

Running head: CITIZENS' INFORMATION NEEDS IN EUROPE

Citizens' Information Needs in Europe:
Methodological Considerations for an Information Policy Debate

Christian Baden

Amsterdam School of Communications Research (ASCoR)

University of Amsterdam

Abstract

This article investigates the relationship between peoples' information needs and their information behavior in European politics. People seek information as far as they believe that knowing more about Europe is worthwhile. They search for different information, in different media, depending on what knowledge they desire. This article outlines four kinds of information needs, which are identified in survey measures of information behavior. Testing the proposed relationships using Eurobarometer (52.0) data, it is possible to connect peoples' knowledge and knowledge goals, via distinguishable information needs, to their preferences in information sources. It is shown that the perceived sufficiency of knowledge, which depends on subjective knowledge goals, guides information demands. The amount of previous knowledge determines what kind of information is sought, which in turn relates to media preferences. However, while the direction of potential information needs can be assessed, the analysis reveals fundamental difficulties in predicting actual behavior from survey data.

Citizens' Information Needs in Europe:

Methodological Considerations for an Information Policy Debate

The supreme goal of democratic information policies is to provide citizens with the information they need (Schwabe & Krcmar, 1999). What information is needed depends, aside what people already know, mainly on the desired knowledge state. This knowledge goal can either be founded normatively/functionally (what people ought to know in order to perform predefined tasks), or subjectively (what people want to know themselves). Most experts' debates on citizenship knowledge highlight that people tend to desire different, and generally much less, information than they ostensibly should (Delli Carpini & Keeter, 1996). Nevertheless, people's information preferences have made a strong entry in recent information policy revisions, complementing supply-driven, education-oriented approaches.

One main reason for this is an observed inefficiency in supply-driven information policies: Some offers are largely ignored by the users; they are judged as irrelevant, boring, or too abstract (Instytut Spraw Publicznych, 2001). Taking into account what information people themselves demand has thus been seen as an elegant way to reach two goals: First, a need-driven strategy should be better at reaching people. Second, fulfilling people's wishes should raise their satisfaction with the overall state of provided information. The central underlying assumption is that people know best what information they lack, and are willing to use (European Commission, 2005a, 2005b). What information people need is measured in surveys.

However, need-driven approaches have fared far from impressively in increasing reach and satisfaction. Survey-measured information needs predict people's use of provided information quite poorly. Information offers based on survey-measured needs are almost as often neglected as others (Baden, 2004). Inversely, some offers are used predominantly by those who do not voice any needs in the first place (Marcella & Baxter, 2000). At the same time, public informedness hardly rises: People neither feel better informed, nor do they

achieve better results in knowledge tests (European Commission, 2006c). The measured information needs are clearly no valid proxies for peoples knowledge (and knowledge gaps), or their intended information behavior.

These problems can be traced to one fundamental question: What do people mean if they feel “sufficiently informed” about an issue (Frants & Brush, 1988)? On the one hand, low knowledge is sometimes still judged as sufficient, and is not reported as needed information. On the other hand, claimed information needs often do not trigger searching behavior. Thus, we first need to understand where information needs come from. Subsequently, knowing what people do and do not mean when reporting information needs should add to our understanding of whether, and how, people are likely to act upon these.

This paper thus asks, what role do information needs play in linking citizens' knowledge to their use of available information sources? It proposes a conceptualization of the processes underlying the latent concept of “information need”. This conceptualization allows discriminating different kinds of information needs, arising from specific knowledge states. These needs can then be linked to discernable strategies in information behavior. The analysis draws upon data from the Eurobarometer survey series, which also underlies the development of need-driven elements in the information policy of the European Union. This paper thus utilizes the existing survey measures, formulating specific relationships between a range of knowledge-, need-, and behavior-oriented indicators. Testing the developed hypotheses, it is estimated how well these can account for the seeming inconsistencies haunting the development of need-driven information policies.

The case of European political information

Particularly in the European Union, current information policy reformulations have given salience to citizens' information needs (European Commission, 2006a; 2006b). These reformulations follow the realization that widespread ignorance has facilitated the rise of populist movements promoting anti-EU sentiment. In the same vein, there is a strong (if

probably incorrect¹) belief that several failed EU-related referenda could be blamed on low knowledge levels. Various scholars have pointed at problems in building a legitimacy-enhancing European public debate if the people neither know nor care a lot about Europe (Fossum & Trenz, 2005; Meyer, 1999). The various facets of the recent failures to engage the public in a European public sphere have been understood as aspects of an overall “communication deficit” (Meyer, 1999).

Consequently, the EU has moved citizenship information to the top of its agenda.² Without the institutions of national citizenship education, the EU's efforts to spread information are focused largely on the mass media. However, given widespread disinterest in European affairs, it has proven difficult to reach people with supplied information: Users rarely access the offers available from the EU's own media (mainly the EU web server and brochures; Baden, 2004). Also, their attention to information proliferated via mainstream mass media is rather low (Instytut Spraw Publicznych, 2001). This complements the difficulty of having European affairs covered in the first place, since journalists anticipate people's low regard for such information. At the same time, the current low visibility of European politics in the media also fails to raise the public's awareness of European issues. Event-centered coverage renders information relatively inaccessible, and suggests the irrelevance of European everyday politics. Lacking representation of the political process and conflicts hides vast fields of political knowledge from the people (De Vreese, 2004; Peter & De Vreese, 2004). People recognize their low knowledge, but hardly feel enticed or enabled to seek out the information they lack. The popular perception of information needs thus lies at the core of the EU's communication deficit.

A more citizen-oriented approach, catering to the needs of the people, thus might be a promising strategy for bringing more information across. On the one hand, information that is “in demand” should be more successful in actually reaching audiences, receiving both coverage and attention. On the other hand, people can be expected to search actively only for

information they desire. The effort in tailoring information content and dissemination more to the people's needs thus aims at involving people more directly in a public debate on European politics. The strategy implicit expects that people, once they gain more knowledge, will develop deeper concerns and interest in EU affairs. Thus, a need-oriented supply of information could generate new information needs and gradually raise people's knowledge and involvement in European politics.

While fully-fledged need-driven information policies are still to be implemented, some related initiatives already exist: Information centers have experimented with customer surveys. Also within the EU's information strategy, various elements have been adapted in response to measured needs. Based on these experiences, some doubt can be cast on the potentials of need-driven information strategies. Measured needs neither cover those fields of knowledge that people actually lack, nor do they correspond to information materials people actually use. While the aim to provide what people need may be theoretically appealing, the available data apparently fails to measure what people need.

This paper argues that a theoretical conceptualization of information needs is required to understand these problems. People's desires need to be connected to, rather than equated with, their knowledge states and behavioral intentions. To understand how these concepts are related, previous research and theorizing can provide valuable starting points.

Previous research

Information needs have been tackled, largely, by two research traditions:³

First, in mass communication research, the Uses and Gratifications (U&G) approach has identified different information needs that people satisfy using media (Katz, Blumler, & Gurevitch, 1973). According to U&G models, information needs do not arise "objectively" from levels of individual knowledge, but depend on people's dispositions and social environments (Rosengren, 1974). However, this general observation is hardly further substantiated. Provided models, and certainly the empirical studies, tend to start at the point

where an information need has already been identified. They categorize occurring needs, claiming their consequentiality for media behavior, but rarely investigate their antecedents. Categorizations remain driven by the characteristics of the investigated media, which severely limits the explanatory power of needs (Katz, Blumler, & Gurevitch, 1973). To understand what guides citizens' information behavior, we must therefore connect information needs to both their consequences *and* their origins. So far, most contributions from research focus on the consequences.

In particular, mass communication research has provided some tools to identify media types best suited to address information needs. This suitability to satisfy needs has been assessed predominantly in two ways: a) as the amount of accessible information, or b) as learning impact (for a review see Eveland & Dunwoody, 2001; Romizowski, 1988). However, this analytic knowledge is usually not available to media users. Instead, people usually base media use decisions upon hunches and satisficing routines. Often, they can already satisfy information needs by re-focusing attention within their usual media use⁴. From experience and socialization, people know roughly what information they can expect to find in which channels. Media choice is thus fundamentally driven by habits and previous experiences. Customs are likely to prevail in most cases (Schneider, 2006). Only rarely and limitedly will people deviate from those, to better seek their gratifications from media information.

