Testing and Refining

Criteria to Assess Media Literacy Levels in Europe

Final Report

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LIST OF ABBREVIATIONS

ACMA	Australian Communications and Media Authority
ACME	Action Coalition for Media Education
NAMLE	National Association for Media Literacy Education (previously AMLE)
AVMSD	Audio-visual Media Services Directive
CEF	Common European Framework of Reference for Languages
CML	Center for Media Literacy
DG EAC	Directorate-General for Education and Culture
DG INFSO	Directorate-General for Information Society and Media
EEA	European Economic Area
ENPA	European Newspaper Publishers Association
ESS	European Social Survey
EU	European Union
Eurostat	Statistical Office of the European Commission
ICT	Information and Communication Technologies
NLCML	National Leadership Conference on Media Literacy
NORDICOM	Nordic Information Centre for Media and Communication Research
OECD	Organisation for Economic Co-operation and Development
OxIS	Oxford Internet Surveys
PIAAC	Programme for the International Assessment of Adult Competencies
PISA	Program for International Student Assessment
UNESCO	United Nations Educational, Scientific and Cultural Organisation

List of Country ACRONYMS

EU Member States (27) and EEA countries* (3)

Austria	AT	France	FR	Malta	MT
Belgium	BE	Greece	GR	Netherlands	NL
Bulgaria	BG	Hungary	HU	Norway*	NO
Cyprus	CY	Ireland	IE	Poland	PL
Czech Republic	CZ	Iceland*	IS	Portugal	PT
Germany	DE	Italy	IT	Romania	RO
Denmark	DK	Lichtenstein*	LI	Sweden	SE
Estonia	EE	Lithuania	LT	Slovenia	SI
Spain	ES	Luxembourg	LU	Slovakia	SK
Finland	FI	Latvia	LV	United Kingdom	UK

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0. Executive Summary

0.1. *Introduction*

Media literacy is defined by most policymakers and academics as the ability to "access, analyse, and evaluate media" in multiple forms and "communicate competently" within these forms (CEC, 2007a & 2007b; Livingstone, et al., 2005; O'Neill & Hagen, 2009). As demonstrated by recent news events, a critical approach to messages constructed by the media is essential for an informed citizenry. Traditionally, education, training and lifelong learning policies have been perceived as critical to developing media literacy. Therefore, any future interventions in this area must take into account that media messages are constructed, have a purpose, may be affected by potential biases, and are subject to regulatory issues that potentially affect access and use (Martens, 2010; Ofcom, 2008).

Within the past decade, policymakers have recognized the importance of critical approaches to media messages, prompting position statements, exploratory research, and policy recommendations explored further in this report. The current project responds to the Audio-visual Media Services Directive of 2007, which required media literacy levels for all Member States be reported by December 2011 (AVMSD, Article 33, 2007).

Aims

As a close follow-up to the report published by European Association for Viewers' Interests (2010) titled, "Study on Assessment Criteria for Media Literacy Levels," the current report assesses and recommends methods for measuring national media literacy levels.

Scope

The scope of this study was to assess the theoretical and applied validity of the media literacy framework proposed in the 2010 report, and to provide the European Commission with a revised tool that assesses and ranks the countries in terms of their media literacy levels. The geographic scope of the study was the 27 EU Member States but the study also included three countries from the European Economic Area (see the complete list of countries on page iii).

An important outcome of this study is a tool that measures media literacy levels across a range of ages, education levels, income levels, access levels, and geographic locations. The study covered age groups between 16 and 74, taking into consideration that Eurostat is likely to be the major agency to statistically monitor the developments of media literacy levels in the EU.

Background

Current surveys such as Eurobarometer and Eurostat primarily measure national levels of consumption or individual use levels, such as how frequently an individual uses particular media. For example, measures of media use often include national rates of mobile phone adoption or number of television sets per household. Individual use is typically measured by questions such as "how many television sets are in your household?" or "how frequently do you watch television?" or simply a national count of how many mobile phone subscriptions exist at a given time.

These measures provide a general picture of access rates and uptake, but have limited explanatory strength for *how* or *why* a particular medium is used, thus allowing for mostly speculative inferences as to the relationship between use and user. For example, when

considering media literacy in terms of mobile phone use, the types of questions these measures do not account for include: who is using the mobile phone? Is it used primarily for talking, for sending text messages, for taking photos, for uploading photos? Is it shared among members of a household? Is the phone used primarily for social purposes, work purposes, both? Does the user feel confident in his or her ability to use the functions of the phone?

The current report recommends more in-depth questioning at the individual-level to determine purposes of use and levels of critical understanding with an aim to move understanding of media literacy beyond national-level consumption counts.

0.2. *Method*

A literature review of policy papers and academic literature was undertaken to identify definitions and methods of assessment of media literacy. Expert consultations further refined the list of indicators and methods of measurement. The initial report identified 59 indicators of media literacy. The current study assessed these indicators at conceptual and practical levels to determine feasibility, comprehensiveness, and scope of the measures. Project members narrowed the comprehensive list of indicators to a sub-set that was feasible to pursue given the potential country-level constraints of administering a large survey. Refinement of the indicators was done in consultation with media literacy experts across the EU. Questions were developed using established survey measures such as *Eurobarometer, Eurostat, European Social Survey, PISA,* the UK's *Ofcom Adult Media Literacy Audit* and *Oxford Internet Survey*, and reports from OECD and UNESCO.

Finally, a pilot survey of seven Member States was conducted in early 2011. Countries were selected to represent a diversity of access and literacy levels (detailed further in Section 5.2 of the report) and included: Denmark, France, Hungary, Italy, Lithuania, Poland, and the United Kingdom. To reach a range of ages, income levels, and geographic locations, the pilot survey was conducted online. 1,000 people per country responded to the survey for a total of 7,051 participants overall. An additional oversample of 252 respondents was collected offline through phone interviews to account for Internet non-users. The result of the pilot survey is briefly described below.

0.3. *Findings from the pilot survey*

The survey measured three areas of media literacy: use skills, critical understanding, and communicative abilities.

- For *use skills*, a score was derived based on 7 survey questions related to balanced and active media use (i.e., use of television, radio, newspapers, books, cinema, computer and video games, and mobile phone in last three months and on a weekly basis).
- A *critical understanding* score was calculated using 26 survey questions related to trust in different modes of media (i.e., newspapers, Internet, radio, television), awareness between the information presented by different media channels, awareness of influence of media messages, self-assessment of literacy levels, and knowledge of media regulation.
- For *communicative abilities*, a score was calculated based on four survey questions related to content creation.

The survey results show the following estimated distribution of media literacy regarding basic, medium and advanced levels use skills, critical understanding and communicative competences in Europe. Please note that Internet use was not measured in the pilot survey:

- *Use skills*
  - 16% with basic level;
  - 50% with medium level; and
  - 35% with advanced level use skills;
- *Critical understanding*
  - 28% with basic level;
  - 41% with medium level; and
  - 31% with advanced level critical understanding;
- *Communicative abilities*
  - 64% with basic level;
  - 20% with medium level; and
  - 16% with advanced level communicative abilities.

Each of these media literacy scores is positively and significantly correlated with the other two, and each score largely behaves according to expectations across gender, age, education and income. Thus, the levels of use skills levels as well the levels as critical understanding are highest among the youngest, those with the highest levels of educational attainment, and the most affluent with little difference between genders. Communicative abilities levels are highest among the youngest.

Extrapolating the survey results between member states according to gender, age and educational attainment results in the country rankings shown in Figure 0-1.

Figure 0-1 Tentative country rankings compared to country rankings in EAVI, 2010

	NEW ranking (online and offline)	NEW ranking (online)	OLD ranking (individual competencies, Eurostat)	Change in ranking (online and offline)	Change in ranking (online)	Use skills (online and offline)	Critical understanding (online and offline)	Communicative abilities (online and offline)
NO	1	1				2	1	3
IS	2	3				1	5	1
LU	3	2	2	-1	0	3	6	2
SE	4	10	4	0	-6	4	3	7
FI	5	5	5	0	0	6	4	6
NL	5	8	3	-2	-5	5	7	4
DK	7	14	1	-6	-13	7	8	5
UK	7	7	6	-1	-1	8	2	10
BE	9	13	15	6	2	11	11	8
EE	9	4	7	-2	3	10	9	11
DE	11	15	11	0	-4	9	10	14
SK	12	20	19	7	-1	12	12	17
FR	13	22	10	-3	-12	14	22	9
AT	14	17	8	-6	-9	13	13	20
LT	15	6	16	1	10	19	16	12
IE	16	11	9	-7	-2	18	15	15
LV	16	9	12	-4	3	15	17	16
ES	18	16	17	-1	1	20	18	13
SI	19	18	13	-6	-5	17	14	21
CZ	20	21	14	-6	-7	16	19	24
CY	21	12	23	2	11	24	20	18
PL	22	18	21	-1	3	21	21	22
MT	23	28	20	-3	-8	23	25	19
HU	24	25	18	-6	-7	22	23	23
GR	25	23	25	0	2	28	24	26
IT	26	29	24	-2	-5	25	26	28
PT	27	27	22	-5	-5	27	29	25
BG	28	26	26	-2	0	26	27	29
RO	29	24	27	-2	3	29	28	27

Note: The table shows country rankings averaging across the rank order of the estimated country scores for use skills, critical understanding and communicative abilities as well as comparison with results of previous study.

Interestingly, these rankings have considerable similarities to the individual competence score developed with use of aggregate country data from Eurostat and presented in relation to the previous study. These rankings remain consistent even when accounting for apparent differences between the online and offline samples, which results in the identification of seven of the same Member States in the top ten and nine of the same Member States in the bottom ten (moreover, the two top ranked countries, Norway and Iceland, were previously unassessed).

Another way to rank the Member States is through cluster analysis. Using the same underlying population shares with basic and advanced use skills, critical understanding, and communicative abilities as input, this results in the identification of three externally distinct, but internally comparable tiers of countries with a high degree of face validity:

- *Cluster 1*
  - Norway, Iceland, Luxembourg, Sweden, Finland, the Netherlands, Denmark and the United Kingdom;
- *Cluster 2a*
  - Belgium, Estonia, Germany, Slovakia, France, Austria, Lithuania, Ireland, Latvia, Spain, Slovenia, the Czech Republic, Cyprus, Poland, Malta, Hungary; and
- *Cluster 2b*
  - Greece, Italy, Portugal, Bulgaria, Romania.

As the ranking exercise to some extent reflects decimal differences only, these three groupings may be more meaningful whether in rank order (i.e., 1, 2a, 2b) or merely for shared policy development.

0.4. *Recommendations*

A common challenge in measuring literacy generally and media literacy in particular is refining the scope of possible indicators. Since media literacy is part of everyday life and is associated with a variety of influences, contexts, and actions, surveys alone cannot provide a comprehensive assessment, but may provide a simplified indication of overall trends in media literacy levels. The findings of the study of media literacy in the EU have formed the basis for these recommendations.

A simple 20-minute survey, no matter how well-designed, can only provide indications for further policy actions, and, therefore, other sources and approaches needs to be considered as well. In the following we first present a modular approach to measure media literacy, and, secondly, we present a core set of indicators of media literacy.

A modular approach to measuring media literacy

Figure 0-2 presents an overview of contexts and competencies associated with media literacy. Here, media literacy (blue rectangle) is an outcome of individual and national contexts (orange rectangle). Individual contexts that affect media literacy include age (Livingstone & Helsper, 2006), income, education, gender, and location (Martens, 2010). National contexts that potentially affect an individual's demonstration of media literacy include culture and policy, as well as industry (O'Neill & Hagen, 2009). Media education provides awareness of media organizations' influence and control over broadcast messages and tools for interpreting

these messages and determining the underlying values motivating the actions (Buckingham, 2003; Bazalgette, 1989).

Figure 0-2 Commonly recognized aspects of media literacy
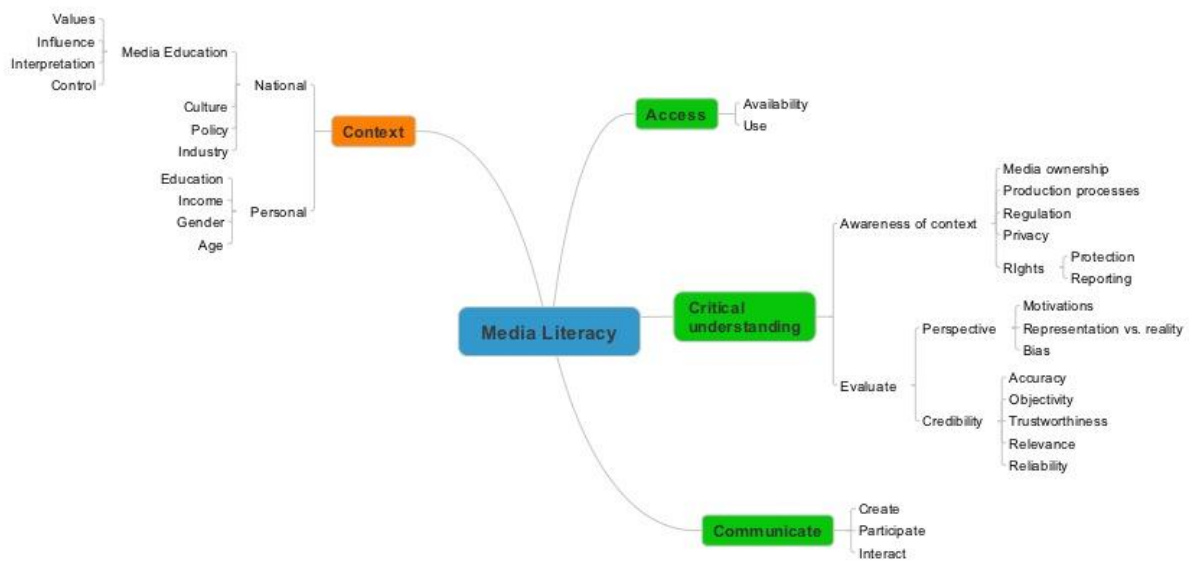
Note: Figure pictures media literacy (blue rectangle) as an outcome of individual (green rectangles) and national contexts (orange rectangle).

The competencies shown in Figure 0-2 reflect those initially reported by the EAVI-led consortium (2010) and supported by further review and consultation and also confirmed by the midterm digital literacy review (2009). In particular, the competencies correspond with the definitions of media literacy developed by members of the Media Literacy Expert Group convened by the European Commission (2011, emphasis added):

> 'the ability to **access, analyse** and **evaluate** the power of images, sounds and messages which we are now being confronted with on a daily basis and are an important part of our contemporary culture, as well as **to communicate competently** in media available on a personal basis. Media literacy relates to all media, including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies.
> The aim of media literacy is to **increase awareness** of the many forms of media messages encountered in our everyday lives. It should help citizens **recognise how the media filter their perceptions** and beliefs, **shape popular culture and influence personal choices**. It should empower them **with critical thinking and creative problem-solving skills** to make them **judicious consumers and producers of information**. Media education is part of the basic entitlement of every citizen, in every country in the world, to **freedom of expression and the right to information and it is instrumental in building and sustaining democracy**.'

This figure additionally reflects international consensus on the competencies and behaviours essential to media literacy. A comprehensive definition of media literacy was first developed at the Aspen Media Literacy Conference and described a media literate person as able to "access, analyse, evaluate, and produce both print and electronic media" (1993). This definition has been further refined by groups such as Ofcom (UK), and the European Commission to include awareness of cultural, political, and economic contexts with an emphasis on critical thinking.

Figure 0-3 shows the aspects of media literacy that are believed to be particularly suitable for individual rotating survey modules (yellow rectangles). These modules will measure critical understanding, requiring deeper thinking on the part of the respondent. For example, these questions address awareness of bias in the media, or an understanding that lifestyles or body images presented on television may not accurately reflect real life. Also national context could form the basis for a rotating module as understanding the cultural, regulatory, economic, and educational context in which media literacy is developed and enacted is essential to further developments in policy and training.

Figure 0-3 Media literacy aspects recommended for rotating modules
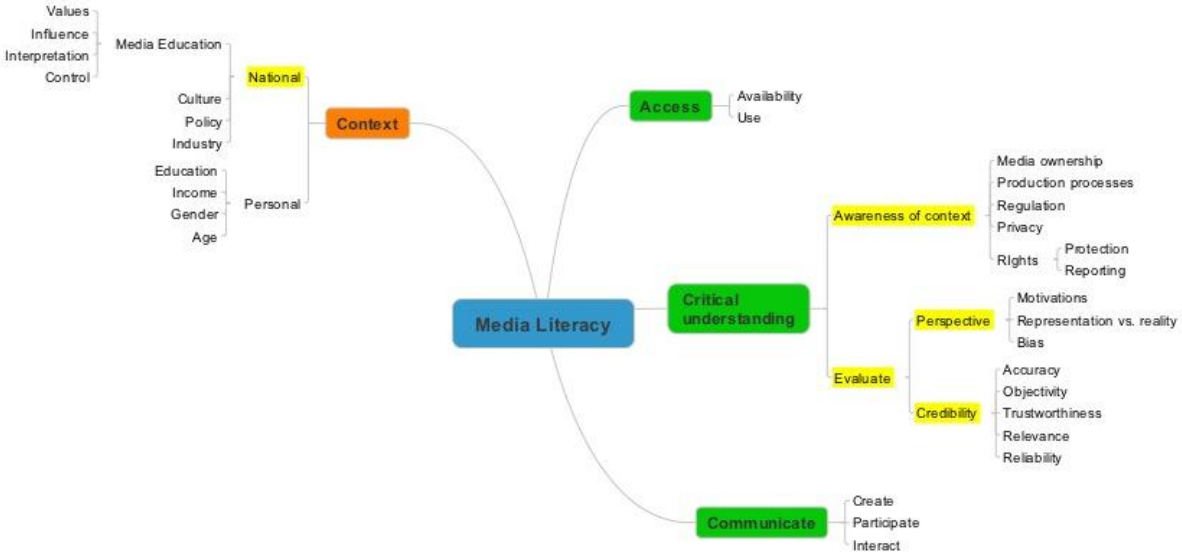
Note: Figure pictures media literacy (blue rectangle) as an outcome of individual (green rectangles) and national contexts (orange rectangle).

A 5-year period is recommended in which the rotating survey could take place in Member States to collect in-depth responses to questions related to critical understanding and awareness of the national media context, while also measuring annual changes in access, use, and communicative abilities. Collecting and analysing data on diverse aspects each year would gradually develop a concise list of indicators and identify core media literacy measures by the end of the 5th year. It would at the same time prompt targeted policy making on the specific annual topic. In the sixth year, Member States could start reporting along concise, key policy indicators. This period would drive different research opportunities each year in Europe on media literacy, would allow streamlined funding dedicated to media literacy, and would also help Member States to prepare the necessary platforms of cooperation with the different stakeholders and the media industry for data collection.

Based on results from the pilot survey, we recommend the following test items as core questions:

- *Use skills*
    - Reading books (print or e-book);
    - Reading newspapers (print or online);
    - Playing computer or video games;
    - Going to the cinema;
    - Using the Internet;
    - Sending e-mails with attached files;

- o Using the Internet to make telephone calls;
- o Using peer-to-peer file sharing;
- o Creating a web page;

- *Critical understanding*
  - o Trust of information that is presented by different media sources (newspapers, television, radio, Internet);
  - o Awareness of information that is presented by different media sources (different television channels, different news programs, different search engines);
  - o Awareness of the influence of advertising;
  - o Knowledge of media regulations;
  - o Ability to identify options for gathering information;
  - o Skills in critically evaluating the credibility of information;
  - o Comparison of information across sources;
  - o Skills in managing privacy and protecting self from unwanted messages.

- *Communicative abilities*
  - o Content creation across a variety of media, including written texts, video, audio, and visual;
  - o Engagement with public debate (commenting on a blog post, writing a letter to a newspaper editor, posting a blog);
  - o Social networking online (whether privately or professionally);
  - o Collaborating online on a joint project (including contributing to a wiki).

These core questions could be implemented as a basic survey to measure trends in media access, balanced use, critical understanding, communication, and participation. The core questions could also serve as a core for a rotating survey in which these basic elements are measured over time in relation to key components of media literacy, such as environmental context, regulatory framework, and media education.

0.5.   *Further recommendations*

While the previous sections address recommendations for *measuring* media literacy, the following recommendations are made to *promote* media literacy among Member States.

1. *To encourage Member States to set-up national panels of stakeholder groups, including civil society, to provide data and develop frameworks for measurement and reporting.*

National panels of media literacy experts and stakeholders such as educators and members of the media industry would enhance cooperation among these groups and allow exchange of information and data, especially about the soci-economic factors of the framework. This collaboration could also allow for an alignment of national policies and media regulations as needed.

2. *To encourage national governments of Member States to exchange experiences with each other. Further cooperation should also be envisaged at regional and municipalities' levels.*

Clusters of countries with similar educational systems and broader policy environments pertaining to media literacy would benefit from a systemic approach to sharing information about national contexts, policy interventions, methods of assessment, and promising practice. This could also in the medium term lead to cross-country collaboration on media literacy research.

> 3. *To increase cooperation between European institutions with UNESCO and OECD about further development of framework and measuring tools.*

Developing robust media literacy indicators and test items comes at a cost, therefore, an essential recommendation is to increase cooperation between international groups engaging in complementary, and at times, very similar, research. For example, UNESCO's exercise to develop indicators for Information and Media Literacy as presented at their meeting in Macau in November 2010, is informed by a similar and complementary theoretical framework and list of indicators. PISA's recent report of literacy measures from 2009 could complement data gathered from Eurostat and Eurobarometer. The OECD PIAAC initiative also presents groundbreaking new approaches to testing media literacy in a technology rich environment. Secondly, an inter-institutional collaboration could also in the medium term lead to an internationally accepted scaling system and an agreed definition of media literacy skills.

> 4. *To promote further scientific and educational research on media literacy.*

Collaboration with educational institutions and research organisations should provide support on media literacy from both a research and a practice perspective. Cognitive elements and the use of the different media sources should be given special attention. Given that critical engagement with media involves long-term development, often the contributing factors to literacy are diffuse, which present a challenge in terms of measuring impact and allocating resources. Thus, it is essential to measure the development over time to derive more specific conclusions that can refine policy targets and dedicated financial measures. The setting up of a European virtual center of expertise to provide know-how, data and state-of-the-art related to media literacy could enable a platform for further collaboration and could also be a gateway for member states and other organisations involved in media literacy policies and large-scale initiatives.

> 5. *To increase collaboration with the media industry, especially audiovisual media, in efforts to promote the development and understanding of media literacy.*

One of the important aspects would be to assess current national and European frameworks for
media literacy with a view to informing European and national media literacy policies, regulations and practices. Secondly, the purpose could be to address how promotion of media literacy can empower active citizenship.

Recommendations related to educational policies

> 6. *To encourage the integration of measurements into media education.*

Funding for education, training and lifelong learning to promote media literacy will be critical to further advance. Given the scope of the task, it will be vital that such actions do not just build on public sector funding, but that it involves the private sector, ngos and unions.

Secondly, it would enable the systematic collection of time series data on skills levels that is technical skills for the Internet, computer, or other digital devices that support the creation and application of audiovisual media content. Such data would support evidence based policy making.

7. *To encourage the promotion of creative and participatory skills in education systems.*

The findings of the study show that the young population has the most manifest communicative abilities in terms of media content and civic participation. To spur the development of these competences among a larger population comprehensive and coherent lifelong learning policies are a critical enabler. Secondly, it is important that media literacy is recognised as a key competence. This must be reflected in didactical approaches, integrated in curriculum, and integrated in teacher and trainer programmes. As for the latter, the midterm review of digital literacy clearly showed that trainers in enterprises and from ngos should also be a target group.

8. *To promote the knowledge on media regulation.*

The development of practical, 'easy-to-follow' educational materials and guidelines on media regulation should be promoted targeting all age groups. However, youth with no or little formal education should in particular be considered since they will most often be the ones active in terms of creating media content and also in terms of using social media in general.

Recommendations related to citizenship

9. *Promoting active European citizenship.*

Online media may play an innovative role in promoting user driven active citizenship. This may be in the form of opinion polls, voting schemes or in terms of stimulating bottom-up social innovation schemes. Ngos and civic organisations can play a central role in terms of ensuring that activities are perceived as relevant, and in order to insure that users feels safe and recognised as part of such processes. A further recommendation is to promote easy access to such environments. Lifelong learning and online support will ensure that users with fewer media literacy skills may engage in online mediated democratic processes.

10. *To promote media literacy in the context of active citizenship.*

E-governance strategies and policies should be aligned with the debate on media literacy. Only then will formal political processes not only be about election of local, national or European politicians, but also involve open bottom-up debate on areas of common concern. In the medium term, machine translation software and similar technologies may support that users who do not master a range European languages can easily engage in open debate.

11. *To foster the inclusion of media literacy into initiatives that promote the inclusion of at risk groups.*

Numerous studies show that those who master different media also have a strong say in public debate. Therefore, media literacy policies should actively encourage e-inclusion. The medium term digital literacy review (2009) clearly showed that it is not just about operational ICT skills, but it is also a matter of perceived relevance and trust. ICT enabled social innovation

schemes should in particular be considered as enabling factor in the promotion of media literacy targeting groups at risk.

1. Introduction to the Study

Chapter 1 introduces:
- the concept of media literacy and its views and directions within the European Union; and
- the background, aims and scopes of the current study.

1.1. *Background*

In response to the scientific and practical developments of the field of media literacy, the European Commission has established the policy framework in the past decade. The policy framework sets the European definitions, trends and main directions to improve the media literacy levels of European citizens. Media literacy's value lies in its essential contribution to cultural, technological, educational and democratic developments in a society that allows citizens to voice their rights and decisive choices actively, thus increasing their participation in democratic processes through active citizenship.

The intrinsic value of media literacy in democratisation is highly recognised in Europe representing a strategic value for the European Union. In the past, national policies across Europe have targeted the concept of media literacy in a largely diverse way, depending on the interpretation of the concept as *digital literacy, computer literacy, cultural literacy, information literacy, audio-visual literacy,* or *media education* resulting in policies focusing on educational aspects or on technological or communicational dimensions. New digital skills and a dynamic improvement of individual competences are required to fulfil societal functions in our era, representing a significant shift in skills from traditional literacy towards the inclusive and interactive use and the critical understanding of the different media around us. In other words, it is now necessary to learn to decipher the information from all types of media, to evaluate and critically analyse the content and context in which information is presented by the media, and to produce and share media content to actively participate in the society. These are well articulated in the definition of media literacy eventually adopted by the EC:[1]

> "Media literacy may be defined as the ability to access, analyse and evaluate the power of images, sounds and messages which we are now being confronted with on a daily basis and are an important part of our contemporary culture, as well as to communicate competently in media available on a personal basis. Media literacy relates to all media, including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies."

Given the need to take into account the level of media literacy in all Member States when reporting on the implementation of Directive 2010/13/EU (Audio-visual Media Services Directive, henceforth AVMSD), the Commission launched a call for tenders in 2009 in order to develop a list of potential criteria and indicators to assess media literacy levels in Europe. This exercise resulted in a framework incorporating both environmental and individual factors, and an extensive list of 59 potential indicators that comprehensively address media literacy practices and their environmental context. The study relied on desk studies reviewing theories, applied a survey targeted to selected national experts to gain information on environmental factors, and was finalised through a large-scale expert consultation process. In a second phase, the Commission launched the current study to review and assess the theoretical framework which had previously been developed and its potentials for use to

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[1] Cf. http://ec.europa.eu/avpolicy/media_literacy/index_en.htm (Consulted 2nd May 2009).

report under the AVMSD, and applied it to the 27 Member States. The main goal of the study is to analyse and test the criteria detected in the previous study and to get in depth and concrete results on the media literacy levels of European citizens.

The current study was launched under the auspices of the Directorate-General for Information Society and Media of the European Commission. The study started in July 2010 and was finalised in April 2011. The work was carried out by Danish Technological Institute, the European Association for Viewers' Interest and the Oxford Internet Institute (subcontractor).

1.2. *Scope and objectives of the study*

The scope of this study was to determine both the theoretical and applied validity of the developed media literacy framework and to provide the European Commission with a revised tool that assesses and ranks the countries in terms of their media literacy levels. The geographical scope of the study was the 27 EU Member States, but it also included three countries from the European Economic Area (see the complete list of countries on page iii).

The Commission commissioned the Consortium to deliver a tool that measures the media literacy levels across different age groups at a European level. Eurostat, the statistical office of the European Commission, conducts the majority of its statistical research on age groups between 16-74, other major regular European data collections services, such as Eurobarometer or the European Social Survey, also deliver statistics on population aged 15 or above. Taking into consideration that Eurostat is likely to be the major agency to monitor statistically the developments of media literacy levels in the EU, as well as the fact that the current study largely relies on existing data sources targeting these age groups the study primarily covered the age groups between 16 and 74.

However, given the importance of the different media reaching out to and influencing the media literacy levels of children and minors (in our definition people up to and including the age of 15), as well as the obligations to report as set in the AVMSD on a number of issues concerning minors, the Commission, at the inception meeting in June 2010, requested that the Consortium incorporate minors in the study. A feasibility study evaluating the potential scope, rationales and scales of the involvement of young audiences took place in July 2010, resulting in a common agreement to address minors via an assessment of existing research to identify relevant indicators to report on minors for the AVMSD. Therefore, indicators addressing minors were addressed separately throughout the research and were not included in our statistical validation. However, they are included as a qualitative evaluation in this report. Major findings on minors are explained in Annex G.

The main objectives and steps of this study were:
1. to qualitatively review and statistically validate indicators and criteria developed in the theoretical framework of the previous study for reporting under the AVMSD by assessing the validity of the constructs and the indicators' appropriateness, validity and feasibility (e.g. data availability) based on existing available data;
2. to identify constituent variables applied in preceding research and across existing databases that can measure the given indicators;
3. to identify the set of indicators that proved relevant after the statistical validation for enabling the regular monitoring of media literacy levels;
4. to field test indicators by developing and implementing a survey in a selected number of EU countries among a population of age groups 16-74 targeting both online (regular

Internet users) and offline populations to obtain concrete and solid evidence from EU countries;

5. to verify the applicability of regularly run European statistics to measure this segment of media literacy levels and to adjust value scales from field data;
6. to evaluate and comparatively analyse these media literacy levels of EU citizens based on field data; and
7. to derive a final set of indicators (tool) to assess media literacy levels that takes into account policy actions that easily be used for policies promoting audio-visual media literacy.

Understanding that this study aims to operationalise the theoretical framework to report under the AVMSD, the Consortium kept in mind the requirements of the final tool to deliver some concise, clear and appropriate statistics on media literacy levels.

1.3. *Summary*

The main goal of the study is to analyse and test some of the criteria detected in the previous study that developed indicators for media literacy in general and by scientists and experts to be used for reporting under the AVMSD by the European Commission.

2. Review of existing Media Literacy Assessment Criteria Frameworks

Chapter 2 provides:
- a brief overview of the study "Assessment Criteria for Media Literacy Levels in Europe (2010)" in which a comprehensive set of media literacy indicators was developed.

2.1. *Introduction*

Media literacy is often summarised as the capacity of individuals to interpret, analyse, contextualise and produce media messages. Any convergence of multiple platforms and technologies in which a variety of languages and media streams co-exists and merges the concept of media literacy affords an inclusive and practical point of reference. In this regard, media literacy implies a broadening, but also a reinforcement of the elemental functions whereby traditional literacy is defined, i.e., a critical and analytical reading of numerous simultaneous sources of information, reasoning, influenced by social injunction, symbolic and cultural codes and conventions.

With the development of the digital world, the ways to transfer knowledge have shifted from the traditional media (TV, radio, books, newspaper, and cinema) and have become increasingly dependent on digital technologies (Internet). While not reducing the relevance of the traditional media sources, nowadays, possessing certain technical skills to access digital technologies without difficulties enables citizens to engage more with and participate in every level of public life, from social networking to eGovernment. Individuals not equipped to utilise digital technologies are necessarily isolated from this aspect of the media flow, next to the additional negative effects of being solely reliant on traditional media to obtain information.

This shift towards digital media genres also resulted in varieties in the conceptualisation of media literacy and occasionally in a reduction of the term to refer solely to the digital domain, such as digital literacy or computer literacy. References to computer (or digital) literacy emphasise the binary character of the signals transmitted; such references relate to computing and computer usage. The term "media literacy" includes digital literacy, but it goes beyond that. Indeed, it goes beyond the cultural and linguistic approaches applying "cultural literacy" and "audio-visual literacy" to address the phenomena. References to "audio-visual literacy" highlight the importance of language employed in combination with sound and image and do not relate to the written or printed word. References to "information literacy" identify the ability of the individual to obtain, absorb and contextualise the multiplicity of information, regardless of its source. This is in line with UNESCO's approach to separate information literacy from media literacy. However, media literacy also appears in UNESCO advocacies as the human rights-based approach to programming and the creation of knowledge societies. In this sense, the concept of media literacy can also be attached for instance to the idea of Education for Sustainable Development included in the United Nations' Principles.

As a consequence of the variety of the parallel evolved conceptual approaches applied to media literacy, the stakeholders of the field also show a fundamental diversity and include individual citizens, the media and the advertisement industry as a whole, the educational sector, the civil society and policymakers. The essential role of media literacy in advancing the collective intelligence and cultural participation that allow economic progress and competitiveness of the internal and international markets makes media literacy a subject to co-

habitation and integration of the diverse approaches and interests of these various players. In order to promote media literacy that presents an opportunity for multiple players at the same time, it is therefore necessary to animate debates, encourage dialogue and mobilise the various actors to obtain a common agreement on the paths to take in Europe. This was the guiding approach chosen in the preceding study on "Assessment Criteria for Media Literacy Levels in Europe" (EAVI, 2010) that aimed at integrating the different concepts mentioned above in a systemic way to highlight explicitly the competences for media literacy that should be acquired and measured, where possible, at both individual and national levels and to balance the involvement of the major media genre and all players of the field. The outcome of the exercise carried out in the 2010 study will be summarised below.

2.2. *The original theoretical framework under revision*

The theoretical framework of the 2010 study (referred to as "Conceptual Map" in the study) applied the EC definition on media literacy from the *Communication on Media Literacy* (2007) from the EC as a starting point and translated the elements of the definition into a criteria system that best describes aggregated abilities and indicators of skills that are available and necessary in Member States to be able to access the media, evaluate the received messages, and create and communicate competently. The framework was developed to consider traditional media, such as TV, radio, and print, as well as new media such as online and interactive platforms. The study considered and incorporated measures for the EC objectives to measure critical thought, problem-solving capacity and citizen awareness, skills and awareness as users and consumers.

Given the complexity of the media literacy concept, the study resulted in a large number of potential social indicators describing the two main dimensions defined as individual skills and environmental enabling factors. Individual abilities (to access, use, understand and create content) were embedded in a broader set of abilities allowing increased levels of awareness, the capacity for critical analysis, a creative problem-solving capacity and the ability to create and communicate through media content to participate in public life. The set of contextual factors were delineated as factors affecting individuals through the availability of media education, media policies, the roles that the media industry and civil society play, etc. These dimensions were then further elaborated into criteria and indicators, and their relations towards each other were illustrated in a pyramid shape structure. The weighting of the indicators was based on an expert consultation and were priorities set by the European Commission.

The framework was operationalised into indicators that included both country level and individual-level indicators. The country level reports drew from national surveys assessing activities at the individual level (e.g., *Eurostat, Eurobarometer*), national level reports on aspects of media access (e.g., Internet penetration, number of newspaper subscriptions), and evaluations of environmental context assessed through surveying media literacy experts. The framework draws from leading theory about media literacy as reported by Livingstone, Van Couvering & Thumin (2005), Aufderheide (1993), and Martens (2010). The report provides a useful treatise on issues related to media literacy at both individual and environmental levels.

Clearly, media literacy is anchored in the skills and practices of individuals. Comprehensive studies such as Ofcom's *Media Literacy Audit: Report on UK Adults' Media Literacy* (2008) and ActiveWatch's *Evaluation of Media Literacy in Romania* (2008) demonstrate that assessments of the critical use, understanding, and civic engagement components of media literacy are ideally made at an individual level. Otherwise, there is a risk of making incorrect

assumptions about individuals that are based on aggregate data – an "ecological fallacy". Such assumptions can include *how* individuals use a resource, as well as *how often*, but most importantly, whether they are critically engaging in and *understanding* the purpose of the media, potential *biases* affecting the messages, and *regulatory issues* affecting the media they access (Martens, 2010; Ofcom, 2008). Aggregate data provide data about a population, such as the proportion with access to media, but it is risky to draw inferences about any individual in the population based on that aggregate. In addition, aggregate data do not provide good indicators of the purposes or experiences of individuals, such as how well they understand a particular text. However, since individual level data on media literacy is not yet widely collected or available for a majority of EU member, the framework used aggregate data as a surrogate for measuring individual competences. While the limitations of aggregate indicators are well known, it is possible to provide some estimates based on aggregate data that can be combined with individual level data and validated with selected survey data.

While the 2010 study provides a theoretically sound framework, it is underdeveloped at an operational level. Clear and concise, quantifiable indicators on several of the established criteria are necessary for the development of a practical tool. Besides, the tool has to remain flexible for the future to dynamically incorporate the rapidly diverging and developing new media. Nevertheless, given the rate and speed of ICT innovations, it is expected that a constant time delay in the uptake of new ICT applications in society at large and in the construction of adequate metrics will occur.

2.3. *Summary*

Chapter 2 has explained that in order to promote media, it is necessary to integrate the different concepts of skills, media use, digital literacy, traditional literacy, cognitive elements, etc., in a systemic way to see what competences should be acquired and measured to drive citizens towards a higher media literacy levels.

3. Critical Analysis of the Previous Theoretical Framework

Chapter 3 reviews:
- the applicability and acceptability of the proposed framework structure; as well as
- the operationalisation of its elements into indicators.

3.1. *Literature review*

The previous section described in detail the framework developed in the preceding study, trying to establish horizontal relations between the different processes of media literacy and competences, as well as indicating possible transversal relations between each of the dimensions and abilities taken into account.

The basic assumption was that the five main media literacy criteria (use skills, critical thinking, communicative abilities, media availability and media context) themselves are largely appropriate and comprehensive, therefore the literature scan focused on looking for new developments to upgrade the 59 individual indicators and to identify potential additional or more appropriate indicators to replace the existing ones.

Given the complexity of the media literacy concept and the size of the original theoretical framework, substantial time was devoted to this task to get an updated view covering all the diverse aspects of the concept and the latest developments in each field.

The Consortium also looked at the theme of media literacy through various different arguments other than applied in the previous study and added the following additional research fields:
- trends of advanced ICT usage in triggering social exclusion/or engagement and participation;
- problem solving in the context of and with the use of ICT;
- information literacy and overlap with the indicators used in information literacy,
- eGovernance practices;
- critical thinking, critical understanding, critical evaluation of media content and context, and related cognitive aspects in the contexts of different media types, also addressing minors;
- audio-visual commercials in the context of protecting minors from harmful, adult or offensive media content; and
- responsible use of the Internet.

