‘TO THEM THAT HATH...’

NEWS MEDIA AND KNOWLEDGE GAPS

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Synopsis: Scholars continue to debate what citizens know about politics, whether ordinary people lack the capacity to make rational and informed choices in a democracy, and what voters learn from election campaigns. One common prism to understand these issues focuses upon the role of ‘knowledge gaps’, suggesting that any adult learning from the media will be strongly conditioned by prior levels of formal education. An alternative theory suggests that lifetime learning occurs, so that adult use of the news media has the capacity to shrink any information gaps arising from early schooling. Most studies have examined these issues among citizens living within one country, especially the U.S. Cross-national research is important, however, as the broader context of communication environments is also expected to shape political learning; with smaller knowledge gaps predicted in more cosmopolitan societies, where communications flows easily across and within national borders.

This study therefore compares European citizens to investigate whether the size and distribution of any knowledge gaps are affected by the interaction of individual-level education and media use, and also by societal level processes of cosmopolitan communications. The study utilizes the European Parliament Election Study 2009 survey, monitoring individual level news use and civic knowledge. Societies are classified by the cosmopolitan characteristics of media landscapes in European countries, using the Norris and Inglehart (2004) Cosmopolitan Communications Index. The conclusion considers the implications of the results for understanding processes of political learning within European societies.

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Persistent and substantial disparities in knowledge are important for understanding both the role of the mass media in social learning and also the role of citizens in a democracy. Enduring inequalities in citizens’ knowledge have been widely observed and these are central to many long-standing debates in the social sciences. This includes, for example, controversies concerning the rationality of economic decision-making in the market-place, the political capacity of citizens to cast informed ballots in a democracy, and the public’s awareness of information campaigns in studies of health care, communications, and marketing.

Knowledge gaps are of long-standing concern in the political and social sciences for several reasons. Some minimal level of knowledge is widely regarded as necessary for informed choice, whether decisions about casting a ballot, buying a car, or taking out a mortgage. Yet survey research repeatedly demonstrates that even in long-established democracies, such as the United States, many citizens usually know little about many basic facts in political life. Some scholars conclude that as a result, democracy does not work well. Others contend that citizens do not need extensive information to make reasoned decisions, especially if cognitive shortcuts can aid rational choices. Encyclopaedic information may be redundant if citizens can get by with incomplete information.

This issue may also be considered important for political behaviour, if substantial knowledge gaps reinforce other inequalities in civic participation. Following events in the news can be regarded, in itself, as a desirable form of civic literacy in a democracy, as well as being closely associated with more active forms of political participation. A cross-national study by Milner showed that a population’s degree of civic literacy is the single best predictor of its level of political participation. Awareness about politics and public affairs is associated with internal political efficacy or a sense of competence, one of the strongest predictors of political activism. More knowledge about government programs has also been found to increase political trust.

The issue of knowledge gaps is not simply of academic interest; disparities between information rich and information poor citizens have also aroused considerable concern among public policymakers. For example, civics has long been integrated into the school curriculum on the grounds that young people need to learn about public affairs, their rights and duties as citizens, and the way that they can become engaged in society. Studies have monitored substantial cross-national variations in civic knowledge among young people. More generally, lack of awareness about health campaigns, such as those concerning the risks of poor diet, smoking, or AIDS, have an especially severe impact on those groups most negatively affected by social changes, who also tend to be information poor. The contemporary policy debate has often framed the issue in terms of the access to newer information and communication technologies (ICTs), exemplified by the ‘digital divide’. Hence the EU has prioritized expanding digital access as part of its strategy for economic growth and employment. Yet in fact multiple disparities have long existed in civic awareness, as well as in access and use of traditional communication mediums, not simply access to digital ICTs.