As a second body of research, a user-centric approach in information science has tried to trace back information seeking behavior to its psychological origins. Starting from professionals' information needs and searching behavior, researchers have attempted to widen applicability towards lays' searches (Dervin & Nilan, 1986; Vakkari, Savolainen, & Dervin, 1997). In particular, advanced models describe how people transform ambiguous information needs into concrete queries. This implies a process of iterative refinement (Wilson, 1999), utilizing cues and previous experience: Even if people do not know what exactly they are looking for, they are still able to use sources strategically. Citizens often face precisely this

kind of information need: They know they do not know a lot, but they are unsure what exactly they want to find out. Thus, they scan available sources for cues to refine their queries. Based on previous experience and identified cues, people estimate the likely cost and utility of information compared to their current state of knowledge. Finally, appropriate searching strategies are selected (Wilson, 1981).

Thus, once we have roughly outlined an information need, we are well-equipped to trace its further path: Information science explains the iterative concretization, selection and direction of queries. Mass communication research provides some starting points as to where people might look for answers. However, what this need for information *is* remains unclear (Kuhltau, 1999).

Information needs & knowledge

Information needs have been conceptualized as entirely subjective (Park, 1994; Rosengren, 1974), arising from two mismatching self-perceptions: the assessed knowledge, and the desired knowledge about an issue. This mismatch gives rise to an “anomalous state of knowledge” (ASK) (Belkin, 1980), which triggers an iterative process of refinement. The ASK is an endogenous variable: The perceived mismatch arises only if people consider their knowledge about an issue in relation to what more they perceive as worth knowing. Which issues are considered depends on aspects rendered salient, on primed relevancies, and social context (Ingwersen, 1992). Whether an ASK is pursued further is subject to re-evaluations and decisions throughout the refinement process. Any actual state of knowledge may or may not lead to an information need. Subsequently, any information need may or may not result in searching behavior (Wilson, 1981).

Consequently, ignorance should become problematic only if the possibility of having deeper knowledge is considered at all, and perceived as important. It might be interesting to investigate to what extent people are usually aware of their ignorance on various issues. However, this cannot be addressed via survey data: By asking, surveys induce everyone to

consider her knowledge about the enquired issues. Still, people may attribute different relevancies to their considered knowledge, and knowledge gaps. High attributed relevance then founds ambitious knowledge goals. Indifference, conversely, leads to goals which are so low that they are satisfied regardless of the level of possessed knowledge (Matthes, 2005). People with moderate or low knowledge goals should at some point be satisfied with their information states, whereas those with high goals should not. As long as the knowledge goal is not yet satisfied, people should demand more information. Satisfaction means that additional information is not valued any more: There is no information need (Dervin & Nilan, 1986). Higher knowledge translates into feeling better informed only as long as additional information is valued (Lutz, 2003). If there is no need for more information, any knowledge state should yield the same satisfaction. As long as there is an information need, perceived informedness continues to rise with information gain (see also Schönbach, 1983).

At the same time, people should still be aware of the absolute amount of knowledge they possess. Thus, more knowledge should generally lead to higher perceived informedness. However, individuals may give varying weight to this aspect. Those largely disinterested should give a fairly accurate account of their actual knowledge. The consideration of feeling *sufficiently* informed is irrelevant to them. This evaluation of sufficiency, however, is inherently more salient than the self-assessment, because of its link to attributed relevance. Thus, the more interested people are, the more they are expected to weigh the satisfaction of their knowledge goals over their absolute level of information. Thus, even with high knowledge they may feel relatively uninformed compared to their desired knowledge. The interaction of these two processes leads to a nonlinear positive relationship between actual and perceived knowledge: As long as people desire more information, perceived informedness should rise. Once the goal is satisfied, the curve reaches a ceiling. Beyond this, information no longer contributes to achieving the knowledge goal, and therefore is not

valued any more. People who attribute very high relevance to an issue pursue goals that are never fully accomplished, so the ceiling does not appear.

From this follow the first two hypotheses:

H1: People feel better informed about European politics the more knowledge they possess about it. This relationship is moderated by relevance attribution, and strongest if people care little about the EU. When people attribute more relevance, this relationship is increasingly overridden by an assessment of being *sufficiently* informed. This results in a non-linear positive relationship, which approaches a ceiling.

H2: People demand more information only as long as their self-assessed knowledge is lower than their knowledge goals. Thus, as they feel more sufficiently informed, the demand for information should fall. Actual knowledge alone should play a minor role only.

Information uses & foci

If there were only one kind of information need, this could impossibly explain information searching behavior directed toward different media. For a further investigation, it is thus necessary to discriminate between different types of information needs (Matthes, 2005). The most familiar differentiation concerns the use of information. First, information serves to discover new fields of possible knowledge (Atkin, 1972; Schneider, 2006), and to qualify the desirability of this knowledge (McCombs, 2004). This use of information focuses on relevance cues, and requires comparative assessment (*relevance- and desirability assessment*). Second, information can be used to acquire selected knowledge (Frants & Brush, 1988; Savolainen, 1999; Schwabe, 1997).⁵ *Knowledge acquisition* requires substantive information on the facts and relations constituting an issue.

Another differentiation developed mainly in research on political knowledge concerns the focus of information. Broadly, information can focus on facts or process (Garramone & Atkin, 1986; Schönbach, 1983). Factual knowledge is generally held to be less complex and thus easier to acquire than process knowledge (Culbertson & Stempel, 1986, Garramone &

Atkin, 1986). This differentiation matters mainly because both information types relate to different ways of understanding an issue. While factual information introduces exogenously determined situations, process information connects situations to origins and implications, and thus highlights the possibility of change (Baden, 2004). In a political information context, knowledge of structures and processes is required for political action and opinion formation (*process-oriented information*) (Lutz, 2003; Popkin, 1991). Factual information, which takes political outputs as given, is more geared towards passive adaptation, and potentially deters further involvement (*output-oriented information*). Chew (1994) has shown that people focused on either kind of information depending on pursued participation respectively adaptation goals (for EU context see Instytut Spraw Publicznych, 2001; Schwabe, 1997).⁶

Combining these distinctions, four uses of information are systematized in Table 1: Relevance- and desirability-assessment of output-oriented knowledge, acquisition of output-oriented knowledge, relevance- and desirability-assessment of process-oriented knowledge, and acquisition of process-oriented knowledge. This enumeration also represents an inherent sequential order of information needs, from basic to more advanced applications: On the one hand, the discovery and selection of relevant knowledge precedes targeted knowledge acquisition. On the other hand, process-oriented knowledge derives its relevance partly from the recognition of output-oriented knowledge. This is particularly clear in European political information: As long as people do not see themselves as affected by political outputs from the European level, they are hardly motivated to investigate the underlying processes and form participation-oriented opinions.⁷ Therefore, assessment of desirability occurs prior to knowledge acquisition, and concern with output-oriented knowledge precedes interest in process-oriented knowledge.

TABLE 1 ABOUT HERE

The more people know about an issue, the further they should thus proceed from basic towards more advanced information needs. From this, two more hypotheses can be derived:

H3: Demand for knowledge-acquisition information is associated with higher knowledge than demand for relevance-assessment information.

H4: Demand for process-oriented information is associated with higher knowledge than demand for output-oriented information. However, this relationship is moderated by relevance attribution: Acquiring complicated background knowledge requires more motivation than gathering facts. The effect thus occurs mainly among interested citizens.

Information sources

The introduced types of information can be associated with certain narrative formats and information strategies, which are characteristic for different media (van Eijck & van Rees, 2002; Eveland, Seo, & Marton, 2002; Robinson & Levy, 1986, Steger et al., 1988). For instance, political magazines take peoples' relevance attribution for granted, and focus on the background of political decisions. Newscasts usually list selected information bits, suggesting their relevance. They rarely cover underlying processes (Iyengar, 1991). As far as media provide different kinds of information, they sustain a "division of labor among media" (Katz, Haas, & Gurevitch, 1973, p. 172; Bouwman & van de Wijngaert, 2002; Garramone & Atkin, 1986).

