
How often discusses politics with neighbours	0.74	0.04	-0.17
How often discusses politics with colleagues	0.73	0.01	0.23
How often follows politics in newspapers	0.11	0.58	0.46
How often follows political news on radio	0.11	0.76	0.00
How often follows political news on television	0.14	0.79	0.00
How often follows politics in weekly magazines	0.13	0.33	0.66
How often follows politics on the internet	0.08	-0.14	0.78

Note: N=1446 respondents.

Table 2: Ordered logit regression of four aspects of political involvement on information sources and control variables

Independent variables:	*Turnout*		*Knowledge*		*Interest in politics*		*Richness of reasoning*	
	b	*(s.e.)*	*b*	*(s.e.)*	*b*	*(s.e.)*	*b*	*(s.e.)*
Participation in discussion	1.06**	(0.38)	0.69**	(0.22)	0.19	(0.24)	0.28	(0.22)
Exposure to mainstream media	0.09	(0.07)	0.01	(0.04)	-0.01	(0.05)	-0.08*	(0.05)
Exposure to niche media	0.02	(0.18)	0.03	(0.10)	0.25**	(0.11)	0.19*	(0.10)
Age	0.03	(0.06)	0.06	(0.04)	-0.03	(0.04)	0.01	(0.04)
Age squared	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Female	0.62	(0.41)	-0.38	(0.26)	-0.36	(0.28)	0.20	(0.26)
Education	0.58**	(0.24)	0.23**	(0.14)	0.30**	(0.14)	0.16	(0.13)
Income	-0.59	(0.56)	0.25	(0.31)	0.08	(0.33)	0.30	(0.31)
Rural residence	0.20	(0.43)	-0.03	(0.26)	0.11	(0.28)	0.37	(0.26)
Former CP member	0.15	(0.89)	0.47	(0.46)	0.52	(0.51)	0.63	(0.44)
Religiosity	0.54**	(0.23)	0.14	(0.14)	0.22	(0.16)	0.19	(0.14)
Turnout (intention)	0.40**	(0.18)	-0.06	(0.13)	0.20	(0.14)	0.15	(0.13)
Knowledge	-0.10	(0.08)	0.16**	(0.05)	0.04	(0.05)	0.05	(0.05)
Interest in politics	0.01	(0.30)	0.08	(0.17)	0.55**	(0.19)	0.41**	(0.17)
Richness of reasoning	0.12	(0.08)	0.09*	(0.05)	0.08*	(0.05)	0.18**	(0.05)
Number of cases	232		235		235		235	
Pseudo R^2	0.25		0.09		0.14		0.07	

Notes: Constants not shown. All independent variables based on 2003 observations only; all dependent variables based on 2006 observations only.
*: significant at the p<.10 level. **: significant at the p<.05 level.

Table 3: Pairwise Pearson correlations (with two-tailed significance level) between knowledge effects, discussion effects and media effects on party preferences

Correlation between:	*Pearson R*	*Bootstrap standard error*
Knowledge effect & Discussion effect	0.48 **	(0.24)
Knowledge effect & Mainstream media effect	0.34	(0.25)
Knowledge effect & Niche media effect	0.37 *	(0.26)
Knowledge effect & Residual discussion effect	0.14	(0.29)
Knowledge effect & Residual mainstream media effect	0.04	(0.27)
Knowledge effect & Residual niche media effect	0.09	(0.28)

Notes: the table entries are the mean and standard deviation of 10,000 bootstrap estimates for each correlation coefficient in question.
*: significant at the p<.10 level.
**: significant at the p<.05 level.