1. THEORETICAL FRAMEWORK

What explains inequalities in civic information and political awareness? Socialization theories provide the mainstream approach to understanding social learning processes. The literature has repeatedly demonstrated that two of the strongest predictors of civic knowledge among the adult population are formal educational qualifications, derived from schooling during early childhood and adolescence, and also news media consumption during later life.
Education and cognitive skills

Socialization accounts have long emphasized the learning process derived from formal schooling occurring during earliest childhood through adolescence. Formal education provides knowledge of civics, as well as broader insights into politics and society arising from the study of history, geography, social studies and related fields. Formal education is also predicted to deepen literacy, numeracy and the reservoir of cognitive, analytic and abstract reasoning skills; to provide prior contextual knowledge which helps to make sense of additional new information; and to strengthen the existence of social networks which facilitate discussion and deliberative learning. Other important sources of early learning include the immediate family and peer-groups, as well as the local community, and religious institutions. Theories emphasize that socialization processes shape the ways in which children and adolescents acquire their enduring cultural attitudes, beliefs, and values and how they learn their role as citizens. Longitudinal panel surveys are the most effective research design to establish the formative experiences shaping childhood socialization processes; studies of the American public using this approach have established that distinctive generational differences can be attributed to certain experiences and events occurring during the formative life stages.

Lifetime learning through the mass media

In addition, adults are expected to learn during their lifetime from both direct experience and through information provided by processes of interpersonal, group, and mediated communications. The ‘virtuous circle’ thesis theorizes that habitual use of the news media, social learning, and civic engagement are complimentary and mutually-reinforcing interactive processes. This includes acquiring political information from the main channels of the traditional and newer media available within each country, as well as via cosmopolitan communications flowing from abroad. An extensive body of empirical work has examined the classic issue of whether individual consumption of news reinforces political knowledge and, if so, whether any such learning is conditioned by the type of media source (including learning from radio and television news and entertainment, as well as from tabloid and broadsheet newspapers, from internet websites and online social networks, and from interpersonal discussion); the amount, duration and prominence of news coverage; the type and complexity of topics (such as awareness of local, domestic, or international issues); and the measure of knowledge (such as tests through closed or open-ended questions) employed in the research design.

The interaction of education and the media

As well as the separate effects of both education and news media exposure on civic knowledge, the interaction of these factors is also expected to prove important. The theory of ‘knowledge gaps’ was first proposed by Phillip J. Tichenor and his colleagues in their 1970 article "Mass media flow and differential growth in knowledge." The original thesis argued that schooling during the formative years shapes subsequent processes of终身学习。In particular, the most educated and highest status sectors of the population are thought to have the greatest capacity to acquire further useful information about people, processes and institutions during their adult lifetimes, including learning from the mass media, thereby reinforcing pre-existing inequalities between the information rich and information poor (see Figure 1, Model A).

[Figure 1 about here]

The knowledge gap thesis predicts that people with higher education (and thus higher SES) learn at a faster rate than those with lower education, a pattern attributed to differential communication skills, pre-existing knowledge, social networks, and access to the mass media. In particular, Tichenor et al theorized that any knowledge gaps
were due to the skills and capacities developed by human capital. Those with higher levels of education are expected to prove more active when seeking further new information from the media. The well-educated are therefore predicted to gradually become more informed about politics, society, and public affairs as they learn from the news media during their adult years. Those lacking formal educational qualifications are also expected to learn from the media during their lifetimes, but at a far slower rate, gradually dropping even further behind. Thus the knowledge gap between the well-educated and less educated is expected to widen during adulthood.

The typical links between formal education, news media consumption, and patterns of knowledge in the United States can be illustrated by the results of surveys conducted by the Pew Research Center for The People and The Press. Pew has regularly monitored levels of awareness about political figures and current events in the news in the United States over many decades. Their battery of almost two-dozen questions seeks to monitor whether people can identify the correct name of some leaders (such as the President of Russia or the US Vice-President), political issues featured in the news (such as which party currently controls the House of Representatives), and the position held by certain public figures (such as the Democratic Speaker of the House of Representatives 2008-10.

The Pew study concluded that education is the single best predictor of knowledge: “Holding all other factors equal, levels of knowledge rise with each additional year of formal schooling. At the extremes, these educational differences are dramatic....More than six-in-ten college graduates (63%) fall into the high knowledge group, compared with 20% of those with a high school education or less—among the largest disparities observed in the survey.” Pew reports that Americans also learnt from the news – but the audiences for different media sources (such as cable or network television news) varied greatly in how much they know about what’s going on. These patterns can be seen as a consequence both of self-selection (the kinds of people who rely on each type of medium) and media effects (how much people learn from specific sources).