3.2. *Approach to the critical review of the framework*

The critical review considered the adequacy and consistency of the framework, at both conceptual and practical levels, guided by the following questions:
1. Should the framework cover other aspects of media literacy as well, that is, is the EC definition complete and appropriate to adopt as the base of the framework? (Section 3.3)
2. If it is, does the framework cover all aspects of media literacy contained in the EC definition adopted as the base of the framework? (Section 3.4)
3. Do the indicators proposed to operationalise the framework actually measure the identified aspects of media literacy? (Section 3.5)
4. Are the proposed indicators themselves measurable as well as feasible and, preferably, readily available? (Chapter 4)

The first two questions concern the internal coherence between the chosen definition of media literacy and the constituent parts of the developed framework as well as the external correspondence between this definition and other existing definitions of media literacy that could have been used to guide the development of the framework. This is largely an academic review and discussion of the underlying theoretical choices made in the development of the framework within the context of recent developments in the understanding of media literacy internationally. To reflect on these two questions, we first carried out a literature scan to evaluate the definition and theoretical framework.

The last two questions concern the relevance and appeal of the indicators as concrete everyday expressions of the developed framework that can be applied to obtain expedient and trustworthy information about media literacy levels across Europe. In a sense, these questions are just the logical extension of the former two questions to review as well as the theoretical sufficiency and necessity of the indicators in relation to each of the constituent parts of the developed framework. However, the choice of indicators is also subject to a much wider range of technical and functional considerations for the developed framework to be readily implementable. These constraints were equally accounted for in the review.

3.3. *Findings concerning the completeness and appropriateness of the EC definition as a base of the framework*

3.3.1. A global outlook on media literacy definitions

Media literacy is a dynamically evolving concept and its interpretation is largely affected by cultural, technological, industrial and even generational differences across the EU. Nonetheless, the Council conclusions of 27 November 2009 on media literacy in the digital environment (2009/C 301/09) require a common criteria system to measure the different levels of media literacy of the Member States. Although there is no single, agreed definition of media literacy in the research and policy literature consensus appears around its core components.

Media literacy defined as *"access, analyse, evaluate, and produce both print and electronic media"* was first concluded in 1992 by the National Leadership Conference on Media Literacy (NLCML) in the United States.[2] With minor differences, these elements are also applied by the American Center for Media Literacy (CML), the National Association for Media Education (NAMLE) and Action Coalition for Media Education (ACME), three of the main proponents of media literacy and media education in the USA. The differences between these definitions are relatively minor at a conceptual level, primarily hinging on the promoted combination of abilities to create, communicate and participate, and largely reflecting choice of words rather than actions due to the convergences in meaning between creation and communication (e.g. in a social media profile), communication and participation (e.g. in a letter to the editor) and creation and participation (e.g. in a video spoof).

Moreover, focus in Canada appears to be mainly on critical understanding and its implications for (personal) media production as suggested by the key concepts forwarded in the now classic Ontario Media Literacy Resource Guide from 1989 and by the British Columbia Association for Media Education. The Australian Communications and Media Authority

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[2] http://www.medialit.org/reading-room/aspen-media-literacy-conference-report-part-ii

broadly applies the Ofcom definition of media literacy. The Broadcasting Standards Authority in New Zealand has proposed a definition including the abilities to access, understand, analyse, evaluate, create and communicate information (and elsewhere seems to lean towards a Canadian focus mainly on critical understanding and media production).

OECD and UN/UNESCO meanwhile have proposed no formal definitions of media literacy. Nevertheless, they highlight similar competency needs in their respective advocacies for competences related to problem solving in technology-rich environments under the auspices of the Programme for the International Assessment of Adult Competencies (PIAAC) and information literacy more generally. Thus, OECD defines problem solving in technology-rich environments as involving "*...using digital technology, communication tools and networks to acquire and evaluate information, communicate with others and perform practical tasks"*, while UNESCO more recently has summarised the core ideas in media education and literacy as "*critical thinking*, *media appropriation* and *intervention and participation in the Public Sphere"*.

3.3.2. European applications

In Europe, interpretation evolved in the 1990s similarly to the ones applied in the US, and the four elements of access, analyse, evaluate and communicate reoccurred in scientific and policy documents.

Most recently, the European Commission concluded a media literacy definition that was validated and accepted by the members of the EC Media Literacy Expert Group of the European Commission as:

> 'the ability to **access, analyse** and **evaluate** the power of images, sounds and messages which we are now being confronted with on a daily basis and are an important part of our contemporary culture, as well as **to communicate competently in media** available on a personal basis. Media literacy relates to all media, including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies.
> The aim of media literacy is to increase awareness of the many forms of media messages encountered in our everyday lives. It should help citizens **recognise how the media filter their perceptions** and beliefs, shape popular culture and influence personal choices. It should empower them **with critical thinking and creative problem-solving skills** to make them judicious consumers and **producers of information**. Media education is part of the basic entitlement of every citizen, in every country in the world, to **freedom of expression and the right to information and it is instrumental in building and sustaining democracy**.'

At a national level, the four elements appear in the definitions of regulation authorities in Denmark, Sweden and Romania[3] and in the UK. We also find alternative versions of the four characterisations, for instance, Ofcom[4] applies "*the ability to access, understand and create communications in a variety of contexts"*. A similar categorisation of the overarching themes in the media literacy literature, namely "*analyse, evaluate, produce"*, has also been proposed by Martens in early 2010 after a comprehensive[5] meta-analysis of concepts, theories and future directions for research within the field of media literacy education.

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[3] Emmanuelle Machet: Media Literacy (http://www.epra.org/content/english/press/papers/literacy_final.pdf)
[4] the independent regulator and competition authority for the UK communications industries
[5] a comprehensive study of 165 "scholarly manuscripts" sifted from among all peer-reviewed publications in English containing 'media literacy' or 'media education' in title or abstract in the EBSCO Communication and Mass Media Complete database

A comparative summary of the main approaches are presented below in Table 3-1:

Table 3-1 Media literacy definitions and review frameworks

EAVI Media literacy framework		EC	Ofcom	CML	NAMLE	ACME	PIAAC	Livingstone	Martens
Environmental factors	Media availability								
	Media context								
Personal competences	Use	Access	Access/Use	Access	Access	Access	Acquire	Basic access and ownership	
								Navigate	
								Control	
								Regulate	
	Critical understanding	Analyze	Understand	Analyze and explore	Analyze	Analyze	Evaluate	Comprehend	Analyze
		Evaluate		Evaluate	Evaluate	Interpret		Critique	Evaluate
Social competences	Communicate	Communicate	Create communications	Express or create		Create	Perform	Create	Produce
					Communicate	Communicate	Communicate		
	Citizen participation			Participate				Interact	

Sources: Center for Media Literacy (2008), Livingstone (2008), Martens (2010), NAMLE (2010), OECD (2009), Ofcom (2008) and organisation websites

Analysing the differences, we conclude that there appears to be a greater diversity and emphasis on the creative abilities across the varieties of the definitions. Moreover, in this instance there may be some validation for the inclusion of participative skills in the framework if conceived of in terms less glorified and highly wrought with connotations of power struggle rather than citizen participation (i.e., participation including, but not confined to, social participation, cultural participation, economic participation, consumer participation and political participation). Finally, it should be noted that access in this perspective commonly implies access to information and not just access to the tools, thus involving the skills to operate particular tools as well.

On the one hand, these general definitions emphasizing the four components have the advantage of applying equally well to print, broadcasting and the Internet.[6] On the other hand, the concise definitions often neglect to highlight that media literacy does not only concern the content provided by the media but also the context in which that media was produced, the understanding of how the media operates, and whether those media phenomena that are problematic from a society point of view are properly or critically evaluated by the individuals.[7]

This niche is tackled in the European Charter of Media Literacy's definition which, while incorporating the four elements, goes beyond that and adds other aspects to media literacy, including behavioural aspects of avoiding offensive or harmful contents as well as the usage of media to practice citizens' rights:
1. use media technologies effectively to access, store, retrieve and share content to meet their individual and community needs and interests;

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[6] Emmanuelle Machet: Media Literacy (http://www.epra.org/content/english/press/papers/literacy_final.pdf)
[7] Hartai, L., Measuring the Factors of Media Literacy, 2010

2. gain access to and make informed choices about a wide range of media forms and content from different cultural and institutional sources;
3. understand how and why media content is produced;
4. analyse critically the techniques, languages and conventions used by the media and the messages they convey;
5. use media creatively to express and communicate ideas, information and opinions;
6. identify and avoid or challenge media content and services that may be unsolicited, offensive or harmful; and
7. make effective use of media in the exercise of their democratic rights and civil responsibilities.

Another example of this diversion is the Netherlands, where the Council of Culture favours the wording of mediawijsheid (media wisdom), referring to the "*knowledge, skills and mentality of citizens in order to be aware, critical, safe and active and therefore to be able to live in a complex, changing society where media are omnipresent*" [8]

In conclusion, one of the key findings of the literature review was that the EC definition of media literacy as included on the website of the EC dedicated to media literacy is globally consistent with key definitions of media literacy. Considering all the definitions, and keeping in mind the practical aspects of measuring media literacy, we found it safe to conclude that the EC definition was appropriately selected as a choice to base the list of criteria to develop indicators to measure media literacy so far.

3.4. *Findings concerning the reflections of the EC definition in the framework*

3.4.1. Analysis of the pyramid structure as a whole

Presented in a pyramid structure, the framework allows for a clear conceptualisation of issues that are difficult to pinpoint. However, the pyramid structure remains a simplification of reality and must be understood as a model to better comprehend media literacy, not as an exclusive viewpoint of analysis. In reality, the relationships the criteria are more fluid and dynamic and the directions are more interconnected. Although very expressive, the vertical scooping form of the pyramid implicates that mobilising social relations skills and civic participation at the peak of the pyramid necessitates the preconditions of critical understanding, which might only be correct in a trivial sense. For instance, regular use of social networks on the Internet does not necessarily reflect critical consciousness of media contents. Likewise, minors participating in online platforms do not necessarily reflect a high level of critical understanding of media processes.[9]

It is also doubtful whether participative skills ought to be considered an aspect of media literacy. The background papers detailing the development process more often than not tend to identify participation with citizen participation, which albeit regularly alluded to in official documents would rarely appear to be conceived of as an aspect of media literacy, but rather as one of the normative objectives for media literacy advancement at a societal scale and across Europe (alongside, for instance, inclusion and employment opportunity). In other words, including participative skills in the framework risks confounding the argument that media

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[8]Mediawijsheid staat voor 'het geheel van kennis, vaardigheden en mentaliteit waarmee burgers zich bewust, kritisch en actief kunnen bewegen in een complexe, veranderlijke en fundamenteel gemedialiseerde wereld'

[9] Hartai, L., Measuring the Factors of Media Literacy, 2010

literacy is an enabler of (effective) citizen participation with the argument that citizen participation is a sign of or even a necessary component of high media literacy levels.

Similar uncertainty arguably relates to the inclusion of environmental factors in the framework, since neither structural media availability nor media literacy education, policy and civil society and industry initiatives (the media literacy context) would appear to be understood as aspects of media literacy per se, but rather as circumstances conducive to the advancement of media literacy at a societal scale.

To a certain extent, this dichotomy has already been recognised by placing the latter factors in a separate bottom layer of the framework to illustrate their character of necessary – enabling as opposed to enabled – pre-conditions for media literacy development and factors that facilitate or hinder such development. However, the description of the definitions in the study correctly distinguished between the two major components at the base of the pyramid when defining "access" as a "precondition" of critical understanding while defining the "media context" as "affecting individual capacities". Albeit interesting, research on how and how strongly the environmental factors influences personal skills and capacities of media literacy would go way beyond the scope of the current research. It would require, e.g., a long-term examination of the effects of regular media education at the level of individual skills. However, relevant measurements of the relationships in between the other factors situated in the environmental factors are doubtful, for instance, to measure the relationship between critical interpretation and freedom of speech. This also implies a slight reconfiguration of the framework in which media context, as an environmental factor, is not presented as a precondition for personal skills of media literacy.

3.4.2. Analysing the extent to which the developed framework reflects official views on individual skills

In developing the framework, a deliberately inclusive and "practical" approach was adopted to avoid being caught up in semantic disputes concerning media literacy definitions. Nevertheless, the framework holds as its main points of reference the definitions and concepts of media literacy embraced by the EC:

> "Media literacy may be defined as the ability to **access**, **analyse** and **evaluate** the power of images, sounds and messages which we are now being confronted with on a daily basis and are an important part of our contemporary culture, as well as to **communicate competently** in media available on a personal basis. Media literacy relates to all media, including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies.
>
> The aim of media literacy is to increase awareness of the many forms of media messages encountered in our everyday lives. It should **help citizens recognise how the media filter their perceptions and beliefs, shape popular culture and influence personal choices**. It should **empower them with critical thinking and creative problem-solving skills to make them judicious consumers and producers of information**. Media education is part of the basic entitlement of every citizen, in every country in the world, **to freedom of expression** and the right to information and it is instrumental in building and sustaining democracy."

Looking in isolation at the extent to which the developed framework reflects these official views, it is noticeable that the framework refers directly to the media literacy aspects identified by the EC (Table 3-2).

Table 3-2 Personal and social competences, EAVI (2010), p.34

Competences	Action	Individual skills dimensions	Objectives (Associated operations)
Personal competences	Use	Technical skills *Media operational skills required for the effective use of media tools*	Using Media *Instrumental use*
	Critical Understanding	Cognitive skills *Capacities related to knowledge and semiotic operations: encoding/decoding, interpreting, evaluating media text*	Evaluating and taking account of Media and Media Content *Comprehension and awareness*
Social competences	Communicate	Communicative and participative skills *Capacity to interact with others and maintain networks*	Building Social Relations *Media networking* Participating in Public sphere Citizens' Participation Skills *Active citizenship* Creating and Producing Content *Content creation*

Access was conceptualised primarily as *media availability* in the framework as part of the environmental factors. Accepting, as is common practice (see further below), that *access* generally entails more than mere ownership of the tools of access (e.g., a television, telephone or computer, mobile device or laptop), but also the necessary ability to actively manipulate those tools for whatever intended purposes (e.g., at a minimum switching channels, dialling or texting, pointing, and clicking), the *use skills* of the framework among the individual factors also reflect on this aspect of the EC definition.

In the framework, *"critical understanding"* is intended to cover in a combined way *analyse* and *evaluate,* if accepting that *"analyse"* signifies comprehension, i.e., the abilities to decode and classify content, and *"evaluate"* means judgment of the content and the context it enters into. Critical understanding as outlined by the framework properly reflects on the EC definition when it comes to *"recognise how the media filter their perceptions and beliefs, shape popular culture and influence personal choices. It should empower them with critical thinking and creative problem-solving skills",* which was included as understanding media content and functioning, knowledge of media and media regulation, and user behaviour.

Communicate means communicate or rather communicate and participate adjusting the individual skills dimension to the wider EC definition, which states that "*Media education is part of the basic entitlement of every citizen, in every country in the world, to freedom of expression and the right to information and it is instrumental in building and sustaining democracy*".

The more detailed overview of individual competences and associated skills dimensions have been reproduced for convenience and can be found below (Table 3-3). This comprehensive list of the generalised skills, which is proposed to map the scope of each of the individual

competence criteria, would appear to encompass all of the defining media literacy aspects, and is more likely to err on the high side than on the low side in the suggested number of pertinent skills.

Table 3-3 Generalised skills sets mapping individual competence criteria, EAVI (2010), pp.36-44

Use
(Technical skills related to the relationship between the individual and the media as a platform)
• Understanding simple technical functions • Decoding interfaces • Understanding complex technical functions • Adapting and personalizing interfaces • Searching and choosing technical information, devices and configurations • Converting informal procedural knowledge into deductive, formal and declarative knowledge (tutorials, guides, etc.) • Critical awareness of technical issues
Critical understanding
(Cognitive skills related to the relationship between the individual and the media content or message)
Understanding media content and functioning • Coding and decoding • Critically evaluating, comparing and contrasting information and media text • Exploring and searching information actively • Summarising • Synthesising • Remixing and recycling media content *Knowledge of media and media regulation* • Critically evaluating opportunities and restrictions, pluralism conditions, regulations, laws, rules and rights of media production • Appreciating conceptual frameworks provided by media studies *User behaviour* • Developing strategies of information use
Communicate
(Communicative and participative skills related to the relationship between the individual and other individuals established through personal use of the media)
Social relations • Making and maintaining contact through media and social media • Following trends relayed by the media (mimesis) and peer groups *Participation in the public sphere* • Maintaining participation with group that shares common models • Using social media to manage strategically contacts with others through pragmatic acts • Adopting appropriate presentations of identity (avatars and profiles) • Interacting with multiple institutions appropriately *Content creation* • Sharing commonly created devices • Fostering active collaborative work and cooperation • Solving problems through active cooperation and collaboration • Conceptualising, creating and producing new media texts

Therefore, we concluded that the framework correctly reflects the main views embraced in the EC definitions in terms of skills and competences required for individuals to become media literate.

3.5. *Findings concerning the operationalisation of the framework into indicators*

This exercise aimed at evaluating and refining the list of media literacy criteria in terms of their comprehensiveness, quality, and practicability. We have to be sure that the developed indicators measure the concepts we think they are measuring (validity) and ensure that we can rely on the answers people provide. In this first exercise, we looked at and evaluated each individual indicator across the five main criteria and their subdomains. The environmental dimension was qualitatively analysed, while the individual skills were qualitatively and quantitatively analysed throughout our exercise.

3.5.1. Qualitative analysis of the environmental components

Less contention surrounds the choice of indicators applied in the environmental dimension related to the structural availability of media (media availability) and the existence of media literacy education, policy and civil society and industry initiatives (media context).

Media context

The most systematic and thorough component of the previous framework is the media context component exploring extensively the stakeholders and the institutional background in support of enhancing media literacy levels in the Member States. The four key areas taken into account are media education, media literacy policy, the media industry, and the civil society, also covering basic aspects of freedom of speech and democracy.[10]

Looking at the diversity of topics and the depths of details aiming to measure, effective data collection can only be executed if national panels of experts and players representing all four aspects take part in providing the appropriate answers. Some aspects are difficult to measure as a "snapshot picture" of a certain point of time, e.g. the impact of the activities on media literacy developed by civil organisations. Moreover, some measures on the media education indicators need refinement and adjustments to national educational systems. In addition, datasets are not readily available for many of these questions as shown by national responses so far. Therefore, setting up the facilities at a national level to measure and monitor these activities systematically in the long run is necessary first.

Media availability

Media availability is rightfully placed in the framework in the environmental dimension as a "preconditioning" component to enable individuals to use it in the first place.

From a media literacy point of view, the main reason for including such an overview here was that the larger a diversity of sources of media available to individuals, the more choices people have according to their individual skills and cultural preferences and the more enabled individuals are for critical comparison of information attained through these different sources. To test whether availability in itself results in plurality in use requires measuring both access and the actual choices of use based on (a) field data collected directly from individuals on both measures, and/or (b) comparison of availability and actual consumption data provided by the industry are needed.

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[10] Media context indicators, EAVI (2010)

3.5.2. Individual skills and competences

Use skill (technical) component

Given that no scaling of the technical skills of different media genres other than computer and Internet use have been developed, the Consortium suggests an in-depth classification, using self-evaluation questions asking individuals to evaluate their level based on lists of functions and choosing the level that best describes their level (see Table 3-4). This cannot replace the concrete measurements of these skills by testing individuals directly. However, unless regular direct skill measurements are introduced in Europe in educational systems at a European scale, such a self-evaluation system would remain in place.

Table 3-4 Examples for each categories under Technical Use Skills at Basic, Medium and Advanced Levels following the definitions of the framework for relevant media genres under frequency of use (the list below is indicative in nature and does not intend to be complete)

*As an example, respondents could be asked to tick the one box which best described their current ability in the given media genre

Skill levels as set in the framework definitions	Mobile	Internet	Computer	Digital Camera/ Video camera	TV
Basic Skills: 'Operator' -Use and understands simple technical functions of media tools, -Understands and decodes interfaces and basic codes of media tools.	-Initiate/receive a call, -Send/read an sms, -Set the date and time, -Set the alarm, -Create/store new contacts -Redirect/forward a call	-Visit a specified web address, -Follow a link to a new file -Scroll through a web page -Use the back button to return to a web page -Print a webpage	-Use a mouse to point to click/double click -Use the keyboard, -Access a CD-ROM, DVD player -Attach cables	-Switch on/off -Check storage room -Check battery levels -Use Functions: Zoom, Click, Rec, Stop, -Connect microphone to camera, -Record Sound	-Switch on/off -Plug in cable -Change channels with the help of the remote control, -Regulate volume
Medium Skills: 'Confident User' -Uses and understands more complex technical functions of media tools, -Adapts and personalises interfaces of media, tools to own conditions and interests, -Ability to search, evaluate and choose technical information of media devices.	-Store a contact list, -Create contact groups -Assign special sound or image to each group, -Use calendars -Use email or Internet -Select and store music channels	-Use and compare search engines/websites to find information -Bookmark a website (add to Favourites) -Download software (other than games software) -Modify security settings of Internet browsers -Change filter preferences -Change privacy settings on a social networking profile -Block unwanted adverts or junk mail/spam	-Copy-Paste functions -Move file or folder -Use basic arithmetic formulas in a spread sheet -Compress (or zipping) files -Connecting and installing new devices, -Modify/verify the configuration parameters of software applications	-Apply manual settings to record (manual focus, exposition times) -Use filters -Set white balance -Apply steady cam	-Access and read teletexts -Set subtitles -Set and store channels according to preferences
Advanced skills: 'Confident Applier': -Creatively combines and applies skills of different media types -Able to improve the searching information strategies about media tools, -Critically aware of technical issues, -Able to transform the conditions of use.	-Record sound/video to share -Take/share photos/MMS -Receive subscribed SMS news service -Send groups SMS	-Creating a blog/web page -Share text, games, images, films or music to websites -Telephoning over the Internet/video calls -Subscribed to news services or products -Find information on how to use the Internet safely -Internet Banking -eCommerce: buying by Internet -eGovernance	-Write a computer program using a specialised programming language -Install/replace operating systems -Create presentation templates -Transfer files between computer and other devices (from digital camera or from/to mobile phone, mp3/mp4 player)	-Connect to computer -Edit photo/film/sound digitally -Search for sound/video/ digital photo file conversion programs, plugins, -Share content online	-Interactive television: use telephones to comment or ask questions -use of primary camera

As data is available at EU27 level for computer and Internet skills we included them into the statistical analysis to prove correlations and to see if their position in the separate indicator field "Technical skills" is underlined by factor analysis.

Balanced and advance use of media

The currently suggested frequency of use and access indicators might rather be separated from the technical use skills and be more connected to the access/availability component and measure actual consumption of media genres in comparison with their availability. In this instance, Annex B - The framework (EAVI 2010, p.16) supports this separation under the use skills:

'In relation to these skills we may distinguish between:

- Access: The individual can gain access to the media. Access affects the relationship between the context and the individual;

- Use: The individual use the media to act.'

It also would be worthwhile to consider incorporating playing or downloading video games under "new media" as they are becoming increasingly popular in Europe.

Advanced Internet use

"Advances use" is supposed to reflect a conversion of procedural knowledge into deductive and critical thinking of technical issues and make commercial or political procedures online, etc. (EAVI 2010, Annex K, p10.). Therefore, eGovernment, eCommerce and online banking are rightly selected here as examples, but they only partially cover the advanced use criteria. Advanced skills have their place in the framework, although the separation of these advanced skills into a separate component may not be necessary unless the statistical analysis indicates correlations that underline their importance to present them separately from the technical skills.

Critical understanding competences

The original framework distinguished three major contributors to critical understanding of the media, i.e., understanding media content and its frames, understanding how the media industry operates and how individuals behave in this context. By reviewing other sources on critical understanding, we concluded that the involved multi-faceted issues may best be summarised applying Martens' classification and review of the most pertinent research topics in the literature as shown in the Table 3-5 below. The table shows that the major components largely reflect the framework's approach on their main components in these criteria. However, it should be noted, that, similarly to the organically framework's suggestions, Marten's summary probably cannot be expected to ever actually measure the complete range of critical understanding competences either.

Table 3-5 Aspects of critical understanding of media

Dimension	1st level **What are the issues to Critical thinking**	2nd level **The basis for developing indicators**	3rd level **Specific indicators**
Media industries	Analysis, interpretation, awareness, appreciation, etc. of commercial interests, effect of this on content, vested interests, political interests Authorship Audience Purpose Representation Non-neutrality	**1**: profit motives: ➢ funding **2**: political motives: ➢ funding, motivation **3**: ownership patterns: ➢ "macro" diversity ➢ same stories appearing in many media **4**: selectivity of producers: (consciously filter what is shown, have intentions) ➢ skewing macro representation of reality (the totality of messages) ➢ over-representing particular types of content (popularity, lowest common denominator) and/or viewpoints (acceptability, palatability, majority, power elite)	**I1**: Ability to distinguish between content and commercials **I2**: Appreciation of the existence of media industry **I3**: Appreciation of commercial media and advertisers and awareness that this may affect the audience experience **I4**: Assessment of critical attitude or level of distance from advertisers
Media messages	Impact of sound, lighting, framing, perspectives Genre, narrative structures, fact/fiction distinction Authorship Format Content Credibility Regulation	**1**: genre characteristics and differences ➢ distinguish genres ➢ distinguish fact from fiction **2**: credibility signals ➢ message ➢ medium ➢ author ➢ techniques	**I1**: Appreciation that media has its own style, language etc. Appreciation of the different format across different media channels and different use of it? **I2**: Understanding of the different political and social values and implications that media have and the role of mass media in the life of the audience? **I3**: Ability to identify and differentiate between content, form and technique and how these are used to create media messages **I4**: Ability to code messages individually
Media audiences	Ability to set oneself in the place of (other) potential recipients Appreciation that interpretation, filtering, meaning construction by oneself and by others happens *in* context, *based on* social positions, age, gender and race (and culture/experience/mood)	**1**: encoding ≠ decoding, audiences not passive recipients ➢ plurality of readings by oneself ➢ plurality of readings by others ➢ possibility of (intended or unintended) offensiveness	**I1**: Do you have knowledge of the source of media content? **I2**: Are you aware of how you use and understand the media? **I3**: Do you engage with others in your use of media? **I4**: Are you aware that a media text may be constructed? How does this affect your media consumption?

Dimension	1st level What are the issues to Critical thinking	2nd level The basis for developing indicators	3rd level Specific indicators
	Audience Content Format		**I5**: Are you aware of how you use media differently than your peers or others from other social groups?
Media effects	Appreciation of stereotyping and unrealistic expectations and/or consequences, subliminal discrimination Content Context Representation Regulation	1: ➢ Violence ➢ Sex ➢ Gender roles ➢ Racial attributes	**I1**: Does viewing violent media content affect you and how? **I2**: How does viewing media content with a sexual nature affect you?

As seen also from Marten's review, critical understanding competences entail a range of behavioural patterns that are not only new and quickly evolving in light of the changing media landscape, but also highly complex and predominantly internal and thus difficult to observe. Certainly, the most difficult is to develop "easy-to-use" measurements for evaluating the critical understanding of the different types of media contents by individuals. It requires the individual to evaluate, compare and contrast information and media text based on their contents, forms, aesthetics, genres, their respective authors, their potential effects (opportunities and risks) on individuals and individuals' needs.

One way to measure these is to present respondents with different media types, such as short texts, video clips, web pages, film extract, music pieces, lyrics, advertisements, etc., and develop questions that measure basic and more complex aspects of the content and the context in which the piece was created. Examples include the complex PISA[11] exercise for written texts. Some Member States have also developed exercises for media and motion picture secondary school leaving exams to measure critical understanding of media content and operations. These are lengthy tests, requiring that the individual not only reads/listens to/watches the media extract and answers some preformulated questions but also explains more complex context questions in the form of essays. Registering the above exercises takes between one to three hours.

From a practical point of view, even if a perfect exercise is developed, there are no standards for "correct answers" of understanding, but a "range of correct answers" with flexible use, especially taking into account the different contexts in the European countries and the actuality of the context in which the given media piece was developed. Another serious problem is the survey method used. Using the less expensive methods (e.g. telephone surveys) the offline population cannot, or only with great difficulty, be presented with any media excerpt. Consequently, direct measurements of differentiation of media genres, distinguishing content, and the different types of commercial information, to identify different platforms and their functions at a European level are highly costly and time consuming. Moreover, exercises cannot be repeated with the same questions every year. Therefore, the reliability of such a

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[11] OECD (2006). Assessing Scientific, Reading and Mathematical Literacy- A Framework for PISA 2006, OECD, Paris.

measure in scientific terms is very low. Systematic measurements of cognitive skills could be built into the educational systems of the Member States along with measuring the technical skills in depth (see pervious section).

An alternative way of measuring indirectly critical understanding in the literature is the use of proxies, such as trust and reliability of information presented by the media, and the use of self-assessment exercises measuring the level of understanding of media content and awareness of media operations.

User behaviour

The framework defines this component as the individual's ability to evaluate media contents, adopting different behaviours to consider and judge the content's quality, being able to construct opinions, and make decisions according to their own interests. In the process of evaluation, there are binary classifications such as true/false, legal/illegal, trustworthy/not trustworthy and good/bad, to start an evaluation.

The whole component and the indicators suggested focus on the Internet and its safe and reliable use. This focus may not be suitable given the still relatively large offline population. Therefore, next to the Internet, related indicators suggested more general questions should address how individuals behave if they are faced with, for instance, differences in the information on a certain issue in different sources and the ways they approach critical search for information across other media than the Internet.

Knowledge on media regulations

The list of indicators as portrayed in the framework is important and valid to measure the criteria in general terms. However, these questions may be too detailed to survey easily online. Preliminary research should first be made to determine the correct answers in each Member States to allow a comparison of individuals' knowledge with reality. Separate, extensive measures have been developed in Europe to monitor, for instance, media pluralism and its components (defined as cultural, political and geographical pluralism in the study).[12]

It is equally important to evaluate whether individuals understand the influencing power and dominance of media operations, media malfunctions and media concentration, and if they are ready and able to signal these malfunctions to the appropriate forums, especially in relation to the protection of minors (these are also priorities in the AVMSD).

However, from point of view of the quantitative analysis, it is difficult to correlate these indicators with the other elements in the framework. A factor analysis should confirm this component's exact position in the framework.

Communication skills

On the one hand, communicative abilities comprise a vast range of comparatively new and evolving skills and competences, for instance, in relation to user-created content and media production without established norms and standards. On the other hand, in the framework the indicators are all connected to the Internet, which corresponds with the fact that technical use skills were also listed only for computer and Internet skills. If a range of categories were developed for the technical skills across the different media, communicative abilities could be

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[12] Independent Study on "Indicators for Media Pluralism in the Member States – Towards a Risk-Based Approach

more generalised and the purpose of the use could be related to the ability/skills that make application of media tools possible to:

- participate in social life (social networking via phone and Internet);
- participate in public life as a citizen and voice opinions in different ways.

In conclusion, the communication skills are well-outlined in the framework, and statistical exercises should be carried out to support their positioning.

3.6. *Summary*

Chapter 3 explained how the EC definition of media literacy is globally consistent with key definitions of media literacy and is appropriate and valid as a basis to set indicators based on it. The EAVI framework correctly reflects the main views embraced in the EC definitions in terms of skills and competences required for individuals to become media literate. The graphical representation of the theoretical framework needs a reconfiguration, underlined by the results from the statistical analysis.

This study does not aim to measure the environmental indicators. Consequently, only qualitative analysis was performed in respect of environmental indicators. The media context indicators were found to be comprehensive, but resource-intensive when measuring them, while the media availability indicators need reconsideration based on their functions in any statistical analysis. If they are measured together with their active usage, more detailed and consistent information is needed on the different media genres (user preferences, genre, etc.). The measures of media availability, frequency of use, and skill levels are theoretically interconnected. Once we have measured the necessary correlations to evaluate how media availability affects frequency of use, and how the frequency of use improves skills, and how this advancement of skills feeds back into the frequency of use and generates more demand on availability, it becomes possible to develop well-targeted policies to improve education to further advance skill levels or to improve availability through extending media networks, etc.

Measuring technical skills in depth at a European scale could be imagined in a similar way as the self-evaluation of language skills of EU citizens that has been developed under a common European understanding (e.g. the Common European Framework of Reference for Languages (CEF). At a national level, the more finely detailed skills measures can underline the importance and measure the impact of educational initiatives targeting media use skills and also, define further educational niches. Indicators should appropriately reflect the definitions set in the EAVI framework and all the media genres in the EC definition (*including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies*). Agreed European definitions of basic, medium and advanced technical skills to operate and use media tools should be developed and introduced in Eurostat surveys or in educational systems.

The individual cognitive skills were found to be largely appropriate. However, statistical analysis should underline their position in the framework in relation to each other, and it is impossible to measure them in a relatively time and cost efficient manner at the EU level on a regular basis due to their comprehensiveness and due to the nature of exercise that need to be carried out to measure them properly.

4. Statistical validation of the Revised Media Literacy Criteria Framework

Chapter 4 presents
- The analysis of available data sources;
- The preliminary statistical validation based on available data at the aggregate country level.

4.1. *Analysis of available data sources*

After revisiting the theoretical foundations of the framework, we had to address the next question in our approach:

"Are the proposed indicators themselves measurable as well as feasible and, preferably, readily available?"

The framework shows that media literacy is anchored in the skills and practices of individuals. Comprehensive studies such as Ofcom's "*Media Literacy Audit: Report on UK Adults' Media Literacy*" (2008) and ActiveWatch's "*Evaluation of Media Literacy in Romania*" (2008) demonstrate that assessment of the critical use, understanding, and civic engagement components of media literacy are ideally made at an individual level.

However, as stated above, individual-level data on media literacy are not widely collected or available for a majority of EU Member States. For that reason, the 2010 study sought to supplement what individual level data were available by using aggregate data as a surrogate for measuring individual competences. While the limitations of aggregate indicators are well known, it is possible to provide some estimates based on aggregate data that can be combined with individual level data and validated with selected survey data.

The greatest risk of using aggregate data to make assumptions about individuals is the potential of what has been called an "ecological fallacy". Such assumptions can include using aggregate data to understand *how* particular individuals are using a resource. Put simply, if a large proportion of an aggregate, such as a nation, has a high level of schooling, it is risky to assume that every individual within that population is highly educated. Aggregate data pose other risks. For example, aggregate data on access to a media do not provide direct evidence about *how often*, or most importantly, whether individuals are critically engaging with the media: *understanding* the purpose of the media, potential *biases* affecting the messages, and *regulatory issues* affecting the media they access (Martens, 2010; Ofcom, 2008). Thus, to apply the framework in fulfilment of the AVMS Directive (2007), to report on media literacy in Member States clear identification of individual level versus national level indicators had to be established, and the relationships between these levels had to be explored and more clearly identified.

In short, aggregate data provide information about a population, e.g., the proportion with access to media, but it is risky to make conclusions about any individual in the population based on that aggregate. In addition, aggregate data do not provide good indicators of the purposes or experiences of individuals, such as how well they understand a particular text. However, if these risks are well understood, it is possible to use aggregate data as indirect, albeit imperfect, indicators of media literacy levels within a given population.

A concern about using existing country level indicators is their suitability in connection with media literacy. For example, in the case of newspaper consumption, is *Circulation of Top 10*

Dailies, as provided by ENPA and UNESCO, the best measure of media literacy? What this data does not tell us is how many people actually read the newspapers and whether they have a critical approach to the content. For example, it is entirely possible that a single newspaper copy is read by three or more people, or none. When possible, for example, a measure such as "have you read a newspaper in the past 24 hours?", as provided by World Press Trends (2009), would provide more accurate data about actual use. Coupled with questions about awareness of funding of the publication, as well as its regulation, as suggested by Fotiade & Popa (2008) and Ofcom (2008), this measure would support the informed citizenry dimension of the 2010 study's framework. These types of questions could further measure respondents' ability to self-regulate their news and media consumption, as suggested by Buckingham (2007) and O'Neil & Hagen (2009).

Surveying individuals would further allow for testing of how hybrid use of different media demonstrates critical understanding. Perhaps individuals who go to the cinema and download movies have a stronger awareness of this particular media's purpose, or perhaps they have less awareness of regulations affecting legal and illegal downloads. Likewise, perhaps those who use e-readers also tend to read more books and this practice may lead to more critical engagement in connection with online information. Several recent studies (Meyer, Eccles, Thelwall, & Madsen, 2009; Reiger, 2010) have identified a hybrid use of media, but few have addressed its effect on critical understanding.

These questions were addressed theoretically within the 2010 study's framework and can certainly be measured by surveys of individuals. These types of practices comprise the critical understanding measure that could provide a useful index of media literacy. In fact, in the EU Kids Online Report (2010), many of these types of questions did form a measure for media literacy. For example, one set of questions asks children if they engage in the following activities when using the Internet: compare different websites to see if information is true, block unwanted adverts or junk mail/spam (Item 320, EU Kids Online Survey, 2010).

To assess the 59 indicators proposed in the 2010 report, we carefully mapped each indicator to its source data. In cases where an indicator appeared in more than one category, yet drew on the same dataset, we noted the duplication (see Annex B).

Next, we assessed the reliability and validity of each indicator. In some cases, individual level indicators existed, such as Eurostat's 2007 and Eurobarometer's 2008 surveys of Internet and computer skills. These individual-level data formed the core of our set of media literacy measures. They include the indicators listed in the 'use skills' and 'media availability' categories.

Some indicators have multiple forms, and we chose the most valid of the set, i.e., those that are the best surrogates for individual media literacy levels. For example, as mentioned above, are broad newspaper circulation numbers the best indicator of many people read newspapers? While circulation rates are appropriate for the media access category, we chose whether a person had read a newspaper within a given time period as a measure for the 'Balanced and Active Use of Media' category because it seemed to address the indicator description more precisely.

A large percentage of the indicators were theoretical in nature and thus did not have data associated with them. For example, of the 17 indicators within the 'Critical Understanding' category, 10 had no data associated with them, 6 drew from national data available only for

Romania or the UK, and 1 indicator was based on data from the OECD, which excluded 6 EU countries. Over time, these indicators will draw from future datasets published by *Eurostat* and the *European Social Survey*, but for this phase of the statistical validation, data were unavailable.

Next, we considered the comparability of the various datasets. For example, some of the indicators were based on data that was not comparable due to collection dates (1997-2004). For instance, data about television and radio coverage based on equipment counts from 1997 were excluded because the Consortium agreed the data were outdated. We attempted to achieve comparability in the measures by using data collected within a three-year period and available for the majority of EU Member States (not under 23).

This analysis represents the first step in the statistical validation. The two-step process involves first identifying available country level data and analysing them to determine whether media literacy is a single or unidimensional construct. As part of this first step, we identify which indicators relate to each other so that we can statistically validate EAVI's framework.

Judgmental ratings

The EAVI framework attempted to address questions of media policy and media education by surveying national media literacy experts. This was a creative way to assess these attributes, but cross-national comparison of these ratings poses serious risks to validity.

The responses from experts to these questions were assigned values and weighted to form an assessment of media literacy policy and education, which subsequently resulted in a ranking of countries. The reliance on the judgment of individual country experts may present a fundamental risk to the validity of the 2010 index. One or more experts in each given country was asked to make judgmental ratings on a number of criteria within their respective countries. The problem is that potentially these ratings are not comparable cross-nationally due to their relatively subjective nature. For example, an expert in Britain may have different expectations and be more negative in his/her ratings than an expert in Netherlands in otherwise similar circumstances. In other words, the index risks measuring the biases of the respondents rather than the actual levels of media literacy.