Through media socialization, people are roughly familiar with different media's emphasis on providing information. Therefore, they are capable of attending media strategically (Chew, 1994; van Eijck & van Rees, 2002; Katz, Blumler, & Gurevitch, 1973; Tewksbury, 2003). Whenever people feel they lack certain information, they have an idea which media are likely to supply it. Obviously, this is no deterministic process. Media converge, and also within one media channel there are formats pursuing different information strategies. Thus, it is impossible to provide an exhaustive, mutually exclusive assignment of information types to media channels. However, some general tendencies can be identified.

"Each medium seems to offer a unique combination of: (a) characteristic contents [...] (b) typical attributes [...]; and (c) typical exposure situations [...]. The issue, then, is what combinations of attributes may render different media more or less adequate for the satisfaction of different needs" (Katz, Blumler, & Gurevitch, 1973, p. 514). By far most publications dealing with comparative media characteristics concern differences between newspapers and television. There is some consensus that television is better suited to deal with "itemized" knowledge and simple facts. Complexity and background information tend to be associated with print media (Chew, 1994; van Eijck & van Rees, 2002; Garramone & Atkin, 1986; Graber, 2001; Robinson & Levy, 1986; Schönbach, 1983). What is more, television is said to be the main medium for monitoring the political environment (Kaye & Johnson, 2004). Some authors assign this function also to newspapers. They argue that people gain awareness of new issues wherever they are likely to encounter information they had not been searching for (Schönbach & Lauf, 2004). Audiences then use relevance cues to assess the desirability of information on encountered issues. The formatting of both television and newspapers contains plenty of such cues.

Online sources, by comparison, provide little guidance for audiences. The Internet is a typical "research" medium: It relies on user activity much more than the "display" media, TV and newspapers. People retrieve and encounter information online only as far as they search for it (Schönbach, De Waal, & Lauf, 2005). However, the hypertextual presentation of online information supports the acquisition of complex knowledge (Eveland, Seo, & Marton, 2002). The same has been said about the possibility to re-read information. Print sources also allow re-reading, while broadcast doesn't. Magazines resemble print newspapers, but should even more be able to cover issues in context and at length. Encounter chances and relevance cues are reduced, because magazines are mainly used selectively and strategically. Newspapers, on the contrary, are usually read habitually and without too much pre-selection (Savolainen, 1999). In that respect, magazines are more similar to online sources. Radio seems to share

most characteristics with television. Both can be characterized by likely encounters, linear presentation, itemized content, and strong relevance cues. Due to lacking visual information radio's power may be reduced, though. (Graber, 2001).

Summing up, TV and radio are directed mainly at the relevance-assessment type of information. As for the European context, coverage tends to center around few salient events. TV (and newspaper) coverage puts the EU on the public agenda temporarily for these phases. Outside these peaks, the topic vanishes in most public discussion (Peter & De Vreese, 2004). Newspapers both serve as monitoring media and provide more in-depth coverage: They follow the event-centric pattern for front page news, but provide low-salience steady coverage of background information as well (Kevin, 2003). Magazines and online sources, as research media, can be associated with knowledge acquisition. Particularly EU-related online sources provide an immensely rich resource for detailed information, which (with some effort) can be retrieved at any time (Baden, 2004; European Commission, 2005a).

For the distinction between factual and process knowledge, the case is less clear-cut. For example, political magazines could be said to focus on process-oriented information on the European Union. Still, consumers' or finance magazines predominantly cover output information – particularly since the EU constitutes an important actor in these fields. A survey by the Polish Instytut Spraw Publicznych (2001) on EU-related information behavior showed that people made clear distinctions also within media channels. There, unspecified formats were demanded less both on TV, radio, and newspapers. However, outlets focusing on output information were very much in demand within each channel. Process-oriented formats met a demand among higher educated respondents, but failed to attract interest elsewhere.⁸ Calculations based on the same survey suggest that magazines were seen as tilted towards process knowledge. Newspapers were associated with output knowledge (see also Neuman, Just, & Crigler, 1992). This also relates to journalistic practice: In newspaper stories, quality standards demand a focus on novel information. This puts the stress on output rather than

underlying processes. Furthermore, many newspapers feature advice-sections, in which practical details of policies' impacts are spelled out. Among magazines, both information foci occur, however political magazines strongly tend towards process-orientation.⁹ Thus, while admittedly crude, associating process-orientation with magazines, and output-orientation with newspapers, seems justifiable.

In summary, information provision strategies vary between media. In choosing particular media, people are thus able to seek out information most suitable to their needs. Obviously, habitual media behavior remains the default strategy: Shifting attention within channels sometimes suffices to address needs. Also, needs may be too vague and weak to overcome the inertia of habits (Schneider, 2006; van de Wijngaert, 1999). However, where media preferences deviate from habitual use, one plausible explanation is that people seek information they expect to find in these media channels (Tewksbury, 2003).

METHOD

Data & Operationalization

Testing the developed expectations for European citizens' information behavior, the richest available data source is the Eurobarometer wave 52.0 ($N = 16071$;¹⁰ 52,2% female, median age group 25-44 years). Using Eurobarometer data has three main advantages. First, these data are the same that also found the actual formulation of European information policy (European Commission, 2006b). Findings should therefore be immediately applicable to the investigated problems. Second, the survey offers a large number of utilizable measures, which allow the construction of multiple-item indicators for most variables. Third, the European setting of the survey provides good variation in a number of indicators required for analysis. Above all, to find analyzable variation, respondents need to attribute different relevance to lacking information. Unlike national settings, the European case should meet this requirement. On the one hand, every citizen should be able to recognize the potential value of political information: Voting rights as well as citizenship norms provide a sufficient base

(Delli Carpini & Keeter, 1996; Popkin, 1991). On the other hand, the EU context is generally held to be less obtrusive. It appears to be relatively legitimate and common to admit low knowledge and low concern about it. While in a national context certain assumptions are relatively universal (e.g., political decisions matter, elections influence politics, etc.), in the EU this is not so clear. More than general social desirability, subjective considerations should account for information demands.

For the following analysis, all used entries were recoded such that higher values represented higher agreement or presence of attributes. Missing answers that could be interpreted as substantially equivalent to valid codes were replaced.¹¹

The survey measured self-perceived informedness regarding European political issues asking respondents to rate their knowledge on a scale from 1 (*know nothing at all*) to 10 (*know a great deal*) ($M = 4.30$, $SD = 2.04$, $N = 15822$).¹² To examine how this perceived knowledge (*pk*) relates to actual knowledge (*ak*) and knowledge goals, two more indicators were required. To assess the actual knowledge level, three sets of questions formed a composite measure. One battery of nine questions assessed the range of European Institutions people claimed being aware of. This was combined with the percentages of correct responses in two quizzes (asking for names of EU politicians, and some technical but widely publicized aspects of the Euro introduction).¹³ Thus, three broad fields of knowledge contributed one-third each to the composite actual knowledge measure ($M = 1.32$, $SD = .71$ [Range: 0 - 3], *Cronbach's* $\alpha = .809$, $N = 16071$).

Knowledge goals were assessed indirectly, using the attribution of relevance to European knowledge as a proxy.¹⁴ To measure this relevance attribution (*ra*), another composite indicator was formed. This one included attention to and interest in European political information, and support for teaching such information at school. Attention was measured asking respondents directly how much attention they paid to several news topics. The values for European and political information entered the indicator. An interest measure

was only available regarding information on the Euro.¹⁵ However, since this issue appears also in the actual knowledge score, and was highly salient at the time of the survey, this was included as well. Finally, agreement with the statement that “Children should be taught at school about the way European Union institutions work” (Q33) was added. This question was taken as an indicator for the belief that having some knowledge of European politics is important. Each question taps another aspect of the attribution of relevance to EU-related knowledge ($M = 2.36$, $SD = .92$ [Range: 0 - 4], *Cronbach's* $\alpha = .621$, $N = 16071$). All three indicators introduced above show large variance and are approximately normally distributed.