An extensive literature has built upon the idea of the knowledge gap thesis originally proposed by Tichenor et al, generating more than a hundred studies in total. Research has expanded in scope and methodological sophistication during the last forty years and several approaches have dominated the empirical literature. One uses panel survey data, with repeated surveys of the same subjects, to examine learning over time. This is an ideal research design but unfortunately the longitudinal data remains limited, with no available cross-national evidence. Experimental studies have also been used, examining the effects of learning from different news sources and stories. Another more common approach uses a cross-sectional sample of citizens to examine the learning effects of levels of issue coverage in the media, for example concerning awareness of economic and foreign policy issues. Hwang and Jeong’s recent meta-analysis reviewed the accumulated body of scholarship and concluded that certain robust findings emerged from the knowledge gaps literature.

(i) The size of any knowledge gaps were consistently related to formal educational levels, as the original thesis predicted.

(ii) Knowledge gaps were often, but not always, moderated by types and levels of media news coverage, with the strength of any association conditioned by the type of media sources and issue topics, as well as by the type of knowledge measures and the study design.

(iii) Nevertheless Hwang and Jeong emphasize that the substantive size of any knowledge gains over time, or as the result of the degree of issue coverage, were usually modest.

(iv) Lastly, empirical studies do not always consistently support the knowledge gap thesis; some scholars have concluded that any knowledge gaps between the well and less educated remain constant
among high and low media users, suggesting that the latter are capable of lifetime learning at a rate which is comparable to the former.

In the light of these inconsistencies, the knowledge gap thesis has come under challenge from other theoretical approaches. In particular, the alternative life-time learning perspective developed by Mishler and Rose suggests that although those with formal schooling have a head-start at civics during their early adulthood, these differences do not persist over a lifetime, since people have the capacity to acquire new information from multiple sources, including from personal discussions, from social networks, and from the mass media. 24 Mishler and Rose emphasize, in particular, that citizens living in countries which have experienced a major regime transition can be expected to have the capacity to learn new democratic processes and procedures. Thus attention to political news

\[ \text{see Figure 1, Model B}. \]

The communications environment

The core propositions of the knowledge gap thesis therefore deserve reexamining against empirical evidence. What has received less attention in the research literature on knowledge gaps in the United States, however, is the context of the media system in each society and, in particular, the degree to which communications flows freely and easily within and across national borders. As Milner notes, with a few notable exceptions, most existing studies of political knowledge among representative samples of the adult population have been conducted within the United States. 25 Any learning effects arising from news, however, can be expected to be conditioned by the broader communications landscape, where the U.S. media are not necessarily typical of other post-industrial societies, such as those with a stronger national newspaper industry and a public service tradition of broadcasting. The cross-national studies which have been published suggest that the United States may be ‘exceptional’ in levels of political knowledge, exemplified by low awareness of foreign affairs. Hence Bennett et al compared knowledge of international affairs across five post-industrial societies and found that Americans displayed far less awareness than other comparable societies. 26 Another study comparing Switzerland and the United States also found that knowledge of international affairs (and knowledge gaps) varied by the amount of international news coverage. 27 Within Europe, as well, habitual viewership of either public service or commercial television broadcasting has also been found to influence levels of political knowledge. 28

We therefore need to monitor how far civic knowledge among citizens varies systematically across European nations and how far different individual-level educational qualifications and societal-level media landscapes may help to account for such variations. 29 The majority of studies of the knowledge gap have been conducted in the US, yet the media system in America and in European societies differ in some important regards; European television continues to have a far stronger public service tradition of broadcast journalism, alongside stricter regulation of campaign coverage, political expenditure, and political advertising. 30 As Table 1 illustrates, media landscapes in Europe vary substantially on many dimensions, such as in historical and contemporary levels of democratization, per capita GDP and human development, as well as press freedom, access to media technologies, and the structure of broadcast television. European media systems also continue to differ significantly among member states, such as in Internet penetration rates, the degree of public service v. commercial broadcasters, and the structure of newspaper markets, providing a suitable context to test the potential impact of communication environments on knowledge gaps in post-industrial societies. 31 This includes important contrasts between long-standing West European democracies and EU member states which only experienced the transition to multiparty competitive elections and democratic states during the third wave era. These contextual features vary quite
significantly across European countries and these factors are expected to influence knowledge gaps in the same way as they shape other aspects of political involvement and political equality.\textsuperscript{32}