Data was also incomplete, for the 16 "Media Literacy Context" measures, since experts from only 20 of the 27 EU Member States responded. Missing data is problematic in an analysis of such a small sample size. Additionally, the nature of the variables (dichotomous response) differed from other variables and did not lend well to statistical comparison. Therefore, we excluded this data from the statistical analysis, although we considered including measures from the original questionnaire in the field survey.

After this review, we contacted Eurobarometer, Eurostat, the European Social Survey, the European Commission (DG Information Society and DG Culture) and UNESCO to obtain the most recent information wherever possible. Eventually, as part of this analysis, some data were substituted with data from *Eurostat*, *Eurobarometer* and *Internet World Stats*. Annex B provides details about the substitutions, where possible. In total, eight indicators were substituted, removed, or added for a total of 21 indicators used in the present analysis.

4.2. *Statistical validation of indicators*

Our first preliminary attempt was to validate those indicators for which data was available (mainly from Eurostat, Eurobarometer) for the EU27 countries. It was possible to connect two main groups of indicators to aggregate data, i.e., use skills indicator groups and communication abilities. We conducted a correlational analysis to identify relationships between the indicators within each of the three categories. Subsequently, we carried out a factor analysis for each segment.

Use skills indicator group

Some of the 13 indicators eventually used for analysis under the individual media use (Annex B) correlated well with some, but not all, other variables. For example, Internet skills were correlated with Internet use, reading books, banking online and eGovernance, but not with cinema attendance, mobile phone use, download, or watching TV. Indicators such as "*conducting banking by Internet and making Internet purchases" correlated* highly with a majority of the indicators. Additionally, "*reading a book"* y correlated with a majority of activities, including high *Internet skills* and *Internet use* as well as financial activities. Next, we conducted a factor analysis. While the "Use skills" category in its entirety forms a reliable scale, the factor loadings did not correspond with the three component categories specified in EAVI's report (technical skills, balanced and active use, advanced use), or showed clear relationships between theoretically coherent categories, such as traditional media, visual literacy, or finance. This implies a problem with the data and it is likely that too many similar variables interfere with an accurate representation of the relationship between the larger constructs.

Communicative abilities

For the "Communicative Abilities" category, data were available for "*user-created content"* (individuals posting messages to chat rooms, newsgroups, or online discussion forums), "*creating a profile" or "sending a message in a social networking website",* and "*eGovernment usage"* (individuals who have used the Internet for interaction with public authorities). The Consortium added "*uploading photos, videos, or other files to a website which others can see"* as an indicator in the "*Content Creation*" sub-category.

The indicators within the "*Communicative Abilities*" category did not form a reliable scale and were found to be multi-dimensional. Two factors emerged, with "*eGovernment usage"* and "*posting to a chat room"* loading together and "*uploading photos and creating a profile"* loading together.

The groupings in this factor analysis, while limited to four indicators, tentatively support the framework's social and participative dimensions related to communicative abilities. Further analysis of the remaining six indicators for which data were unavailable should address the reliability of the scale within this category.

From the limited data, it is difficult to draw any conclusions from this analysis.

Member state groupings

To determine country groupings based on these measures, we conducted a hierarchical cluster analysis using indicators from the "use skills" and "communication skills" categories shown in Figure 4-1. The figure shows which countries are most similar in their media literacy levels based on these indicators. The height of the bars represents the dissimilarity of groupings. A

lower height indicates closer relationships. For example, at the bottom of the graph, Finland, Germany, Austria, Luxembourg, the Netherlands and France form a tight cluster.

Figure 4-1 Cluster analysis of 27 Member States using Ward's method, squared Euclidean distances and Z-scores

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Dendrogram using Ward Method


                            Rescaled Distance Cluster Combine

        C A S E             0         5        10        15        20        25
     Label           Num    +---------+---------+---------+---------+---------+