To assess media preference, five information demand (*id*) indicators (television, radio, newspapers, magazines, online) were calculated. People were asked how “[i]n general, [they] would [...] prefer to get information about the European Union.” (Q19). Each medium was coded one if mentioned, and zero otherwise. To focus the preference measure on the deviation from habits, the current use of the each source for EU information was subtracted.¹⁶ Thus, the demand indicators represent the desire for more, or less, information than currently received. All indicators range from minus one to one, and include $N = 16071$ cases ($id_{television}$: $M = -.13$, $SD = .53$; id_{radio} : $M = -.09$, $SD = .46$; $id_{newspapers}$: $M = -.13$, $SD = .52$; $id_{magazines}$: $M = -.10$, $SD = .42$; id_{online} : $M = .00$, $SD = .27$).¹⁷

From the five demand indicators, the total information demand was calculated by simple summation. ($\Sigma(id)$: $M = -.09$, $SD = .25$ [Range: -1 – 1]). Also from these indicators, I created a measure of the relative information demand (*rid*) orientation towards each channel.¹⁸ ($rid_{television}$: $M = .19$, $SD = .04$; rid_{radio} : $M = .20$, $SD = .04$; $rid_{newspapers}$: $M = .19$, $SD = .05$; $rid_{magazines}$: $M = .20$, $SD = .04$; rid_{online} : $M = .21$, $SD = .04$; No change at all yields scores of .2 on a scale from .077 to .429; $N = 16071$) This measure is neutral to the number of sources mentioned, and only reacts to differences in orientation between sources. Also, it shows much better variation than the absolute measure, because it includes data on a respondent's total information demand as well. To assess the orientation towards different information types, I

analyzed and interpreted the demand from each media channel separately. Due to the only approximate assignment of media channels to information types, it appeared recommendable not to merge the media-specific indicators into information type indices. To construct such indices, one would have to isolate clear-cut examples of sources dedicated to one kind of information. Unfortunately, this differentiation within media channels was not available from the data. Also, calculating the demand scores required equivalent data about current and preferred information sources, which prohibited using other, more detailed surveys. The crude codes provided by Eurobarometer still represent the best available source of such data.

Analysis

Testing the advanced hypotheses required two main strategies of analysis. The first hypothesis, linking actual knowledge via a nonlinear, interest-moderated relationship to perceived knowledge, was assessed using OLS regression. The same strategy was chosen for the relationship between perceived knowledge and information demand, which was proposed in H2. Each regression was run as minimal model (containing only the theorized components), and as a controlled model. As controls, some socio-demographic variables known to matter in relation with political knowledge were included.¹⁹ Also, general media use (Q13) was entered as theoretically relevant. This controls for the possibility that information demands reflect not a strategic choice, but the desire to find more information in those media used habitually. To examine whether subjective information needs or social desirability guide self-reports and media preference, the influence of citizenship duty norms was tested as well.²⁰ With regard to the large number of cases in the Eurobarometer survey, correlations failing to achieve significance below .001 level were disregarded. Also, similar models were routinely estimated and effects evaluated for their robustness. Due to the low variation of the indicators measuring information demands, ANOVA tests were chosen to address the latter two hypotheses. These examined the differences between people demanding more, unchanged, and less information from a source. Both the strengths of association between

media orientations and individual knowledge, and the absolute levels of means were analyzed. Based on these, it was possible to characterize those groups of people oriented towards specific types of information.

RESULTS

Confirming the first claim of H1, actual knowledge explains about a quarter of the variance in perceived knowledge ($\text{Adj. } R^2 = .251$, $\beta = .501$, $p < .001$, $N = 16071$). Regression reveals that actual knowledge interacts with relevance attribution (Table 2, Model 1). Consequently, separate estimates for different relevance levels were run. R -squares fall visibly for the reduced case range, because the well-explained variation between the case groups drops out of the analysis. As expected, for low relevance attribution a linear model fits best (Model 2). For medium relevance attribution, a quadratic equation is estimated (Model 3): Perceived knowledge rises until it approaches a ceiling within the possible range of values (Figure 2). For high relevance attribution, a linear model shows the best fit again (Model 4). With higher concern for European issues, the influence of actual on perceived knowledge retreats, reducing both betas and overall model fit: The more people care, the more weight subjective knowledge goals assume in their informedness estimates. H1 is confirmed.

TABLE 2 & FIGURE 1 ABOUT HERE

The second hypothesis is supported as well. The Pearson correlation between perceived knowledge and the total information demand is negative and significant ($R = -.175$, $p < .001$, $N = 15822$). The more informed people feel, the less further information they demand. Regressing the total demand on all knowledge-related indicators shows that perceived knowledge remains clearly the largest explanatory factor. However, R -squares remain unsatisfyingly low. Both actual knowledge and education are consistently significant as well, both with negative signs. Relevance attribution loses significance after including actual

knowledge. Age becomes (positively) significant only after media use is included. The alternative explanation – that information demands stem mainly from a feeling of citizenship duty – fails to gain support: Those regarding citizenship duty as an important reason to vote in European elections do not show larger information demands. Table 3 shows the estimated regression models.

TABLE 3 ABOUT HERE

Also the demands directed towards individual media channels were analyzed, assessing the effect of actual knowledge. A series of ANOVA's compared the characteristics of people demanding more, unchanged, and less information from each channel. Since H3 and H4 focus on the orientation of demands among different sources, the relative indicators were used for this analysis. In all cases, mean characteristics differed significantly between those demanding more and less information, as shown in Table 4. At one end, television orientation declines with higher knowledge (both actual and perceived) and education. At the opposite end, both online and magazine orientations increase with higher knowledge and education. This corroborates H3: With higher knowledge, different information sources come to the fore. Information needs shift from monitoring to knowledge-acquisition. For online sources, and less clearly so for magazines, higher relevance attribution is conducive as well. The strength of the association increases considerably if one discounts the large group of indifferent individuals, who mention neither source at all (not shown). Thus, as predicted, only those with higher concern orient towards research media requiring much user activity. Unexpectedly, radio joins with magazines and online: Radio preference is positively related to knowledge. Newspaper orientation behaves similarly to television, only weaker. This lends some support to H4: People with lower knowledge are oriented more towards newspapers, whereas with higher knowledge people prefer magazines.

TABLE 4 ABOUT HERE

Finally, it was investigated at which absolute knowledge level certain media channels come to be preferred. As Table 5 shows, both people demanding more and less information are, on average, more knowledgeable than those demanding no change.²¹ Disregarding the indifferent group, the mean actual knowledge values of those demanding more and less information are plotted in Figure 2. Interpreting the plot requires some caution, because the “demanded less” side is logically partly dependent on media use.²² However, the pattern is consistent with the expectations from H3 and H4. Online preference is associated with the highest mean knowledge score of all groups. Magazine and radio demanders score similarly, and clearly above those demanding more information from television and newspapers. Media source preferences do not only vary systematically between groups with different knowledge; demand for certain sources can furthermore be associated with specific information needs arising at certain levels of knowledge. Still, the explanatory power of the results remains rather weak. However, this is mainly a result from the low variance of the measures underlying the demand indicators, and reflects the heavy influence of habits in media choice. Upholding this important reservation, the expectations from H3 and H4 are confirmed.

TABLE 5 & FIGURE 2 ABOUT HERE**DISCUSSION**

As the empirical test corroborates, the proposed conceptualization of information needs contributes to a more thorough understanding of peoples' information behavior. I have shown that people assess their informedness not only in absolute, but also in relative terms. This feeling *sufficiently* informed is largely detached from actual knowledge. Therefore,

particularly if an issue is seen as important, the self-assessed knowledge indicator is not a valid measure of people's information states (Czesnik, 2003). However, from the divergence patterns between knowledge quizzes and self-reports, one can derive valuable information about people's information needs. These subjective desires to learn more play a crucial role in explaining information behavior. People choose to use information sources not simply because they lack certain information, but because they desire that information. These desires depend on the relevance attributed to specific lacking knowledge.