[Table 1 about here]

There have been number of attempts to conceptualize contrasts in media systems, notably Mancini and Hallin developed an influential typology which has identified important contrasts across European countries, including in the development of a mass circulation press, the strength of the links between media and political parties, the development of professional journalism, and the extent of State intervention in the media system.\textsuperscript{33} Unfortunately, their theoretical typology has proved difficult to operationalize and measure with any precision.\textsuperscript{34}

To provide an alternative way to conceptualize the contrasts, this study focuses upon the idea of cosmopolitan communications. The concept of ‘cosmopolitan communications’ represents the degree of information flowing across and within national borders, including how far people interact today within a single global community, or whether these networks remain more localized and parochial.\textsuperscript{35} Cosmopolitan communications are understood to reflect the degree of openness towards ideas and information derived from divergent cultures, deepening awareness of other places and peoples, including their languages, habits, and customs. It is measured in any society, as discussed later, in terms of the degree of press freedom within any state, economic development (as a proxy determining levels of access to the mass media in each country), and external barriers to information flows (arising from the process of globalization). The core theory posits that life-time learning about civic affairs can be expected to be particularly strong under certain conditions; notably in cosmopolitan societies where all social sectors have widespread access to diverse news media channels and outlets, in democratic states with an independent press where citizens have many opportunities (and few constraints) to learn about public affairs from news and current affairs, and in countries where political information flows easily across national borders, without censorship or restrictions. Cosmopolitan communications are expected to be particularly important for learning about the workings of the European Union, as well as for deepening understanding of democratic processes and

Core empirical propositions

To reexamine the knowledge gap thesis, the core propositions at the heart of this project therefore predict that:

(1.1) \textit{Formal education} will cause stronger levels of civic knowledge.

(1.2) \textit{Exposure to the news media} will cause stronger levels of civic knowledge; with the effects conditioned by the type of media.

(1.3) A significant \textit{interaction effect} will be evident in levels of civic knowledge, so that formal education in childhood and adolescence will reinforce the learning effects arising from exposure to the news media in adult life.

(1.4) The strength of the interaction effect between education and media exposure will vary cross-nationally depending upon the degree of cosmopolitan communications within each society. In particular, we expect to establish that \textit{civic knowledge gaps between the well and less educated will be larger in societies with more parochial communications systems.}
2. Research Design

Research testing these propositions requires classifying a diverse range of contemporary media landscapes in Europe as well as monitoring systematic cross-national survey data on media use and nationally-equivalent measures of civic knowledge.

Cosmopolitan Communication Index

This study draws upon a Cosmopolitanism index which is designed to measure the permeability of societies to inward information flows. The idea of cosmopolitan communications is operationalized here in terms of three closely-related dimensions. External barriers include the degree to which national borders are open or closed, whether imports of cultural goods and services are limited by tariffs, taxes, or domestic subsidies, and how far there are restrictions on the movement of people through international travel, tourism, and labor mobility. To compare how far countries are integrated into international networks, we draw upon the KOF Globalization Index. This provides comprehensive annual indicators of the degree of economic, social, and political globalization in 120 countries around the world since the early 1970s. Limits on media freedom also restrict news and information within societies, including through the legal framework governing freedom of expression and information (such as penalties for press offences); patterns of intimidation affecting journalists and the news media (such as imprisonment, deportation, or harassment of reporters); and the nature of state intervention in the media (such as state monopolies of broadcasting, political control over news, and the use of official censorship). The most isolationist regimes seek to control domestic public opinion through rigid censorship of any channels of external information, controlling state broadcasting and limiting access to foreign news. To measure the free flow of news and information internally within each society, we draw upon annual estimates of media freedom developed by Freedom House. Lastly, economic under-development is also an important barrier to information; less affluent nations commonly lack modern communication infrastructures, such as an efficient telecommunication sector and a well-developed multi-channel broadcasting service, and large sectors of the population in these countries often do not have the resources or skills to access media technologies. To compare national-levels of media access, we monitor differences in economic development, measured by per capita GDP in purchasing power parity. Economic development is closely correlated with patterns of media access.