     Belgium           2    -+
     Malta            18    -+-+
     Slovakia         23    -+ +---+
     Czech             5    ---+   |
     Cyprus            4    ---+---+
     Ireland          13    ---+   +-+
     Hungary          12    -+---+ | |
     Lithuani         16    -+   +-+ +-----+
     Portugal         21    -----+   |     |
     Italy            14    -+       |     |
     Spain            25    -+-------+     +-------+
     Slovenia         24    -+             |       |
     Latvia           15    ---+-----+     |       |
     Poland           20    ---+     +-----+       +-----------------------+
     Estonia           7    ---------+             |                       |
     Bulgaria          3    -+-+                   |                       |
     Greece           11    -+ +-------------------+                       |
     Romania          22    ---+                                           |
     Denmark           6    ---+-----+                                     |
     Sweden           26    ---+     |                                     |
     France            9    -+       +-+                                   |
     Netherla         19    -+---+   | |                                   |
     Luxembrg         17    -+   +---+ |                                   |
     Austria           1    -+-+ |     +-----------------------------------+
     Germany          10    -+ +-+     |
     Finland           8    ---+       |
     UK               27    -----------+
```
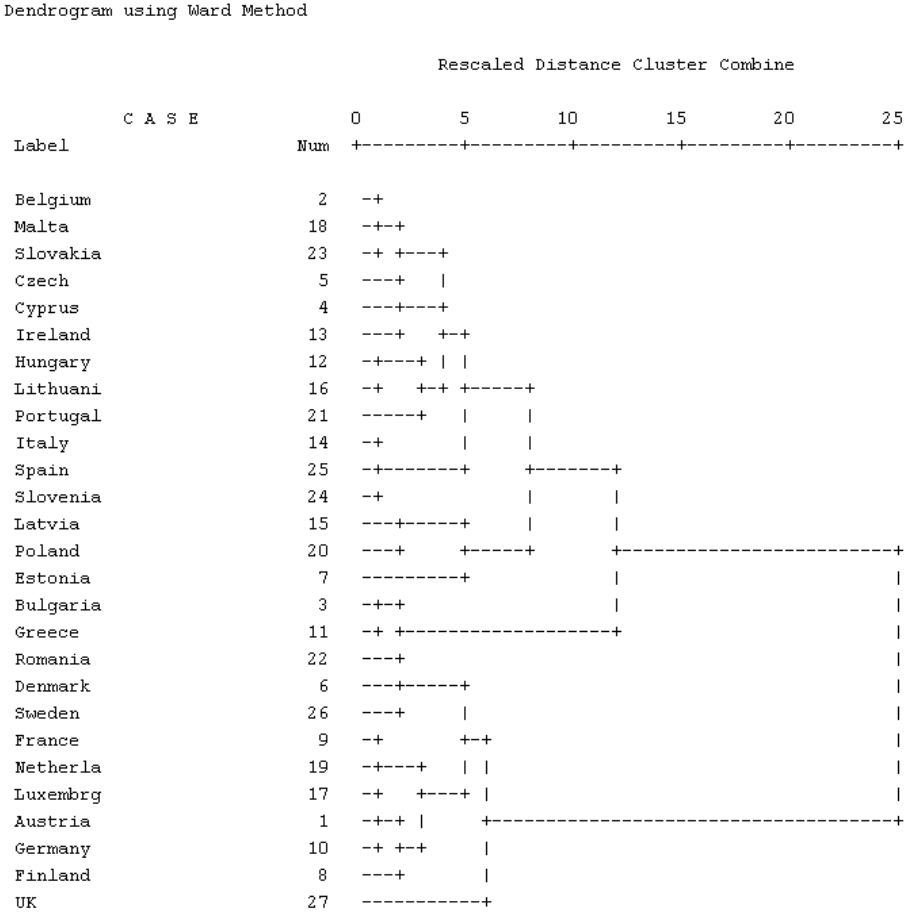
Table 4-1 lists countries that cluster together based on the available "Use skills" and "communicate" indicators. Countries cluster together based on high or low reported use in areas such as news reading, going to the cinema, and using the Internet for purchases, banking, and eGovernment document filing. Cluster 3 is really an artificial combination for analytical purposes of two smaller sub-clusters to Cluster 2.

Table 4-1 Identified country groupings

Cluster 1	Cluster 2	"Cluster 3"
Austria	Belgium	Estonia
Germany	Cyprus	Latvia
Denmark	Czech Republic	Poland
Finland	Spain	
France	Hungary	+
Luxembourg	Ireland	
Netherlands	Italy	Bulgaria
Sweden	Malta	Greece
United Kingdom	Portugal	Romania
	Slovenia	
	Slovakia	
	Lithuania	

The clusters largely correspond with differences in the tentative media literacy scores offered in the previous report as well as with differences in income and overall educational levels in the EU Member States.

5. Survey development and implementation

Chapter 5 discusses:

- the choice of test methodology;
- the overall survey design;
- the development of survey questions; and
- the implementation of the survey and problems encountered.

5.1. *Choice of test methodology*

To test the validity and reliability of the framework at an individual level and to obtain information about the critical understanding criterion, for which no widely available aggregate indicators were identified in the review of cross-national data sources, a survey questionnaire was developed based on the three proposed individual competences criteria (i.e., "Use skills", "Critical understanding" and "Communicative abilities") and 38 associated individual competences indicators (e.g., "Computer and Internet skills"). The final questionnaire is enclosed in ANNEX C Final survey questionnaire.

The choice of a questionnaire rather than interviews and/or practical problem-sets was based on a maximisation of the inherent trade-off between width and depth of scope within a tight budget constraint. While longer and more thorough tests (within reason) allow for more definite conclusions about the actual media literacy levels of each test person, they prohibit wider testing and the confidence in multiplicity that shorter and quicker tests (within reason) allow. Thus, the number of feasible interviews within the budget was assessed to be insufficient to properly represent the expected variations in media literacy levels across all or even most of the following salient demographic, socio-economic and cultural dimensions:

- gender;
- age;
- education;
- income;
- urban-rural location;
- European geography.

The choice to look solely at individual competences was also based on a maximisation of the trade-off between width and depth of scope in the sense that the exclusion of environmental factors (i.e., "Media availability" and "Media context") allowed a greater focus on individual competences within the limited budget. This choice appears fully in line with the tender specifications that explicitly ask for an analysis of media literacy levels across age groups that make little sense in relation to the environmental factors. For instance, media education is largely irrelevant above normal school age as anything else than general background information. Likewise, media literacy policy generally does not distinguish between people of different ages except for protecting minors against certain types of content. Thus, the added value of an analysis of the media literacy environment by age group seems rather limited while general background information about national contexts reasonably can be gathered from the country reports published only last year in relation to the previous study on media literacy (note that this is not to say that environmental factors including media education are altogether unimportant, just that they are not the primary focus of the present study).

5.2. *Survey design*

The survey questionnaire was designed by the Consortium, while the execution of the survey was subcontracted to a company specialised in European level data collection. In an attempt to further maximize resources, the Internet user population (defined as people regularly using the Internet) was surveyed online, while the offline population (defined as people who have not used the Internet in the last three months) was contacted by telephone. The subcontractor coded and translated the questions in native languages in their own software solution, but the reporting of the survey process and results arrived in English.

The survey was carried out in the following seven Member States: Denmark, France, the United Kingdom (from Cluster 1 of countries identified based on available aggregate data, see further analysis in Section 4.2 above), Hungary, Italy, Lithuania (Cluster 2) and Poland (Cluster 3). These countries were selected in a way that provides a diverse spread in terms of media exposure levels (media availability) and media literacy levels defined in the previous study (EAVI 2010) along with other dimensions consistently shown to be important mediating factors in studies of media and digital literacy levels, such as educational attainment[13] (with the exception of Lithuania that is not reported in OECD studies) and self-reported Internet skills.[14] Providing adequate variance in socio-economic levels (income per capita[15]) and geography was also considered in the selection of countries to ensure a representative country sample. Together the seven countries represent high, medium and low rankings on the dimensions summarised in Table 5-1 below.

Table 5-1 Rankings of survey countries on salient dimensions

Previous ranking of ML levels	*Income*
Denmark, UK (high)	Denmark, UK (high)
France, Italy (medium)	France, Italy (medium)
Hungary, Lithuania, Poland (low)	Hungary, Lithuania, Poland (low)
Geographical spread	*Educational attainment*
Denmark, UK (NWE)	Denmark, UK (high)
Lithuania (EE) Hungary, Poland (CE)	France (medium)
Italy (SE), France (SWE)	Hungary, Poland, Italy (low)
Media availability	*Internet skills*
Denmark (high)	Lithuania, Denmark, France (high)
UK, Italy, France (medium)	Italy, Hungary, UK (medium)
Poland, Hungary, Lithuania (low)	Poland (low)

As shown in Table 5-2, a total of 1,000 respondents was planned in each country with the majority of responses to be obtained through the online survey. In fact, telephone surveys only were planned in the four countries with a population share of regular Internet users (defined as Internet users in last three months) below 67%, where an online survey might exclude particular (marginalised) population groups less frequently accessing the Internet. At

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[13] Education at a Glance 2010: OECD indicators
[14] Eurostat Community Survey on ICT Usage in Households and by Individuals, 2010
[15] EU Member States ranked by income per capita, United Nations, 2008

least 1,000 respondents in each country were deemed necessary to reasonably generalise the results of the survey to the population as a whole. Compared to other nationally representative surveys, this number of respondents is at the lower end for the largest countries, but still ensures a general uncertainty level of no more than ±3%. However, the limited number of respondents reached by phone obviously implies a greater uncertainty regarding the offline populations, and it can be questioned whether the responses are even representative of these population groups. A conscious effort has been made to correct the likely skew of the online responses by using interlocking, "hard", gender and age strata (four age groups, 16-24, 25-39, 40-54, 55-74, eight groups in all) and non-interlocking, "soft", regional strata.[16] Moreover, all responses have subsequently been weighed by gender, age (three groups for the online sample, 16-24, 25-54 and 55-74, and two groups for the offline sample, 16-54 and 55-74) and education (three groups for the online sample, primary or lower secondary or no formal education, upper secondary or post-secondary, non-tertiary education and tertiary education).[17] For a further breakdown of sample characteristics and data validation, see ANNEX D Sample characteristics.

Table 5-2 Sample frames for the offline and online populations

Sample frames of the offline and online populations		Share of regular Internet users	Offline Unweighted count	Online Unweighted count
Country	Denmark	88%	0 (0)	1 000 (1 007)
	France	79%	0 (0)	1 000 (1 049)
	Hungary	62%	50 (50)	950 (952)
	Italy	51%	100 (101)	900 (1 001)
	Lithuania	60%	50 (51)	950 (989)
	Poland	59%	50 (50)	950 (1 012)
	UK	83%	0 (0)	1 000 (1 041)
Total			**250 (252)**	**6 750 (7 051)**

Note: Realised counts in parentheses. Regular Internet users denote the share of the population aged 16-74 who have used the Internet in the last three months (source: Eurostat, 2010 shares).

5.3. *Developing survey questions*

Developing a questionnaire to cover such a comprehensive framework, even considering just the individual competences, poses particular problems. On the one hand, a working questionnaire should be relatively brief to avoid survey fatigue among respondents and it should be worded in a plain, non-academic language to be understandable and answerable to to regular respondents without any prior knowledge of the concept. On the other hand, a working questionnaire should also cover at least the main criteria and components of the

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[16] The interlocking strata ensure that the composition of the national online samples reflects the gender and age distribution of the general population in each country so that a proportionate number of responses is obtained from, for instance, females aged 54-74. The non-interlocking strata ensure that the composition of the national online samples reflects the marginal geographical distribution of the general population in each country so that, responses are not obtained from capital regions only. Non-interlocking strata do not ensure a proportionate number of responses from, for instance, females aged 54-74 in each region, however.
[17] Based on raking of national population figures for gender and age, age and education and education and gender from the Eurostat Community survey on ICT usage in households and by individuals, 2010.

framework to provide adequate information for analysis and be worded in a sufficiently sophisticated language to capture the complexities of the construct, particularly as it relates to critical understanding. Moreover, the same questionnaire should be usable in both an online survey and a telephone survey setting to ensure comparability of answers.

To develop the questionnaire, a list of relevant questions was derived from the models provided by Ofcom (2008), ActiveWatch (2008), OxIS (2009), Eurostat, Eurobarometer and the latest European Social Survey (2010). This list was matched against the criteria and components of the framework to identify gaps and overlaps and expanded with additional survey questions addressing missing aspects or believed to address already covered aspects from different angles. A review of traditional measurements of literacy and school leaving exams from secondary schools in the specific field of media and motion picture education provided the background for some of these additions. The main focus in this work was to elaborate on the lack of available indicators and questions to measure critical understanding. Yet the use skills and communicative abilities could not be left out since survey questions related to these criteria were necessary to validate and possibly extrapolate responses beyond the sample of seven countries.

Based on the list of potential survey questions, a rough outline of a questionnaire was developed. This rough draft was forwarded to a number of media literacy experts in the community for commenting and prioritising. Their feedback provided the impetus for further narrowing down and refining the questionnaire for use among non-experts. Moreover, Commission priorities in relation to the current legislative dossier in discussion at EU level, with a special focus on the AVMSD, were considered at this stage to narrow down the scope of the questionnaire. These priorities included:
- commercial content;
- media effects (violence, sex, gender roles, stereotyping);
- credibility of messages; and
- complaint / sanctioning/monitoring mechanisms.

Eventually, and after a limited number of test interviews, an 82-question questionnaire structured in 15 blocks/topics and background demographic questions was completed covering each of the three individual competence criteria and eight associated components as well as citizen participation. The final questionnaire is enclosed in ANNEX C Final survey questionnaire, which also contains a cross-reference of components and related survey questions.

5.4. *Data collection among online and offline populations*

During the implementation, a serious problem with the questionnaire emerged. The questionnaire was designed to begin with questions for both online and offline respondents and then, if the respondents reported using the Internet, they would be directed to questions that assessed their critical approach to online content. Unfortunately, one of the split questions regarding Internet use that was intended to filter the respondents ("Do you use the Internet on any other device?") appears to have confused respondents due to its wording and placement (following "Do you use the Internet via your mobile phone?"). The filtering problem was not discovered in the test interviews or caught by the survey subcontractor in early online testing, and it resulted in 15% of respondents to the online survey responding "never" or "don't know" to both Internet questions and thus not being sent to the remaining Internet use questions. The results on Internet use from the respondents who were not filtered out are potentially systematically biased in unknown ways. This means that any results based on these questions

cannot be used because the nature of the population is not known. Moreover, the results from the Internet use questions cannot be generalised to any population including populations reported by entities such as Eurostat and Ofcom. However, this problem did not affect the questions asked to all respondents before the filtering regarding media use more broadly. Accordingly, these questions have been used by the Consortium to partially validate the indicators. While these questions do not include all of the critical media literacy questions (specifically not those framed in an Internet environment), they do provide rich descriptive data on media use and critical understanding proxy by both users and non-users covering the majority of components in the proposed framework as shown in Table 5-3.

Table 5-3 Valid questions by framework criteria

Criterion	Component	Survey questions/blocks
USE SKILLS	Computer and Internet skills	• ~~Computer skills (3)~~
	Balanced and active use of media	• Balanced media use (7) • ~~Online corollaries of traditional media use (3)~~
	Advanced Internet use	• ~~Internet activities (6)~~
CRITICAL UNDERSTANDING	Understanding media content and its functioning	• Reliability perception (4) • Awareness of differences (4) • ~~Awareness of search engine differences (1)~~ • Awareness of potential media effects (4) • ~~Internet advertisement (2)~~ • Higher functional literacy (4)
	Knowledge about media and media regulation	• Regulation knowledge (4)
	User behaviour	• User behaviour (6) • ~~Preventive actions (3)~~ • ~~Search engine strategies (2)~~ • ~~New website control checks (6)~~
COMMUNICATIVE ABILITIES	Social relations	• ~~Networking (1)~~ • ~~Collaboration (1)~~
	Content creation	• Content creation (4) • ~~Online content creation (1)~~
CITIZEN PARTICIPATION	Citizen participation	• Citizen participation (6)

Note: Numbers in parentheses indicate the numbers of related questions in questionnaire. Crossed out survey questions indicate data invalidated due to unforeseen design issues.

5.5. *Summary*

Chapter 5 discussed the choice of test methodology, the survey design and the development of the survey questions. It has highlighted the need to strike a balance, on the one hand, between width and depth of scope within a tight budget constraint, and, on the other hand, between theoretical complexity and practical feasibility.

Chapter 5 also discussed the unfortunate elimination of all questions related specifically to Internet activities and behaviour due to a failed filter.

6. Findings

Chapter 6 discusses:
- survey results in relation to the individual media literacy components;
- the aggregation of the results into criteria scores;
- the extrapolation of the results to other Member States;
- the relationship between the results and individual survey questions;
- the impact of age and education on results; and
- data limitations.

6.1. *Findings on the Media Literacy Criteria and Indicator Framework*

This section presents the main findings from the individual level testing of the framework by gender, age, education, income and location. The main findings are presented thematically as combined scores across subsets of questions in the same order as in Table 5-3 above. For breakdowns of responses by individual questions, the reader is referred to ANNEX E Responses to individual survey questions.

6.1.1. Use skills

Only data for one component of the use skills criterion are available from the survey testing, namely for the "Balanced and active use of media". The findings regarding the basic diversity and intensity of media use are presented in the subsection below.

Balanced and active use of media – balanced media use

The balanced media use score is based on the frequency of use of each of the following seven types of media in the last three months:
- television;
- radio;
- printed newspapers;
- books;
- cinema;
- computer and video games; and
- mobile phone.

From the individual media usage breakdowns, it is clear that daily media use patterns are not ideal for trying to meaningfully combine or stack the various media uses given the likely impact of available time on engaging in all media uses on a daily basis. Moreover, for some types of media, such as cinema, a focus solely on daily or even weekly use rapidly becomes nonsensical. To accommodate these daily constraints on media use as well as discrete type media uses, a more appropriate timeframe for the analysis thus appears to be monthly media use or the three month time horizon commonly applied to Internet use by, for instance, Eurostat.

However, it is a nearby conclusion based on individual media usage breakdowns that in a three month time span almost everyone has watched television, listened to the radio and used a mobile phone and the vast majority has read a printed newspaper and a book, gone to the cinema and played computer or video game during this time span. Yet such assumptions fail to recognise that different subgroups of the population may lie behind the various average media uses so that the actual combined shares are much smaller than initially expected (this is an example of the ecological fallacy). Still, reading print newspapers on a weekly basis rather

than less than once a week appears to say something meaningful about the reader not captured simply by looking at newspaper use in the last three months.

In addition, there is the question of whether it is really necessary to engage in all types of media or whether particular types of media are so alike that they are substitutable, for instance, books and printed newspapers, or cinema and television. The latter issue to some extent can be tested formally using factor analysis to determine the existence or lack thereof of shared structural (latent or unseen) commonalities between particular media uses. Such analysis on multiple subsets of the sample tentatively suggests the existence of three relatively stable underlying dimensions of media use in the data (Table 6-1).

Table 6-1 Factor analysis of combined media usage patterns

		Dimensions		
		Print media?	*Broadcast media?*	*Interactive media?*
Type of media use	*Reading books*	.78		
	Reading printed newspapers	.65	.32	
	Using a mobile phone		.65	
	Listening to the radio		.60	
	Watching television	.32	.59	
	Playing computer or video games			.84
	Going to the cinema	.46		.60

Note: Factor loadings based on principal components analysis with varimax rotation. Loadings below 0.3 suppressed.

Specifically, watching television and listening to the radio tend to load together as do reading of print newspapers and books, while playing computer and video games primarily appears to be its own thing. These underlying dimensions or factors reasonably could be interpreted as traditional broadcast (television and radio) and print (books and newspapers) media as well as a new interactive type of media (computer and video games). However, going to the cinema and using a mobile telephone both tend to lead less predictably with either playing computer and video games or reading books and newspapers in the case of going to the cinema or watching television and listening to the radio in the case of using a mobile phone to create transversal patterns and interpretations.[18] Moreover, both composite factors (i.e., the purported print media and broadcast media dimensions) fail to pass a standard scale reliability test of unidimensionality.

Since the factor analyses do not definitively confirm the presence of distinct underlying, dimensions of media use, the best course of action would appear to be simply to add the number of media engaged with scoring one point for use in the last three months and two points for use at least once a week to acknowledge intensity of use for a maximum of 14 "media use points". This results in the combined media usage pattern shown in Figure 6-1 below. The graphs shows that about one in three people (35%) has used at least five of the

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[18] For instance, the unstable loading pattern of going to the cinema may reflect genre preferences or varying preferences for "the arts" and pop culture, which are not expressed in the simple question of frequency of cinema visits.

seven types of media on a weekly basis (required to score 12+ "media use points"), while almost three in four (72%) have used at least three of the seven types of media on a weekly basis (required to score 10+ "media use points"), and nine in ten (90%) at least one (required to score 8+ "media use points").

Furthermore, the graph shows that the diversity and intensity of media use varies systematically with age, education and income, especially if considering more active media use. Thus, shares are highest among the youngest (72-75% score 10+ "media use points), those with the highest levels of educational attainment (80%) and the most affluent (77%). Nevertheless, it is equally notable that even among the least diversified media users, 64-66% score at least 10+ points and 87-88% score at least 8+ points. Only the offline respondents score lower on the combined media use scale (30% for 10+ and 67% for 8+ scores), driven, in particular, by substantially less use of cinemas, books and computer and video games.

Figure 6-1 Balanced media use score by gender, age, education, income and location
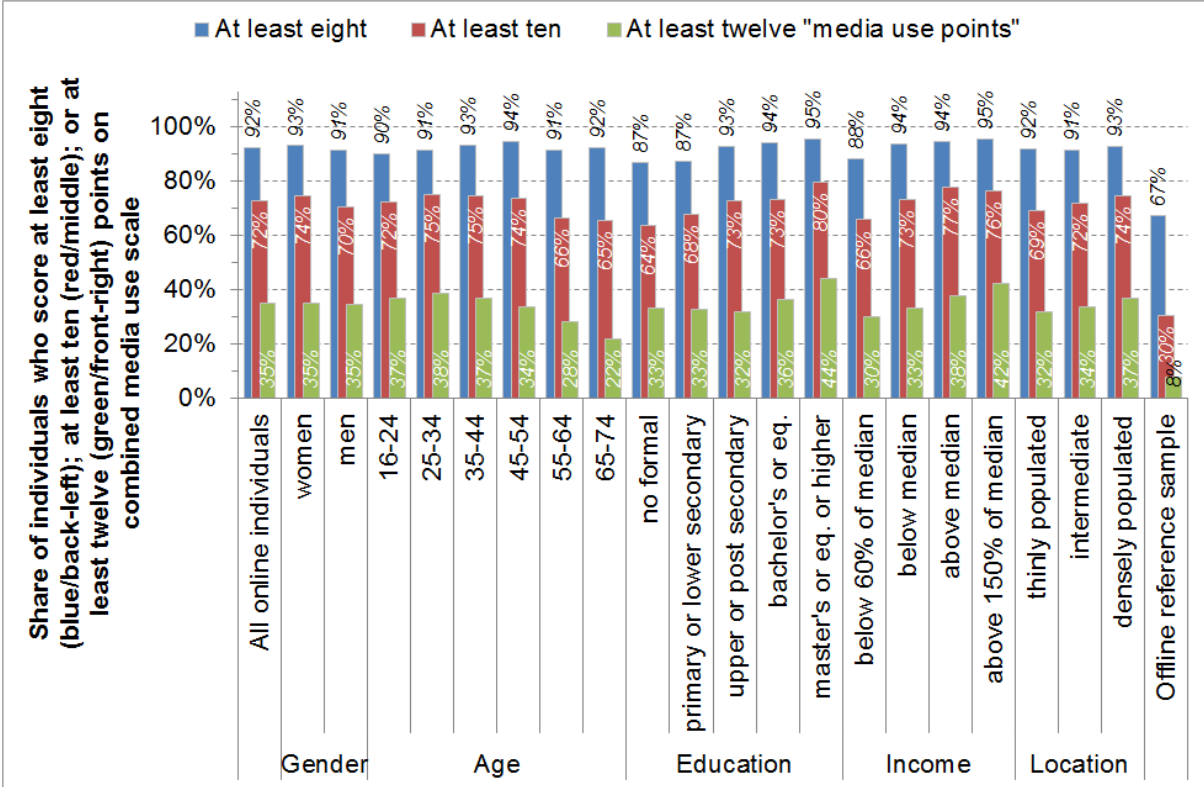
Note: Respondents are awarded 1 point for use in last three months and 2 points for use at least once a week for a maximum score of 14 (implying weekly use of all seven types of media: television, radio, newspapers, books, cinema, computer and video games, and mobile phone). Table 6-2 shows the media use profile of online respondents with particular balanced media use scores. The table shows that respondents with low media use scores tend to rely primarily on television and their mobile phones for information, communication and entertainment, but use these quite often, while radio and newspapers and then books and computer and video games appear to identify second and third tiers of combined media use. This apparent pattern hides the fact that computer and video games together with radio tend to shape the second tier of combined media use among the youngest age group though.

A similar pattern is apparent among the offline respondents, albeit with greater preference for newspapers and less preference for computer and video games.

Table 6-2 Typical media use by balanced media use score

Balanced media use score	Television		Radio		Newspapers		Books		Cinema		Computer and video games		Mobile phone	
	In last 3 months	At least once a week	In last 3 months	At least once a week	In last 3 months	At least once a week	In last 3 months	At least once a week	In last 3 months	At least once a week	In last 3 months	At least once a week	In last 3 months	At least once a week
0 media use points (=No media use in last three months)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
1 media use point	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2 media use points	83%	83%	0%	0%	0%	0%	0%	0%	9%	0%	8%	8%	9%	0%
3 media use points	47%	26%	13%	0%	30%	0%	23%	23%	0%	0%	0%	0%	87%	51%
4 media use points	93%	68%	7%	0%	1%	0%	2%	2%	22%	1%	33%	20%	84%	68%
5 media use points	77%	61%	44%	24%	27%	3%	28%	20%	24%	0%	32%	19%	83%	59%
6 media use points	86%	81%	70%	48%	47%	11%	27%	9%	14%	1%	31%	14%	83%	77%
7 media use points	93%	78%	68%	41%	54%	13%	42%	12%	31%	3%	49%	34%	95%	87%
8 media use points	95%	89%	83%	55%	68%	36%	52%	23%	27%	1%	52%	33%	96%	90%
9 media use points	97%	91%	90%	69%	86%	47%	74%	30%	38%	3%	56%	31%	98%	90%
10 media use points	98%	96%	96%	79%	92%	62%	81%	41%	48%	2%	65%	42%	99%	96%
11 media use points	99%	97%	98%	86%	97%	76%	91%	50%	69%	3%	82%	54%	100%	97%
12 media use points	100%	99%	100%	94%	100%	88%	99%	67%	78%	8%	98%	72%	100%	98%
13 media use points	100%	99%	100%	98%	100%	98%	100%	96%	100%	11%	100%	98%	100%	99%
14 media use points (=Use all media on a weekly basis)	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Note: Table shows share of respondents with particular balanced media use score who have used specific type of media and how often. Respondents are awarded 1 point for use in last three months and 2 points for use at least once a week for a maximum score of 14 (implying weekly use of all seven types of media: television, radio, newspapers, books, cinema, computer and video games, and mobile phone). No respondent totalled 1 media use point.

6.1.2. Critical understanding

Data for all three components of the critical understanding criterion, that is, "Critical understanding of media and its functioning", "Knowledge of media and media regulation", and "User behaviour", are available from the survey testing. The following four subsections present the findings in relation to the first of the three components ("Critical understanding of media and its functioning"), which concerns the general abilities to decipher and assess media contents.

Critical understanding of media and its functioning – reliability perception

A fundamental aspect of critical understanding of media contents relates to individuals' belief in whether media always and unfailingly provide the "golden" (impartial and complete) truth. The reliability perception score is based on the assessment of the reliability of the following four types of media as sources of information on a scale from totally reliable to totally unreliable:

- television;
- radio;
- newspapers;
- the Internet.

It is difficult to objectively establish the appropriate levels of trust in the reliability of various media platforms as sources of information as well as to distinguish sound scepticism from paranoid suspicion. However, it seems certain at least that a total belief in the reliability of media is never advisable in any context and irrespective of personal psychology. It also seems relatively certain, on the one hand, that media in general are rarely are totally unreliable and, on the other, that lack of any opinion at all about the reliability of media is not conducive to taking a critical stance. Compared to the former condition, though, the latter conditions arguably are less independent of concrete experience with national media, preferences for particular types of media channels (e.g., tabloid press) and innate dispositions toward certain

views of life. But it should be noted that even the former condition may be partially influenced by national traditions as, for instance, the French appear to believe that newspapers are totally reliable at much higher rates (twice the average at one in five respondents) than in any of the other surveyed countries.

Factor analyses on multiple subsets of the sample support the use of either set of condition to build a single reliability perception dimension (i.e., media are not totally reliable or media are neither totally reliable nor totally unreliable), and the composite factors based on both sets of conditions pass a standard scale reliability test of unidimensionality.

Adding up the perceptions of reliability of information presented across media platforms accordingly, Figure 6-2 shows that about two in three people (67%) believe that all four media platforms are not totally reliable sources of information, while Figure 6-3 shows that three in five people (60%) consistently believe that all four media platforms are neither totally reliable nor totally unreliable. Conversely, less than one in five people (12-15%) perceives the majority or all of the four media platforms to be totally reliable or totally unreliable.

These shares vary significantly across age groups, in particular if considering the latter set of conditions, as well as across educational and income levels. The largest shares of individuals who consistently believe that all four media platforms are not totally reliable or neither totally reliable nor totally unreliable are found among the oldest (72% and 69% respectively), those with higher levels of educational attainment (71-75% and 66-69%) and the most affluent (71-74% and 65-67%).

A noticeably different pattern is also apparent among offline respondents where only one in five people (18% and 20%) consistently believe that all four media platforms are not totally reliable or neither totally reliable nor totally unreliable. These lower scores largely reflect uncertainty about the reliability of the Internet as a source of information except among the youngest age groups (where large numbers tend to believe that television is totally reliable, however). Thus, combining just reliability perceptions with regards to television, radio and newspapers, the difference between online and offline respondents is only about 10 percentage points.

Table 6-3 shows the average assessments of the four types of media as sources of information of respondents with particular reliability perception scores. The table shows, perhaps surprisingly, that television and radio are the most difficult media platforms to correctly assess for online respondents with low reliability perception scores. That is, online respondents with low reliability perception scores are much more likely to believe that television and radio are totally reliable sources of information than that newspapers and the Internet are totally reliable sources – possibly as a result of the mistaken projection of public broadcast images on all radio and television channels and a greater visibility of diversity in newspaper cover stories.

Figure 6-2 Reliability perception score by gender, age, education, income and location
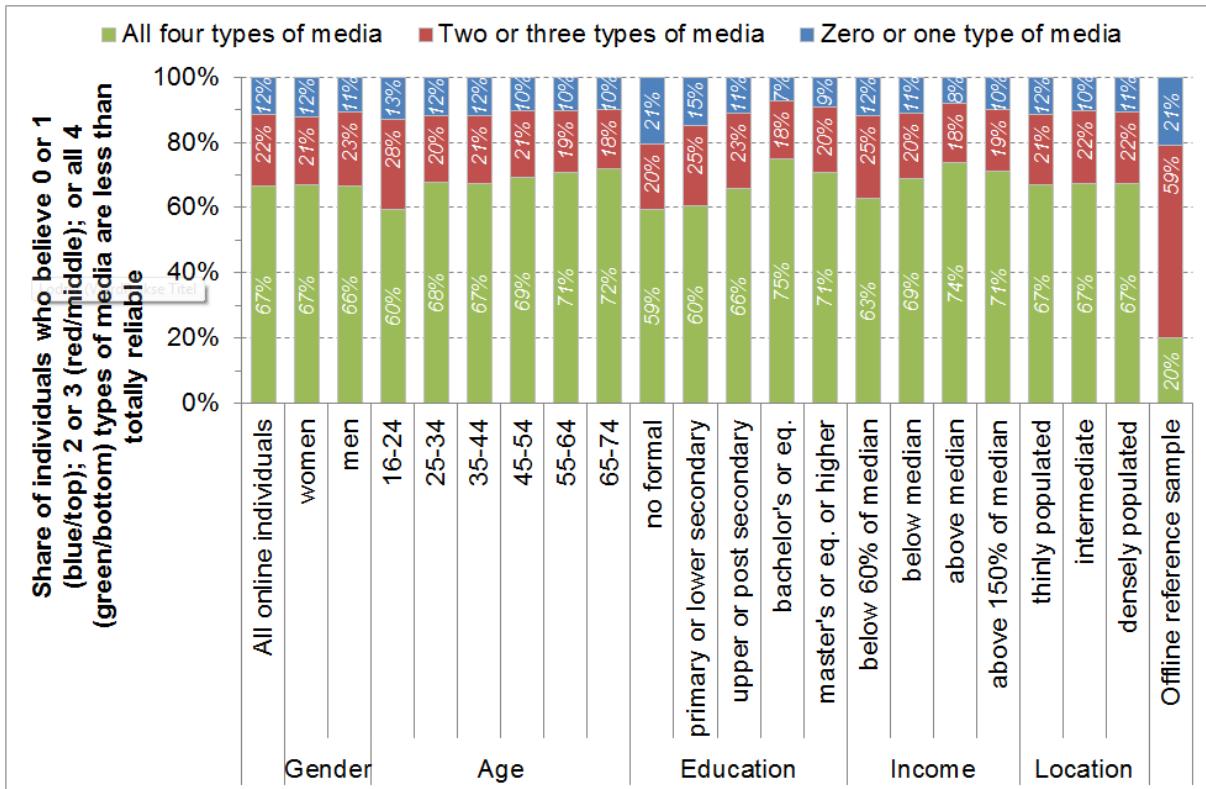
Note: Percentages indicate shares of individuals who consistently believe media are not totally reliable on a scale from totally reliable to totally unreliable.

Figure 6-3 Alternative reliability perception score by gender, age, education, income and location
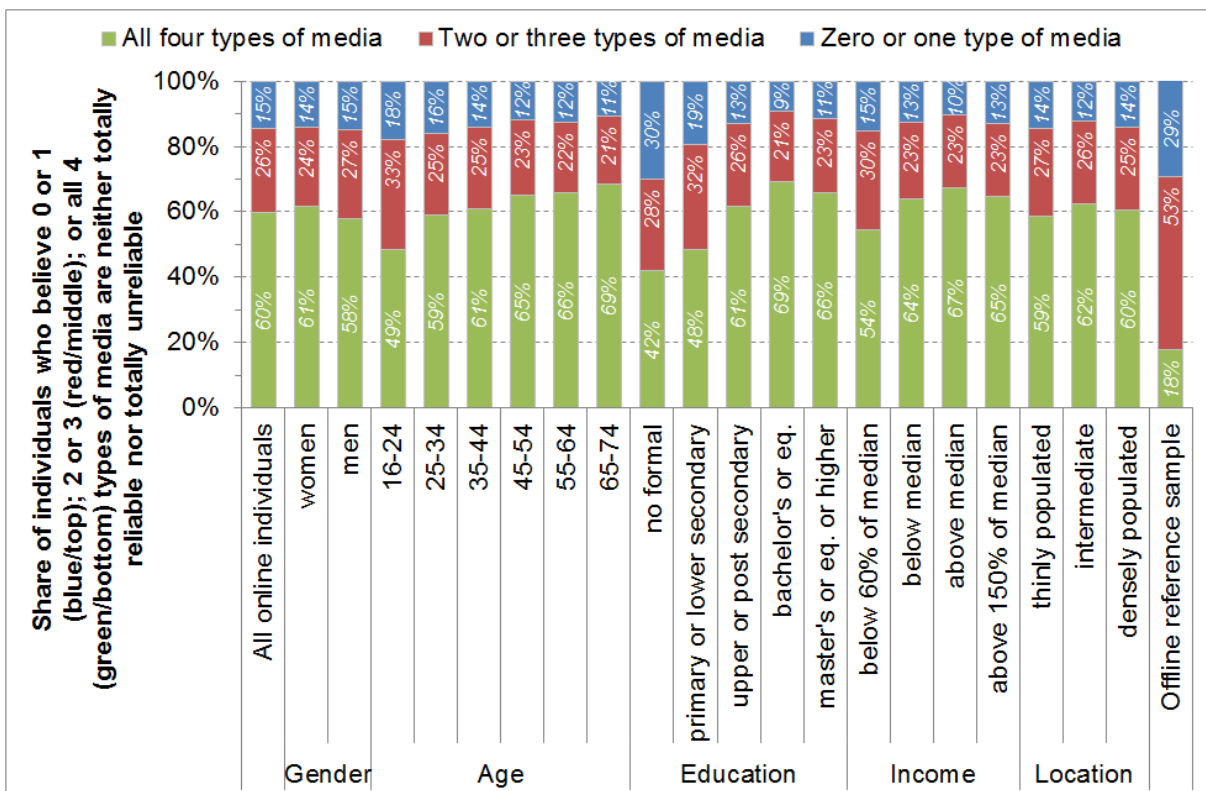
Note: Percentages indicate shares of individuals who consistently believe media are neither totally reliable nor totally reliable on a scale from totally reliable to totally unreliable.

Table 6-3 Typical belief in reliability of media by reliability perception score

Combined reliability perception	Television			Radio			Newspapers			Internet		
	Not totally reliable	Neither totally reliable nor totally	Don't know	Not totally reliable	Neither totally reliable nor totally	Don't know	Not totally reliable	Neither totally reliable nor totally	Don't know	Not totally reliable	Neither totally reliable nor totally	Don't know
0 media platforms	0%	0%	26%	0%	0%	27%	0%	0%	31%	0%	0%	27%
1 media platform	10%	10%	3%	8%	8%	8%	45%	41%	7%	37%	36%	3%
2 media platforms	48%	47%	3%	33%	31%	9%	67%	62%	8%	52%	52%	5%
3 media platforms	89%	84%	1%	77%	74%	8%	87%	81%	3%	48%	45%	5%
4 media platforms	100%	95%	0%	100%	96%	0%	100%	94%	0%	100%	96%	0%

Note: Table shows share of respondents with particular reliability perception score (i.e., the number of media assessed not to be totally reliable) who believe in specific type of media as a reliable source of information.

Critical understanding of media and its functioning – awareness of differences

Closely related to perceptions about reliability and ultimately truth and lie as well as fact and fiction is awareness of the many nuances of truth and suppression that can be applied to build or denigrate a piece of information without exactly lying. One common expression of these techniques is the concept of story angle, which is deliberately applied on a regular basis to shape opinion and simply to attract attention. Hence, even if media in general are relatively reliable and essentially to be trusted, different media are still likely to interpret the same information disparately in stories that reflect their profile (political, commercial or otherwise) and the expected preferences of their audiences and supporters.

The difference awareness score is based on the binary assessment of individuals (yes/no) of whether they believe differences exist in the way that the same or related information is portrayed by different outlets within the following four types of media:
- television (i.e., different television channels);
- radio (i.e., different radio channels);
- newspapers (i.e., different newspapers);
- the Internet (i.e., different websites).

Factor analyses on multiple subsets of the sample confirm the existence of a single underlying dimension of difference awareness. Moreover, a standard scale reliability test of unidimensionality further confirms that the four subquestions express the same latent propensity.

Figure 6-4 shows that adding up the awareness of differences across media platforms only about one in two people (53%) consistently believe differences exist in the way the same or related information is portrayed by different outlets of all four types of media. This is somewhat less than how many people consistently believe all four media platforms are less than totally reliable sources of information (60-67%). On the other hand, the share who perceive the majority or all of the four media to contain no differences (15%) is no larger than the share who perceive the majority or all of the four to be totally reliable (12-15%).

At both ends of the spectrum, the greatest variation is found across educational levels. Hence, the lowest shares of individuals who consistently believe differences exist and the largest shares who consistently do not are found among those with the lowest levels of educational attainment (39-44% and 20-31% respectively).

Moreover, it is noticeable that the youngest age group shows substantially lower consistent awareness of differences in media portrayals of information (42%) compared to all other age

groups (54-57%). This difference remains also when taking out those with the lowest levels of educational attainment. This suggests that a certain amount of media experience or exposure may play a factor in building consistent awareness together with education.

As was the case in relation to the reliability perception score, a significantly lower share of individuals among offline respondents (10%) shows a consistent awareness of differences across all four types of media driven in large part by uncertainty about the existence of differences between different websites (as well as about differences between different radio channels).

Figure 6-4 Difference awareness score by gender, age, education, income and location
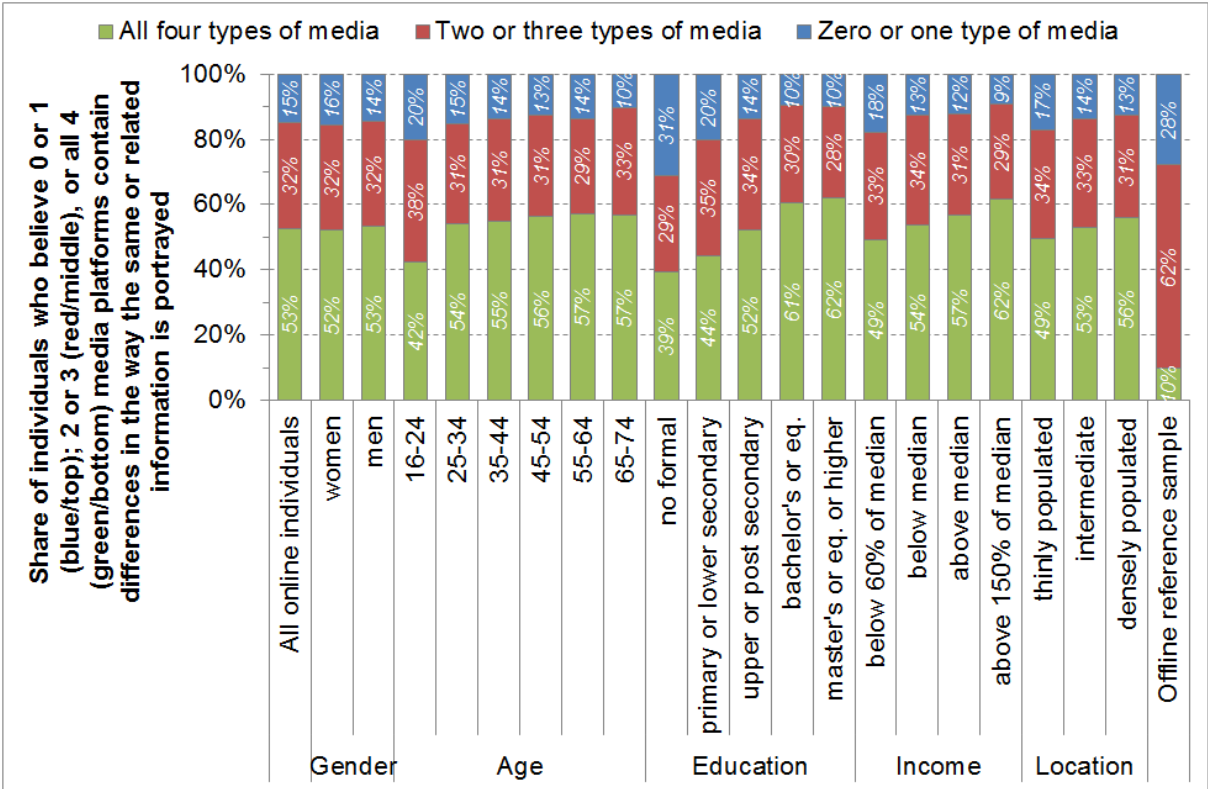
Note: Percentages indicate shares of individuals who consistently believe differences exist in the way that the same or related information is portrayed by different media.

Table 6-4 shows the average assessments of the existence of differences in media portrayals of information across the four types of media by online respondents with particular difference awareness scores. The table shows that with the exception of radio there is almost no noticeable pattern regarding which types of media respondents are most likely or least likely to believe differences exist. This is true also among offline respondents, if looking solely at the other three types of media besides the Internet.

Table 6-4 Typical belief in existence of differences in portrayals of information by difference awareness score

Difference awareness score	Television (different television channels)		Radio (different radio channels)		Newspapers (different newspapers)		Internet (different websites)	