However, this renders information needs potentially unstable. Issues relevant in one situation may be ignored in another (Dervin & Nilan, 1986). Specific goals and context factors may render different aspects of information salient, and thus shift relevance attributions. Framing effects and situational schemas may lead people to perceive different needs, even though their actual knowledge is unchanged (Chew, 1994). As long as people do not ponder their Europe-related knowledge, they will not be overly concerned with their knowledge gaps.

With respect to the European information policy, this explains why people often do not use the information they asked for. As far as the method of inquiry leads people to attribute relevance to knowledge gaps they normally disregard, such results may overstate demands considerably. Particularly in low-salience issues – as the EU is for most people – survey responses will to a large degree reflect this temporary relevance attribution. Being asked, people may consider European knowledge as relevant, and worth getting. However, their general recognition of importance does not translate into immediate perceptions of personal relevance. If context renders their beliefs concerning European politics salient, people retrieve their belief that Europe matters; however, they rarely think of Europe as a relevant issue if no cue is given (Hobolt, 2005). They are unlikely to act upon their reported needs simply because they rarely ponder their EU-related knowledge unless asked. Assessing the size and strength of people's information needs is thus hardly possible based on survey measures.

However, one can still distinguish what *kinds* of information people are potentially interested in. While people's media preferences may not predict their actual use of these sources, the pattern of chosen media tells something about the direction of people's information needs. I have argued that media preferences stem from two main considerations: habits and strategic choice. The former is reflected in the consistent finding that people tend to name those media as preferred that they already use – mainly television and newspapers (European Commission, 2006c; Institut Spraw Publicznych, 2001). Consequently, as far as people's preferences deviate from their habits, this can be interpreted as a strategic choice of media that are better-suited to provide certain information (Steger et al., 1988). Focusing the analysis on the deviation patterns between use and preference, I have shown that people desire information beyond those obtained in their daily media routines. The results indicate that, depending on what kind of information they desire, people strategically seek additional information from different sources. What kind of information is demanded changes with increasing levels of actual knowledge level.

The findings support the idea that learning proceeds from orientation, via the acquisition of factual knowledge and the discovery of processes underlying these facts, towards the acquisition of background knowledge (see Culbertson & Stempel, 1986; Neuman, Just, & Crigler, 1992). People with low knowledge tend to prefer media oriented towards overview information. These media provide itemized, factual knowledge and rank it in terms of importance, thus informing their audiences on what issues might be particularly relevant to know (Schwabe & Krcmar, 1999). The higher people's actual knowledge is, the more do they prefer media providing background information on processes. These media require that the users already know what information they seek, and also involve higher skills and motivation to process complex information (Garramone & Atkin, 1986). Therefore, only respondents attributing higher relevance to EU politics get to this stage.

Inversely, people with less knowledge and motivation do not care much about information provided in magazines and online sources. There is no indication of a subjective need for background information amongst most of the survey respondents. Moving back from media preferences to the use of information offers, this suggests that these people would not be interested in such information elsewhere, either. Without a need for deeper knowledge, they are likely to disregard information even if it were available. Correspondingly, knowledgeable citizens' systematic rejection of output-oriented media sources suggests that they are simply not interested in the kind of information provided there. Information that is seen as appropriate by one group may be judged as trivial, abstract, or too complicated by others. Thus, people are also likely to use the same information differently, focusing on items that relate to their specific needs (Ottati & Wyer, 1990; Neuman, Just, & Crigler, 1992).

In consequence, hopes to raise people's overall knowledge on Europe depend crucially on the capability of initial knowledge gains to trigger the development of further needs. If people exclusively use, and thus learn, what they currently consider potentially relevant, only a minority will bother to acquire knowledge beyond some elementary facts. In this sense, the European communication deficit extends clearly beyond media coverage and information provision, and includes the low demand for information.

This finding contrasts with the high levels of public dissatisfaction (European Commission, 2006b; 2006c). People are apparently able to judge their own knowledge as grossly inadequate, and at the same time maintain only limited interest in further information. While many believe that knowledge about Europe would be desirable, this is clearly not a salient consideration when it comes to determining everyday information behavior. However, as far as people consider the desirability of specific knowledge also in their everyday lives, they do actively seek and successfully obtain information, as I have shown elsewhere (Baden, 2004). In this sense, the presented analysis provides both good and bad news for a need-driven EU information policy: On the one hand, people already regard Europe as important,

and even recognize specific kinds of information they might be interested in. On the other hand, this does not imply that they spontaneously consider these needs unless prompted. As long as Europe remains a low-salience issue, characterized by low politicization and news coverage, even high relevance attribution will hardly affect everyday information behavior.

One alternative explanation assumes that the high dissatisfaction levels reflect not genuine yet usually inactive beliefs, but merely an effect of social desirability. Measured relevance attribution and information needs would then represent not individually grounded desires, but respondents' awareness of citizenship norms. However, as argued above, the EU context should be less likely than national settings to show strong effects of such norms. Two tests yielded no support for the citizenship duty explanation: Respondents justifying their voting behavior on these grounds did not show significantly higher information demands. Also, only people with relatively high knowledge exhibited a preference for process-oriented information. If a feeling of duty were responsible, process-oriented information demand should have been less dependent on (high) knowledge. On these grounds, it is safe to momentarily disregard this alternative explanation. It appears that people's information needs reflect real attitudes, which are only rarely retrieved and therefore do not translate into information seeking behavior.

The most relevant objection to the reported findings is the small size of most effects. As cautioned above, some responsibility may be attributed to the quality of data – crude indicators, low variance, large number of zero-codes, etc. Even with perfect data, however, the modeled relationships do not claim to account for all variation in media preferences and information demands. Habits dampen the importance of strategic media choice. Other influences have been entirely neglected here, for they can hardly be captured in surveys: Situational effects, priming and framing affect relevance attributions and derived needs. Media use cultures may guide people's searches toward different sources. Peoples' subjective expectations regarding anticipated media content remain to a large degree inaccessible. The

only approximate correspondence of media with information types leaves open large spaces for unexplained deviations. This is to a certain degree unavoidable simply because texts contain all kinds of information, even if some are made more salient.

Also the perceived knowledge indicator itself remains a source of noise. As the analysis reveals, it reflects at least two quite different considerations: self-assessment and desired knowledge. Furthermore, people feel satisfied at different knowledge levels, which they also reflect when reporting their subjective informedness. The perceived knowledge indicator thus represents a product of rather complex cognitive processes. These are theoretically distinguishable, but can hardly be operationalized separately. Seen in that light, large effects would have been rather surprising. The robust, significant findings suggest that at least the core features of the explored relationships have been captured reasonably well. Based on this conceptualization one can now develop more detailed predictions, and aim for refined data.

The described relations provide some deeper insights into the measurement of information needs. Building on this, information policy in Europe may be able to address some of the problems currently encountered in meeting citizens' demands. However, some gaps remain to be bridged. Current information demands are, if anything, likely to be much smaller than estimated. Previous knowledge and formal education predict more than anything else the use of sophisticated information. Less educated people tend to see process-oriented information as undesirable and hardly entertain the possibility of acquiring it. Precisely this kind of information, however, is crucial for the development of a legitimizing public sphere. As long as people do not desire such information, one can hardly model an information policy for a participative European public sphere solely on citizens' information needs.