In combination, these three factors are combined to develop the Cosmopolitanism index, described in Table 1, which is applied to compare and classify European societies. The results show considerable variance across EU member states, exemplified by the contrasts between a highly cosmopolitan society such as Luxembourg and a more parochial one, such as Bulgaria.

Measuring Media Use

The EES 2009 includes several items tapping frequency of campaign exposure to sources of election information (see Technical Appendix A). Respondents are asked how many days a week they generally followed the news (whether on TV, listening to the radio, or reading the press). They were also asked whether they often, sometimes, or never followed the news about the European election during the campaign (in the four weeks before polling day), whether on television, in a newspaper, or via a website, as well as whether they had talking with friends about the election, or attended a rally or public meeting about the election. The items on use of television news, newspapers and website election news were summed for analysis to construct a news media use scale.

Some qualifications about the news media exposure measures should be highlighted. The metrics are focused on habitual use ('how many days a week'), which is appropriate for watching evening news bulletins, but this is
imprecise for monitoring the frequency of broadband online usage, which is often 24/7 for users. Some have also claimed that these sorts of traditional measures can be biased and include considerable over-reporting, particularly among people with higher levels of education and political interest. Respondents may not be able to recall the frequency of time spent on these activities and reporting may over or under-estimate exposure due to social desirability biases. The measure of frequency of exposure does not monitor attention to news or politics. The survey asks about use of some specific news outlets within each country, such as some of the major newspapers and mainstream television channels, but given the fragmentation of news outlets and markets, it is not possible to generalize from these questions to assess broader patterns of news exposure. Plausibly, some may not access any of the selected media, and yet they may still access news elsewhere on a regular basis, for example for young people using online sources. Problems of measurement also arise from the multiple platforms which are accessed and used today, generating complex experiences, habits, and exposure for users. The EES questions are unable to distinguish between forms of online participation that are simply ‘translated’ from the offline environment, such as reading newspaper stories via the website, and those that are unique forms of two-way communications the internet, such as political discussion in social media such as Facebook. Moreover while the EES can identify more passive forms of information gathering (i.e. reading websites or receiving email contacts blogging, Tweeting, or forwarding viral videos and news clips to friends and family).

[Table 2 about here]

Given these important qualifications, the results in Table 2 show the contrasts among EU member states in use of campaign information sources. The variations confirm important differences within Europe, reflected in aggregate indices, such as the widespread readership of newspapers in Scandinavia compared with Mediterranean Europe. Hence in the EES, readership of election news during the 2009 campaign was relatively low in Portugal, Bulgaria and Romania, whereas by contrast more than twice as many citizens reported reading elections news in Austria, Sweden and Germany. Television news use proves more uniform, although again there are variations among EU states, for example with relatively little use in France and Finland compared with Germany and Latvia. Finally, the use of election websites also vary a lot within the European Union, reflecting broader aspects of the digital divide, with minimal use (less than one in ten) in Lithuania and Romania contrasted with almost one third of all citizens using these online resources in Sweden and the Netherlands. Similar contrasts can be observed in interpersonal forms of campaign communications, such as attendance at meetings of rallies (which remain most popular in Belgium and Italy) and, to a lesser extent, discussion of the election with friends and family.

MEASURING POLITICAL KNOWLEDGE

There remains considerable debate in the research literature about the most appropriate way of conceptualizing and measuring political ‘knowledge’. Three main approaches can be identified.

Civics test

The most common approach has used simple true-false factual statements towards political knowledge, or the so-called “civics test” approach. As exemplified by Delli Carpini and Keeter, this assumes that voters need to grasp the basic institutional arrangements in any regime (typified in American studies by being able to identify the name of the US Vice President or which party controls Congress), comprehensive and detailed information about the policy platforms of the main contenders for office; and familiarity with the fine-print of the government’s record. Similar items have been used in the EuroBarometer and in national election studies. One issue arising from this approach is that, even in long-established democracies and highly educated societies, the majority of citizens
appear to fail these tests most of the time. Often the trivial is weighted equally with the important in knowledge scores, and no allowance is made for whether it makes any difference or whether there are any consequences if citizens get the answers right or wrong. In some cases, ‘civic’ questions can be useful for practical judgments. But not all. The acid test is knowledge for what? To give a simple example, knowing exactly how many members sit in the national parliament is irrelevant to electoral choices. But knowing the party or parties currently in government is essential to cast an informed ballot. Many civics items fall in between these categories, for example is it important to know the name of a minister with a specific portfolio to judge the quality of public services provided by that department?