	Yes to differences	Don't know	Yes to differences	Don't know	Yes to differences	Don't know	Yes to differences	Don't know
0 media platforms	0%	50%	0%	55%	0%	56%	0%	55%
1 media platform	36%	11%	8%	21%	31%	29%	24%	29%
2 media platforms	64%	5%	18%	27%	67%	13%	51%	20%
3 media platforms	93%	1%	49%	24%	86%	5%	71%	15%
4 media platforms	100%	0%	100%	0%	100%	0%	100%	0%

Note: Table shows share of respondents with particular difference awareness score (i.e., the number of media assessed to portray the same or related information differently) who believe differences exist in the way the same or related information is portrayed by different outlets within specific type of media.

Critical understanding of media and its functioning – awareness of potential media effects

In addition to general awareness about differences in media portrayal of information and the basic reliability of media as sources of information there are certain potential media effects that merit particular attention due to their prominence in the public debate about the impact of the media. Most notable are debates concerning people's abilities to distinguish advertisements from other content and their awareness of idealisation, idolisation and stereotyping in fictional as well as scripted reality content (e.g., as it relates to use of violence or acceptable gender roles).

The potential media effects awareness score is based on the conscious consideration (yes/no) of the following four issues at some point or other during media use:
- hidden advertisements;
- positive smoking influences;
- unrealistic violence;
- unrealistic body ideals.

Factor analyses on multiple subsets of the sample suggest the existence of a single underlying dimension of potential media effects awareness. However, unlike in the previous two instances, the composite factor fails to unequivocally pass a standard scale reliability test of unidimensionality meaning that while the four subquestions tend to load together, they may not in reality be manifestations of just one cognitive concept. The four subquestions come close to passing also the scale reliability test, though, producing in no subset of the sample a Cronbach's Alpha below 0.64 and in most subsets a test value safely above the normal threshold of 0.7. Moreover, the somewhat crude selection of issues from range of potential media effects reasonably implies that some difficulty with satisfying this criterion should be expected.

Tallying the combined awareness of hidden advertisements, positive smoking influences and unrealistic violence and body ideals, Figure 6-5 shows a more fragmented pattern than in relation to either reliability perceptions or general difference awareness. Only one in five people (22%) has consciously thought about all four issues while nearly half (47%) has consciously thought about two of the issues at most.

One of the reasons for this fragmented picture is the limited awareness of positive smoking influences (31%), which possibly has been curtailed by effective regulation of media content

portraying smoking in a positive light. However, even more generally there appears to be reason to believe that this type of awareness to some extent is topical in nature and closer related to specific consumption patterns and personal circumstances. Thus, for instance, if you are less exposed to violent content, you have less reason or opportunity to think about unrealistic violence. Still, people with lower levels of educational attainment education consistently tend to be less aware of each potential media effect.

Compared to the online respondents, the offline respondents again come off as slightly less aware, although the absence of a specifically Internet related question in this context would seem to lessen the overall difference.

Figure 6-5 Potential media effects awareness score by gender, age, education, income and location
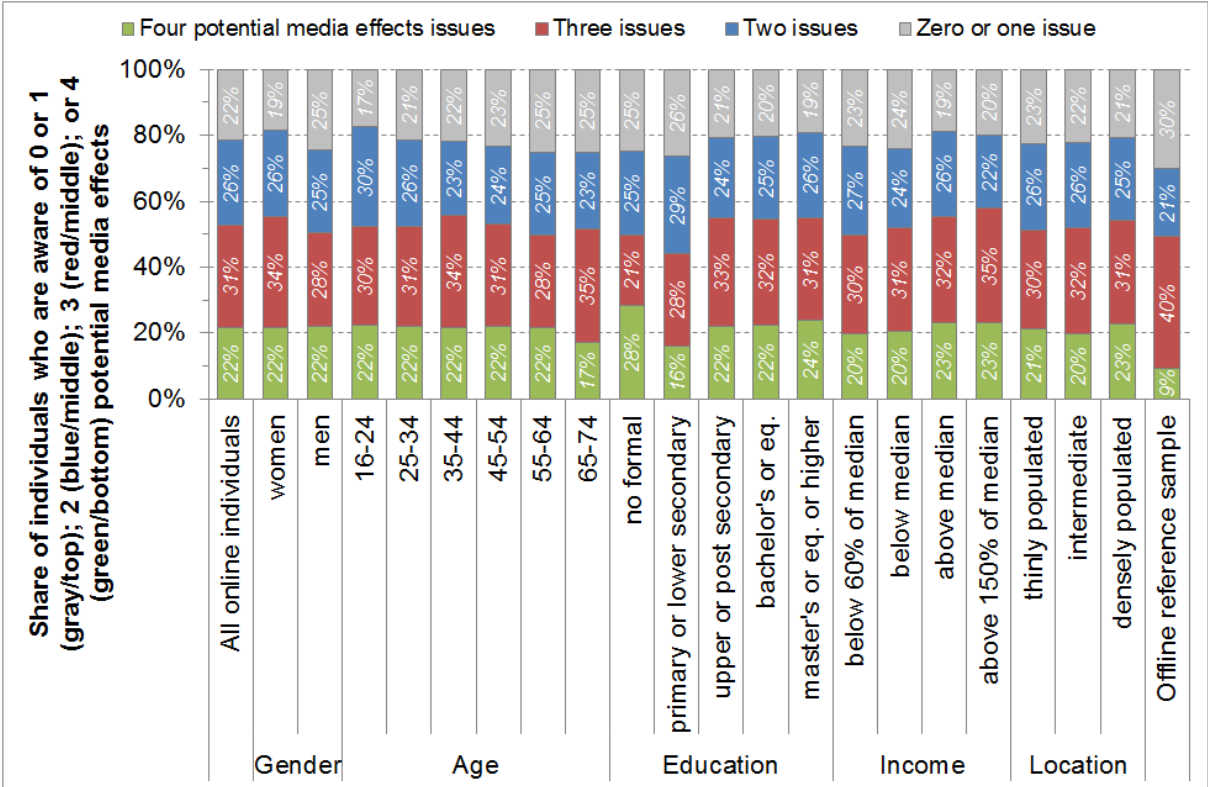
Note: Percentages indicate shares of individuals who consistently are aware of potential media effects issues in their media use.

Table 6-5 shows the average consideration of each potential media effect during media use by respondents with particular potential media effects awareness scores. The table shows that with the exception of positive smoking influences, there is little noticeable pattern regarding which types of media effects online respondents are most likely or least likely to consciously think about first. This is true also among offline respondents.

Potential media effects awareness score	Hidden advertisements	Positive smoking	Unrealistic violence	Unrealistic body ideals
0 potential media effects	0%	0%	0%	0%
1 potential media effect	39%	2%	37%	23%
2 potential media effects	73%	11%	51%	65%
3 potential media effects	95%	23%	90%	91%
4 potential media effects	100%	100%	100%	100%

Note: Table shows share of respondents with particular potential media effects awareness score (i.e., the number of potential media effects consciously thought about during media use) who have consciously thought about specific type of potential media effect during media use.

Critical understanding of media and its functioning – higher functional literacy

To engage with and understand most media and to use the media productively requires reading and writing skills as well as problem solving skills such as being able to define information needs and evaluate gathered information. Assuming that most of the participants in the survey have at least some basic literacy skills, higher functional literacy was used as a reference point to create variation in the responses. At the same time, higher functional literacy is important in itself due to its likely step-change character in relation to future work and education opportunities.

The higher functional literacy score is based on the (self-)assessment of the ease of carrying out the following four types of activities in a work- or study-related context on a scale from very easy to very difficult:
- understanding complex texts the first time they are read;
- writing complex texts with a clear and logical structure;
- precisely defining the information needed to solve a given problem or task;
- accurately and fairly assessing contradicting pieces of information gathered to solve a given problem or task.

Factor analyses on multiple subsets of the sample confirm the existence of a single underlying dimension of literacy, and a standard scale reliability test of unidimensionality further confirms that the four subquestions express the same latent skills set.

Combining the four higher functional literacy skills, only one in five people (21%) find all four skills easy or very easy to perform while nearly half (48%) find none or at most one of the skills easy or very easy as shown in Figure 6-6.

However, the surprisingly positive scores for people with no formal educational background (21% find all four skills easy or very easy compared to 13% among those with a basic educational background) may indicate some overestimation of own abilities among particular respondents. Nonetheless, aside from people with no formal educational background, strong systematic patterns are evident across both educational and income levels with the highest shares who find all four skills easy or very easy among those with higher levels of educational attainment (32%) and the most affluent (34%).

Also among the offline respondents does one in five people (22%) find all four skills easy or very easy to perform. The offline respondents appear to be more split in their (self-assessed)

abilities, though, as substantially more people (58%) at the same time find none or at most one of the skills easy or very easy to perform.

Table 6-6 shows the average assessment of each literacy skills by online respondents with particular higher functional literacy scores. The table shows that the four skills appear to be developed in unison as little variation is visible with regards to proficiency levels at particular skills among respondents with low functional literacy scores.

Figure 6-6 Higher functional literacy score by gender, age, education, income and location
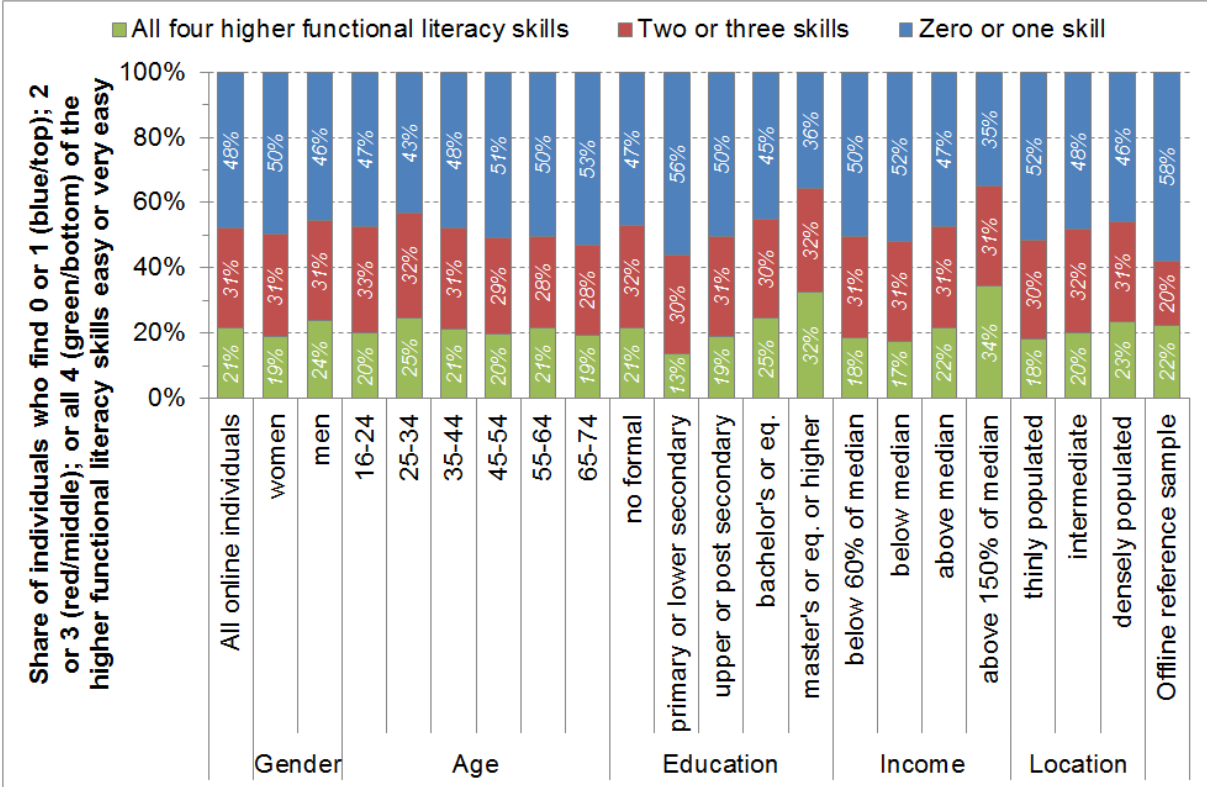
Note: Percentages indicate shares of individuals who consistently find higher functional literacy skills easy or very easy to perform on a scale from very easy to very difficult.

Table 6-6 Typical assessment of own literacy skills by higher functional literacy score

Higher functional literacy score	Reading		Writing		Defining information needs		Evaluating gathered information	
	Easy or very easy	Very easy	Easy or very easy	Very easy	Easy or very easy	Very easy	Easy or very easy	Very easy
0 skills	0%	0%	0%	0%	0%	0%	0%	0%
1 skill	29%	4%	25%	3%	33%	5%	13%	1%
2 skills	44%	8%	49%	10%	63%	12%	45%	7%
3 skills	70%	20%	70%	21%	89%	24%	71%	14%
4 skills	100%	46%	100%	54%	100%	56%	100%	47%

Note: Table shows share of respondents with particular higher functional literacy score (i.e., the number of higher functional literacy skills assessed to be easy or very easy) who assess each specific literacy skill as easy or very easy to perform.

Critical understanding of media and its functioning – correlations between test scores

Table 6-7 shows the correlations between the four developed test scores in relation to the framework component "Critical understanding of media and its functioning". As expected, the reliability perception and difference awareness scores are positively and significantly

correlated producing a modest Pearson's *r* in the range 0.178-0.181 depending on the chosen reliability standard (i.e., not totally reliable or neither totally reliable nor totally unreliable). Thus, the less likely respondents are to believe that media are totally reliable, the more likely they are to be aware of differences in the way that information is portrayed. Moreover, the difference awareness score is positively and significantly correlated with the potential media effects awareness score producing another modest Pearson's *r* of 0.150. This is not the case for the reliability perception score, which appears to be uncorrelated with the potential media effects awareness score.

Also as expected, the higher functional literacy score is found to correlate positively and significantly albeit weakly with the difference awareness score as well as with the potential media effects awareness score producing Pearson's *r* of 0.100 and 0.071. However, like the potential media effects awareness score, this score is uncorrelated with or weakly negatively correlated with the reliability perception score.

This correlational pattern is continued if comparing the test scores to the extent of basic media use as measured by the balanced media use score previously developed. Using more types of media more intensively thus produces modest positive and significant Pearson's *r* of 0.144, 0.152 and 0.120 with the difference awareness, potential media effects awareness, and higher functional literacy scores, but no significant correlation with the reliability perception score(s).[19]

Considering all these findings, the data suggest that basic trust in information is independent of media tools and genre and might relate more with the previously attained knowledge of individuals and to some extent personal inclinations and/or national contexts.

Table 6-7 Correlation matrix of critical understanding of media and its functioning test scores

	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy
Difference awareness	**.178** - .181****			
Potential media effects awareness	-.016 - .014	**.150****		
Higher functional literacy	**-.064** - -.011**	**.100****	**.071****	
Balanced media use	-.013 - -.009	**.144****	**.152****	**.120****

Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold***. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

Factor analyses and standard scale reliability tests of all of the above aspects of critical understanding of media and its functioning combined on multiple subsets of the sample suggest that none of the four subsets of questions are expressions of the same underlying

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[19] Note that individual use of television, radio and newspapers is negatively and significantly correlated with the individual reliability perception of each type of media, though. That is, respondents are more likely to frequently use any of these three types of media, if they believe that particular type of media is totally reliable, and conversely, to never use either of them, if they believe that particular type of media is totally unreliable.

dimension or dimensions. Rather, reliability perception, difference awareness, potential media effects awareness and higher functional literacy each appears to form its own unidimensional scale. Taken together, the four identified dimensions explain a decent 59% of the variation distributed as 17% by higher functional literacy, 16% by reliability perception, 14% by difference awareness and 11% by awareness of media effects in rotated space. However, the more important point is that the four tested aspects of understanding media and its functioning are distinct properties that do not statistically coalesce into the theoretically derived component.

Knowledge of media and media regulation – regulation knowledge

The next four subsections in turn present the findings in relation to the two remaining components of critical understanding, i.e., "Knowledge of media and media regulation" and "User behaviour".

The regulation knowledge score is based on the binary assessment of individuals (yes/no) of whether they believe rules (laws) exist that regulate the following four media topics:
- what advertisements can be about;
- when and where advertisements can be placed;
- the types of content that can be shown (e.g., violent or sexually explicit content);
- the rights of authors to protect their intellectual property.

Factor analyses on multiple subsets of the sample confirm the existence of a single underlying dimension of regulation knowledge. Moreover, a standard scale reliability test of unidimensionality further confirms that the four subquestions express the same latent knowledge base.

Adding up the knowledge about media regulation, Figure 6-7 shows that about one in two people (54%) consistently believe that rules exist that regulate advertising, content and copying whereas less than one in five (16%) consistently believes that no such rules exist. The lowest shares of individuals consistently believing in the existence of all four types of rules or laws are found among the youngest (44%), those with the lowest levels of educational attainment (33-39%), and the poorest (50%).

Offline respondents also tend score lower overall to in relation to knowledge about media regulation, driven in particular by less awareness of rules concerning advertisement and to some extent intellectual property rights across all educational levels and age groups.

Figure 6-7 Regulation knowledge score by gender, age, education, income and location
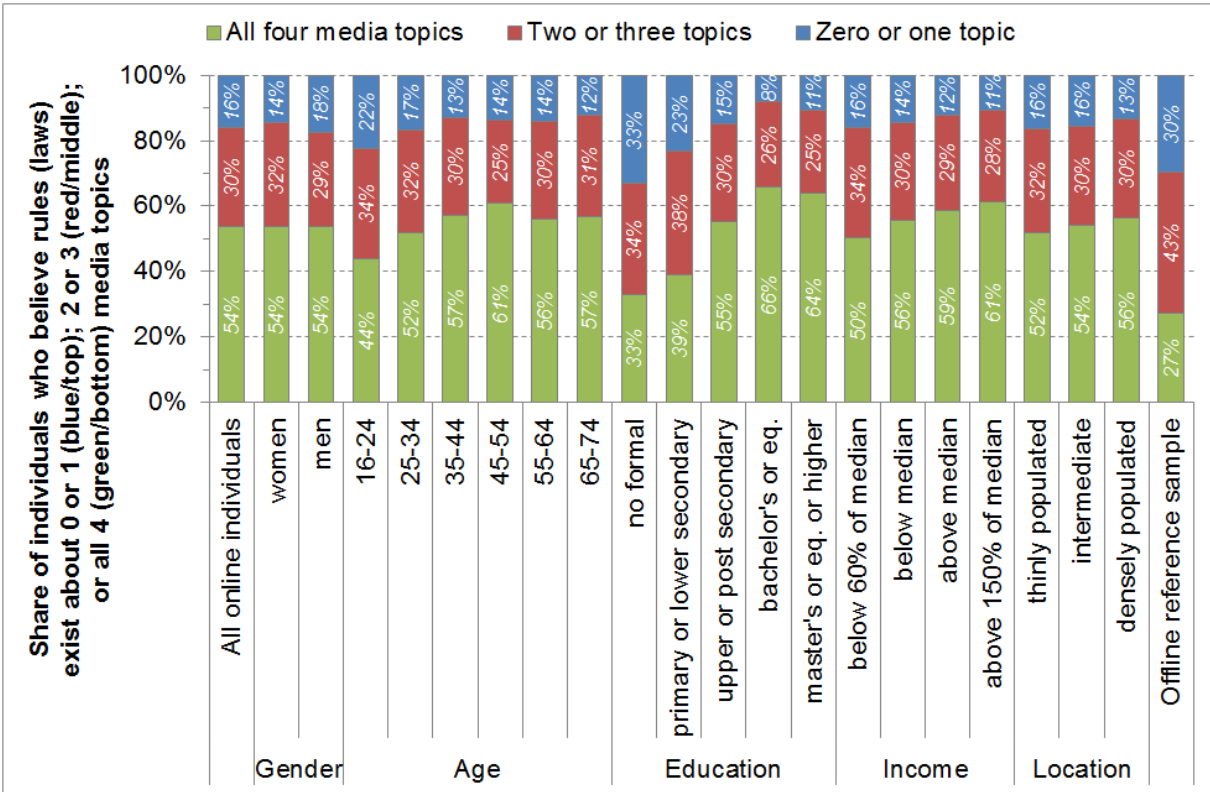
Note: Percentages indicate shares of individuals who consistently believe rules (laws) to exist that regulate selected media topics.

Table 6-8 shows the average assessments of the existence of rules (laws) to regulate specific media topics of online respondents with particular regulation knowledge scores. The table shows that the existence of legislation on the placement of advertisements and to protect intellectual property rights is slightly fuzzier among respondents with low regulation knowledge scores than the existence of regulation about the content of advertisements and types of media content more generally (e.g., whether public television can show nudity). This pattern is also apparent among offline respondents, in particular in relation to the placement of advertisements. Conversely, knowledge about regulation to curb the types of content that can be shown more generally is greater too among offline respondents with low regulation knowledge scores.

Table 6-8 Typical assessment of the existence of rules by knowledge regulation score

Regulation knowledge score	What advertisements can be about		Where advertisements can be placed		Types of content		Protection of intellectual property rights	
	Yes to rules	Don't know	Yes to rules	Don't know	Yes to rules	Don't know	Yes to rules	Don't know
0 regulated topics	0%	60%	0%	59%	0%	60%	0%	63%
1 regulated topic	32%	24%	11%	27%	35%	25%	22%	37%
2 regulated topics	50%	20%	41%	18%	54%	16%	55%	20%
3 regulated topics	73%	9%	69%	11%	85%	5%	73%	15%
4 regulated topics	100%	0%	100%	0%	100%	0%	100%	0%

Note: Table shows share of respondents with particular regulation knowledge score (i.e., the number of media topics believed to be regulated by rules or laws) who assess rules or laws to exist that regulate specific media topic.

Knowledge of media and media regulation – correlations between test scores

The regulation knowledge score is positively and significantly correlated with all previously developed scores including the reliability perception score as shown in Table 6-7. Thus, the latter produces a modest Pearson's *r* of 0.140-0.166, while the difference awareness and potential media effects awareness scores produce Pearson's *r* of 0.317 and 0.133 respectively. Moreover, the higher functional literacy score produces a Pearson's *r* of 0.100 and the balanced media use score a Pearson's *r* of 0.124.

Table 6-9 Correlation of knowledge of media and media regulation with other critical understanding test scores

	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy	Balanced media use
Regulation knowledge	**.140** - .166**	**.317**	**.133**	**.100**	**.124**

*Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

User behaviour – information strategies

The final component of critical understanding, "User behaviour", concerns the applied strategies of information used to manage encountered differences and violations of legislation.

The information strategies score is based on the conscious use (yes/no) of the following six strategies in the face of contradictory information:
- ignore or disregard differences;
- believe a little of each based on general knowledge about sources;
- compare with information elsewhere;
- ask friends, family members or others for their opinion;
- share concerns with civic or social organisations;
- consult one source only.

Adding up the various strategic choices involved in describing user behaviour is complicated by the assumed presence of two or three different types of strategies from actively trying to sort out the differences or irregularities to passively letting them slip by unresolved.

Correlation analysis suggests that the active strategies of comparing with information elsewhere and asking friends, family members or others for their opinion are indeed positively correlated with each other as shown in Table 6-10. Likewise, the two passive strategies of ignoring or disregarding differences and only consulting one source are positively correlated with each other as well as negatively correlated to the active strategy of comparing with information elsewhere. In addition, the passive strategy of only consulting one source is negatively correlated with the active strategy of comparing with information elsewhere.

However, the proposed active strategy of sharing concerns with civic or social organisations is positively correlated with each of the four mentioned strategies and most strongly correlated with the passive strategy of only consulting one source, while the in-between strategy of believing a little of each is only positively correlated with the first two active strategies, albeit weakly.

Table 6-10: Correlation matrix of possible information strategies

	Compare with information elsewhere	Ask friends, family members or others for their opinion	Share concerns with civic or social organisations	Ignore or disregard differences	Consult one source only
Ask friends, family members or others for their opinion	**.182****				
Share concerns with civic or social organisations	**.077****	**.153****			
Ignore or disregard differences	**-.190****	**-.075****	**.088****		
Consult one source only	**-.121****	-.001	**.307****	**.178****	
Believe a little of each based on general knowledge about sources	**.081****	**.093****	**-.031***	.000	**-.052****

*Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

These patterns are largely confirmed by using factor analysis on multiple subsets of the sample. These analyses tentatively suggest the existence of three relatively stable underlying dimensions of user behaviour in the data as shown in Table 6-11. Specifically, the active strategies of comparing with information elsewhere and asking friends, family members or others for their opinion tend to load together as do the proposed active strategy of sharing concerns with civic or social organisations and the passive strategy of only consulting one source, while the in-between strategy of believing a little of each primarily appears to be its own thing. Meanwhile, the passive strategy of ignoring or disregarding differences tends to load less predictably with either the passive-active strategy combination or the two active strategies in inverse form. However, as was the case with the tentative media use dimensions, all composite factors fail to pass a standard scale reliability test of unidimensionality.

Table 6-11: Factor analysis of combined information strategy patterns

		Dimensions		
		Passive?	*Active?*	*Passive-active?*
Information strategy	*Consult one source only*	.79		
	Share concerns with civic or social organisations	.77		
	Compare with information elsewhere		.74	
	Ask friends, family members or others for their opinion		.65	
	Ignore or disregard differences	.39	-0.51	.42

	Believe a little of each based on general knowledge about sources			.92

Nonetheless, the analyses support scoring at least the active strategies of comparing with information elsewhere and asking friends, family members or others for their opinion and the passive strategies of ignoring or disregarding differences and using only one source in opposite direction before adding them together (e.g., +1 for comparing with information elsewhere and -1 for ignoring or disregarding differences). Setting the other two strategies aside due to their unclear loadings at odds with theoretical expectations, Figure 6-8 shows that 26% of individuals use only active strategies, and an additional 34% use predominantly active strategies, while 14% use only or predominantly passive strategies.

These shares vary substantially across gender, age and education with the lowest shares employing only active strategies found among men (22%), the oldest age groups (12%) and those with the lowest levels of educational attainment (12-19%). Conversely, those with the lowest levels of educational attainment are by far the most likely to employ passive strategies (19-20%).

Only the offline respondents tend to employ passive strategies at a similar rate (19%). Otherwise, the offline respondents appear to ask friends, family members or others for their opinions a little more and compare with information elsewhere a little less compared to the online respondents, which may reflect the ease of pulling up auxiliary information from the Internet.

The unruly behaviour of the strategy to share concerns with civic and social organisations may reflect that the strategy implies a partial transfer of responsibility attractive to those who cannot manage to deal with many nuances of grey or even get indignant over the apparent lack of a black and white truth.

Table 6-12 shows the information strategy profile of online respondents with particular information strategy scores. The table shows, on the one hand, that respondents tend to compare with information elsewhere before asking friends, family members or others for their opinion, and, on the other hand, that online respondents tend to ignore or disregard differences before consulting only one source. The table also shows that most online respondents irrespective of their information strategy score employ the strategy of interpolating the "truth" by believing a little of each based on general knowledge about the pertinent sources. This pattern makes sense considering the multitude of low interest/low importance information choices potentially encountered on a daily basis, which do not all merit digging up independent information or gauging the opinion of friends and family members.

Figure 6-8 Information strategy score by gender, age, education, income and location
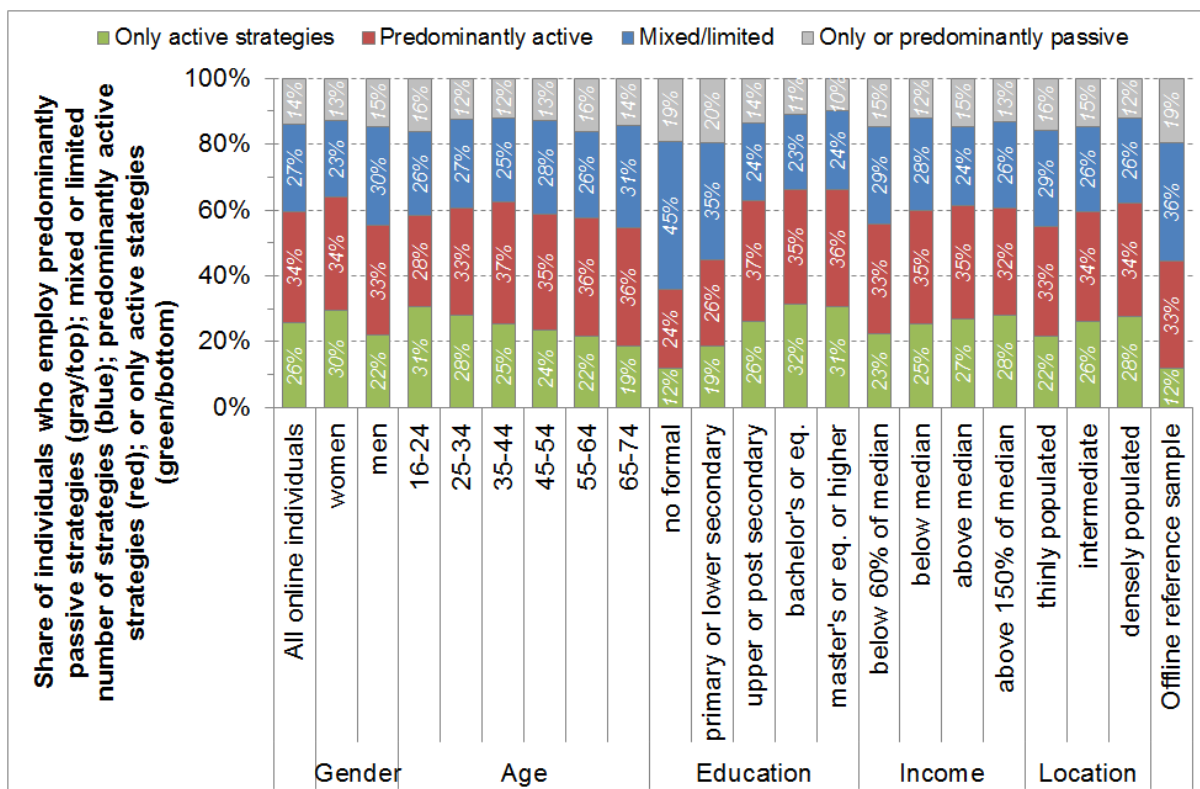
Note: Percentages indicate shares of individuals who consistently use particular type of strategies.

Table 6-12 Typical strategy use by information strategy score

Information strategy score	Compare with information elsewhere	Ask friends, family members or others for their opinion	Share concerns with civic or social organisation	Ignore or disregard differences	Consult one source only	Believe a little of each based on general knowledge about sources
Only passive strategies	0%	0%	10%	100%	100%	58%
Predominantly passive strategies	19%	15%	14%	89%	45%	64%
Mixed/limited	70%	44%	26%	81%	34%	77%
Predominantly active strategies	91%	62%	14%	45%	9%	79%
Only active strategies	100%	100%	15%	0%	0%	74%

Note: Table shows share of respondents with particular information strategy score (i.e., the number and type of strategies employed) who employ specific strategy in face of contradictory information.

User behaviour – correlations between test scores

Table 6-13 shows that as expected the information strategy score correlates positively and significantly with all previously calculated scores including the reliability perception score as well as the regulation knowledge score. Pearson's *r* ranges from a relatively weak 0.082 and 0.089 with the higher functional literacy and reliability perception scores, over 0.101 with the potential media effects awareness score, to a more modest 0.127, 0.149 and 0.154 with balanced media use, regulation knowledge and difference awareness.

Table 6-13 Correlation of user behaviour with other critical understanding test scores

	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy	Regulation knowledge	Balanced media use
Information strategy	**.089** - .131****	**.154****	**.101****	**.082****	**.149****	**.127****

*Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

Critical understanding scores combined

Putting all the above pieces together into a single measure of critical understanding to confirm the theoretical notion proves difficult as was the case with the single component entitled "Understanding media and its functioning". Thus, also the questions related to "Knowledge of media regulation" and "User behaviour" load largely independently in factor analyses adding another four dimensions to the four dimensions already identified in relation "Understanding of media and its functioning". Taken together, the eight identified dimensions explain 60% of the variation distributed as 11% by higher functional literacy, 10% by reliability perception, 9% by difference awareness, 9% by knowledge regulation, 7% by potential media effects awareness, 6% by information strategy, and the remaining 15% by three dimensions of user behaviour. Thus, neither in this case do the various aspects of critical understanding statistically coalesce according to the simplified theoretical framework, but rather suggest a highly complex and multi-faceted construct.

6.1.3. Communicative abilities

Only data for one component of the communicative abilities criterion are available from the survey testing, namely for "Content creation". The findings regarding the experience of producing own media content are presented in the following subsection.

Content creation

The content creation score is based on the professed production (yes/no) of the following four types of media content in the last year:
- piece of news or article in magazine;
- letter to a newspaper;
- written literature of any kind;
- video or audio material of any kind.

Factor analyses on multiple subsets of the sample confirm the existence of a single underlying dimension of content creation. Moreover, a standard scale reliability test of unidimensionality further confirms that the four subquestions express the same latent creative ability.

Adding up the creation of the four types of content, Figure 6-9 shows that almost two in three respondents (64%) have not created any of the four types of content investigated in the last year, while an additional 20% of the respondents have only created one of the four types of content.

However, substantial variation exists across age and education as well as across gender with the highest shares of content creators among the youngest (56%), those with the lowest and the highest levels of educational attainment (40-43% and 42% respectively) and among men

(41%). These differences also persist when looking at more diverse content creation with the noticeable exception that differences diminish significantly when looking solely at those who have created all four types of content regarding all other groups than those with the lowest levels of educational attainment (19% compared to 4-11% for everybody else).

In general, offline respondents appear to create less content than online respondents driven by no particular type of content.

Figure 6-9 Content creation score by gender, age, education, income and location
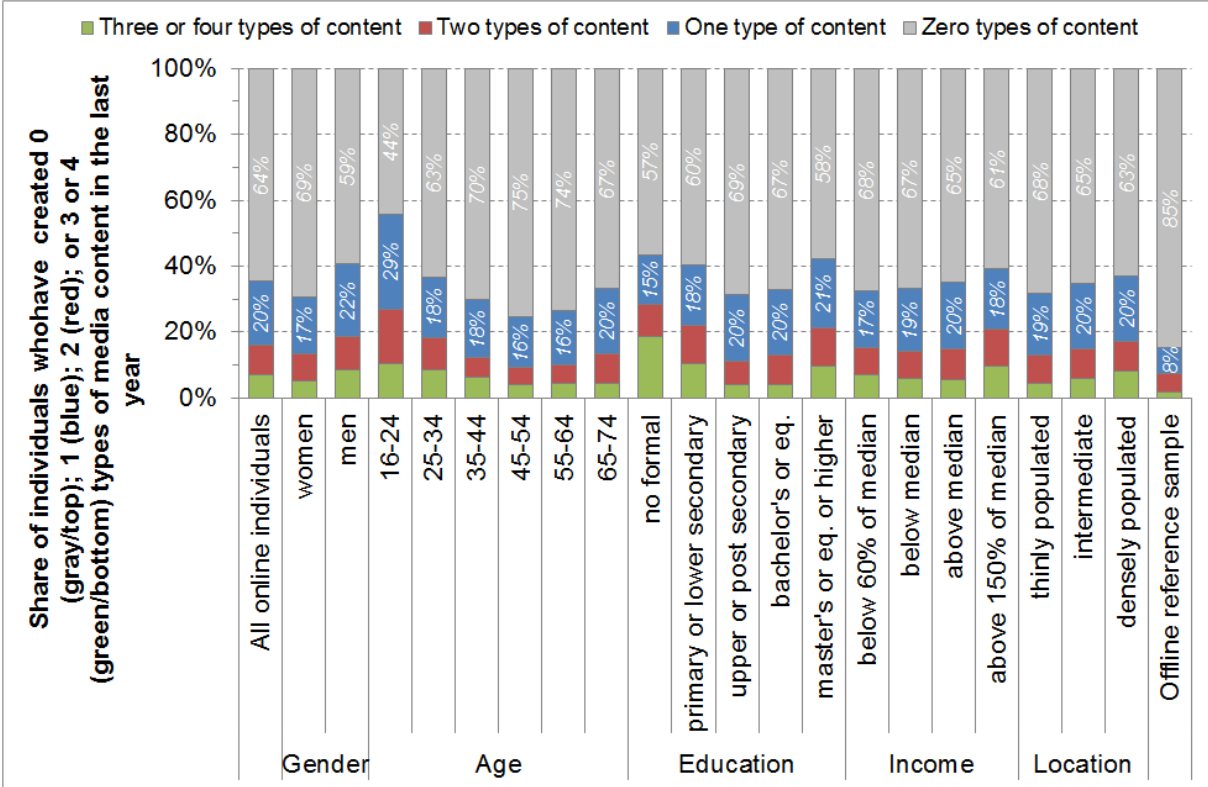
Note: Percentages indicate shares of individuals who have created one or more types of media content in the last year.

Table 6-14 shows the average share of online respondents with a particular content creation score who have created a specific type of content. The table shows that respondents with lower content creation scores are somewhat more likely to have produced a piece of written literature or some form of video or audio material than a piece of news, a magazine article or letter to a newspaper.

Table 6-14 Typical content creation by content creation score

Content creation score	Piece of news or magazine article	Letter to a newspaper	Written literature of any kind	Video or audio material of any kind
0 types of content	0%	0%	0%	0%
1 type of content	15%	21%	29%	36%
2 types of content	48%	36%	62%	58%
3 types of content	73%	54%	88%	86%
4 types of content	100%	100%	100%	100%

Note: Table shows share of respondents with particular content creation score (i.e., the number of different content types created in the last year) who have created specific type of content in the last year.

Content creation – correlations between test scores

As expected, the content creation score is positively and significantly correlated with the balanced media use score producing a modest Pearson's r of 0.219 as well as with the potential media effects awareness and higher functional literacy scores producing Pearson's r of 0.200 and 0.204 respectively. In addition, correlations with the difference awareness and regulation knowledge scores are positive and significant although much weaker producing Pearson's r of 0.073 and 0.040.

Somewhat unexpectedly, a significant negative correlation is observed with the combined reliability perception score producing a Pearson's r between -0.201 and -0.101, and a weak negative relationship is found with the information strategy score (Pearson's r of -0.030). However, a possible explanation exists for these unexpected relationships, as the youngest and those with the lowest levels of educational attainment both tend to show low reliability perception and those with the lowest levels of educational attainment also tend to employ the most passive strategies.

All the correlations are provided in Table 6-15.

Table 6-15: Correlation matrix of all test scores

	Balanced media use	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy	Regulation knowledge	Information strategy
Reliability perception	-.013 - -.009						
Difference awareness	**.144****	**.178** - .181****					
Potential media effects awareness	**.152****	-.016 - .014	**.150****				
Higher functional literacy	**.120****	**-.064** - -.011**	**.100****	**.071****			
Regulation knowledge	**.124****	**.140** - .166****	**.317****	**.133****	**.100****		
Information strategy	**.127****	**.089** - .131****	**.154****	**.101****	**.082****	**.149****	
Content creation	**.219****	**-.201** - -.101****	**.073****	**.200****	**.204****	**.040****	**-0.030***

Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold***. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

These correlations largely remain unchanged when controlling for country, gender, age and education as evidenced in Table 6-16 below.

Table 6-16: Correlation matrix of all test scores controlling for country, gender, age and education

	Balanced media use	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy	Regulation knowledge	Information strategy
Reliability perception	**-0.063** - 0.045**						
Difference awareness	**.117****	**.040* - .060****					
Potential media effects awareness	**.149****	**-.050** - .001**	**.152****				
Higher functional literacy	**.136****	**-.098** - -.037****	**.122****	**.077****			
Regulation knowledge	**.108****	**.043** - .044****	**.232****	**.146****	**.080****		
Information strategy	**.107****	**.077** - .122****	**.153****	**.087****	**.056****	**.133****	
Content creation	**.233****	**-.228** - -.130****	**.114****	**.232****	**.201****	**.052****	**-.042***

*Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

6.1.4. Citizen participation

The following subsections present the findings from the survey testing in relation to citizen participation. This activity was originally envisioned as a component of the communicative abilities criterion, but is now analysed separately based on the results of the critical review of the framework.

Citizen participation

The citizen participation score is based on the professed voice of opinion, yes/no, in the last year in the following five manners:

- contacted a politician or a political party;
- donated money to support a civic or political cause;
- signed a petition to support a civic or political cause;
- taken part in a public, peaceful demonstration;
- commented on a civic or political issue online.

Factor analyses on multiple subsets of the sample confirm the existence of a single underlying dimension of citizen participation, and a standard scale reliability test of unidimensionality further confirms that the five subquestions express the same active engagement.

Looking at the five questions as a whole, Figure 6-10 shows that approximately two in five people (42%) did not voice their opinion in any way in the last year whereas 17% voiced their opinion in at least three different ways.

Noticeable variations exist in the combined citizen participation levels, especially across educational levels where as many as half of all respondents with a lower educational background (47-53%) did not voice their opinion in any way in the last year compared to only about one in three (30-35%) among those with a higher educational background. Nonetheless, at the same time, almost one in four people (23%) among those with the lowest levels of educational attainment voiced their opinion in all five ways in the last year, which is on par with the combined activity level among those with the highest levels of educational attainment (23%).

Noticeable variations also exist across age and income with the highest inactivity among the youngest (48%) and the poorest (41-42%). Neither of these groups shows high combined activity levels like those with the lowest levels of educational attainment.

Again, offline respondents score substantially lower than the online respondents, driven primarily by contacting politicians and parties, signing petitions and, of course, commenting online less often.

Figure 6-10 Citizen participation score by gender, age, education, income and location
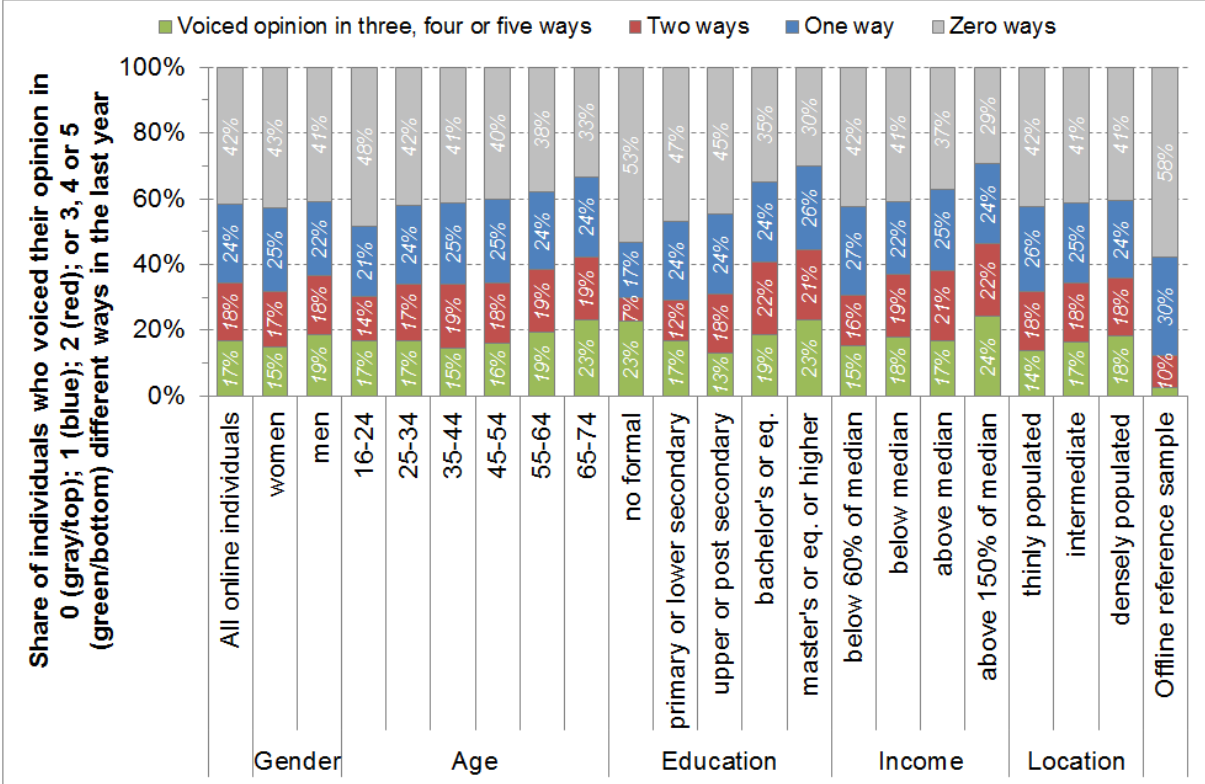
Note: Percentages indicate shares of individuals who have voiced their opinion in one or more ways in the last year.

Table 6-17 shows the average share of online respondents with a particular citizen participation score who have voiced their opinion in a specific way in the last year. The table shows that the most common way of voicing one's opinion among respondents with lower citizen participation scores is by signing petitions to support a civic or political cause followed by commenting online and donating money. In contrast, the most common way of voicing one's opinion among offline respondents if you have only done one thing appears to be by donating money and then followed by signing a petition (more common than donating

money among offline respondents who have voiced their opinion in two ways in the last year).

Table 6-17 Typical way of voicing opinion by citizen participation score

Citizen participation score	Contacted politician or political party	Donated money to civic or political cause	Signed a petition to support a civic or political cause	Taken part in public, peaceful demonstration	Commented on a civic or political issue online
0 ways	0%	0%	0%	0%	0%
1 way	8%	23%	37%	7%	25%
2 ways	20%	46%	74%	13%	48%
3 ways	41%	58%	87%	40%	74%
4 ways	69%	77%	94%	76%	84%
5 ways	100%	100%	100%	100%	100%

Note: Table shows share of respondents with particular citizen participation score (i.e., the number of different ways of voicing opinion in the last year) who have voiced their opinion in a specific way in the last year.

Content creation to voice opinion

Another form of citizen participation is through content creation with a political or civic purpose in mind. Figure 6-11 shows that about two in five (40%) of the content creators identified in the previous section created some of that content to make a statement on a civic or political issue, and this share increases to almost two in three among those who wrote a letter to a newspaper (65%) and roughly half among those who wrote a piece of news or a magazine article (52%). In line with these increases, it is especially men (43%), the oldest (50-57%), and those with the lowest levels of educational attainment (51% and 46% respectively) who have created content with a political or civic purpose in mind.

Figure 6-11 Content creation to voice opinion by gender, age, education, income and location
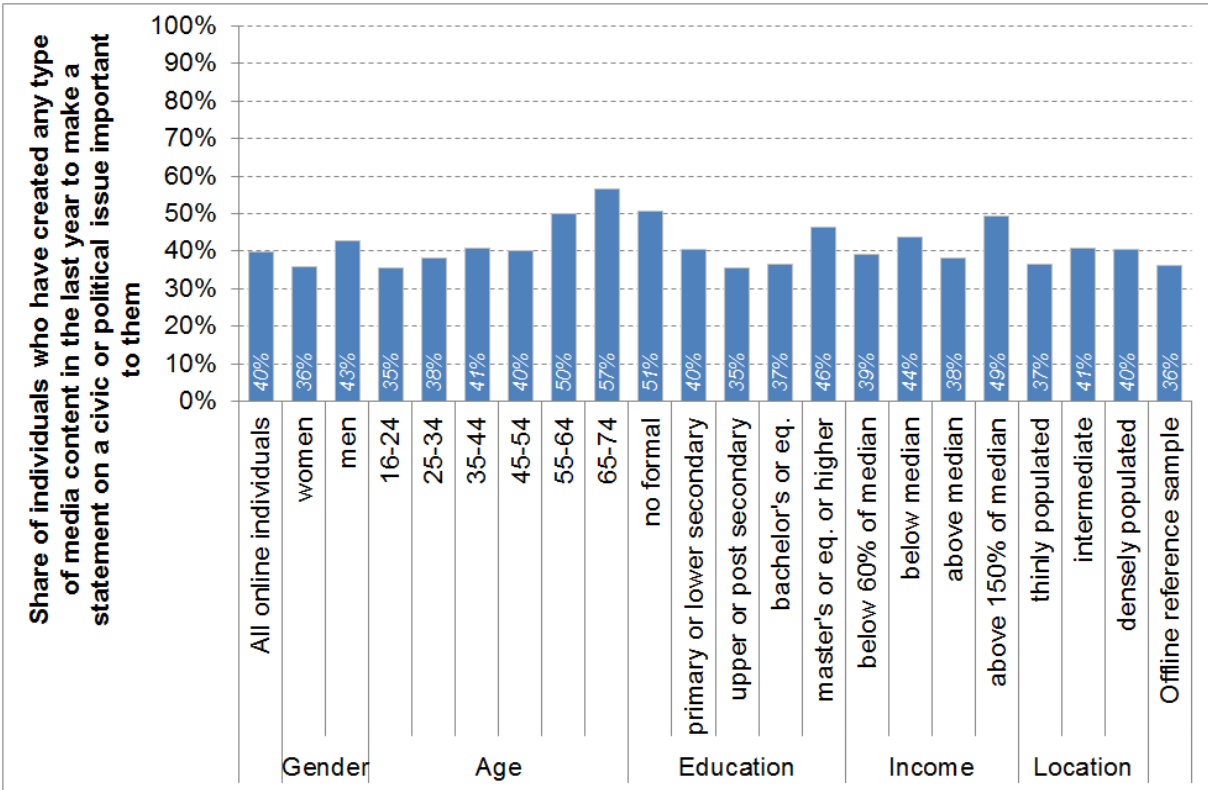
Note: Percentages indicate shares of individuals who have created media content of any type in the last year to make a statement on a civic or political issue important to them.

Citizen participation – correlations between test scores

The combined citizen participation score is positively and significantly correlated with each of the combined scores presented above as shown in Table 6-18.