REFERENCES

- Atkin, C.K. (1972). Anticipated communication and mass media information seeking. *The Public Opinion Quarterly*, 36, 188-199.
- Baden, C. (2004). *Die politische Kommunikation der Europäischen Kommission im Erweiterungsprozess: Integration durch Kommunikation am Beispiel Polen*. Magister Dissertation, University of Leipzig, Germany.
- Belkin, N.J. (1980). Anomalous states of knowledge as a basis for information retrieval. *The Canadian Journal of Information Science*, 5(1), 133-143.
- Bouwman, H., & van de Wijngaert, L. (2002). Content and context: an exploration of the basic characteristics of information needs. *New Media & Society*, 4(3), 329-353.
- Chew, F. (1994). The relationship of information needs to issue relevance and media use. *Journalism & Mass Communication Quarterly*, 71, 676-688.
- Culbertson, H.M., & Stempel, G.H.I. (1986). How media use and reliance affect knowledge level. *Communication Research*, 13, 579-602.
- Czesnik, M. (2003). Subjective vs. objective political knowledge, and its impact on electoral participation: Evidence from Poland. In A. Wolek (Ed.), *The End of Transformation Era?: Graduate Seminar in Politics* (pp. 8-25). Nowy Sacz: Wyższa Szkoła Biznesu - National Louis.
- De Vreese, C.H. (2004). The effects of frames in political television news on audience perceptions of routine political news. *Journalism & Mass Communication Quarterly*, 81, 36-52.
- Delli Carpini, M.X., & Keeter, S. (1996). *What Americans know about politics and why it matters*. New Haven, CT: Yale University Press.
- Dervin, B., & Nilan, M. (1986). Information needs and uses. In M.E. Williams (Ed.), *Annual Reviews of Information Science and Technology* (Vol. 21, pp. 3-34).

- van Eijck, K., & van Rees, K. (2000). Media orientation and media use: Television viewing behaviour of specific reader types from 1975 to 1995. *Communication Research*, 27, 574-616.
- European Commission, Directorate-General Communication (2005a). *Action Plan to Improve Communicating Europe by the Commission*. Brussels, Belgium: Commission of the European Communities.
- European Commission, Directorate-General Communication (2005b). *The Commission's contribution to the period of reflection and beyond: Plan-D for democracy, dialogue and debate* (COM(2005) 494 final). Brussels, Belgium: Commission of the European Communities.
- European Commission, Directorate-General Communication (2006a). *The European citizens and the future of Europe: Qualitative Study in the 25 member states* [Online]. Available: http://ec.europa.eu/public_opinion/quali/ql_futur_en.pdf
- European Commission, Directorate-General Communication (2006b). *White paper on a European communication policy* (COM(2006) 35 final). Brussels, Belgium: Commission of the European Communities.
- European Commission, Directorate-General Communication (2006c). *Eurobarometer 64.0: Public Opinion in the European Union* [Online]. Available: http://ec.europa.eu/public_opinion/archives/eb/eb64/eb64_en.pdf
- Eveland, W.P., Jr., & Dunwoody, S. (2001). User control and structural isomorphism or disorientation and cognitive load?: Learning from the web versus print. *Communication Research*, 28, 48-78.
- Eveland, W.P., Jr., Seo, M., & Marton, K. (2002). Learning from the news in campaign 2000: An experimental comparison of TV news, newspapers, and online news. *Media Psychology*, 4, 355-380.

- Fossum, J.E., & Trenz, H.-J. (2005). *The EU's fledgling society: From deafening silence to critical voice in European constitution making* (No. 19). Oslo, Norway: ARENA.
- Frants, V.I., & Brush, C.B. (1988). The need for information and some aspects of information retrieval systems construction. *Journal of the American Society of Information Science*, 39, 86-91.
- Garramone, G.M., & Atkin, C.K. (1986). Mass communication and political socialization: Specifying the effects. *The Public Opinion Quarterly*, 50(1), 76-86.
- Graber, D.A. (2001). *Processing Politics: Learning from television in the internet age*. Chicago: The University of Chicago Press.
- Hobolt, S.B. (2005). When Europe matters: The impact of political information on voting behaviour in EU referendums. *Journal of Elections, Public Opinion and Parties*, 15(1), 85-109.
- Ingwersen, P. (1992). *Information retrieval interaction*. London: Taylor Graham.
- Instytut Spraw Publicznych (2001). *Public awareness and information needs concerning Poland's integration with the European Union*. Warsaw, Poland: Instytut Spraw Publicznych.
- Iyengar, S. (1991). *Is anyone responsible?: How television frames political issues*. Chicago: University of Chicago Press.
- Katz, E., Blumler, J.G., & Gurevitch, M. (1973). Uses and gratifications research. *The Public Opinion Quarterly*, 37, 509-523.
- Katz, E., Haas, H., & Gurevitch, M. (1973). On the use of mass media for important things. *American Sociological Review*, 38(2), 164-181.
- Kaye, B.K., & Johnson, T.J. (2004). A web for all reasons: Uses and gratifications of internet components for political information. *Telematics and Informatics*, 21, 197-223.

- Kevin, D. (2003). *Europe in the media: A comparison of reporting, representation, and rhetoric in national media systems in Europe*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Kuhltau, C.C. (1999). Investigating patterns in information seeking: Concepts in contexts. In T.D. Wilson & D.K. Allen (Eds.), *Exploring the contexts of information behaviour* (pp. 10-20). London: Taylor Graham.
- Lutz, G. (2003). *The unresolved democratic dilemma: Information, cues and ignorance*. Paper presented at the ECPR General Conference, Marburg, Germany.
- Marcella, R., & Baxter, G. (2000). Citizenship information needs in the UK: Results of a national survey of the general public by personal doorstep interview. *Aslib Proceedings*, 52(3), 115-123.
- Matthes, J. (2005). The need for orientation towards news media: Revising and validating a classic concept. *International Journal of Public Opinion Research*, edh118.
- McCombs, M.E. (2004). *Setting the agenda: The mass media and public opinion*. Cambridge, UK: Polity Press.
- Meyer, C.O. (1999). Political legitimacy and the invisibility of politics: Exploring the European Union's communication deficit. *Journal of Common Market Studies* 37, 617-639.
- Neuman, R.W., Just, M.R., & Crigler, A.N. (1992). *Common knowledge: News and the construction of political meaning*. Chicago: University of Chicago Press.
- Ottati, V.C., & Wyer, R.S.J. (1990). The cognitive mediators of political choice: Toward a comprehensive model of political information processing. In J.A. Ferejohn & J.H. Kuklinski (Eds.), *Information and democratic process* (pp. 186-216). Urbana, IL: University of Illinois Press.
- Park, T.K. (1994). Toward a theory of user-based relevance: A call for a new paradigm of inquiry. *Journal of the American Society of Information Science*, 45, 135-141.

- Peter, J. & de Vreese, C.H (2004). In search of Europe In search of Europe - A cross-national comparative study of the European Union in national television news. *Harvard Journal of Press/ Politics*, 9(4), 3-24.
- Popkin, S.L. (1993). Decision making in presidential primaries. In S. Iyengar & W.J. McGuire (Eds.), *Explorations in political psychology* (pp. 361-379). Durham, NC: Duke University Press.
- Robinson, J.P., & Levy, M.R. (1986). *The main source: Learning from television news*. Beverly Hills, CA: Sage Publications.
- Romizowski, A. (1988). *The selection and use of instructional media: For improved classroom teaching and for interactive, individualized instruction*. London: Kogan Page.
- Rosengren, K.E. (1974). Uses and gratifications: A paradigm outlined. In J.G. Blumler & E. Katz (Eds.), *The uses of mass communications: Current perspectives on gratifications research* (3rd ed., pp. 269-286). Beverly Hills, CA: Sage
- Savolainen, R. (1999). The role of the internet in information seeking: Putting the networked services in context. *Information Processing and Management*, 35, 765-782.
- Schneider, D. (2006, June). *A dynamic and integrated model of motivations of media use and media effects in political communication*. Paper presented at the ICA 56th Annual Conference, Dresden, Germany.
- Schönbach, K. (1983). *Das unterschätzte Medium: Politische Wirkungen von Presse und Fernsehen im Vergleich*. München, Germany: K.G. Saur.
- Schönbach, K., De Waal, E., & Lauf, E. (2005). Online and print newspapers: Their impact on the extent of the perceived public agenda. *European Journal of Communication*, 20(2), 245-258.
- Schönbach, K., & Lauf, E. (2004). Another Look at the 'Trap' Effect of Television and Beyond. *International Journal of Public Opinion Research*, 16, 169-182.