Relativist knowledge

By contrast, the “relativist” approach acknowledges that people have a limited reservoir of political information, but suggests that this can be sufficient for citizens.44 Relativists argue that cognitive short cuts, such as ideology or ‘schema’, like a handy ready reckoner, reduce the time and effort required to make a reasoned choice about the performance of government with imperfect information. In this view, citizens are capable of making good low-information decisions because the costs of keeping fully informed are high, whereas the rewards for engaging in politics in contemporary democracies are low. Relativists lower the necessary information hurdles, producing a more realistic assessment so that most citizens get at least a passing grade. Yet one major difficulty with this is reducing the buzzing clutter of multiple messages, or they may be based on serious factual inaccuracies – or “false knowledge” – especially if the public is not paying close attention to complex political, economic, or social issues in European politics.

Practical knowledge

An alternative approach, associated with the work of Lupia and McCubbins, focuses on the importance of “practical knowledge”.45 In this view, people need useful knowledge – in domains that matter to them – to connect their preferences with their social, economic and political choices. This approach strikes a middle way on the assumption that citizens do not need to know everything about democratic governance, as if cramming for a school civics test. Nor do they need to rely upon ideological shortcuts, such as feelings of national pride or partisan loyalties, as such shortcuts may prove misleadingly dated or inaccurate. Instead the practical knowledge approach implies that for rational judgments, citizens need sufficient information in the social, economic and political spheres to connect their preferences rationally with their choices.46

The EES 2009 adopted the ‘civics’ approach and presented respondents with a series of seven true/false factual statements about national and European politics (see Technical Appendix A). The items varied in the difficulty of the questions asked, generating a balanced scale displaying a normal distribution. Several considerations should be noted about the survey design. The questionnaire used closed-ended formats where respondents have to choose whether each statement was either true or false.47 This format may overestimate levels of political knowledge, as it facilitates random guesses.

There are also some issues to consider about the treatment of the ‘Don’t Know’ (DK) answers. The most conventional way to construct civic knowledge indexes is through an additive measure of correct answers to factual knowledge questions, where 1 refers to a correct answer and 0 to an incorrect or DK response. However, evidence suggests that identically treating the options “incorrect” and “DK” can lead to ambiguous estimations of what people know about politics.48 While the option “DK” implies a lack of information from citizens about political issues, the option “incorrect” implies a certain degree of misinformation or at least partial information,
and therefore the “incorrect” answer might potentially represent a higher state of knowledge than the ‘DK’ answer.

Lastly, beside format issues, the topics chosen for the different factual items are also important, as they affect the capacity of respondents to answer correctly the knowledge items in surveys. The topic of the questions may refer to different dimensions of political knowledge, such as political leaders, political institutions, European or domestic politics, economic or foreign policy issues, and so on.

[Table 3 about here]

The seven civic knowledge questions included in the EES 2009 are listed in Table 3. The three items concerning national politics were amended as suitable for comparable equivalence in each country, such as the name of the minister for education. Each answer was recoded into a binary variable as either factually correct (coded 1), or else zero (coded 0) for the incorrect answer or else ‘don’t know’. As the distribution of correct answers shows, these items showed considerable discriminance by level of difficulty, with most inaccuracy concerning the number of EU member states and the highest proportion of correct answers identifying the national minister for education. The seven items were tested with principle component factor analysis and they formed a single dimension. Reliability statistics suggest that the items form a reasonably strong index (Cronbach Alpha = .67). The summary index showed a normal distribution, producing a mean score of 3.89 out of 7 points (Median 4.0, Variance 3.5, Std Dev. 1.87, Skew -0.281). None of the civics issues were given particular emphasis within the period of the EU election, so in this regard the civics items formed a weak test of campaign learning. Nevertheless it might be expected that the month-long campaign for the European parliament would encourage some background learning about European Union institutions, procedures, and membership among the most attentive news media users, amplifying and reinforcing general knowledge of matters such as the rotating EU presidency and the number of member states.