In particular, a strong correlation is found with content creation producing a Pearson's *r* of 0.427. The strength of this correlation may be an artefact of the inclusion of several content types with a substantial participatory element (e.g., writing a piece of news, a magazine article or a letter to a newspaper) in the content creation score, however.

In contrast, content creation with a political or civic purpose in mind is only weakly correlated with the balanced media use, difference awareness, potential media effects awareness and higher functional literacy scores, and negatively correlated with reliability perception scores.

Moreover, while the positive and significant correlations between the citizen participation score and the various combined media literacy scores may be taken to support the claim that higher media literacy levels enable citizen participation, it should be noted that, at least in theory, causality could work in the opposite direction as well. That is, it is possible that engagement in public life actually increases critical understanding such as, for instance, difference awareness.

Table 6-18 Correlation of citizen participation score and political content creation with other test scores

	Balanced media use	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy	Regulation knowledge	Information strategy	Content creation
Citizen partici-pation	.224**	-.036** -.030*	.152**	.184**	.189**	.142**	.113**	.427**
Political content creation	.145**	-.154** -.095**	.060**	.087**	.089**	-.002	-.021	.284**

*Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

6.2. *Defining media literacy levels*

This section discusses the use of the scores presented above to describe media literacy levels and the implications of relying on different theoretical and empirical thresholds for the aggregation of data.

Lack of objective standards

There are no definite objective standards that can be used to meaningfully scale the various partial media literacy scores presented above to real life requirements apart from common sense conclusions about the extreme of the low end of most scales (for instance, it seems clear that believing all types of media are totally reliable is not a sufficiently cognisant response to be called media literate, whereas it is less clear whether it is really necessary to believe/know that all types of media are less than totally reliable to function in society although probably good). Moreover, while the proposed framework makes an attempt at defining the specific characteristics of basic, medium and advanced use skills, critical understanding and communicative abilities, these descriptions quickly become too complicated to translate into actual thresholds that can be applied with any degree of certainty to the necessarily simplified versions of the theoretical constructs tested in practice. This implies that the distinctions introduced between media literacy levels to some extent become determined by apparent breaks in the distributions as well as concerns for parsimony that may or may not have any implications in real life. That is, the levels introduced will be relative rather than absolute although developed with outset as far as possible in the spirit of the proposed levels in the framework and common sense.

Use skills

Regarding media use, then, the proposed levels for use skills in the framework suggest that basic level skills are characterised by "sample use of media" whereas medium and high level skills are characterised by "improving use of media" and "actively using media tools in everyday life", respectively. What this entails exactly is not further defined, but the idea of actively using media tools in everyday life as an attribute of high level use skills would seem potentially to be at odds with the previously offered notion that available time puts constraints on the extent of daily use. At least this definition should not be taken to imply constant use of every conceivable media in order to achieve high level status (in reality this level is as much about intensity and exploitation as it is about frequency, if not more so).

At the low end a "sample use of media" in practice could mean engagement with any number of media up to about half on an infrequent basis, but if the basic level is to contain any substantial share of the population, the data distributions suggest extending the range to at least eight "media use points". This implies use of all seven types of media in the last three months, but use of only one type on a weekly basis, or weekly use of at most four types of media, two of which almost by default are television and mobile phone. If the threshold for basic level media use is set any lower, for instance, on the principle that basic media use should not involve weekly use of the majority of media types involved, the basic use level would include at most 8% of individuals. Adopting up to eight "media use points" as the threshold for basic media use, the basic use level would include 16% of individuals.

At the high end, it is tempting to set the threshold at 12 "media use points" at least. This implies weekly use of all but one of the seven media types, and would seem to bear out the notion of active media use in everyday life while allowing for the deliberate non-use of one type of media, for instance, computer and video games among the older population (or books, or newspapers, but not books *and* newspapers). Moreover, even in the oldest population group, 22% of individuals score at least 12 "media use points". Speaking against this threshold is that the added value of using six compared to five types of media on a weekly basis for the main part would appear relatively limited and possibly offset by the alternative use of time. However, at the same time, a lowering of the threshold by just one point results in a dramatic increase in the size of the advanced use level from 35% to 55% of individuals, which would make the share of individuals with advanced level use skills larger than the share of individuals with medium level use skills.

All in all, this speaks for including up to eight "media use points" in the basic use level classification (0-8) and down to 12 "media use points" in the advanced use level classification (12-14). In the context of balanced and active media use then, medium use skills are defined as between 9 and 11 "media use points" (9-11). The results of this classification are shown in Figure 6-12.

The figure shows a relatively small share of individuals with basic media use skills (16%), a somewhat larger share of individuals with advanced media use skills (35%), and a large group of individuals with medium media use skills (50%).

The figure also shows that shares vary substantially by age and somewhat by education, income and location with the lowest shares of individuals with advanced level use skills among the oldest (22%), those with the lowest levels of educational attainment (32-33%), the poorest (30%) and people living in thinly populated areas (32%) – the latter to some extent being prevented from visiting the cinema and using mobile phones due to distance and network coverage.

The more limited media use among offline respondents implies that approximately half (52%) have basic media use skills by this classification scheme, while two in five (40%) have medium use skills and only one in ten (8%) advanced media use skills.

Figure 6-12 Basic, medium and advanced level use skills by gender, age, education, income and location
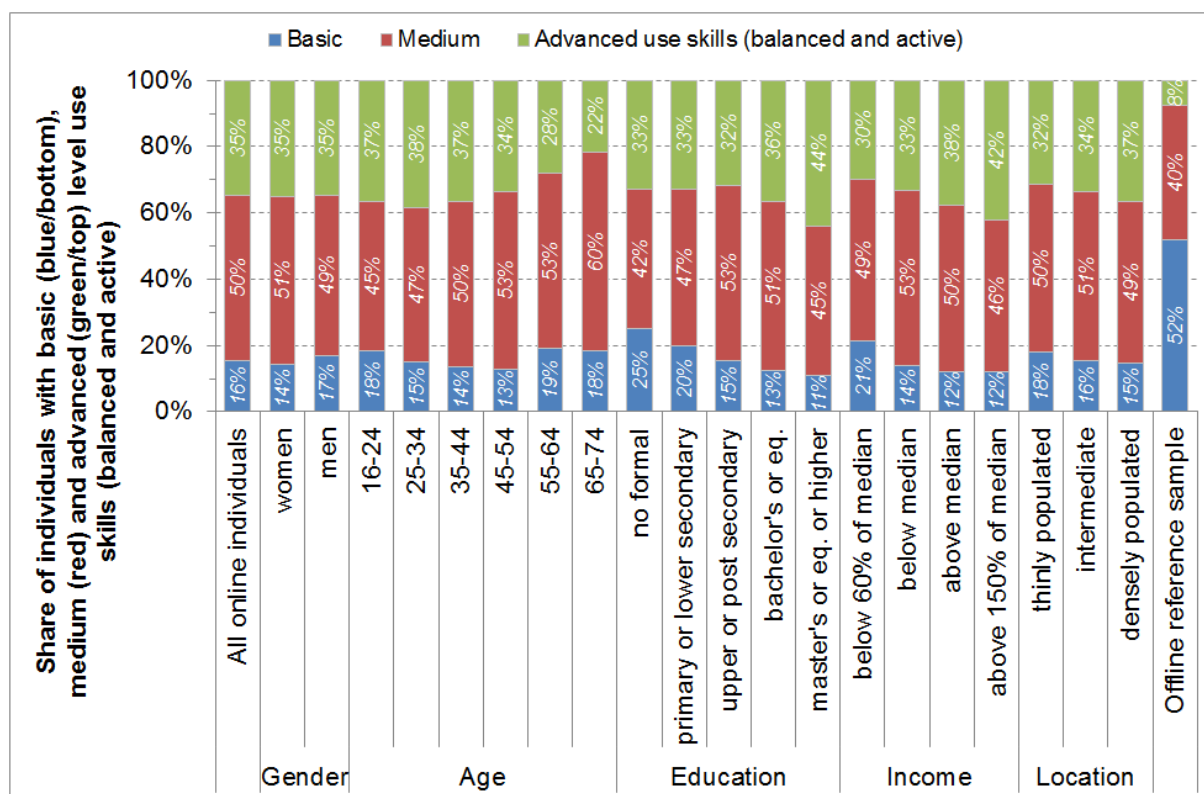
Note: Percentages indicate shares of individuals with basic, medium and advanced level use skills (balanced and active).

Critical understanding

Regarding critical understanding, the proposed levels for critical understanding in the framework suggest that basic level understanding is characterised by "the capacity to obtain, summarise and synthesize information" and more specifically by the abilities to read media text and distinguishing content, for example, fact and fiction, advertisement or political communication. Moreover, medium level understanding is characterised by the capacity to "evaluate the information [relevant in a given context]" and by "the competences to evaluate the principles underlying a responsible use of media communication and content creation". Specifically, medium level understanding involves user behaviour, ability to assess quality of sources and form, and knowledge about such topics as privacy, copyright and protection of minors. Finally, advanced level understanding is characterised by "knowledge about the media system and … the ability to evaluate it … and also to interfere in this field as a social actor", which specifically involves knowledge about media ownership, funding and regulation. In terms of the developed survey scores, basic level understanding thus appears to relate to the lower end of higher functional literacy (deliberately aimed high) and partial awareness of potential media effects, whereas medium level understanding appears to relate to active information strategies, consistent reliability perception and difference awareness as well as partial regulation knowledge. On top of that, advanced level understanding relates to comprehensive regulation knowledge and possibly to the use of the strategy sharing concerns with civic or social organisations.

Empirically this coding gives rise to several issues, however. Most notably, the theoretical description of critical understanding levels seems to assume that no people can possess the medium level characteristics without also possessing the basic level characteristics. This

Guttmann-scale type quality does not hold true in practice. Moreover, there would appear to be a tendency for this description to result in an undesirable distribution with relatively few individuals in the middle category compared to the top and bottom (if more people in general end up in the advanced group than in the medium group then it is arguably too easy to qualify for advanced group membership). Comprehensive knowledge about media regulation simply is not a strong enough condition to create separation once all the medium level conditions have been applied to sort out the most media illiterate among the population. A better condition for this objective is requiring advanced level individuals to have employed the strategy to share concerns with civic or social organisations, which identifies a very small subgroup of the population. Yet the strange behaviour of this strategy compared to other strategies seems to invalidate the application of this condition to make such an important distinction.

Accordingly, the following sliding scale loosely based on the proposed framework levels is proposed (Table 6-19).

Table 6-19: Suggested practical thresholds for basic, medium and advanced levels of critical understanding.

	Reliability perception	Difference awareness	Potential media effects awareness	Higher functional literacy	Regulation knowledge	Information strategies
Basic level = At least 2 of 6 conditions	*All (0) or almost all (1) totally reliable* -OR-	*No (0) or limited (1) awareness* -OR-	*No (0) or limited (1) awareness* -OR-	*All (0) or almost all (1) not easy or very easy* -OR-	*No (0) or limited (1) knowledge* -OR-	*Only passive (0) or predominantly passive (1) strategies* -OR-
Medium level = At least 5 of 6 conditions	*At least half (2-4) not totally reliable* -AND-	*At least partial awareness (2-4)* -AND-	*At least partial awareness (2-4)* -AND-	*At least half (2-4) easy or very easy* -AND-	*At least partial (2-4) knowledge* -AND-	*At least mix of active and passive (2-4) strategies* -AND-
Advanced level = At least 5 of 6 conditions	*All (4) or almost all (3) not totally reliable* -AND-	*Comprehensive (4) or near-comprehensive (3) awareness* -AND-	*Comprehensive (4) or near-comprehensive (3) awareness* -AND-	*All (4) or almost all (3) easy or very easy* -AND-	*Comprehensive (4) knowledge* -AND-	*Only active (4) or predominantly active (3) strategies* -AND-

Figure 6-13 shows the results of this classification scheme. The figure shows that about one in four people (28%) only has a basic critical understanding of media, whereas almost one in three people (31%) has an advanced critical understanding.

These shares are relatively stable across age groups with the exceptions of the very youngest and the very oldest age groups in which there tend to be slightly fewer people with advanced critical understanding of the media (26% and 28% respectively compared to 31-34% for everyone aged 25 to 64). More variation in these criteria scores is apparent across education, income and location with the lowest shares of individuals with advanced level understanding and the highest shares of individuals with basic level understanding among those with the lowest levels of educational attainment (15-26% and 39-37%), the poorest (25-28% and 31-33%) and people living in thinly populated areas (26% and 32%).

The generally low scores of offline respondents in relation to the various aspects of critical understanding presented above also manifest themselves in the combined score with 48% of individuals only possessing a basic level of critical understanding according to this sliding scale.

Figure 6-13 Basic, medium and advanced level critical understanding by gender, age, education, income and location
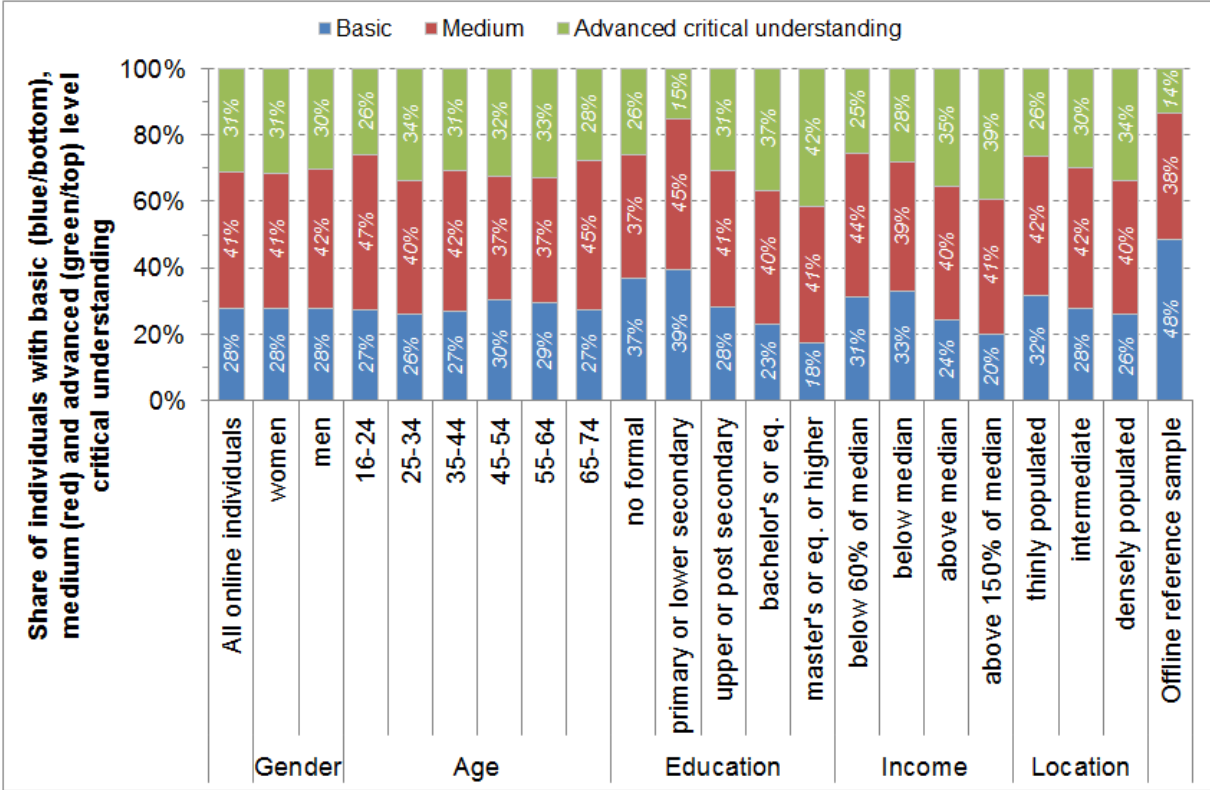
Note: Percentages indicate shares of individuals with basic, medium and advanced level critical understanding.

Communicative abilities

Finally, regarding media creation, the proposed levels for creative abilities in the framework suggest that basic level abilities are characterised by the "capacity to make and maintain contact with others", that medium level abilities are characterised by "a good understanding of needs and rights as a user and consumer" and by "active content creation", and that advanced level abilities are characterised by the capacity to "analyse and (eventually) transform [media communication] conditions" and by "activating cooperation groups … for solving personal and collective problems". The descriptions do not fit the available data exceedingly well due to the elimination of all Internet activity questions, but there would appear to be a notion that actual content creation does not occur at the basic level, which is primarily concerned with social relations, while the advanced level is more concerned with understanding the framework conditions for collaboration and active citizenship.

Given that almost two in three (64%) has created no content in the last year, it is therefore suggested simply to make the step from no (0) content creation to any (1+) content creation the threshold between basic and medium communicative abilities, whereas the threshold between medium and advanced communicative abilities reasonably involves the creation of either two or more different types of content or three or more types of content. The latter solution results in an advanced segment of about 7% while the former solution increases the

size of the advanced segment to about 15%. This choice of two or more (2+) different types of content also makes the advanced segment more accessible to older people why may be the better solution.

The results of this classification scheme are shown in Figure 6-14, largely reproducing the content of Figure 6-9. Lacking information about social networking and collaboration, about two in three people (64%) possess basic communicative abilities (which is to say largely none), whereas 20% and 16% respectively possess medium and advanced communicative abilities.

U-shaped directional patterns are apparent across age as well as across education. Moreover, a noticeable gender difference exists with the lowest skills levels among women (69% possess basic communicative abilities).

Among offline respondents, 85% possess basic communicative abilities only.

Figure 6-14 Basic, medium and advanced communicative abilities by gender, age, education, income and location
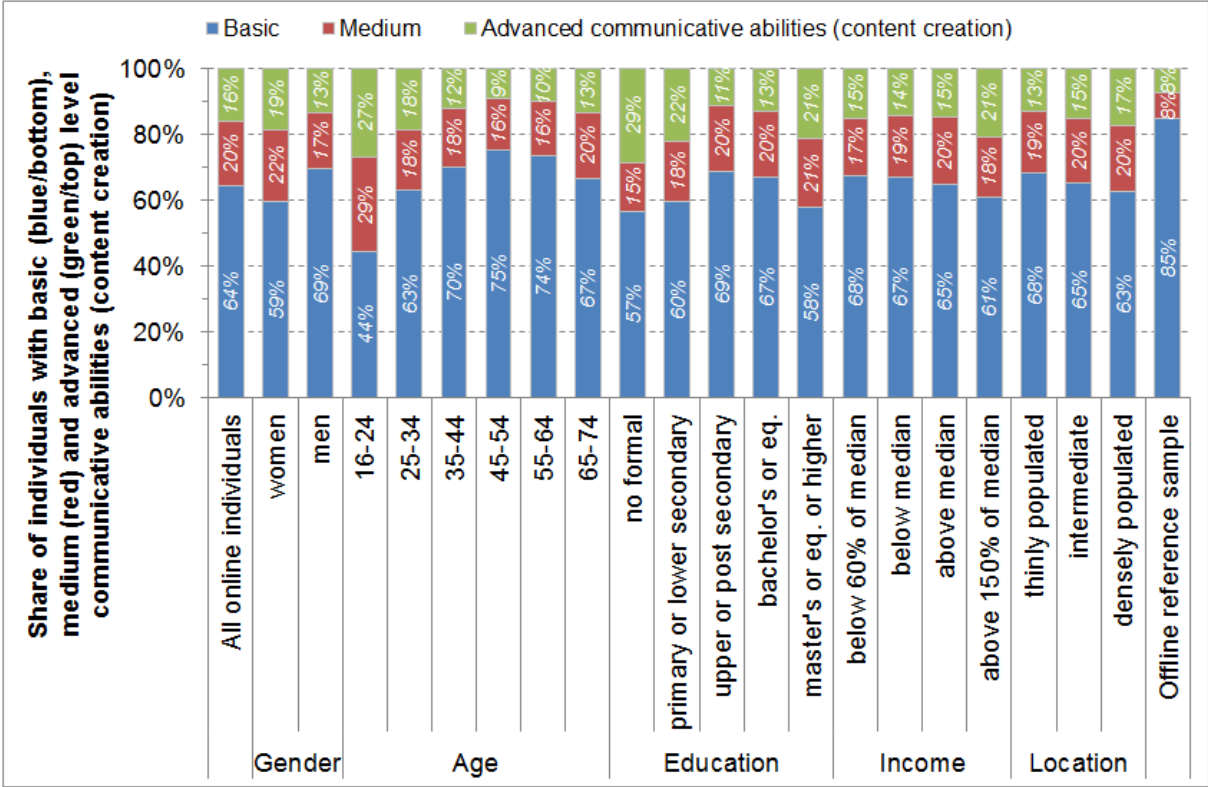
Note: Percentages indicate shares of individuals with basic, medium and advanced level communicative abilities (content creation).

Media literacy – correlations between criteria

Table 6-20 shows that each of the three media literacy criteria is positively and significantly correlated with the other two criteria. Correlations are relatively modest, however. This indicates that it is not necessary to have extensive use skills to have a critical understanding of media, nor is critical understanding a prerequisite for strong communicative abilities as sometimes stated (at least not in the sense of creating content).

	Use skills	Critical understanding
Critical understanding	**.147** (.133**)**	
Communicative abilities	**.175** (.165**)**	**.153** (.158**)**

*Note: Correlations significant at the 0.05 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level. Figures in parentheses show correlations controlling for country, gender, age and education of respondents.*

6.3. *Findings at national level and on all age groups*

This section discusses the feasibility of extrapolating the survey results to other Member States and offers a first tentative look at what media literacy levels might look like across Europe based on this manipulation of data.

Extrapolation of survey results

The extrapolation of the survey results to estimate country scores across the EU is constrained by the lack of strong correlations at the individual level between use skills, critical understanding and communicative abilities. This places under severe stress the available information that connects the survey results to the more comprehensive statistical databases at Eurostat as well as relevant Eurobarometer and European Social Survey (ESS) datasets, which all primarily contain partial information at best about basic media use and Internet activities.

Three reference points were specifically included in the questionnaire design, namely media use questions related to television, radio, newspapers, cinema and mobile phone; Internet use questions related to finding information about goods or services, buying goods or services, banking, interacting with public authorities, reading news, entertainment and uploading of self-created content; and finally, socio-economic and demographic information related to gender, age, education and urban-rural location. However, neither set of use skills nor the socio-economic and demographic controls nor any combination of these succeed in explaining more than 5-10% of the variation in the various critical understanding scores and questions developed. The result is, on the one hand, that only limited deviations from the survey score distributions can be expected when using these variables to approximate media literacy levels in other Member States, and, on the other hand, that these approximations do not realistically reflect the differences known to exist between the seven countries in the survey.
That is, since the basis for extrapolating the survey results cannot account for much of the variance around the survey mean, the extrapolating procedure essentially smoothens out any differences that might exist across countries. This is both a good and bad thing in the sense that some smoothing of the edges probably is to be preferred to 100% determinism to mitigate the risk of merely extrapolating country idiosyncrasies. Nevertheless, ultimately an explanatory power of more than 5-10% would be desirable.

One further issue impedes the easy extrapolation of the survey results to other countries. The statistical review of existing data regarding media and Internet use suggested the existence of two or three country groupings, which it was envisioned utilising to create a better fit between countries during the extrapolation process (i.e., by relying on cluster means rather than global means). Yet the systematic differences between these pre-established groupings are negligible in the survey results and do not increase the explanatory power of the available reference information. One reason for this lack of systematic differences may be that correlations between aggregate country figures such as those found in Eurostat do not necessarily reflect

individual level correlations as evidenced by the comparison of media use relationships from the survey shown in Table 6-21 and Table 6-22 (note that the incidence of insignificant relationships at the aggregate country level is most likely an artefact of there being only seven aggregate country shares).[20]

Table 6-21 Correlation matrix of media use in last three months at individual level

	Television	Radio	Newspapers	Books	Cinema	Computer and video games
Radio	**.110****					
Newspapers	**.086****	**.235****				
Books	**.058****	**.103****	**.249****			
Cinema	**.036****	**.089****	**.092****	**.215****		
Computer and video games	**.025****	**.036****	**.058****	**.034****	**.169****	
Mobile phone	**.079****	**.167****	**.119****	**.088****	**.060****	**.088****

*Note: Correlations significant at the 0.10 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

Table 6-22 Correlation matrix of media use in last three months at aggregate country level

	Television	Radio	Newspapers	Books	Cinema	Computer and video games
Radio	.322					
Newspapers	.018	.559				
Books	.132	.519	**.674**			
Cinema	**.683**	.397	.126	.322		
Computer and video games	-.111	.225	.081	.281	.573	
Mobile phone	-.008	.223	**.796***	.376	-.324	-.507

*Note: Correlations significant at the 0.10 level (2-tailed) are highlighted in **bold**. Correlations marked with a single asterisk (*) are significant at the 0.05 level while correlations marked with a double asterisk (**) are significant at the 0.01 level.*

Thus, while the survey results are arguably representative of the EU population due to the deliberate sampling across Europe, the estimated country scores based on those results may not be – underestimating high scores and overestimating low scores – and should be considered very tentative and interpreted with much caution.

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[20] Similar incongruent results are obtained when aggregating the invalidated internet use data and comparing correlations at individual level with correlations at country level (for instance, the correlation between participating in social networks and writing a blog is .124 at the individual level, but -.786 at the country level).

Country scores using online sample only

The next two subsections present estimated country media literacy scores using results from the online sample only and also using results from the small-scale offline sample to adjust the likely overestimation of proficiency levels induced by reliance solely on online responses. In each case, survey results are extrapolated based on information about the size of interlocking gender, age and education strata in the different Member States as well as in Norway and Iceland in 2010. This is done by projecting basic, medium and advanced proficiency levels for each substratum (e.g., women aged 55-74 with a tertiary education) on to the respective substrata in each country (e.g., women aged 55-74 with a tertiary education in Austria, women aged 55-74 with a tertiary education in Belgium and so forth) and then weighing the shares of individuals with basic, medium and advanced proficiency levels according to the share of all individuals belonging to each substratum in each country (e.g., 2.0% of the Austrian population aged 16-74 are women aged 55-74 with a tertiary education, 3.3% of the Belgian population aged 16-74 are women aged 55-74 with a tertiary education, etc.). This approach was adopted among the viable and competitive alternatives due to its superior transparency and because reliance on socio-economic and demographic information by far provides the most comprehensive and updated set of reference data.[21] However, there is one major interpretation drawback to this approach (besides its limited explanatory power as previously discussed), namely that any age group deviations from the survey mean will purely reflect the gender and educational profile of each age group in each country.

Figure 6-15, Figure 6-16 and Figure 6-17 show country scores derived in this way from the online survey responses for use skills, critical understanding and communicative abilities, respectively. The figures suggest that use skills and communicative abilities do not vary much across Europe (between 32% and 34% of populations are estimated to possess advanced use skills and between 13% and 16% are estimated to possess advanced communicative abilities) whereas more apparent variation is discernible with regards to critical understanding (between 23% and 32% of populations are estimated to possess advanced critical understanding).

However, these country scores only adjust for the different socio-economic and demographic profile of non-Internet users (i.e., older and with lower levels of educational attainment, see further ANNEX D Sample characteristics) while glazing over the consistent pattern of lower scores among non-Internet users indicated by the results from the small-scale sample of offline respondents. Hence, there is reason to suspect that the country scores suggested in Figure 6-15, Figure 6-16 and Figure 6-17 overestimate media literacy levels in countries with large shares of non-Internet users.

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[21] Interlocking gender, age and education strata for all 27 Member States, Norway and Iceland may be obtained by raking of national population figures for gender and age, age and education and education and gender from the Eurostat Community survey on ICT usage in households and by individuals, 2010.

Figure 6-15 Use skills in Europe based on extrapolation of online sample to entire population
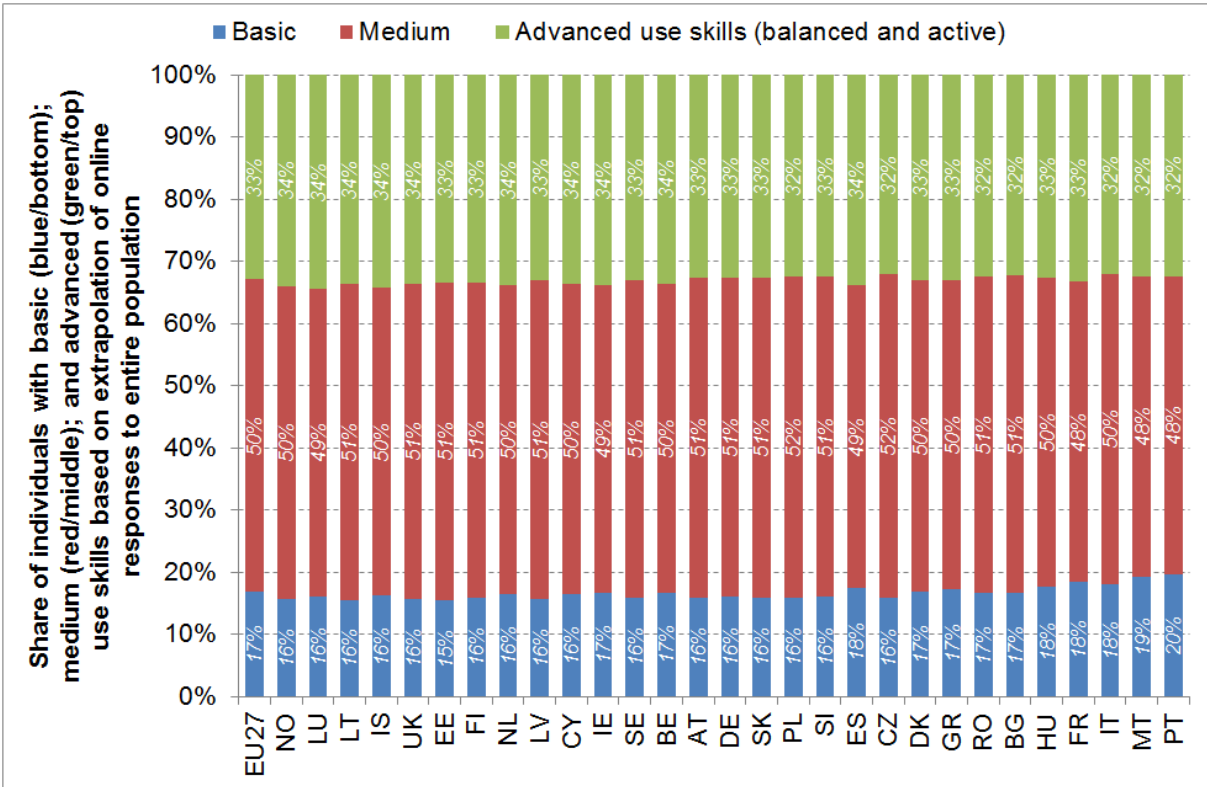
Note: Percentages indicate shares of populations with basic, medium and advanced level use skills (balanced and active) based on extrapolation of online responses to entire population. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level use skills + ½ x share of population with medium level use skills + 1 x share of population with advanced level use skills).

Figure 6-16 Critical understanding in Europe based on extrapolation of online sample to entire population

Note: *Percentages indicate shares of populations with basic, medium and advanced level critical understanding based on extrapolation of online responses to entire population. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level critical understanding + ½ x share of population with medium level critical understanding + 1 x share of population with advanced level critical understanding).*

Figure 6-17 Communicative abilities in Europe based on extrapolation of online sample to entire population

Note: Percentages indicate shares of populations with basic, medium and advanced level communicative abilities (content creation) based on extrapolation of online responses to entire population. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level communicative abilities + ½ x share of population with medium level communicative abilities + 1 x share of population with advanced level communicative abilities).

Country scores using both online and offline sample

Accounting for any systematic differences between Internet and non-Internet users not captured by their different socio-economic and demographic profiles poses its own problems since the supplementary survey among non-Internet users was limited to a total of 250 interviews in Hungary, Italy, Lithuania and Poland for financial reasons. This small-scale sample is associated with a high degree of uncertainty, and as mentioned in Section 5.2, it can be questioned whether the responses are even representative of non-Internet using population groups overall.

On that background Figure 6-18, Figure 6-19 and Figure 6-20 should be considered even more tentative than Figure 6-15, Figure 6-16 and Figure 6-17 above. Nevertheless, they are included to give an idea of just how much country scores for use skills, critical understanding and communicative abilities may change if making a clearer distinction between Internet and non-Internet users. The figures show that projecting the consistently lower scores found in the small-scale sample of non-Internet users to all non-Internet users (defined as the share of populations who have not used the Internet in the last three months), significantly more variation becomes discernible across countries in the levels of use skills as well as communicative abilities than before (between 17% and 33%, 22% and 31%, and 11% and 16% respectively of populations are estimated to possess advanced use skills, critical understanding and communicative abilities in this way).

Moreover, significant shifts in the rank order of each country are observable. For instance, Denmark and France jump up 14 and 12 places in the use skills rank order while Lithuania and Cyprus drop 16 and 14 places, and similarly, whether fairly or unfairly, Denmark and the Netherlands jump up 12 and 8 places in the critical understanding rank order while Lithuania and Latvia drop 12 places each. This suggests that if there really are systematic differences between Internet and non-Internet users – as seems to be indicated by the results of the small-scale sample – they can have a substantial effect on the generated media literacy scores for each country that needs to be accounted for in the full implementation of the survey (e.g., by surveying more thoroughly also non-Internet users).

Figure 6-18 Use skills in Europe based on extrapolation of online and offline samples to entire population

Note: Percentages indicate shares of populations with basic, medium and advanced level use skills (balanced and active) based on extrapolation of online and offline responses to entire population. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level use skills + ½ x share of population with medium level use skills + 1 x share of population with advanced level use skills).

Figure 6-19 Critical understanding in Europe based on extrapolation of online and offline samples to entire population

Note: Percentages indicate shares of populations with basic, medium and advanced level critical understanding based on extrapolation of online and offline responses to entire population. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level critical understanding + ½ x share of population with medium level critical understanding + 1 x share of population with advanced level critical understanding).

Figure 6-20 Communicative abilities in Europe based on extrapolation of online and offline samples to entire population

Note: Percentages indicate shares of populations with basic, medium and advanced level communicative abilities (content creation) based on extrapolation of online and offline responses to entire population. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level communicative abilities + ½ x share of population with medium level communicative abilities + 1 x share of population with advanced level communicative abilities).

The underlying estimated age group distributions with regards to use skills, critical understanding and communicative abilities are shown in Figure 6-21, Figure 6-22 and Figure 6-23 respectively below. The figures show relatively little variation across countries in use skills levels among those aged 16-24 while country differences become more pronounced as age increases. Thus, those aged 55-74 tend to have significantly lower use skills than those aged 16-24 in countries with relatively low overall use skills levels, whereas the estimated difference between those aged 55-74 and those aged 16-24 tend to be noticeably smaller in countries with relatively high overall use skills levels. With regards to critical understanding and communicative abilities, the figures show more similar levels of variation across countries within each of the three age groups. However, while critical understanding tends to slightly increase among those aged 25-54 in countries with relatively high overall critical understanding levels, critical understanding tends to slightly decrease among those aged 25-54 in countries with relatively low overall critical understanding levels. For individual country overviews in table format readers are referred to Annex F Tentative country media literacy scores.

Figure 6-21 Use skills of age groups in Europe based on extrapolation of online and offline samples to entire population

Note: *Percentages indicate shares of age groups with basic, medium and advanced level use skills (balanced and active) based on extrapolation of online and offline responses to entire age group. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level use skills + ½ x share of population with medium level use skills + 1 x share of population with advanced level use skills).*

Figure 6-22 Critical understanding of age groups in Europe based on extrapolation of online and offline samples to entire population

Note: *Percentages indicate shares of age groups with basic, medium and advanced level critical understanding based on extrapolation of online and offline responses to entire age group. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level critical understanding + ½ x share of population with medium level critical understanding + 1 x share of population with advanced level critical understanding).*

Figure 6-23 Communicative abilities of age groups in Europe based on extrapolation of online and offline samples to entire population

Note: Percentages indicate shares of age groups with basic, medium and advanced level communicative abilities (content creation) based on extrapolation of online and offline responses to entire age group. Countries ranked from left to right according to average proficiency level of population (using formula: 0 x share of population with basic level communicative abilities + ½ x share of population with medium level communicative abilities + 1 x share of population with advanced level communicative abilities).

New country scores compared to previous ranking

Interestingly, while the described procedure for extrapolating the survey results appears to be tentative, it does generate results comparable with the findings in the previous study, especially when accounting for the apparent differences between the online and offline samples. Averaging across the rank order of the estimated country scores for use skills, critical understanding and communicative abilities thus produces a mean rank order with considerable similarities to the individual competences score developed with use of aggregate country data from Eurostat and presented in relation to the previous study. Table 6-23 shows that seven of the same Member States appear in this top ten (Luxembourg, Sweden, Finland, the Netherlands, Denmark, the United Kingdom and Estonia), which now also includes two previously un-assessed countries in the two top places (Norway and Iceland). Likewise, nine of the same Member States appear in the bottom ten taking this simple approach (Romania, Bulgaria, Portugal, Italy, Greece, Hungary, Malta, Poland and Cyprus). However, some noticeable differences exist as well, in particular somewhat higher rankings than previously for Belgium and Slovakia and somewhat lower rankings for Ireland, Denmark, Austria, Slovenia, the Czech Republic, Hungary and Portugal (the maximum shift in places is seven while the average is four). What causes these deviations is unclear, but the overall similarities suggest either that some aspects of media literacy are so fundamental as to be measurable with any type of instrument or that what the scores really measure is largely Internet penetration rates. However, the latter interpretation does not fit well with the consistent identification of

top and bottom based solely on extrapolation of the online sample (note that the survey questions themselves are relatively independent of Internet use).[22]

Table 6-23: New tentative country rankings compared to country rankings in the previous study (EAVI, 2010)

	NEW ranking (online and offline)	NEW ranking (online)	OLD ranking (individual competencies, Eurostat)	Change in ranking (online and offline)	Change in ranking (online)	Use skills (online and offline)	Critical understanding (online and offline)	Communicative abilities (online and offline)
NO	1	1				2	1	3
IS	2	3				1	5	1
LU	3	2	2	-1	0	3	6	2
SE	4	10	4	0	-6	4	3	7
FI	5	5	5	0	0	6	4	6
NL	5	8	3	-2	-5	5	7	4
DK	7	14	1	-6	-13	7	8	5
UK	7	7	6	-1	-1	8	2	10
BE	9	13	15	6	2	11	11	8
EE	9	4	7	-2	3	10	9	11
DE	11	15	11	0	-4	9	10	14
SK	12	20	19	7	-1	12	12	17
FR	13	22	10	-3	-12	14	22	9
AT	14	17	8	-6	-9	13	13	20
LT	15	6	16	1	10	19	16	12
IE	16	11	9	-7	-2	18	15	15
LV	16	9	12	-4	3	15	17	16
ES	18	16	17	-1	1	20	18	13
SI	19	18	13	-6	-5	17	14	21
CZ	20	21	14	-6	-7	16	19	24
CY	21	12	23	2	11	24	20	18
PL	22	18	21	-1	3	21	21	22
MT	23	28	20	-3	-8	23	25	19
HU	24	25	18	-6	-7	22	23	23
GR	25	23	25	0	2	28	24	26
IT	26	29	24	-2	-5	25	26	28
PT	27	27	22	-5	-5	27	29	25
BG	28	26	26	-2	0	26	27	29
RO	29	24	27	-2	3	29	28	27

Note: Table shows country rankings averaging across the rank order of the estimated country scores for use skills, critical understanding and communicative abilities as well as comparison with results of previous study.

Clustering based on new country scores

Another way to rank the Member States is through cluster analysis. Using population shares with basic and advanced use skills, critical understanding and communicative abilities as input, this results in the identification of three groups of countries with similar scores across as shown in Figure 6-24. Noticeably, these groupings, which are listed in Table 6-24, identify the eight top ranked countries, the middle 16, and the bottom five as externally distinct, but internally comparable. Thus, Cluster 1 consisting of the top eight countries is characterised by average estimated population shares with basic use skills, critical understanding and communicative abilities of 20%, 29% and 67% respectively, whereas Cluster 2b consisting of the bottom five countries is characterised by corresponding average estimated population shares of 37%, 36% and 74% (see further Table 6-25). As the ranking exercise to some extent reflects decimal differences only, these three groupings may be more meaningful whether in rank order (i.e., 1, 2a, 2b) or merely for shared policy development.

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[22] Also the chance occurrence of similar rankings probably can be ruled out as merely obtaining seven of the same top ten countries without regards to the ranking of the bottom ten has a likelihood of just 1 in 7 400.

Figure 6-24 Cluster dendrogram based on use skills, critical understanding and communicative abilities scores