- Schwabe, G. (1997). Citizenship information in Norway, Germany, and from the European Commission: The need and its delivery. In P. Vakkari, R. Savolainen & B. Dervin (Eds.), *Information seeking in context* (pp. 434-448). London: Taylor Graham.
- Schwabe, G., & Krmar, H. (1999). European Commission review on citizenship information: Draft [Online]. Available: [http://domino.bwl.uni-hohenheim.de/public/wininfo/publikationen/publikat.nsf/0/df5b4899d39c3991412566500029c4f3/\\$FILE/ap-90.pdf](http://domino.bwl.uni-hohenheim.de/public/wininfo/publikationen/publikat.nsf/0/df5b4899d39c3991412566500029c4f3/$FILE/ap-90.pdf)
- Steger, M.A.E., Pierce, J.C., Lovrich, N.P., & Steel, B.S. (1988). Information source reliance and knowledge acquisition: Canadian/U.S. comparisons regarding acid rain. *The Western Political Quarterly*, 41, 747-764.
- Tewksbury, D. (2003). What do Americans really want to know?: Tracking the behavior of news readers on the internet. *Journal of Communication*, 53, 694-710.
- Vakkari, P., Savolainen, R., & Dervin, B. (Eds.) (1997). *Information seeking in context*. London: Taylor Graham.
- van de Wijngaert, L. (1999). A policy capturing study of media choice: The effect information of needs and user characteristics on media choice. In T.D. Wilson & D.K. Allen (Eds.), *Exploring the contexts of information behaviour* (pp. 463-478). London: Taylor Graham.
- Williamson, K. (1998). Discovery by chance: The role of incidental information acquisition in an ecological model of information use. *Library and Information Science Research*, 20(1), 23-40.
- Wilson, T.D. (1981). On user studies and information needs. *Journal of Documentation*, 37(1), 3-15.
- Wilson, T.D. (1999). Models in information behaviour research. *Journal of Documentation*, 55(3), 249-270.

Table 1*Different Kinds of Information Needs*

Orientation of knowledge	Political output	Political process
Use of knowledge		
Relevance assessment	[I] e.g., <i>If policy X becomes real, is this likely to affect me enough so I should understand it?</i>	[III] e.g. <i>Is there anything about the process behind policy X that I should consider before forming an opinion/acting on it?</i>
Knowledge acquisition	[II] e.g., <i>What will change if policy X is adopted? What affects me, and how? What new opportunities are in it for me?</i>	[IV] e.g., <i>What is the intention pursued in creating policy X? What options were debated? Who is responsible for decisions I (dis)agree with?</i>

Table 2

Regressions Predicting Perceived Knowledge by Actual Knowledge

Model	1			2			3			4		
Range	Whole sample			Subsamples by level of relevance attribution								
Variable				Low			Medium			High		
	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	β
ak ^a	.892	.022	.308***	1.26	.055	.410***	.987	.029	.357***	.972	.038	.336***
ak ² ^a	-.201	.030	-.053***				-.186	.039	-.050***			
ra ^a	.870	.017	.390***									
ra*ak ^a	.166	.024	.055***									
<i>Adj. R</i> ²	.363			.168			.127			.113		
<i>N</i>	16071			2762			8266			5065		

Note. *** $p < .001$.

^a ak = actual knowledge; ak² = ak squared; ra = relevance attribution.

Table 3

Regressions Predicting Total Information Demand from Perceived Knowledge

Variable	Uncontrolled models						Full model		
	Model 1			Model 2			B	SEB	β
	B	SEB	β	B	SEB	β			
pk ^a	-.021	.001	-.175***	-.015	.001	-.123***	-.011	.001	-.090***
ak ^a				-.037	.003	-.104***	-.022	.003	-.064***
ra ^a									<i>ns</i>
education							-.002	.001	-.030**
age							.005	.001	.036***
gender									<i>ns</i>
citizenship duty									<i>ns</i>
use television									<i>ns</i>
use radio							-.061	.006	-.088***
use newspaper							-.038	.006	-.057***
<i>Adj. R</i> ²		.031			.039			.053	
<i>N</i>		16071			16071			16071	

Note. ** $p < .005$; *** $p < .001$.

^a pk = perceived knowledge; ak = actual knowledge; ra = relevance attribution.

Table 4

Association of Information Demand Orientations Towards Specific Media Channels with Knowledge and Relevance Attribution

Variable	Association coefficients of knowledge, relevance attribution, and controls									
	with the degree of orientation of information demand towards:									
	Television		Radio		Newspapers		Magazines		Online	
	<i>R</i>	η^2	<i>R</i>	η^2	<i>R</i>	η^2	<i>R</i>	η^2	<i>R</i>	η^2
ak ^a	-.022	.018	.017	.020	-.024	.021	.013	.022	.117	.028
pk ^a	-.028	.016	.022	.018	-.008	.018	.029	.020	.122	.026
ra ^a	-.008	.024	.017	.027	-.018	.027	.004	.029	.095	.029
Σ id ^a	.146	.109	-.037	.091	.052	.085	-.308	.173	-.678	.477
education	-.012	.010	.021	.010	-.001	.010	.034	.011	.060	.014
gender	.009	.001	-.003	.001	.012	.002	-.009	.002	-.035	.002
age	.019	.002	-.024	.002	-.023	.002	-.018	.002	-.019	.002
europ. ^a	-.025	.004	.025	.005	-.012	.004	.010	.004	.044	.005
use televis. ^a	-.019	.003	.012	.004	-.003	.005	.010	.004	.040	.004
use radio	-.012	.016	.032	.018	-.053	.024	.020	.020	.117	.024
use newsp. ^a	-.013	.007	-.075	.017	.004	.010	.032	.011	.086	.012

Note. All correlation coefficients are significant at $p < .001$ level.

^a ak = actual knowledge; pk = perceived knowledge; ra = relevance attribution; Σ id = total information demand; europ. = European identification; televis. = television; newsp. = newspapers

Table 5

Mean Knowledge Levels of Groups Demanding Less, Unchanged, or More Information from Specific Media Channels

Information demanded from medium	Mean actual knowledge of groups with different demand orientations:					
		Television	Radio	Newspapers	Magazines	Online
Less	<i>M</i>	1.4119	1.3926	1.4157	1.3997	1.2897
	<i>SD</i>	.6771	.6904	.6910	.6949	.6971
	<i>N</i>	4825	4228	5075	4324	2808
Unchanged	<i>M</i>	1.2057	1.1974	1.1912	1.1892	1.1979
	<i>SD</i>	.7239	.7221	.7250	.7217	.7201
	<i>N</i>	6757	6788	6502	6645	6925
More	<i>M</i>	1.3766	1.4091	1.3817	1.4082	1.4551
	<i>SD</i>	.6905	.6771	.6712	.6724	.6718
	<i>N</i>	4489	5055	4494	5102	6338
Whole sample <i>M</i>		1.3153				
<i>SD</i>		.7071				
<i>N</i>		16071				

Note. The scale for actual knowledge ranges from 0 (no knowledge) to 3 (high knowledge).