3. RESULTS AND ANALYSIS

First we can examine the core propositions descriptively and then use the multilevel multivariate analysis models. The first proposition suggests that (1.1) Formal education will cause stronger levels of civic knowledge. The study monitoring individual-level educational attainment, based on a 14-point ISCED internationally-standardized scale concerning the highest level of education which the respondent had completed, ranging from 1 (no qualifications and left school prior to age 11) up to 14 (doctorate). This was collapsed into a seven point scale, to increase the reliability with smaller national samples. Finally the scale was also categorized around the mean into high or low levels of education, for descriptive statistics.

[Figure 2 about here]

The mean distribution showed that, as expected, those with greater formal education displayed considerably higher levels of civic knowledge. Hence graduates with the highest level of educational attainment scored 5 correct answers out of the 7 point civic knowledge scale, whereas those with minimal levels of education scored just over 2. This is not surprising; those who have acquired a basic awareness of public affairs and cognitive skills through schools and university education can be expected to have a stronger grasp of civic affairs.

The second proposition predicts that (1.2) Exposure to the news media will cause stronger levels of civic knowledge. Again this is a commonsense idea and the mean distribution confirms the basic patterns; hence those
with the greatest exposure to the news media scored 4.6 correct answers on the civic knowledge scale, compared with a score of 3.3 for those with the lowest use of elections news media.

The key issue for the classic knowledge gap thesis, however, is how far early schooling during childhood and adolescence conditions lifelong learning processes and thus information about contemporary affairs acquired through the news media. The third core proposition predicts that (1.3) a significant interaction effect will be evident in levels of civic knowledge, so that formal education in childhood and adolescence will reinforce the learning effects arising from exposure to the news media in adult life.

[Figures 2-6 and Table 4 about here]

Table 4 demonstrates the descriptive interaction effects between formal educational qualifications, use of the election news media scale, and levels of civic knowledge. Figure 2 illustrates the pattern visually. The use of elections news is clearly associated with greater civic knowledge. Most strikingly, however, instead of observing a widening knowledge gap between the well-educated and the less educated, the evidence demonstrates that use of the campaign news media gradually closes the knowledge gap. Hence there is a mean knowledge gap of .86 among the low and high educational groups who rarely use the news media during the election. By contrast, the size of this knowledge gap among the low and high educational groups shrinks by about half among those most attentive to the election news media. In other words, the news media in Europe appear to have a positive effect by reducing lack of knowledge from formal schooling, a pattern consistent with the lifetime learning model and one contrary to the effects predicted by the traditional knowledge gap literature.

One way to look at this pattern in more detail is to compare the size of knowledge gaps by use of different types of election news media; thus Figure 3 presents similar patterns for television news use while Figure 4 compares newspaper readership and Figure 5 looks at internet use. The results demonstrate that the knowledge gap between the less and well-educated shrinks consistently for each type of media, with particularly strong effects for television news. It may be that knowledge gaps which have been commonly observed in the context of the United States media environment are different to those found in Europe, given the stronger emphasis on European public service broadcasting. This explanation, which requires further evidence to confirm fully, is certainly consistent with Norris and Holtz-Bacha’s earlier finding that people learn more from public service than commercial television in Europe. 49

In addition, the core relationship between knowledge gaps and both education and media use can be broken down by country, as illustrated in Figure 6. This replicates Figure 2 but the results are subdivided by EU member state. The visual patterns show that the knowledge gap between the well-educated and the less educated is evident in all countries, although it is smallest overall in Ireland, Austria and Sweden, while proving more substantial in Romania, Slovakia and Portugal. The closure of the knowledge gap between those with low and high educational attainment due to media use, however, is clearest in Romania and Bulgaria.

Thus overall the descriptive results suggest that formal schooling leaves a strong imprint on adult knowledge about politics and civic affairs. Nevertheless far from the knowledge gap between the well and the less educated expanding, use of the news media serves to close, although not eradicate, the differential.

Multilevel models

So far we have only observed the descriptive patterns, but these could be attributed to other individual and national level differences which are commonly associated with habitual use of the news media, such as those of
sex, class and age. It is well-established that patterns of newspaper readership are usually greater among men rather than women, among the older populations and among middle-class sectors, although these relationships vary both over time and among societies, in part due to the nature of the media markets. Some similar social profiles are evident in distinguishing internet users, with a reversal of the age use, showing the familiar digital divides. Lastly television news viewership is usually less clearly defined by socioeconomic or demographic group, although it does tend to be higher among the older generation, who usually watch more television in general. Patterns of media use and civic knowledge are expected to vary substantially in the context of a wide range of European media environments at societal-level, based on their permeability to cosmopolitan communications. Given these considerations, multilevel regression is the most suitable technique for analysis.