```
                    Rescaled Distance Cluster Combine

   C A S E      0         5        10        15        20        25
  Label   Num   +---------+---------+---------+---------+---------+

  AT        1   -+
  SK       28   -+
  SI       27   -+-+
  DE        6   -+ |
  EE        8   -+ |
  BE        2   -+ +-+
  IE       14   -+ | |
  LV       19   -+ | |
  LT       17   -+ | |
  ES        9   -+-+ +------------------+
  FR       11   -+   |                  |
  HU       13   -+   |                  |
  PL       23   -+   |                  |
  CZ        5   -+---+        +---------------------+
  CY        4   -+            |                     |
  MT       20   -+            |                     |
  BG        3   -+            |                     |
  IT       16   -+            |                     |
  GR       12   -+------------------+               |
  PT       24   -+            |                     |
  RO       25   -+            |                     |
  IS       15   -+            |                     |
  LU       18   -+-+          |                     |
  NO       22   -+ +------------------------------------------+
  DK        7   -+ |
  NL       21   -+-+
  FI       10   -+
  SE       26   -+
  UK       29   -+
```
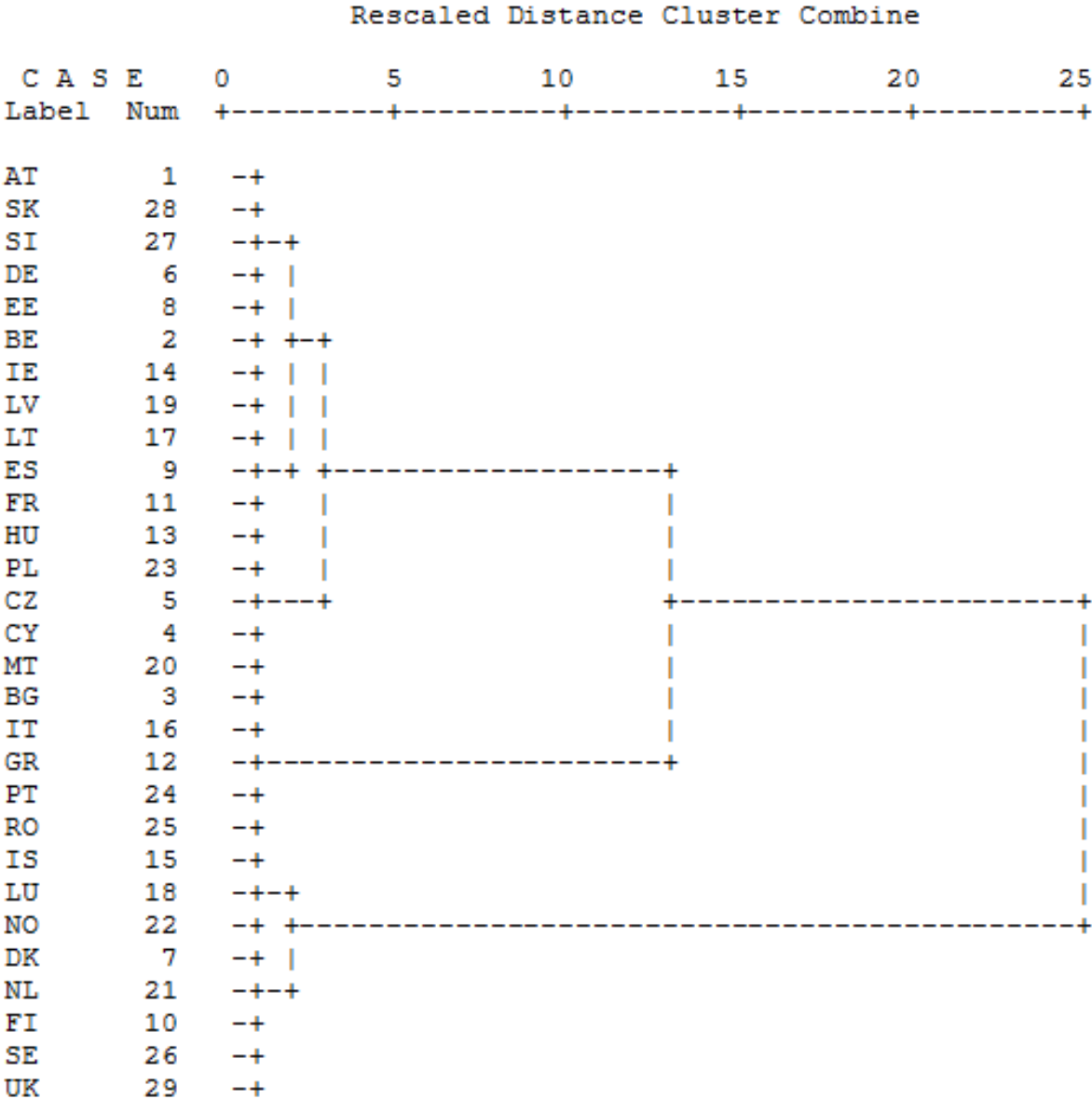
Note: Cluster dendrogram based on hierarchical cluster analysis using Ward's method and standardized Z scores of estimated population shares with basic and advanced use skills, critical understanding and communicative abilities. Length of horizontal lines denotes distinctiveness of country groupings.

Table 6-24: Tentative country groupings from cluster analysis

Cluster 1	Cluster 2	
	Cluster 2a	Cluster 2b
Norway (1)	Belgium (9)	Greece (25)
Iceland (2)	Estonia (9)	Italy (26)
Luxembourg (3)	Germany (11)	Portugal (27)
Sweden (4)	Slovakia (12)	Bulgaria (28)
Finland (5)	France (13)	Romania (29)
Netherlands (5)	Austria (14)	
Denmark (7)	Lithuania (15)	
United Kingdom (7)	Ireland (16)	
	Latvia (16)	
	Spain (18)	
	Slovenia (19)	
	Czech Republic (20)	
	Cyprus (21)	
	Poland (22)	
	Malta (23)	
	Hungary (24)	

Note: Table shows countries belonging to each cluster group identified in Figure 6-24 above. Numbers in parenthesis indicate country ranking by averaging across the rank order of the estimated country scores for use skills, critical understanding and communicative abilities ("New ranking" based on online and offline samples in Table 6-23).

Table 6-25: Characteristics of tentative country groupings from cluster analysis

Cluster	Use skills			Critical understanding			Communicative abilities		
	Basic	Medium	Advanced	Basic	Medium	Advanced	Basic	Medium	Advanced
1	20%	49%	31%	29%	40%	30%	67%	18%	15%
2a	28%	46%	26%	33%	40%	27%	71%	16%	13%
2b	37%	44%	20%	36%	40%	24%	74%	14%	12%

Note: Table shows average estimated population shares with basic, medium and advanced level use skills, critical understanding and communicative abilities of countries belonging to each cluster group identified in Figure 6-24 and Table 6-24.

6.4. Relationships between combined media literacy scores and individual survey questions

This section considers which of the survey questions are the most influential in determining the developed media literacy scores by trying to estimate and recreate the developed scores with fewer questions.

Reduced use skills set

Estimating the developed use skills score with the seven survey questions related to a balanced and active media use (i.e., use of television, radio, newspapers, books, cinema, computer and video games, and mobile phone in last three months and on a weekly basis) and stepwise removing the survey question with the lowest estimated effect size identifies the following questions as the three most decisive important survey questions in determining the use skills score (from one to three):

1. reading books;

2. playing computer and video games;
3. reading newspapers.

Together these three questions alone explain almost two thirds of the variation in the score, which is likely due to the near-ubiquity of watching television, listening to the radio and using a mobile phone. Reading books and newspapers also have appeal as defining questions as they would appear to reflect a more attention-grabbing media use than, for instance, watching television or listening to the radio (although both of these media can be attention grabbing too). In contrast, playing computer and video games may have less appeal as a defining question given the lower apparent status of playing games and the strong age profile of the question, and excluding this question, similar results can be obtained with cinema going. However, before substituting playing games with cinema going, it should be noted that going to the cinema has an almost identical age profile.

Table 6-26 shows a comparison of the developed use skills score and the reduced use skills set. The table shows that there are quite clear thresholds in the reduced use skills set between the levels of the use skills score. Only in relation to the shift from medium to advanced use skills does the reduced use skills set place a significant number of individuals differently as two in five (41%) of those respondents who score five "media use points" on the reduced use skills set have medium level use skills while three in five (58%) have advanced level use skills. Correlating the two scores confirms that the scores are strongly associated producing a Pearson's r of 0.810.

Table 6-26: Comparison of developed use skills score and reduced use skills set

		Use skills score		
		Basic	*Medium*	*Advanced*
use	0	100%		
	1	99%	1%	
Reduced skills set	2	77%	23%	
	3	21%	79%	
	4	7%	90%	3%
	5	1%	41%	58%
	6		10%	90%

Note: Table shows shares of respondents with particular reduced use skills set score who previously have been classified with basic, medium and advanced level use skills.

Reduced critical understanding set

Likewise, estimating the developed critical understanding score with the 26 survey questions related to reliability perception, difference awareness and awareness of potential media effects, higher functional literacy, regulation knowledge and information strategies and stepwise removing the survey question with the lowest estimated effect size identifies the following questions as the ten most decisive survey questions in determining the critical understanding score (from one to ten):
1. awareness of hidden advertisements;
2. ease of evaluating information;
3. strategy to compare inconsistent information with elsewhere;
4. perception of reliability of newspapers;

5. knowledge of regulation regarding ad placement;
6. awareness of unrealistic body ideals;
7. awareness of differences between websites;
8. ease of writing;
9. strategy to ignore or disregard inconsistent information; and
10. awareness of unrealistic violence.

Together these ten questions explain slightly more than half of the variation in the score. This is somewhat lower than the explanatory power of the three media use questions identified above in relation to the use skills score. However, both the number of questions and their combined explanatory power reasonably reflects the greater complexity of the critical understanding construct and the irreducibility evidenced in the factor analyses. Thus, the five strongest questions in the reduced critical understanding set notably represent five of the six distinct aspects of critical understanding investigated in the survey, and all six aspects are represented among the seven strongest questions. At the same time, the identified questions almost all have appeal as being among the most clearly defined in the analysis with the possible exceptions of the self-assessed ease of evaluating information and writing, which showed signs of overestimation by people with a lower levels of educational attainment. For these questions it could be considered to substitute ease of defining information needs with similar results.

Table 6-27 shows a comparison of the developed critical understanding score and the reduced critical understanding set. The table shows that the combined scores from the reduced critical understanding set primarily fall within one or other of the three levels of critical understanding previously defined albeit with increasing inaccuracy close to each of the thresholds between basic and medium and medium and advanced. This is also reflected in the slightly weaker correlation between the two scores producing a Pearson's *r* of 0.674.

Table 6-27: Comparison of developed critical understanding score and reduced critical understanding set

		Critical understanding score		
		Basic	*Medium*	*Advanced*
Reduced critical understanding set	*0*	100%		
	1	100%		
	2	98%	2%	
	3	93%	7%	
	4	88%	12%	
	5	59%	41%	
	6	38%	58%	4%
	7	12%	65%	22%
	8	11%	48%	51%
	9	1%	17%	82%
	10		4%	96%

Note: Table shows shares of respondents with particular reduced critical understanding set score who previously have been classified with basic, medium and advanced level critical understanding.

Reduced communicative abilities set

In relation to determining the communicative abilities score, the two most important survey questions among the four content creation questions (i.e., production of a piece of news or a magazine article, a letter to a newspaper, any kind of written literature and any kind of video or audio material) are:
1. Written literature; and
2. Video or audio material.

The identification of written literature and video or audio material rather than production of either a piece of news or a magazine article or a letter to a newspaper may be surprising, but together these two questions explain almost three quarters of the variation in the communicative abilities score. Moreover, although broad in scope, the two questions arguably have appeal because they are less biased towards conclusions about relationships between communicative abilities and citizen participation.

Table 6-28 shows a comparison of the developed communicative abilities score and the reduced communicative abilities set. The table shows that quite clear thresholds exist in the reduced communicative abilities set between the levels of the communicative abilities score. This is corroborated by the strongest correlation between the two scores of any of the three pairs producing a Pearson's *r* of 0.861.

Table 6-28: Comparison of developed communicative abilities score and reduced communicative abilities set

		Communicative abilities score		
		Basic	*Medium*	*Advanced*
Reduced communicative abilities set	*0*	89%	9%	2%
	1		69%	31%
	2			100%

Note: Table shows shares of respondents with particular reduced communicative abilities set score who previously have been classified with basic, medium and advanced level communicative abilities.

6.5. *Comparison of media literacy levels within different age groups in the Member States*

This section takes a closer look at media literacy levels of respondents of a particular age and with a specific educational background to help support development of policy recommendations.

Use skills according to age and education

Looking at the media literacy levels of different age groups, it seems prudent also to look at educational levels in order to control for the potential impact of higher educational attainment on media literacy levels.

Accordingly, Figure 6-25 shows use skills levels broken down in a series of small distribution plots split vertically by age (from 16-24 years in the top row to 55-74 years in the bottom row) and horizontally by education (from primary or lower secondary education including no formal education in the left column to tertiary education in the right column). These series of plots show that young people in general tend to have the highest shares of advanced use skills

compared to other age groups irrespective of educational attainment. Likewise, these series of plots show that the distribution of use skills levels is systematically affected by educational attainment irrespective age. In particular, there is a substantial drop in the share of individuals with advanced use skills between those aged 40-54 and those aged 55-74 of 7-14 percentage points across educational levels, while the attainment of an upper secondary or post-secondary, non-tertiary education is associated with an increase of 4-9 percentage points in the share of individuals with medium use skills and the attainment of a tertiary education with an increase of 6-13 percentage points in the share of individuals with advanced use skills across age groups.

Figure 6-25 Use skills (balanced and active) distributions by age and education
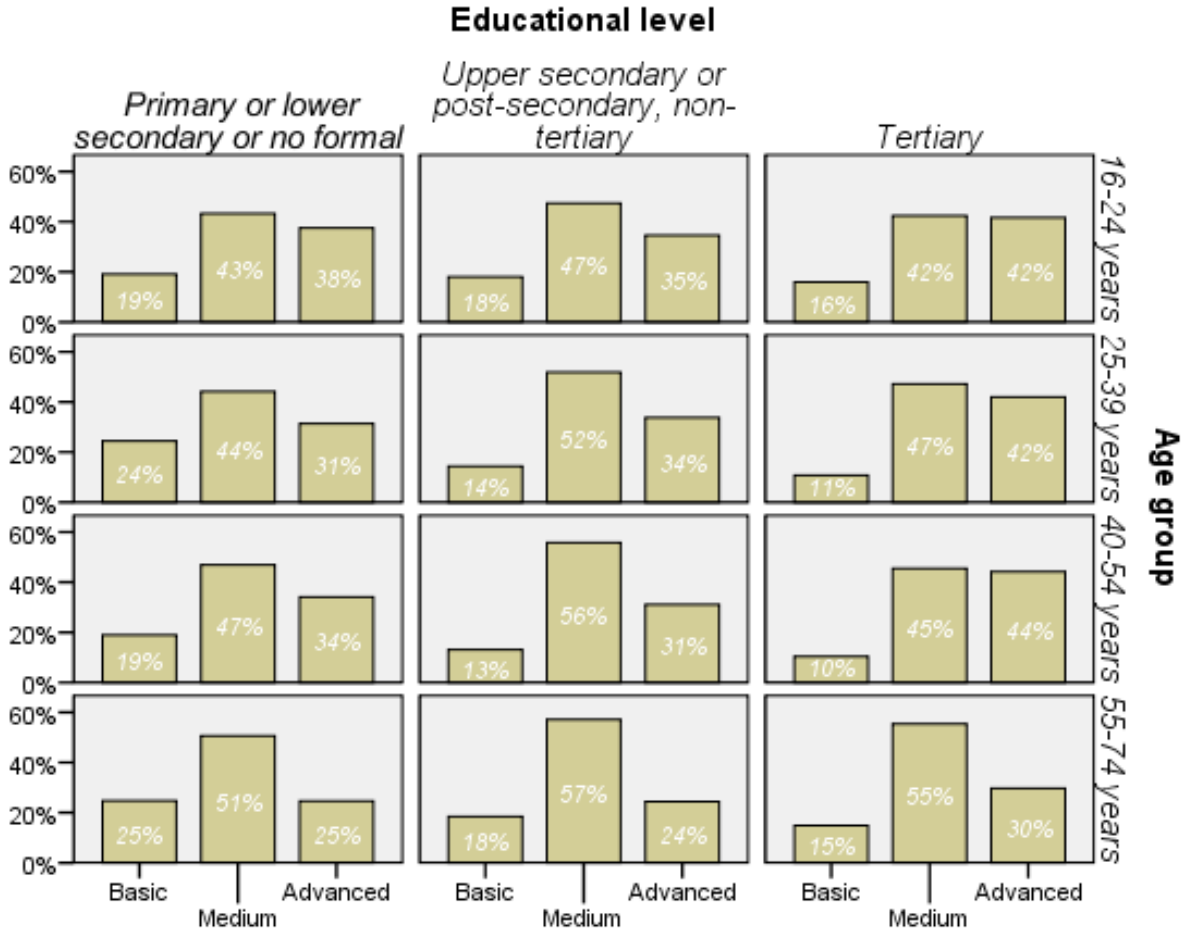
Note: Percentages indicate shares of individuals with basic, medium and advanced use skills (balanced and active) according to age and educational background of individuals. For instance, the top left distribution plot (tile) shows use skills levels of individuals aged 16-24 with a primary or lower secondary or no formal education. Likewise, the bottom right distribution plot (tile) shows use skills levels of individuals aged 55-74 with a tertiary education (i.e., bachelor's or master's degree or equivalent or higher).

Critical understanding according to age and education

Regarding critical understanding, education appears to have a much more noticeable impact than age as shown in Figure 6-26. Thus, both the attainment of an upper secondary or post-secondary, non-tertiary education and a tertiary education appears to be associated with a substantial increase in the share of individuals with advanced critical understanding in the magnitude of 6-19 and 4-14 percentage points respectively across age groups. Meanwhile, age

primarily appears to be associated with a systematic increase in the share of individuals with basic critical understanding among those with a primary or lower secondary or no formal education (29% in the youngest age group compared to 52% in oldest age group) and a slight increase in the share of individuals with advanced critical understanding among those with a tertiary education (36% in the youngest age group compared to 43% in oldest age group). This suggests either that there is an age effect in learning critical understanding on top of the educational effect – positively reinforcing higher education outcomes and negatively reinforcing lower education outcomes – or that there is a stepwise change underway as the youngest generation in the sample comes up through the educational system from a much higher starting point.

Figure 6-26 Critical understanding distributions by age and education
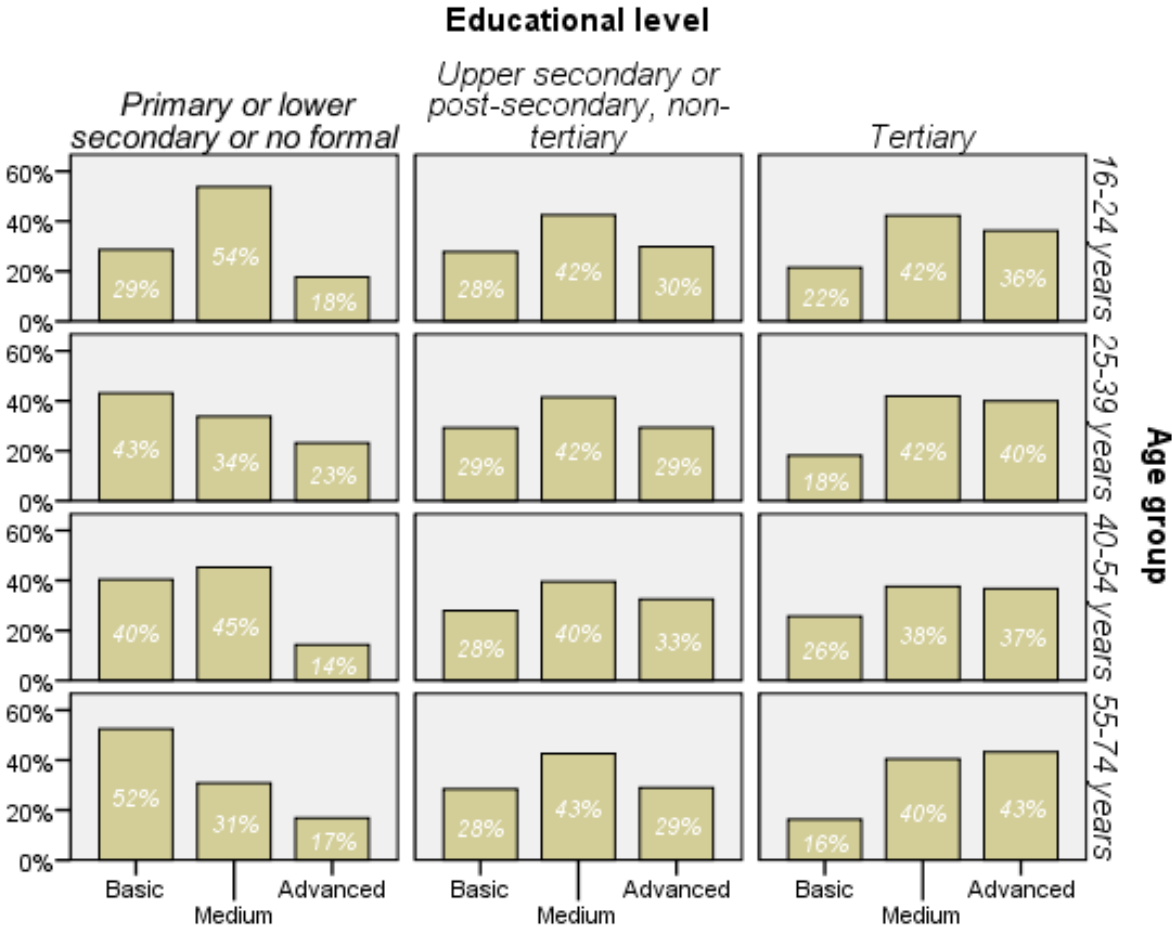
Note: Percentages indicate shares of individuals with basic, medium and advanced critical understanding according to age and educational background of individuals. For instance, the top left distribution plot (tile) shows critical understanding levels of individuals aged 16-24 with a primary or lower secondary or no formal education. Likewise, the bottom right distribution plot (tile) shows critical understanding levels of individuals aged 55-74 with a tertiary education (i.e., bachelor's or master's degree or equivalent or higher).

Communicative abilities according to age and education

Finally, regarding communicative abilities, Figure 6-27 again shows that young people are significantly more active than older age groups when it comes to content creation irrespective of educational attainment. The share of individuals with advanced communicative abilities decreases from 20-37% among the youngest age group to 6-15% among the oldest. With regards to education only limited effects are apparent as shares of individuals with advanced

communicative abilities appear to slightly decrease with the shift from primary or lower secondary or no formal education to upper secondary or post-secondary, non-tertiary education, but then slightly increase again with the shift from upper-secondary or post-secondary, non-tertiary education to tertiary education.

Figure 6-27 Communicative abilities (content creation) distributions by age and education
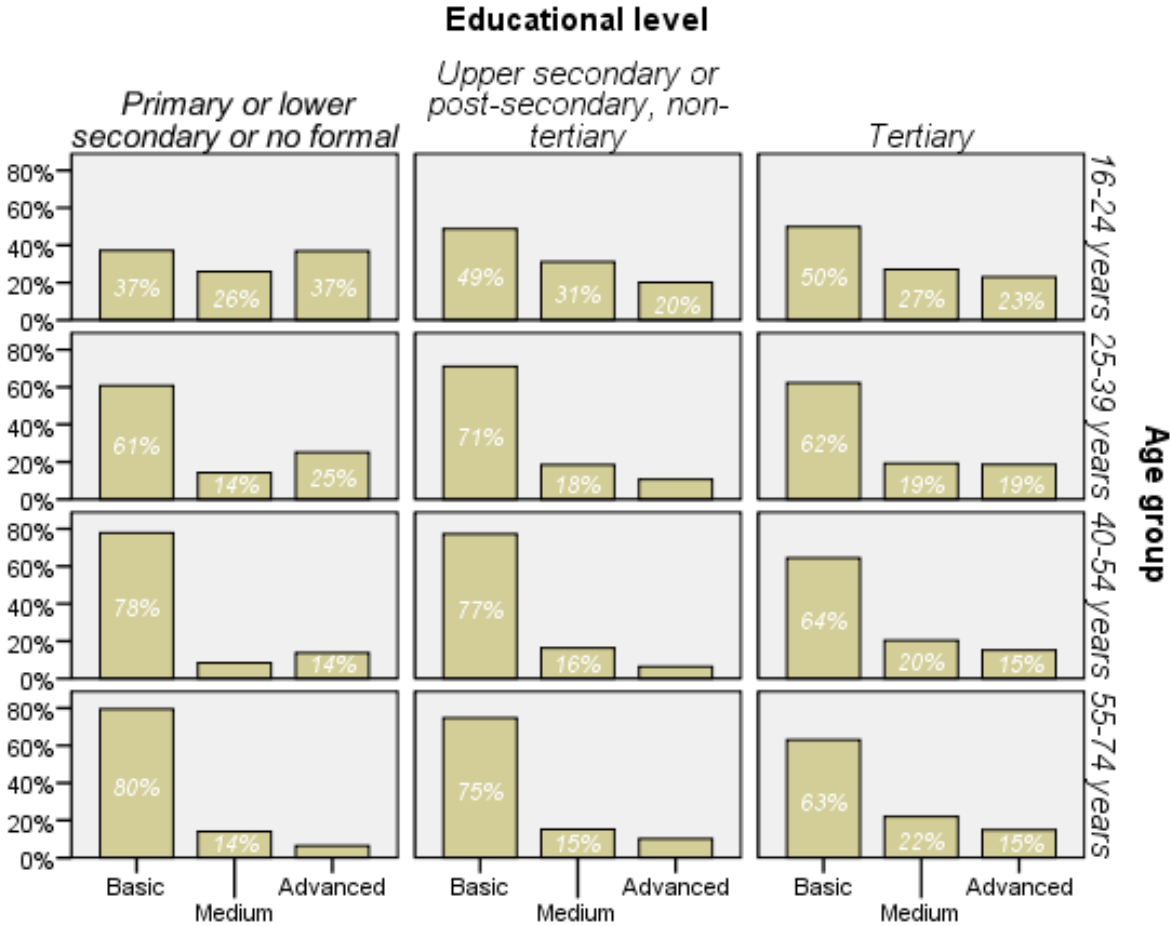
Note: Percentages indicate shares of individuals with basic, medium and advanced communicative abilities (content creation) according to age and educational background of individuals. For instance, the top left distribution plot (tile) shows communicative abilities levels of individuals aged 16-24 with a primary or lower secondary or no formal education. Likewise, the bottom right distribution plot (tile) shows communicative abilities levels of individuals aged 55-74 with a tertiary education (i.e., bachelor's or master's degree or equivalent or higher).

6.6. *Limitations of findings*

This section briefly discusses the theoretical and empirical limitations of the findings in relation to what can reasonably be concluded based on the results.

Particular and partial representation of media literacy

From a theoretical perspective, it should be noted that the developed media literacy scores do not provide a 360° view of use skills, critical understanding and communicative abilities. Focus, especially in relation to critical understanding, necessarily and deliberately has been narrowed a priori by the inherent time constraints associated with the feasible length of surveys as well as by the need to word questions in an easily understandable, non-academic language. Thus, the conceptual delineation of what critical understanding is in this survey

reflects a particular and partial representation of media literacy guided in the first place by the content and direction of the Audio-visual Media Services Directive (AVMSD).

Media literacy scores only as strong as the underlying questions

From an empirical perspective, the primary question is whether the developed media literacy scores really measure media literacy, and it should be noted that there is no absolute scale with which to compare and verify the developed scores. Both individually and in the aggregate, survey questions have been shown to largely correspond with expectations across age, education and income as well as with expectations to the internal correlations between questions, but ultimately the developed scores are only as strong as the underlying questions.

Internet questions missing

A particular concern is the unfortunate loss of all questions specifically related to Internet activities and behaviour. This has resulted in a narrower focus of the developed scores than anticipated in the survey design. However, the broader media use questions are not entirely without reference to the Internet, and exploratory analysis suggests that at least part of the Internet behaviour is picked up by these questions. Nonetheless, the increasing scope and importance of the Internet for everyday life makes this a substantial omission.

Limited offline sample

Another issue to be aware of is that any reference to non-Internet users is based solely on a supplementary telephone survey of 250 respondents in Hungary, Italy, Lithuania and Poland. This is a very weak foundation on which to draw any type of conclusions associated at minimum with a high degree of uncertainty and quite possibly with a more fundamental problem of representativeness. Consequently, while the tentative country rankings of media literacy levels across Europe bear strong resemblance to those proposed in the previous study (EAVI 2010), it is less clear why this is actually the case.

Solid, but in some ways biased online sample

A final issue of which to be aware are the possible consequences of relying primarily on an online survey for obtaining responses. Although the survey subcontractor provides a carefully managed and comprehensive panel of members from among which respondents were drawn, the exploratory analysis of the invalidated Internet questions suggests that panel members tend to be significantly more active online than the average Internet user. How this affects their answers to the other questions in the survey even if their broader media use appears to be close to average is unknown, but it might imply a small overestimation of media literacy levels (it is not a given that high activity levels translate into, for instance, higher critical understanding, though). In any case, the significantly higher online activity levels indicate that full scale efforts to measure media literacy levels in all countries should probably not rely on online sampling, not least if investigating further Internet behaviour.

6.7. *Summary*

Chapter 6 has presented and discussed survey results in relation to the framework components and shown how to combine these individual scores into combined media literacy scores. Based on the findings, it has been estimated that approximately 16% of individuals aged 16-74 possess only basic level use skills while 35% possess advanced level use skills. Similarly, it has been estimated that 28% and 64% respectively of individuals aged 16-74 possess only basic level critical understanding and communicative abilities, while 31% and 16% possess advanced level critical understanding and communicative abilities.

Tentatively extrapolating these results from the survey to other Member States based on proficiency levels across gender, age and education, the existence of three clusters of countries have been suggested with Norway, Iceland, Luxembourg, Sweden, Finland, the Netherlands, Denmark and the United Kingdom composing the most advanced group and Greece, Italy, Portugal, Bulgaria and Romania composing the least advanced group. It is worth noticing that this implied ranking of countries bears close resemblance to the individual competences rankings proposed in the previous study (EAVI 2010) as this suggests that some aspects of media literacy are so fundamental that they are measurable with any type of measure.

Chapter 6 has also shown the feasibility of recreating each of the criteria scores with a reduced set of survey questions without substantial loss of information.

Finally, chapter 6 has presented and discussed media literacy levels across gender and education in order to discern the impact of each on overall scores. In particular, this analysis showed the apparent positive impact of educational attainment on critical understanding as well as the perhaps worrying reinforcement of educational effects with age. Thus, among people with lower levels of educational attainment, the share of individuals with basic critical understanding increases as age increases, whereas the share of individuals with advanced critical understanding increases with age among people with higher levels of educational attainment.

7. Main Conclusions and Recommendations

Chapter 7 presents:

- the main conclusions from this study; as well as
- recommendations for a simple yet robust tool for measuring trends in media literacy; and
- for further research needs and European policies in the fields of media literacy and media education.

7.1. *Conclusions*

Critical review of media literacy framework

The qualitative analysis of the applied media literacy definition and associated competencies and indicators and their categorisation in the EAVI framework underlined that at a theoretical level the underlying (EC) definition of media literacy is appropriate and globally consistent with key current definitions of media literacy worldwide.

Moreover, the analysis established that the EAVI framework provides a comprehensive and fully covering account of the individual competencies associated with this definition, more likely to err in number on the high side than on the low side.

However, while the critical analysis supported the range of associated competencies, it questioned the implied hierarchical pyramid structure of the framework and suggested, on the one hand, a separation of communicative abilities and citizen participation, and on the other, a more fluid and flexible interpretation of the relationships between use skills, critical understanding and communicative abilities.

Thus, citizen participation seems to be more appropriately viewed and analysed as a normative objective for media literacy advancement at a societal scale rather than as a constituent part of being media literate. Much like the structural availability of media and the presence of dedicated media education (i.e., the environmental factors) are perceived of as enabling prerequisites to media literacy, media literacy itself reasonably should be perceived of as one of the enabling factors contributing to active citizen participation. However, it also is perfectly possible to be highly media literate without participating in public life.

Likewise, there would appear to be little theoretical or logical basis for maintaining that critical understanding is a necessary prerequisite to communicative abilities or even active citizen participation. Individuals quite possibly may produce and share media content such as letters to newspapers or video sequences without a deep understanding of how their creations might be perceived and used by others.

Both of the above theoretical conclusions are confirmed by the survey results.

At a more practical level, a mapping of the indicators proposed to measure the theoretical constructs and the available data sources for each of these indicators revealed or reconfirmed that for many indicators data was not attached, was not accessible, was not reliable or was a decade old or not unique for the particular indicator. Especially working indicators were found to be lacking in relation to the critical understanding of media, and interviews with Eurobarometer, Eurostat, the European Social Survey, the European Commission DG

Information Society and DG Culture, and UNESCO showed that no systematic data to cover this gap were forthcoming.

At a European level the only widely available data relevant to media literacy thus relate to use skills and communicative abilities, and mainly as these are expressed in a digital context. While tentatively suggesting the existence of three country clusters consistent with the findings of the previous study (EAVI, 2010), these data ultimately proved too insufficient to support any statistically meaningful conclusions about the validity of the framework.

Measuring media literacy in practice

Developing a practical survey tool to measure media literacy at an individual level poses a particular set of challenges not encountered at the more theoretical stages of the framework development.

On the one hand, a working questionnaire should be relatively brief to avoid survey fatigue among respondents and it should be worded in a plain, non-academic language to be understandable and answerable to regular respondents without any prior knowledge of the concept. On the other hand, a working questionnaire should also cover at least the main criteria and components of the framework to provide adequate information for analysis and be worded in a sufficiently sophisticated language to capture the complexities of the construct, particularly as it relates to critical understanding. These are difficult balances to strike and inherently necessitate a narrowing of focus that accentuates certain features while downplaying others.

At the same time, there appears to be little agreement in the research community as of yet about which questions to ask that can guide survey development. Thus, different studies tend to emphasize different aspects of media literacy and most studies explicitly aimed at critical understanding tend to be exploratory in nature. This fragmented pattern, of course, in part reflects the same above challenges with taking on such a comprehensive and complex construct as media literacy in practice.

The fragmented pattern may be exacerbated by the finding from the present survey that different aspects of media literacy do not easily reduce to single dimensions although positive correlations are observable between most individual aspects. If this tendency is a consistent finding across media literacy studies, it presents a natural barrier to the identification of a small set of questions that can comprise or represent all aspects and levels of media literacy.

Several findings also follow from the present survey in relation to the choice of measurement method. First, while the idea of measuring media literacy levels through the combination of country aggregate media use levels from Eurostat and elsewhere has appeal as a cheap and easily implementable solution, there is a manifest risk of drawing false conclusions about individual level relationships (the ecological fallacy). Comparing relationships between the same questions at individual and country level reveals substantially different – and even opposite – significant correlations, which puts in doubt the information that can be derived about individual behaviour from aggregate data only.

Secondly, the significant amounts of variation in individual critical understanding levels that is not explained by media use levels and socio-economic and demographic background information severely limits the value of data from Eurostat and similar sources, which are largely confined to these types of variables. Moreover, if the objective is to provide individual

country assessments, this lack of explanatory power also lessens the appeal of the second cheapest solution, namely to rely on extrapolation of results from a subset of Member States. In short, to properly assess country media literacy levels and account for country variations there is a need to actually measure media literacy levels individually in all Member States.

Thirdly, the findings from the survey suggest the need to recognise the likelihood of systematic differences in media literacy levels between Internet and non-Internet users and to obtain fully representative samples among both populations groups. Furthermore, even Internet users should probably be surveyed by telephone to avoid obtaining responses from the most active Internet users only.

Finally, it should be noted that despite all the principal uncertainties noted above, the similarity of the country rankings developed in relation to the previous study based on Eurostat data alone and the country rankings developed in relation to the present study based on extrapolation of the survey results may be interpreted to imply that some aspects of media literacy are so fundamental that they can be measured with any kind of tool. That is, although the underlying reasons are unknown, it may nevertheless be sufficient to simply combine country aggregate media use levels from Eurostat.

Specific use skills measures

The survey results hint at the existence of three underlying dimensions of a balanced and active media use, namely traditional broadcasting represented by television and radio, print media represented by books and newspapers and a new interactive type media represented by computer and video games. However, cinemas and mobile phones fit poorly into these groupings and suggest the need to know more about preferences such as genre choice and pop culture versus the "arts" to accurately distinguish different types of media use (also information about preferences for, for instance, tabloid press and news versus entertainment could be desired).

In addition, there is the issue of the impact on overall use skills levels of computer and Internet skills as well as advanced Internet use, which could not be directly tested with the survey data. Table 7-1 presents an overview of the tested use skills measures and other potentially relevant use skills measures.

Table 7-1: Overview of tested use skills measures and other potentially relevant use skills measures

	Tested		Not tested	
	High explanatory power	*Lower explanatory power*	*High theoretical relevance*	*Lower theoretical relevance*
Balanced and active media use	• Reading books • Playing computer and video games • Reading print newspapers • (Going to the cinema)	• Watching television • Listening to the radio • Using mobile phone	• Using the Internet	
Computer and Internet skills			• Computer skills • Internet skills	
Advanced Internet use				• Purchasing goods or services on the Internet • Internet banking • Interacting with public authorities online

Further conclusions in relation to use skills include the following:

- Frequent consumers of television, radio and newspaper are less likely to create media content or voice their opinion than those who frequently go the cinema. However, cinema goers do not necessarily have a higher educational background or find it particularly easy to define or evaluate information. In fact, frequent cinema goers (along with those who are frequent users of video and computer games) are found more often to consult only one source and to share their concerns with civic or social organisations.
- Those who read printed media, such as books and newspapers, are more likely to try to compare information elsewhere, while those who use mobile phones or radio are more likely to ask others for their opinions.
- Book readers also are more aware of hidden advertisements and unrealistic body ideals, as well as more aware of the existence of regulation to protect intellectual property rights and copyrights than users of types of media.

Specific critical understanding measures

The survey results confirm the difficulty of measuring critical understanding in a survey due to the complexity of the construct and the nature of the cognitive processes involved. However, the survey results also suggest that it is not entirely impossible to measure critical understanding in this way, if focusing on a limited number of aspects and accepting some degree of simplification. Thus, while a thorough investigation and assessment of critical understanding levels reasonably requires observation and grading of practical problem solving sets, whether in schools or in households, the survey arguably produces a set of scores which conform to expectation across age, education and income; correlate internally in largely expected patterns; and show only little evidence of over- or underestimation by particular population groups.

The partial representation of critical understanding tested in the survey identifies the following distinct dimensions of critical understanding: perception about the media as a reliable source of information, awareness of differences in different media portrayals of the same or related information, awareness of the potential (negative) media effects of using media, higher functional literacy skills, knowledge about the regulation of media, and information strategies to manage inconsistent information. Table 7-2 presents an overview of the tested critical understanding measures and other potentially relevant (Internet-related) critical understanding measures.

Table 7-2: Overview of tested critical understanding measures and other potentially relevant critical understanding measures

	Tested		Not tested	
	High explanatory power	*Lower explanatory power*	*High theoretical relevance*	*Lower theoretical relevance*
Understanding of media and its functioning	• Reliability of newspapers • Awareness of differences between different websites • Awareness of hidden advertisement • Awareness of unrealistic body ideals • Awareness of unrealistic violence • Ease of evaluating gathered information • Ease of writing complex texts • (Ease of defining information needs)	• Reliability of television, radio and the Internet • Awareness of differences between different television, between different radio channels as well as between different newspapers • Awareness of positive smoking influences • Ease of reading complex texts	• Awareness of differences between descriptive and opinionated content • Awareness of content upsetting to others • Awareness of online advertisement	• Awareness of differences between fictional and real content
Knowledge about media and media regulation	• Regulation of ad placement	• Regulation of ad content, other types of content, and intellectual property rights	• Media ownership structures	
User behaviour	• Comparing information with elsewhere • Ignoring or disregarding differences in information	• Asking friends, family members or others about their opinion • Using one source only • Sharing concerns with civic or social organisations	• Behaviour when accessing new websites/before entering personal information • Prevention of unwanted messages and e-mails	

Further conclusions in relation to critical understanding include the following:

- People who believe a particular type of media is totally reliable are more likely to use that media frequently. Conversely, people who believe a particular type of media is totally unreliable are more likely never to use that media.
- The more trust people have in a particular type of media, the less they are aware of differences between different media portrayals of the same or related information in relation to that type of media.
- Also, people who believe media are totally reliable are less likely to produce media content or to contact civic or social organisations to share concerns about differences in media.
- People who are aware of hidden advertisement and unrealistic body ideals tend to read more books and know more about media regulations.

Specific communicative abilities measures

The survey results suggest that a single dimension of content creation exists in relation communicative abilities. However, in addition the framework assumes the existence of a social relations dimension, which could not be directly tested with the survey data. Table 7-3 presents an overview of the tested communicative abilities measures and other potentially relevant (Internet-related) communicative abilities measures.

Table 7-3: Overview of tested communicative abilities measures and other potentially relevant communicative abilities measures

	Tested		Not tested	
	High explanatory power	*Lower explanatory power*	*High theoretical relevance*	*Lower theoretical relevance*
Social relations			• Posting messages to social or professional networks • Uploading self-created content to be shared • Collaborating on joint project	
Content creation	• Production of written literature • Production of video or audio material	• Production of a piece of news, a magazine, or a letter to a newspaper	• Writing a blog	

Further conclusions in relation to critical understanding include the following:

- Consumers of visual media contents (e.g., films) are more likely to have produced their own media content.
- Also active citizens are more likely to produce their own media content, although they are less aware of the existence of media regulations.
- In general, content creators are more likely to share concerns with civic or social organisations when they encounter inconsistent information. This might reflect participation in projects and initiatives targeting the social involvement and reintegration of marginalised and at-risk groups through the media. However, it might also reflect that the population groups with the highest shares of content creators,

namely the youngest and those with the lowest levels of educational attainment, have less capacity for managing on their own media stories that do not fit into a clear-cut black and white mould.

Media literacy levels

Combining the individual scores into media literacy scores and levels results in the following estimated distributions of individuals with basic, medium and advanced level use skills, critical understanding and communicative abilities in Europe:

- *Use skills*
    - 16% with basic level;
    - 50% with medium level; and
    - 35% with advanced level use skills;
- *Critical understanding*
    - 28% with basic level;
    - 41% with medium level; and
    - 31% with advanced level critical understanding;
- *Communicative abilities*
    - 64% with basic level;
    - 20% with medium level; and
    - 16% with advanced level communicative abilities.

Each of these media literacy scores largely behaves according to expectations across gender, age, education and income. Thus, use skills levels as well as critical understanding levels are highest among the youngest, those with the highest levels of educational attainment and the most affluent with little difference between genders, while communicative abilities levels are highest among the youngest and those with the lowest levels of educational attainment followed by among the oldest and those with the highest levels of educational attainment in a u-shaped pattern.

Also tentatively extrapolating the survey results to each Member State based on national gender, age and educational profiles suggests three tiers of countries with a high degree of face validity:

- *Cluster 1*
    - Norway, Iceland, Luxembourg, Sweden, Finland, the Netherlands, Denmark and the United Kingdom;
- *Cluster 2a*
    - Belgium, Estonia, Germany, Slovakia, France, Austria, Lithuania, Ireland, Latvia, Spain, Slovenia, the Czech Republic, Cyprus, Poland, Malta, Hungary; and
- *Cluster 2b*
    - Greece, Italy, Portugal, Bulgaria, Romania.

The consistency of these findings seems to corroborate the feasibility of measuring general media literacy levels in Europe on a regular basis. However, as noted on several occasions throughout, such a measure will necessarily be narrow in focus and fail to provide a deep understanding of individual media literacy levels and the underlying cognitive processes and motivations.

7.2. *Recommendations*

Recommendations in relation to measuring media literacy levels on a regular basis

Given the breadth of contexts and behaviours associated with media literacy, a simple 20-minute survey, no matter how well-designed, cannot provide the comprehensive measures necessary to inform policy and thus make recommendations for funding allocations in the areas of education and training or regulation in terms of access and availability. Such a survey will necessarily be limited to measure overall trends developments and possibly be skewed by accentuation of certain aspects at the cost of others while gleaning over the root causes of individual media literacy levels.

Based on the limitations of a simple survey and on consultations with experts regarding the challenges of media literacy, a dual approach thus is recommended to ensure both breadth and depth of scope. That is, it is recommended, in addition to the implementation of a basic trend barometer, to develop a set of rotating survey modules that focuses on specific aspects of media literacy and can be flexible to adapt to new findings or priorities.

Figure 7-1shows the aspects of media literacy that are believed to be particularly suitable for individual rotating survey modules (yellow rectangles). These modules will measure critical understanding, requiring deeper thinking on the part of the respondent. For example, these questions address awareness of bias in the media, or an understanding that lifestyles or body images presented on television may not accurately reflect real life. Also national context could form the basis for a rotating module as understanding the cultural, regulatory, economic, and educational context in which media literacy is developed and enacted is essential to further developments in policy and training.

Figure 7-1 Media literacy aspects recommended for rotating modules
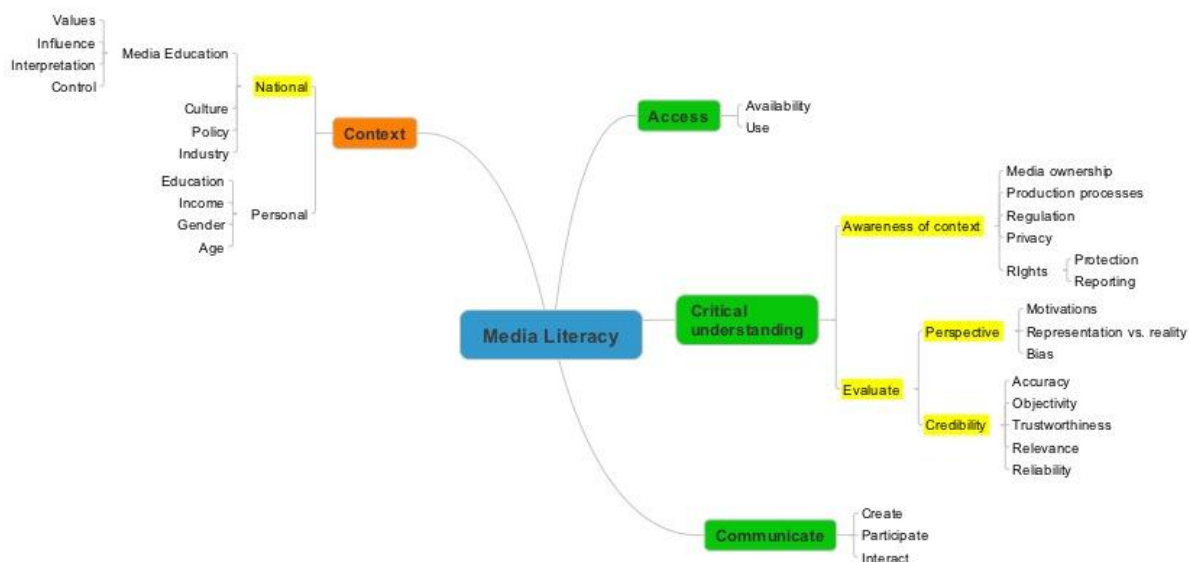
Note: Figure pictures media literacy (blue rectangle) as an outcome of individual (green rectangles) and national contexts (orange rectangle). Yellow rectangles depict aspects of media literacy particularly suitable for rotating survey modules.

A 5-year period is recommended in which the rotating survey could take place in Member States to collect in-depth responses to questions related to critical understanding and awareness of the national media context, while also measuring annual changes in access, use, and communicative abilities. Collecting and analysing data on diverse aspects each year

would gradually develop a concise list of indicators and identify core media literacy measures by the end of the 5th year. It would at the same time prompt targeted policy making on the specific annual topic. In the sixth year, Member States could start reporting along concise, key policy indicators. This period would drive different research opportunities each year in Europe on media literacy, would allow streamlined funding dedicated to media literacy, and would also help Member States to prepare the necessary platforms of cooperation with the different stakeholders and the media industry for data collection.

Based on results from the pilot survey, we recommend the following core measures:

- *Use skills*
    - Reading books (print or e-book);
    - Reading newspapers (print or online);
    - Playing computer or video games;
    - Going to the cinema;
    - Using the Internet;
    - Sending e-mails with attached files;
    - Using the Internet to make telephone calls;
    - Using peer-to-peer file sharing;
    - Creating a web page;
- *Critical understanding*
    - Reliability of newspapers (print or online);
    - Awareness of differences in information between different websites;
    - Awareness of hidden advertisements;
    - Awareness of unrealistic body ideals;
    - Awareness of content upsetting to others;
    - Knowledge of regulation concerning the placement of advertisements;
    - Ease of defining information needs;
    - Ease of evaluating gathered information;
    - Trying to compare with information elsewhere when encountering differences in information;
    - Checking information across other sites when visiting new websites;
    - Preventing reception of unwanted messages and e-mails;
- *Communicative abilities*
    - Written literature of any kind (including a blog);
    - Video or audio material of any kind;
    - Uploading self-created content to a website to be shared;
    - Social networking online (whether privately or professionally);
    - Collaborating online on a joint project (including contributing to a wiki).

These core questions could be implemented as a basic survey to measure trends in media access, balanced use, critical understanding, communication, and participation. They could also serve as a core for a rotating survey in which these basic elements are measured over time in relation to key components of media literacy, such as environmental context, regulatory framework, and media education. See annex H for a complete instruction to the core set.

Recommendations for further research
- Datasets are not readily available for many of the questions under the media context measures, as also the national responses in the 2010 EAVI study revealed. Therefore

setting up the facilities at a national level in each Member States to monitor activities of media education, media literacy policies, the media industry and the civil sphere systematically on the long run is first necessary.

- On the media availability, majority of the main media types can be matched with data, except cinema attendance and other cultural statistics. However, the structural media availability data is not informative in itself without further detailing the exact choices offered and the actual consumptions. A range of extra industry statistics exist that might have a relevance, e.g. the number of available TV channels per country, the number and share of European TV channels per genre, audience and time spent watching television etc. Especially television, radio and motion picture/cinema related cultural figures on supply and demand should be systematically collected under the cultural datasets of the Eurostat, and should be further refined.

- To measure technical use skills in depth at a European scale would result in a largely extensive surveying, on the other hand, similar self-evaluating the language skills of EU citizens has been developed under a common European understanding (e.g. the Common European Framework of Reference for Languages (CEF) that might serve as an example for developing media use skills and their levels. At a national level, the more finely detailed skills measures can underline the importance and measure the impact of educational initiatives targeting media use skills and also, to define further educational niches.

- The critical understanding measures as should be measured can only be measured in reality in the context and capacities of educational systems. Some Member States have already developed exercises for media and motion picture secondary school leaving exams to measure critical understanding of media content and operations. These can serve as starting points of developing a European reference test to measure critical understanding in Member States in a relatively valid manner. Comparison of these cognitive skills, however, across Member States will still be somewhat difficult due to contextual and cultural differences.

- Data are equally missing on the important aspect of individuals' understanding on the influencing power and dominance of the media operations, media malfunctions, media concentration and if individuals are ready and capable of signalling these malfunctions to the appropriate forums, especially in relation to the protection of minors. Therefore, in the future, these indicators could be important measures to introduce in Eurostat surveys or in tests of educational environments along with the cognitive skills.

Recommendations for further research specifically concerning minors:

- It is clear that future research needs to develop valid methods for eliciting accurate and complete information from children, and especially from young children (Owen et al., 2007). Approaches have to be child-centred and age appropriate, probably incorporating non-verbal assessments in a naturalistic setting. There is a need for research which looks at how children interact and engage with various marketing activities, and not just whether they can recognise the intent behind advertising. This will definitely call for some innovative approaches (Tufte & Rasmussen).

- Research into advertising literacy should be broadened, including research into the effects of advertising through 'new' media/technologies, even basic data on the very young children's relationship with the Internet is yet to be collected, but also into how advertising impacts on children as a whole, as part of their lives. The extent to which children actually use or benefit from their knowledge of advertising's purpose has not been fully addressed (Young, 2011). This should be through observational and ethnographic research.