Figure 1

Estimations of Perceived from Actual Knowledge

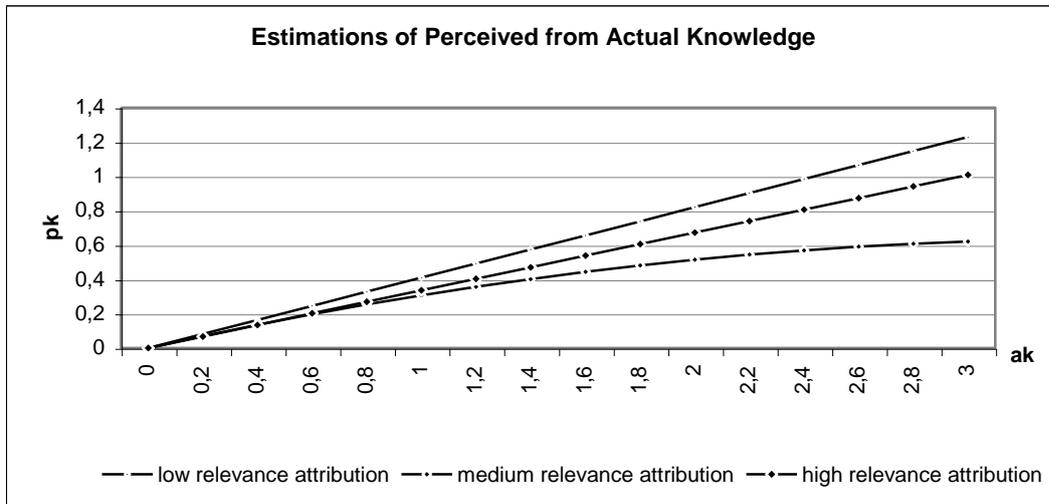
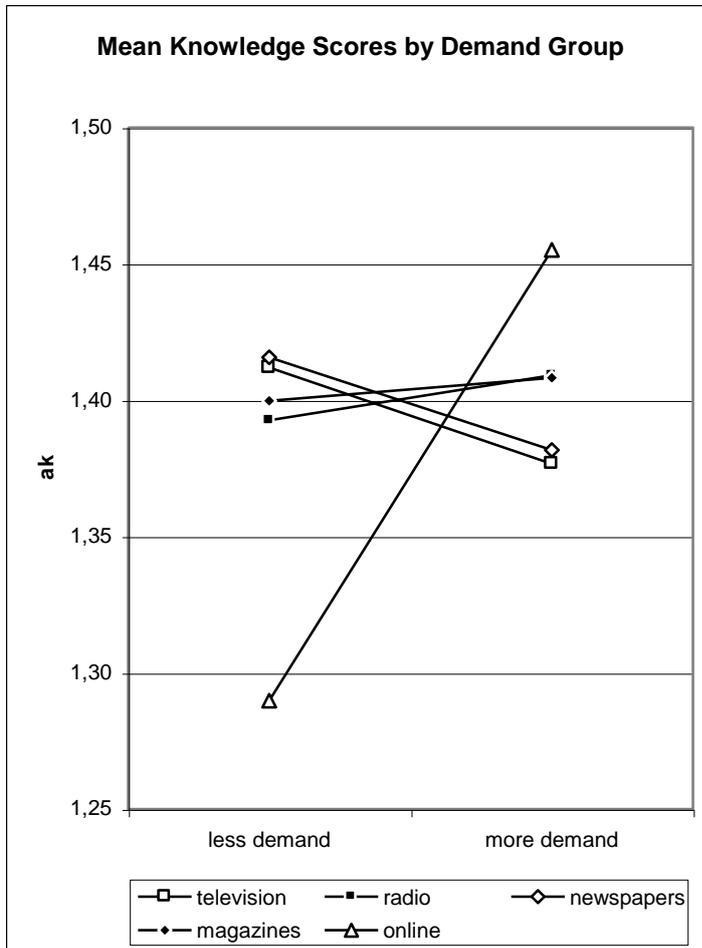


Figure 2

Mean Knowledge Scores by Demand Group



¹ According to data from Poland, knowledgeable people were similarly likely to be pro- and anti-European. The low knowledge group comprised mainly indifferent and undecided people (Instytut Spraw Publicznych, 2001); In Denmark, a relatively eurosceptic population consistently shows very high knowledge in EU affairs.

² Particularly with the Barroso commission, communication policy has become one of the priority policy areas in European politics. This is reflected, amongst others, in the appointment of the communication commissioner as vice president of the EU Commission, as well as several salient policy initiatives (Plan D, White paper on a European communication policy, etc; European Commission 2005b; 2006a; 2006b).

³ Aside these treatments of information needs, there is also an extensive debate on citizenship knowledge needs. Summed up, this body of literature discusses what knowledge citizens ought to have in order to make reasonably rational voting decisions, or to be good citizens (e.g., Delli Carpini & Keeter, 1996). This debate is not considered here, because it treats needs from a normative, or functional, universalistic perspective. This is irreconcilable with the user-centered approach required to understand subjective information needs.

⁴ However, low media coverage of EU politics limits the applicability of this strategy (Peter & de Vreese, 2004).

⁵ People often follow up on information encountered accidentally. They then continue searching other sources for further information (e.g., Tewksbury, 2003; Williamson, 1998; Savolainen, 1999).

⁶ This association can be read both as a media effect (information hides or exposes influenceability) and as strategic use (adaptation requires different knowledge than participation). A third motive for the search for political information, as found in a survey by Instytut Spraw Publicznych (2001), referred to citizenship duty. I will therefore also explore this alternative explanation for citizens' claimed information needs below.

⁷ Social desirability/citizenship duty, as a rival explanation of information demands, suggests the opposite order. In this perspective, people should focus on political process, downplaying the "egoistic" output-oriented aspects.

⁸ Formats "dedicated to European politics" were treated as focusing more on process; those "targeted at specific groups" referred more to output information. The presented conclusions rest on my own calculations from the published aggregate tables. Details can be obtained from the author.

⁹ Thus, it matters what magazines people have in mind when stating their media preferences. In a perceivably politically oriented survey, respondents are most likely to associate political rather than consumer magazines.

¹⁰ ca. 500 Luxembourgiens, 1000 from every other EU country, plus 1000 East Germans and 300 Northern Irish

¹¹ For instance, having received no information on the Euro at all implies no information from any channel. Thus, "inapplicable" codes could be recoded as "source not mentioned". Quizzes answered DK were treated as wrong answers. Most detected effects of this recoding reflected merely the higher number of complete cases.

¹² Q17: "Using this scale, how much do you feel you know about the EU, its policies, its institutions?"

¹³ People were asked (in a closed format) which EU institutions they were aware of (also including less well-known ones such as the Council of Regions and the Court of Auditors; Q26). One quiz asked for the names of the EU Commission president and (one of) the respective country's commissioner(s) (Q44); the other quiz asked for the conversion rate of the national to the common currency, some key dates and the modalities of the changeover (Q54-58). Correlation tests from this composite indicator suggest sufficient reliability.

¹⁴ For a discussion of indirect measures of information needs via relevance and (un)certainly see Matthes, 2005.

¹⁵ The questions were: "In general, do you pay attention to news about each of the following: [...] 1. Politics [...] 3. The European Union" (Q16), and "Personally, would you say that the single European Currency, the euro, is a topic that you are interested in, fairly interested in, not very interested in, or not at all interested in?" (Q53).

¹⁶ Measured asking, "When you are looking for information about the European Union, its policies, its institutions, which of the following sources do you use?" (Q18).

¹⁷ These indicators suffer from low variation. As a difference score between two binary measures, it shows only three categories. Between 70.2% (television) and 92.7% (online) entries are coded zero. Respondents tend to name only few preferred and used sources, which inflates the number of zero codes. Still, the indicators are theoretically and practically stronger than each individual measure.

¹⁸ For this, each demand measure was recoded into 1 (*demanded less*), 2 (*no change*), and 3 (*demanded more*). The relative demand-orientation toward a medium was then calculated as the demand in one medium divided by the sum of all demands by that respondent: $rid_{Mj} = id'_{Mj} / (id'_{Mj} + id'_{Nj} + id'_{Oj} + id'_{Pj} + id'_{Qj})$

¹⁹ These are: (age when finishing) education, gender, age (in 6 groups), and identification with the EU (Q9).

²⁰ "What were the two main reasons why you voted in the European Parliament elections? [...] b) I consider voting a civic duty and vote in every election, be it local, national, or European." (Q42).

²¹ This is partly an effect of the spontaneous response items. Most respondents mentioned only few used and preferred media. Aside validly measuring low use or preference, this may also reflect disinterest in the survey. However, indifferent respondents generally tend to show low knowledge (Instytut Spraw Publicznych, 2001).

²² Only those using a medium can score negatively on that indicator. Therefore, it may to a degree also reflect media use habits. However, zero-order-correlations of media use measures and the *id* indicators are rather low and negative, radio being the largest at -.133. Schönbach (1983, p. 106) mentions same caution, and also finds little support for the theoretical worries in his data.