[Table 5 about here]

Model A in Table 5 presents the results of the multilevel regression models testing the effects of education, media use, and the interaction of both these factors controlling for the standard demographic and socioeconomic variables at individual levels. The results confirm, as observed earlier, that both campaign news use and educational qualifications are associated with greater civic knowledge, even after employing the standard social controls. Since the coefficients are standardized (Z-scores), they can be compared against each other. The effects of education are particularly marked, outweighing all the other demographic, socioeconomic and attitudinal factors. Nevertheless far from exacerbating the difference, the combined interaction of media use and education reduces the knowledge gap. This suggests that, as observed descriptively, the knowledge gap between the well-educated and less educated is greatest amongst those who pay little attention to the news media. Amongst the group paying more attention, the knowledge gap due to education closes.

Model B in Table 5 then adds the effects of cosmopolitan communications at societal level, and the interaction of education, media use and cosmopolitan communications. The argument is that in information-rich societies, where there is widespread access to political news at home and abroad, these conditions are most likely to promote civic knowledge. The results of Model B shows that the main effects remain largely constant, although the impact of both education and media use strengthen slightly. The interaction of education and media use continues to close knowledge inequalities. Moreover, knowledge is strengthened by living in a cosmopolitan society. And this type of society interacts with media use and education to reduce knowledge differentials. The results do not change the main coefficients but overall the higher degree of cosmopolitan communications in any society, the smaller the civic knowledge gaps. This pattern is illustrated in the scatterplot in Figure 6, where the knowledge gaps (i.e. the deficit of civic knowledge) between the well-educated and the less educated prove greatest in countries such as Slovakia, Malta and Poland, which are more parochial, while the gap closes in more cosmopolitan societies such as Denmark, Sweden and Luxembourg.

[Figure 7 about here]

4. CONCLUSIONS AND IMPLICATIONS:

Debate about what citizens learn about politics and public affairs has been a long-standing issue in the study of political science and voting behavior. Disputes continue about the extent of any campaign learning and the conditions which facilitate or hinder this process. Unfortunately many studies have been limited to only one country, with analysis at individual-level, so that any effects arising from the broader societal context of the communications environment cannot be examined. Yet the impact of the availability of information arising from multiple sources is a plausible condition for any inequalities between information rich and poor.
The findings presented here illustrate some of the factors driving knowledge gaps, including the role of education, exposure to the news media, and living in an information rich cosmopolitan society. All of these factors prove important but at the same time much further research is needed to build upon this foundation. In particular, the effect of this process is expected to be conditioned by several factors which have not yet been discussed. Hence the complexity and type of issues may well matter, in particular, knowledge gaps dividing the well-educated and less educated can be expected to be larger concerning more complex and abstract issues, such as international affairs rather than domestic issues of the economy or social policy. The knowledge test used here concerns fairly narrow issues of civic awareness, so we are unable to compare different dimensions of knowledge, and it thus remains unclear whether similar effects would be evident using a practical or relativist notion of what constitutes relevant knowledge. The type of public or private broadcasting system may also matter for learning processes, along with the content and amount of coverage of campaign news and public affairs more generally. More fine-grained approaches which match habitual exposure to specific channels and programs with levels of knowledge would facilitate this further analysis. Therefore this study has added a cross-national comparison to the standard single-nation approach of understanding knowledge gaps but there are many other dimensions which require analysis for a more comprehensive understanding of this phenomenon.
Figure 1: The ‘knowledge gap’ and ‘lifetime learning’ models
Figure 2: Knowledge gaps by education and election news media scale

Figure 3: Knowledge gaps by education and televisions news use

Figure 4: Knowledge gaps by education and newspaper use

Figure 5: Knowledge gaps by education and internet use

Figure 6: Knowledge gaps by education and media use scale, by nation

Figure 7: Knowledge gaps and cosmopolitan communications

Table 1: Media landscapes, Europe

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