- What is also certain is that more research is needed to determine what other factors also influence harmful outcomes (stereotyping, obesity, smoking, etc.) (Livingstone & Hargrave, 2006).

- Advertising literacy needs to be tested across different cultural, social and economic backgrounds, including minority groups. To present, many studies (with the exception of some, e.g. Ofcom) has just looked at relatively small groups of children, often from the same country, town, and even the same school. Future research should test a wider range of children across different settings and at European level.

- Research should also test what the 'real' level of advertising literacy is for adults, in order to have a meaningful point of comparison with children.

- The ability to create media could be highly important in furthering children's understanding of advertising: The creative abilities of children and young people have not yet been elucidated; there is very little research into this area. Of course, given the relative novelty of the ability to create certain types of media, this is not unsurprising (Buckingham, 2005). The ability to create media is, however, an essential aspect of media literacy which could further develop children's abilities to assess and 'mediate' the negative aspects of media.

- As Buckingham (2005:23) argues, "Media production requires an ability to access and manipulate technology, and an understanding of issues such as media language and representation, as well as an awareness of one's audience". He goes on to argue that it is probably that experience of production would have an effect on behaviour as 'consumers', by making children more critically literate. Buckingham gives the example of a webpage: if we create a webpage we have to think about design qualities and conventions, which might make us more critical towards other websites. Research is needed to confirm this hypothesis, but it could be a potential way of mitigating the harmful effects of media and marketing.

Collaboration with the media industry to provide data

The media industry's contribution to media literacy does not stop by the issuance of new technology devices and tutorials to educate individuals for the use of new tools, and providing services and content, but also the industry could significantly contribute to European policy making by providing structural data.

- Industry players should therefore cooperate with national government and statistical offices to ensure essential industry data on access and supply of media genres. Especially there is a need to define cinema/film preferences further to define attendance and tickets

Collaboration with International Organisations Active in Media Literacy Measurements

The necessity arising from the pioneering nature of the field of measuring media literacy and the lack of well-tested approaches dictates the exchange of experience with organisations that are partially of fully engaged in measuring media literacy.

- Especially beneficial would be the exchange of experiences of the European institutions with UNESCO and OECD about further development of framework and measuring tools. In particular, UNESCO, in their exercise to develop indicators for Information and Media Literacy as presented at their meeting in Macau in November 2010, they appear at the moment to be exactly where the Commission was a year ago, having a comprehensive – and very similar – theoretical framework and list of indicators. Moreover, both the Commission and UNESCO seem to be drawing on the same pool of experts, which explain the extensive similarities between the proposed frameworks. If the wish is to move towards more formal testing involving actual problem solving tasks whether in schools or in households, PISA and PIAAC experts appear relevant collaboration partners.

Further recommendations for policy making

- Initiatives and founding sources should be provided for national governments of Member States to exchange experiences with countries of the same clusters. This would allow the Member States to join forces in order to lobby for research opportunities, funding opportunities and drive policy trends towards specifically targeting their clusters' needs and priorities.
- Measurements tools should be introduced as integral parts of media education. It would particularly allow long term observations of trends, and would provide a systematic measurements of skill levels (technical skills for Internet, computer, or other digital devices that support the creation and application of audio-visual media content) and of cognitive critical thinking elements.
- Our findings suggest that the manifestation of communicative abilities into media content and civil participation through media is most characteristic among lower educated, young populations. To extend the population that is active in these fields, secondary and tertiary education as well as lifelong learning initiatives targeting mature and elderly populations should promote the uptake of these elements of media literacy as key competences and skills and should promote the development of didactical tools, and extend teachers training programs of media teachers.
- The development of practical, 'easy-to-follow' educational tools or guidance sheets on media regulations for all age groups, but specifically for younger age group, with no formal education or lower secondary level education is essential, especially in light of the proportions of this age group who creates media content and participates more in society through civil initiatives. Guidance sheets or guiding web portals on media regulations concerning the creation and publication of audio-visual and written content would be beneficial. On the other hand, those elder groups that are aware of regulations are less intending to create content and actively participate as a citizen, therefore a balanced, easy-to-read guidance might contribute to the reduction of the potential barrier that strict regulations impose on content creation and participation.
- The strong correlations between those who voice their opinions through civil organisations and create media content indicates a necessity to consider for initiatives targeting at-risk groups and capacitating them to use the media as a tool of reintegration or avoidance of marginalization to insert the promotion of knowledge on

media regulations, especially with regard to media content, copyrights and intellectual property rights.

- European citizens should be more actively engaged in participation in society and in European issues through practicing their rights as citizens. This entails the encouragement of the involvement of citizens of all age and social groups to voice their opinions through the development of easy-to-use online (opinion polls, voting schemes, European e-governance site) and offline tools (encouraging volunteering activities through the media, mobile opinion poll/voting collections, rotating surveying under EU-presidencies, etc.), to empower citizens to interact more in public life. These tools should represent independent, reliable and regular forums where citizens feel comfortable and safe to address issues that are important to them without fearing discrimination, being afraid of consequences, or being left without response. Another was of more engagement is to increase the channels of communication through which self-expression can manifest, meaning access to media tools, especially ICT devices, but also education to social media, to the application or creation of platforms for debates, of self-expression, creativity, and cooperation online with others for social, business networking or for supporting civil causes.

- The apathy and disengagement from public life of European citizens should be tackled through vivid, open discourse and debates on media literacy, on citizenship and on political and social issues including the future of the European Union, sharing the responsibility with individuals as well as exchanging experiences and ideas to steer the national and European policies not only through the election of local, national or European Parliament members, but also allowing direct debating directly on specific issues. Simplifying access to public debates, potentially in native languages is a key to reaching out to groups of citizens that are currently distant from public life.

Recommendations on separate Indicators for minors on advertising and media literacy

Several theoretical models exist that provide insight into the components of Advertising Literacy that are necessary for children in the literature (Friestad & Wright, 1994; John, 1999; Robertson & Rossiter, 1974). All these models, however, focus on different types of knowledge and do not provide an unequivocal definition of advertising literacy. However, most models agree that the ability to differentiate between advertising and other media content, and the ability to comprehend the nature and intent of advertising are the two key components of advertising literacy (Rozendaal, 2011).

An important question when assessing advertising (and media) literacy of children concerns the benchmark against which we compare children's level of advertising literacy: should it be highly educated adults (an idealised level) or all demographic groups? (Rozendaal, 2011: 18) Rozendaal (2011) argues in her thesis that the current theoretical conception of advertising literacy, in which it is primarily defined as a cognitive construct, needs to be redefined. The affect-based nature of modern-day advertising, combined with children's immature cognitive abilities, is such that children are unable to apply their advertising literacy as a critical defence. She proposes a new three-dimensional conceptualisation of advertising literacy:

- Conceptual advertising literacy – conceptual knowledge of advertising (e.g. understanding intent and tactics);
- Advertising literacy performance – retrieving and applying advertising literacy while processing advertising;
- Attitudinal advertising literacy- general critical attitudes towards advertising, e.g. scepticism and disliking.

What is clear from this review is that indicators should give more attention to 'performance' and thus not just concentrate on conceptual understanding; they should be adapted to the child and should attempt to move away from normative conceptualisations of what advertising, and indeed media, literacy should be. Furthermore, as we have already discussed, the creative abilities of children should also be incorporated into indicators for advertising/media literacy. This framework could certainly be a good start for working out indicators for children's advertising literacy.

Considering these measures to complement media literacy indicators, we propose the following indicators for minors, highlighting that these would differ in priorities for different age groups (5-7, 8-11, 12-15)

1. Media access/exposure (weekly hours)
- Exposure to traditional media:
  -television or digital television (prime media for age group 5-7, and 8-11)
  -radio: traditional radio set, DAB radio set, digital TV service, over the Internet,
- Exposure to Internet:
  - Home Internet: PC or laptop based, Internet in own room.
  -Alternative devices: mobile phone, games console/player (also through MP3 players), smartphones (particularly for age groups 8-11 and 12-15)
- Exposure to media creation tools: digital video recorder, digital camera, mobile phone

2. Skills
- Use skills (computer and Internet skills, and more sophisticated skills measurement for all media in educational systems)
- Protection skills: ability to change their privacy settings or to block other users online, from EU kids online content creation skills

3. Advertising literacy
- Exposure to harmful content (frequency of meeting different harmful content)
- Ability to differentiate between advertising and other media content (the level of understanding of hidden advertisement)
- Ability to comprehend the nature and intent of advertising
- Critical attitudes towards advertising, e.g. scepticism and disliking

4. Participation
- Social networking
- Signing a petition online
- Expressing views or opinion online on political or social issues
- Uploading photos to website

5. Content creation
- Making videos/taking photos on digital video, digital camera and mobile phones
- SMS messages (weekly counts)
- Post messages on Internet (weekly counts)
- Character creation that lives online
- Create own website/blog

6. Parental control
- Over children activity online
- Over children activity on games
- Over children activity on digital TV and radio
- Awareness and use of PIN controls on broadcasters' websites

ANNEXES

ANNEX A Reviewed literature

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International Clearinghouse on Children Youth and Media: http://www.nordicom.gu.se/clearinghouse.php

International Media Literacy Forum: http://www.imlrf.org/

European Figureer for Media Literacy: http://www.euromedialiteracy.eu/

Media Awareness Network: http://www.media-awareness.ca/english/index.cfm

ANNEX B Revision of framework indicators

Criteria	Component	Indicator	Operational Definition	Suggested source in EAVI study (2009)	Inclusion into Statistical Analysis	Conditions for Inclusion for survey
Use skills (technical) 10 indicators	**1. Computer and Internet skills** (2 indicators)	1. Computer skills	Whether participants had performed any of six activities listed	Eurostat 2007	Updated data: Eurostat 2010	Included
		2. Internet skills	Whether participants had performed any of six activities listed	Eurostat 2007 Ofcom 2009	Updated data: Eurostat 2010	Included
	2. Balanced and active use of media (5 indicators)	3. Internet use	Frequency of Internet use of all individuals aged 16 to 74	Eurostat 2007 (Annex K, p. 25)	Updated data: Eurostat 2010	Included
		4. Newspaper ~~circulation~~ use	Purchase of newspapers related to population size	*Substituted more relevant resource:* Percentage of respondents who keep informed via newspapers or Internet every day or almost every day		Changed to frequency of reading newspapers and magazines
		5. Cinema attendance	Percentage of respondents who reported attending the cinema more than 5 times in the past 12 months.	European cultural values. Special Eurobarometer 278. EC, Sept 2007.		Included
		6. Reading books	Percentage of respondents who reported reading a book more than 5 times in the past 12 months.	European cultural values. Special Eurobarometer 278. EC, SEruept 2007 (QA4.10)		Included as frequency of reading books
		7. Mobile phone ~~subscription~~ use	Total number of mobile subscriptions in the country is divided by the number of inhabitants of the country and multiplied by 100.	Eurostat information society statistics, 2008. (Annex K, p. 37)	Overlap with *Media Availability* measure;	Changed to frequency of mobile phone use
		Extra indicators included: Television Radio Video Games	Frequency of use of Television Radio Video games Internet via mobile phones			Frequency of use of Television Radio Video games Internet via mobile phones

Criteria	Component	Indicator	Operational Definition	Suggested source in EAVI study (2009)	Inclusion into Statistical Analysis	Conditions for Inclusion for survey
	3. Advanced Internet use	8. Buying by Internet	Individuals having ordered/bought goods or services for private use over the Internet in the three months prior to survey. Excluded financial investments.	Eurostat, 2009		Included
		9. Reading news by Internet	Percentage of respondents who keep informed via newspapers or Internet every day or almost every day.	*Information society as seen by EU citizens. Analytical report.* Flash Eurobarometer 241. November 2008 (Table 6a). (Annex K, p. 46)	Overlap with *Balanced and Active Use of Media* measure.	Removed
		9a. E-governance	Filling and sending forms electronically to the public administrations	Eurobarometer 241. November 2008 (Table 11b).	Substitution: removed "reading news by Internet" because of overlap	Included
		10. Internet banking	Percentage of respondents who had engaged in this activity	*Information society as seen by EU citizens. Analytical report.* Flash Eurobarometer 241 (Table 10a). November 2008.		Included
Critical understanding (17 indicators)	**Understanding Media content and its functioning** (6 indicators)	11. Reading text	PISA assesses three reading processes: retrieving information, interpreting texts and reflecting on and evaluating texts.	OECD (2006). *Assessing Scientific, Reading and Mathematical Literacy- A Framework for PISA 2006,* OECD, Paris.	Theoretical, no data	Changed into proxies to measure: -reliability in information -recognition of differences in information presented by media -the recognition of influential techniques of media -self assessment of higher literacy skills
		12. Classifying text	Individuals were asked to assign basic textual categories to certain texts	*EAVI suggestion*	Theoretical, no data	
		13. Distinguishing content	Mention at least three characteristics of the information listed below: - Advertising - Consumer information - Product placement - Political communication	*EAVI suggestion*	Theoretical, no data	
		14. Elements of	trust in the information presented	*EAVI suggestion*	Theoretical, no data	

Criteria	Component	Indicator	Operational Definition	Suggested source in EAVI study (2009)	Inclusion into Statistical Analysis	Conditions for Inclusion for survey
		importance				
		15. Classifying websites	*(measure unclear)* Apply some of the categories below to the following examples - Search engines - Newspaper media - Blog - Encyclopaedias - Social networks - Games - Others	*EAVI suggestion*	Theoretical, no data	
		16. Classifying media platforms & systems	Question: Mention at least three characteristics of each kind of media device listed below: - I-pod - e-phone - Television (satellite, TDT, cable, ADSL) - Radio (digital or not) - Computer (PC) - Game console - PDA Relationship of each kind of platform with the following attributes: - Allows communication between people. - Allows only diffusion, not interactivity. - Allows registering, processing and - Operating information. - Others… - Don't Know		Theoretical, no data	
	Knowledge about media & regulation (8 indicators)	17. Media concentration	Some communication media belong to multimedia companies and business groups. Do you know which business groups each of the following media belong to?		Theoretical, no data	

Criteria	Component	Indicator	Operational Definition	Suggested source in EAVI study (2009)	Inclusion into Statistical Analysis	Conditions for Inclusion for survey
		18. Opinion regarding media regulation	Which are the main two financing sources for the programs of some channels?	"Evaluation of Media Literacy Level in Romania", Media Monitoring Agency, Annexes, June 2008, p. 89., (Annex K, p. 64)	National data: available only for Romania	
		19. Knowledge of law violation	Do you know which institution sanctions possible violations of the law operated by TV stations?	"Evaluation of Media Literacy Level in Romania", Media Monitoring Agency, Annexes, June 2008, p. 91, (Annex K, p. 65)	National data: available only for Romania	
		20. Report offensive material on TV	Do you know the authorised national institution to turn to when you noticed something insulting, injurious or offending on TV, radio or Internet? If the answer is yes, named it)?	*EAVI suggestion*	Theoretical, no data	
		21. Rules and rights	Which of the next rules and rights is applicable to media content addressed to?	*EAVI suggestion*	Theoretical, no data	Included
		22. Perceptions of watershed	Is there a time of day after which programmes on the main TV channels/radio programmes that are considered unsuitable for children can be shown/broadcast?	Ofcom research, fieldwork carried out by Saville Rossiter-Base in October-December 2007, p.54 (Annex K, p. 68)	National data: available only for UK	Included
		23. Regulation on Internet	Which, if any, of the following content do you think are regulated in terms of what can be shown on the Internet?	Media Literacy Audit, OFCOM, May 2008. (Annex K, p. 69)	National data: available only for UK	Included
		24. Author/use right	Link the type of right with the definition about the use of media content - Copyright - Intellectual property rights - Copyleft - Creative Commons - Open source	*EAVI suggestion*	Theoretical, no data	Included
	User behaviour (3 indicators)	25. Critical search	Usually, or concerning topics important to you, what relationship do you have to information and communication media?	*EAVI suggestion*	Theoretical, no data	Changed to information search strategies when information presented by the media is

Criteria	Component	Indicator	Operational Definition	Suggested source in EAVI study (2009)	Inclusion into Statistical Analysis	Conditions for Inclusion for survey
						confronting/differ on channels
		26. Check new websites	Thinking about new websites you visit, which, if any, of these things would you check? - Who has created the page and why - Information across other sites - Ask someone else if they've been to the site - Overall look and feel of site - How up to date the information is - Any of these	Media Literacy Audit (Adults) 2008. OFCOM research, fieldwork carried out by Saville Rossiter-Base in October to December 2007, p.61, (Annex K, p. 73)	National data: available only for UK	
		27. Personal details	Could you tell me whether you would make a judgement about a website before entering these types of details? (credit/debit card details, home/mobile number, home/e-mail address) - Professional signs - Personal instinct - Peer Signs - Would not trust any site - Would not make a judgment	OFCOM research, fieldwork carried out by Saville Rossiter-Base in October to December 2007, (Annex K, p. 74)	National data: available only for UK	Covered in question 20 and by indicator 20 on checking new websites
Communicative Abilities (9 indicators)	Social relations (2 indicators)	28. User-created content	Post messages to chat rooms, news grouping and forums. Apply to Internet users aged 16 to 74	Working Party on the Information Economy. Participative web: user-created content. OECD, 2007, p. 10 (Annex K, 82)	Overlap with *Content Creation* variable; data for 17 countries *Resource substituted:* Eurostat, 2008	"User-created content" measures report on two different competences. Here, variable relates to chat participation. For *Content Creation* component, relates to uploading content.
		29. Networking website	Creating a profile or sending a message in a social networking website	Flash Eurobarometer. Information Society, 2008 as seen by EU citizens, Page. 95 (Table 11b) (Annex K, 85)		Included
	Citizen participation (4 indicators)	30. Internet for cooperation			No data	Eurostat, 2010
		31. User centricity	Evaluation of site-side	"The User Challenge Benchmarking The	No data; seems irrelevant to	Removed

Criteria	Component	Indicator	Operational Definition	Suggested source in EAVI study (2009)	Inclusion into Statistical Analysis	Conditions for Inclusion for survey
			convenience, accessibility, and choice, also an assessment of user confidence in site.	Supply Of Online Public Services". European Commission Directorate General for Information Society and Media. 2007, Page. 23-25 (Annex K, p. 92)	media literacy measures – addresses usability of websites, rather than user's approach to websites	
		32. Citizen participation activities	Frequency of citizen participation in each pre-defined activity.	Citizens' Digital Participation (research document). OFCOM. March 2009, page 13 (Annex K, p. 97)	Data only available for UK	Eurostat, 2010
		33. EGovernment usage	Percentage of individuals aged 16 to 74 using the Internet for interaction with public authorities.	EUROSTAT, 2008 (Annex K, p. 99)		Removed from here, duplication, replaced under advanced Internet use, indicator 9a.
	Content creation (3 indicators)	34. Media production skills	*none*	*EAVI suggestion*	Theoretical, no data	
		35. Experience of creativity	Whether participants engaged in any of six activities listed.	Media Literacy Audit (Adults) 2008. Report on UK adults' media literacy. OFCOM, page 83. (Annex K, p. 106)	Data only available for UK	
		36. User-created content	No description provided. *Substitution:* Upload photos, videos or other files to a website where others can see	Working Party on the Information Economy. Participative web: user-created content. OECD, 2007, p. 10 (Annex K, p. 108) *Resource substitution:* Information Society as Seen by EU Citizens, Flash Eurobarometer, 2008	Overlap with *Social Relations* variable; data for 17 countries *Substituted* upload *measure*	Included

ANNEX C Final survey questionnaire

[ASK EVERYONE]

[Information &Media]

"Thank you for participating in our survey. I would like to start by asking you some questions about the media (for example, TV, radio, newspapers, the Internet) in general. There are no right or wrong answers to these questions, it is your opinion we value. Anything you say will remain confidential and cannot be used to identify you personally."

QA1. **In the last three months, how often on average did you carry out the following activities?** [CODE ONE PER ROW]

(1-9)

	Every day or almost every day	At least once a week	Less than once a week	Never	Don't know
a. Watch television	3	2	1	0	-9
b. Go to the cinema	3	2	1	0	-9
c. Listen to the radio	3	2	1	0	-9
d. Read a printed newspaper	3	2	1	0	-9
e. Read a book	3	2	1	0	-9
f. Play a video or computer game	3	2	1	0	-9
g. Use a mobile phone	3	2	1	0	-9
h. Use the Internet on your mobile phone	3	2	1	0	-9
i. Use the Internet on any other device	3	2	1	0	-9

QA2. **On a scale of 1 to 5, where 1 is totally unreliable and 5 is totally reliable, how reliable would you rate the information in the following media? We would like to know your opinion even if you are not familiar with the particular type of media.** [CODE ONE PER ROW]

(10-13)

	Totally unreliable				Totally reliable	Don't know
a. Newspapers	1	2	3	4	5	-9
b. Television	1	2	3	4	5	-9
c. Radio	1	2	3	4	5	-9
d. The Internet	1	2	3	4	5	-9

QA3. **Do you believe there are differences in the way that the same or related information is portrayed by the different media below? We would like to know your opinion even if you are not familiar with the particular type of media.** [CODE ONE PER ROW]

	Yes	No	Don't know
a. Different television channels?	1	0	-9
b. Different radio channels?	1	0	-9
c. Different newspapers?	1	0	-9
d. Different websites on the Internet?	1	0	-9

QA4**. When you notice such differences in the way that the same or related information is portrayed by different sources, what do you usually do …?**
[CODE ONE PER ROW]

	Yes	No	Don't know
a. Disregard or ignore them	1	0	-9
b. Believe a little of each based on your general knowledge about the different sources (that is, channels, newspapers, websites)	1	0	-9
c. Try to compare with information elsewhere (for example, books, encyclopaedia, another TV channel or newspaper)	1	0	-9
d. Ask friends, family members or other people for their opinion	1	0	-9
e. Share concerns with a civic or social organisation	1	0	-9
f. I usually only consult one source (that is, one channel, one newspaper, one website)	1	0	-9

QA5. **In your media use (when you watch TV, read newspapers, surf the Internet, play video games), have you ever thought any of the following?** [CODE ONE PER ROW]

	Yes	No	Don't know
a. "This would hurt more in real life"	1	0	-9
b. "This is made to make me think smoking is cool"	1	0	-9
c. "This is actually advertising although it is made not to look that way"	1	0	-9
d. "This is not a natural body shape to have"	1	0	-9

QA6. **To your knowledge, do rules (laws) exist that regulate the following throughout the various media?** [CODE ONE PER ROW]

	Yes	No	Don't

			know
a. What advertisements can be about	1	0	-9
b. When and where advertisements can be placed	1	0	-9
c. The rights of authors to protect their intellectual property	1	0	-9
d. The types of content that can be shown (for example, violent content or sexually explicit content)	1	0	-9

QA7. **In the past year, have you created any of the following media content yourself?** [CODE ONE PER ROW].

(32-35)

	Yes	No	Don't know	Prefer not to answer
a. A piece of news or a magazine article	1	0	-9	-2
b. A letter to a newspaper	1	0	-9	-2
c. Written literature of any kind (book, essay, poem, etc.)	1	0	-9	-2
d. Video or audio material of any kind (movie, cartoon, song, etc.)	1	0	-9	-2

- If said no, don't know or prefer not to answer to all under QA7, go to QA9
- If said yes to any under QA7, go to QA8

QA8. **In that case, did you create any of that content to make a statement on a civic or political issue important to you?** [CODE ONE ONLY]

(36)

Yes	No	Don't know	Prefer not to answer
1	0	-9	-2

- Regardless of answer to QA8, go to QA9

QA9. **In the past year, did you voice your opinion in any of the following ways?** [CODE ONE PER ROW].

(37-41)

	Yes	No	Don't know	Prefer not to answer
a. Contacted a politician or political party	1	0	-9	-2
b. Donated money to a civic or political cause	1	0	-9	-2
c. Signed a petition to support a civic or political cause	1	0	-9	-2
d. Taken part in a public, peaceful demonstration	1	0	-9	-2

e. Commented on a political or civic issue in a blog post, on Twitter or on a social networking site	1	0	-9	-2

- If said "Every day or almost every day", "At least once a week" or "Less than once a week" to either QA1.h "Use the Internet on the mobile phone" or QA1.i "Use the Internet on any other devise", go to QM1
- If said "Never" or "Don't know" to QA1.h "Use the Internet on the mobile phone" and QA1.i "Use the Internet on any other device", go to QF1

"The next questions ask about use of the Internet for information seeking and other purposes"

QM1. **Do you judge your current computer and Internet skills to be sufficient…?** [CODE ONE PER ROW]

(42-44)

	Yes	No	Don't know	Not Applicable
a. To communicate with relatives, friends, colleagues over the Internet	1	0	-9	-5
b. To protect your personal data (for example, your private address or telephone number, credit card or bank account number)	1	0	-9	-5
c. If you were to look for a job or change job within the next year	1	0	-9	-5

QU1. **In the past three months, have you used the Internet for the following purposes**? [CODE ONE PER ROW]

(45-57)

	Yes	No	Don't know
a. Sending or receiving e-mails	1	0	-9
b. Finding information about goods or services	1	0	-9
c. Uploading self-created content (for example, text, images, photos, videos, music) to any website to be shared	1	0	-9
d. Writing a blog	1	0	-9
e. Watching or downloading TV, movies or films	1	0	-9
f. Listening to or downloading music	1	0	-9
g. Reading or downloading online news/newspapers/news magazines	1	0	-9
h. Internet banking (for example, paying your bills or transferring money to another account)	1	0	-9
i. Interacting with public authorities (for example, obtaining information from a public website or returning your tax form	1	0	-9

	Yes	No	Don't Know
online)			
j. Buying goods or services for private use	1	0	-9
k. Participating in social networks (for example, using Facebook, MySpace or Twitter)	1	0	-9
l. Participating in debates about civic or political issues (for example, reading and posting opinions)	1	0	-9
m. Collaborating with others on a joint project	1	0	-9

QU2. **In the past three months, how often have you intentionally clicked on an ad you saw in a web page or e-mail?** [CODE ONE ONLY]

(58)

	Every day or almost every day	At least once a week	Less than once a week	Less than once a month	Never	Don't know
	4	3	2	1	0	-9

QU3. **In the past 3 months, how often have you unintentionally clicked on an ad you saw in a web page or e-mail?** [CODE ONE ONLY]

(59)

	Every day or almost every day	At least once a week	Less than once a week	Less than once a month	Never	Don't know
	4	3	2	1	0	-9

QU4. **Have you ever done something to prevent…** [CODE ONE PER ROW]

(60-62)

	Yes	No	Don't Know
a. Receiving unsolicited e-mail, sometimes called SPAM (for example, not posting your email on web pages)	1	0	-9
b. Your computer being infected by viruses (for example, installing a virus scan)	1	0	-9
c. Unpleasant experiences, such as receiving obscene or otherwise unwanted e-mails (for example, installing filters or blocking senders)	1	0	-9

QU5. **In general, when you look for information on the Internet, where do you go?** [CODE ONE ONLY]

I mainly go directly to specific pages without using a search engine	1
I mainly use a search engine (for example, Google or Yahoo!)	2
Both about the same	3
Don't know	-9

QU6. **When you go directly to a specific page how did you originally come to know of that page?** [CODE ONE ONLY]

Mostly a page I found myself	1
Mostly a page recommended or linked to via an email, blog, or social networking site	2
Both about the same	3
Don't know	-9

QU7. **Do you notice differences in the information you receive from different search engines?** [CODE ONE ONLY]

Yes	No	Always use the same search engine	Don't know
1	0	9	-9

QU8. **When you visit new websites, which if any of these things do you do?** [CODE ONE PER ROW)

	Yes	No	Don't know
a. Consider the overall look and feel of the site	1	0	-9
b. Check information across other sites	1	0	-9
c. Check the https or the IP address of the site	1	0	-9
d. Consider whether or not the information corresponds with what you already knew	1	0	-9
e. Consider the qualifications and intent of the author(s)	1	0	-9
f. Ask others whether they have visited the site	1	0	-9

- Ask all respondents

"The next questions ask about experience in problem solving and dealing with longer text material"

QF1. **On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how easy (1) or difficult (5) do you typically find it to...?**

...**understand complex texts such as technical manuals or specialised articles the first time you read them?** [CODE ONE ONLY]

Very easy				Very difficult	Don't know
1	2	3	4	5	-9

...**write complex texts such as work or study-related letters or reports that present a case in a clear and logical structure?** [CODE ONE ONLY]

Very easy				Very difficult	Don't know
1	2	3	4	5	-9

...**precisely define what information you need to solve a work or study-related problem or task?** [CODE ONE ONLY]

Very easy				Very difficult	Don't know
1	2	3	4	5	-9

...**accurately and fairly assess contradicting pieces of information you have gathered to solve a work or study-related problem or task?** [CODE ONE ONLY]

Very easy				Very difficult	Don't know
1	2	3	4	5	-9

[QUESTIONS ABOUT DEMOGRAPHICS]

"These last questions will be used for classification purposes. Like all the other information in this survey, your answers will remain anonymous and cannot be used to identify you personally."

QD1.a **What is the highest level of formal education you have completed or currently are enrolled in?** [CODE ONE ONLY]

No formal education	1
All or part of basic education ([COUNTRY-SPECIFIC INSERT])	2
Any type of formal education beyond basic education (including an	3

apprenticeship)	
Don't know	-9

COUNTRY-SPECIFIC INSERT

DK: "*Folkeskolen*, up to and including *9.-10. klasse*, typically around age 16 or 17"

FR: "Up to and including *Collège*, typically around age 15"

HU: "*Általános iskola*, up to and including *Felső tagozat*, typically around age 14"

IT: "Up to and including *Scuola secondaria di primo grado/media inferior*, typically around age 14"

LT: "Up to and including *Pagrindinė mokykla*, typically around age 16 or 17"

PL: "Up to and including *Gimnazjum*, typically around age 16"

UK: "Up to and including *Key stage 3*, typically around age 14"

- If answered "Any type of formal education beyond basic compulsory education (including an apprenticeship)", continue with next question QD1.b
- If answered "No formal education" or "All or part of basic education", jump to QD2

QD1.b **Do you have (or are you currently studying for) a university bachelor's degree or equivalent degree?** [CODE ONE ONLY]

(77)

Yes	1
No	0
Don't know	-9

- Regardless of answer to QD1.b, go to QD1.c

QD1.c **Do you have (or are you currently studying for) a university master's degree or equivalent or higher degree?** [CODE ONE ONLY]

(78)

Yes	1
No	0
Don't know	-9

QD2. **Age: In what year were you born?** [ACCEPT FOUR DIGITS ONLY]

(79)

QD3. **Gender: What is your gender?** [CODE ONLY ONE]

Male	0
Female	1

QD4.c **The incomes of households differ a lot in [INSERT COUNTRY NAME] today. Here is a table showing the range of incomes that people have. Which of the letters on this table best represents the monthly disposable income of your household after tax?** [CODE ONE ONLY]

Q	Less than [Q/T] per month after tax	1
T	[Q/T] - [T/K] per month after tax	2
K	[T/K] - [K/B] per month after tax	3
B	[K/B] - [B/F] per month after tax	4
F	[B/F] - [F/G] per month after tax	5
G	[F/G] - [G/J] per month after tax	6
J	[G/J] - [J/L] per month after tax	7
L	[J/L] - [L/D] per month after tax	8
D	More than [L/D] per month after tax	9
	Don't know	-9
	Prefer not to answer	-2

COUNTRY-SPECIFIC INSERT

	DK (kr)	FR (€)	HU (Ft)	IT (€)	LT (Lt)	PL (zł)	UK (£)
Q/T	10 900	1 250	79 000	1 100	1 100	1 250	950
T/K	13 100	1 500	95 000	1 350	1 300	1 550	1 150
K/B	16 400	1 850	119 000	1 650	1 650	1 900	1 400
B/F	21 800	2 500	159 000	2 200	2 200	2 550	1 900
F/G	27 300	3 100	198 000	2 750	2 750	3 200	2 350
G/J	32 700	3 700	238 000	3 300	3 300	3 800	2 850
J/L	43 700	4 950	317 000	4 450	4 400	5 100	3 800
L/D	87 300	9 900	635 000	8 850	8 800	10 150	7 600

QD5. **Finally, would you describe the place where you live as:** [CODE ONE ONLY]

Urban	A big city	1
	The suburbs or outskirts of a big city	2
	A small city or town	3
Rural	A country village	4
	A farm or home in the country	5
	Other	6
	Don't know	-9

CLOSE INTERVIEW WITH

"Thank you very much for completing our survey. It will help in understanding the ways in which people are using media like televisions, newspapers, and the Internet."

CROSS-REFERENCE OF SURVEY QUESTIONS AND FRAMEWORK INDICATORS

Criteria	Component	Questions (and no. of sub-questions)
Use skills (technical) 10 indicators	**1. Computer and Internet skills** (2 indicators)	QM1 (3)
	2. Balanced and active use of media (5 indicators)	QA1 (9) QU1 (a-b, e-g, 5)
	3. Advanced Internet use (3 indicators)	QU1(h-j, 3)
Critical understanding (17 indicators)	**1. Understanding Media content and its functioning** (6 indicators)	QA2 (4) QA3 (4) QA5 (4) QU7 (1) QF 1 (4)
	2. Knowledge about media & regulation (8 indicators)	QA6 (4)
	3. User behaviour (3 indicators)	QA4 (6) QU2 (3) QU4 (5) QU3 (1) QU5 (1) QU6 (1) QU8 (6)
Communicative Abilities (9 indicators)	**1. Social relations** (2 indicators)	QU1 (k, m, 2)
	2. Citizen participation (4 indicators)	QA8 (1) QA9 (5) QU1 (l, 1)
	3. Content creation (3 indicators)	QA7 (4) QU1 (c, d, 2)

ANNEX D Sample characteristics

This annex presents detailed breakdowns of the online and offline survey respondents in unweighted form to provide a better understanding of the (raw) data behind the statistical analysis. Moreover, this annex describes the steps taken to validate responses.

Online survey sample characteristics

Table 0-1 shows the distribution of the online survey respondents across gender, age, education, income and location in the seven online survey countries. The table shows a high degree of variation with at least 50 respondents (approximately 5% of the individual country samples) in most categories except for the oldest age group in Hungary and Poland and those with the lowest levels of educational attainment in Hungary and Lithuania. This amount of variation suggests that the online survey format has not systematically excluded a priori population groups not specifically targeted in the survey design such as the poorest or people living in thinly populated, rural areas. The table also shows that only a limited number of respondents have unknown socio-economic or demographic attributes with income as expected being the most sensitive piece of information. Nonetheless, even with regard to income significant numbers of respondents are available at both ends of the spectrum.

Table 0-2 and Table 0-3 then show the unweighted strata sizes of online survey respondents with particular combinations of attributes across gender, age and education as well as the corresponding strata weights applied to adjust for the over- or underrepresentation of each stratum in the individual country samples compared to national populations of Internet users in the last three months. Again the tables show generally solid variation with at least 10 respondents in most of the 18 national strata in each country and weights largely in the range from 0 to 2 (2 is commonly used as an upper bound rule-of-thumb regarding the acceptable size of inflating weights).[23] However, some noticeable problems exist in Hungary with small strata sizes and calculated weights in the range 10 to 15 caused by the low number of respondents with a primary or lower secondary or no formal education in that country. This implies potentially putting too much importance (large weights) on what could be the idiosyncratic views of a small number of non-representative Hungarian respondents (small strata sizes). Since the analysis does not deal with individual country patterns except for control purposes, though, the risk of impacting results in practice is viewed as minor.

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[23] Weights indicate the number of respondents that each actual respondent in a specific strata should be multiplied to, if strata sizes in the sample are to be perfectly proportionate to strata sizes in the population overall. For instance, a weight of 2 indicates that each actual respondent with that specific set of attributes is readjusted to represent two respondents in the analysis whereas a weight of ½ indicates that each actual respondent with that specific set of attributes is readjusted to represent only one half of a respondent in the analysis. In the former case with a weight of 2, that stratum is underrepresented in the sample. In the latter case with a weight of ½, that stratum is overrepresented in the sample (potentially to secure sufficient responses from that stratum to draw statistically significant conclusions).

Table 0-1 Unweighted number of online survey respondents by gender, age, education, income and location

		Total	DK	FR	HU	IT	LT	PL	UK
Total		7 051	1 007	1 049	952	1 001	989	1 012	1 041
Gender	Women	3 617	502	541	493	497	531	516	537
	Men	3 434	505	508	459	504	458	496	504
	Don't know	0	0	0	0	0	0	0	0
Age	16-24	1 142	137	175	153	148	178	194	157
	25-34	1 432	176	214	190	202	173	243	234
	35-44	1 392	208	221	182	215	194	199	173
	45-54	1 230	194	186	153	163	181	162	191
	55-64	1 392	175	195	237	207	203	199	176
	65-74	463	117	58	37	66	60	15	110
	Don't know	0	0	0	0	0	0	0	0
Education[24]	No formal education	449	75	136	9	60	9	101	59
	Primary or lower secondary	959	195	198	18	152	27	168	201
	Upper secondary or post-secondary, non-tertiary	3 027	531	442	526	419	300	366	443
	Bachelor's or eq.	1 257	112	126	237	156	303	102	221
	Master's or eq. or higher	1 359	94	147	162	214	350	275	117
	Unable to determine	0	0	0	0	0	0	0	0
Income[25]	Below 60% of median	1 810	215	299	202	252	257	201	384
	Below 100% of median	1 618	215	264	249	241	222	212	215
	Above 100% of median	1 243	173	181	191	157	174	223	144
	Above 150% of median	895	177	71	136	104	140	156	111
	Don't know	384	54	67	28	68	39	56	72
	Prefer not to answer	1 101	173	167	146	179	157	164	115
Location[26]	Thinly populated	1 284	188	284	185	158	114	175	180
	Intermediate	2 295	251	330	274	415	310	279	436
	Densely populated	3 272	519	400	480	382	552	525	414
	Other	86	24	11	9	18	9	11	4
	Don't know	114	25	24	4	28	4	22	7

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[24] Education based on categorisation of the following answering options in questionnaire: No formal education (=No formal education), All or part of basic education (=Primary or lower secondary, note that country-specific ages and titles provided in questionnaire), Any type of formal education beyond basic education (including an apprenticeship), but no University bachelor's degree or equivalent and no University master's degree or equivalent or higher (=Upper secondary or post-secondary, non-tertiary), University bachelor's degree or equivalent, but no University master's degree or equivalent or higher (=Bachelor's degree or equivalent), University master's degree or equivalent or higher (=Master's degree or equivalent or higher).

[25] Income refers to the net equivalised national median disposable household income for average sized national household (nine income brackets in national currency provided in questionnaire).

[26] Location based on categorisation of the following six answering options in questionnaire: Big city or Suburbs or outskirts of big city (=Densely populated), Small city or town (Intermediate), Country village or Farm or home in the country (=thinly populated), Other (=Other).

Note: Numbers indicate the actual, unweighted number of respondents with particular characteristic.

			Strata sizes (unweighted)			Applied strata weights[27]		
			16-24	25-54	55-74	16-24	25-54	55-74
Denmark	Women	Primary or lower secondary or no formal	37	59	27	1.61	1.08	1.22
		Upper secondary or post-secondary, non-tertiary	18	160	105	1.16	.77	.50
		Bachelor's or master's or equivalent or higher	13	66	17	.11	1.68	2.05
	Men	Primary or lower secondary or no formal	39	84	24	1.56	.78	1.45
		Upper secondary or post-secondary, non-tertiary	20	140	88	1.14	.96	.68
		Bachelor's or master's or equivalent or higher	10	69	31	.12	1.40	1.01
France	Women	Primary or lower secondary or no formal	27	83	51	1.70	1.48	1.21
		Upper secondary or post-secondary, non-tertiary	14	160	67	2.28	.50	.28
		Bachelor's or master's or equivalent or higher	44	79	16	.45	1.63	1.37
	Men	Primary or lower secondary or no formal	29	103	41	1.83	1.27	1.92
		Upper secondary or post-secondary, non-tertiary	25	124	52	1.08	.50	.33
		Bachelor's or master's or equivalent or higher	36	72	26	.50	1.50	.85
Hungary	Women	Primary or lower secondary or no formal	6	5	2	7.06	14.02	3.73
		Upper secondary or post-secondary, non-tertiary	35	149	94	1.38	.98	.31
		Bachelor's or master's or equivalent or higher	34	108	60	.15	.92	.50
	Men	Primary or lower secondary or no formal	6	7	1	8.64	12.22	10.00
		Upper secondary or post-secondary, non-tertiary	44	150	54	.99	.88	.54
		Bachelor's or master's or equivalent or higher	28	106	63	.16	.82	.46

Note: Numbers indicate the actual, unweighted number of respondents with particular characteristics. Weights based on shares of Internet users in last three months with corresponding characteristics.

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[27] Strata are weighted with outset in raking of national population figures for gender and age, age and education and education and gender from the Eurostat Community survey on ICT usage in households and by individuals, 2010.

Table 0-3 Online strata sizes and applied weights by gender, age and education, continued

			Strata sizes (unweighted)			Applied strata weights		
			16-24	25-54	55-74	16-24	25-54	55-74
Italy	Women	Primary or lower secondary or no formal	17	35	26	2.30	1.71	.35
		Upper secondary or post-secondary, non-tertiary	19	137	66	2.52	1.23	.34
		Bachelor's or master's or equivalent or higher	35	115	47	.15	.77	.34
	Men	Primary or lower secondary or no formal	24	88	22	2.09	1.06	1.01
		Upper secondary or post-secondary, non-tertiary	17	113	67	2.62	1.68	.59
		Bachelor's or master's or equivalent or higher	36	92	45	.11	.85	.50
Lithuania	Women	Primary or lower secondary or no formal	10	3	0	4.35	2.12	.
		Upper secondary or post-secondary, non-tertiary	15	84	58	4.99	1.64	.35
		Bachelor's or master's or equivalent or higher	65	201	95	.33	.92	.32
	Men	Primary or lower secondary or no formal	10	9	4	5.46	.94	.27
		Upper secondary or post-secondary, non-tertiary	26	80	37	2.83	1.79	.47
		Bachelor's or master's or equivalent or higher	52	171	69	.29	.80	.27
Poland	Women	Primary or lower secondary or no formal	16	52	59	3.75	.16	.02
		Upper secondary or post-secondary, non-tertiary	29	120	36	2.29	1.56	.84
		Bachelor's or master's or equivalent or higher	51	128	25	.20	1.07	.93
	Men	Primary or lower secondary or no formal	37	63	42	1.61	.15	.04
		Upper secondary or post-secondary, non-tertiary	26	130	25	2.46	1.53	1.47
		Bachelor's or master's or equivalent or higher	35	111	27	.18	.85	.68
United Kingdom	Women	Primary or lower secondary or no formal	12	81	52	.72	.30	.34
		Upper secondary or post-secondary, non-tertiary	27	119	83	2.60	1.31	.53
		Bachelor's or master's or equivalent or higher	40	99	24	.49	1.38	1.79
	Men	Primary or lower secondary or no formal	13	70	32	.62	.32	.54
		Upper secondary or post-secondary, non-tertiary	28	113	73	2.61	1.40	.65
		Bachelor's or master's or equivalent or higher	37	116	22	.52	1.14	2.00

Note: Numbers indicate the actual, unweighted number of respondents with particular characteristics. Weights based on shares of Internet users in last three months with corresponding characteristics.

Offline survey sample characteristics

Table 0-4 similarly shows the distribution of the offline survey respondents across gender, age, education, income and location in the four telephone survey countries (the number of categories has been simplified due to the lower number of respondents). The table shows less variation in the socio-economic and demographic profile of the offline sample than in the profile of the online sample. Specifically, the offline sample is skewed towards women, older people, people with a lower levels of educational attainment and poorer people and provides limited or no coverage of people aged 16-24, people with a tertiary education (i.e., a bachelor's or master's degree or equivalent or higher), and people with a net disposable household income above the median. At least three reasons contribute to this skewed profile. First, only 50 offline respondents were surveyed in Hungary, Lithuania and Poland, and 100 in Italy, which limits the feasible amount of variation obtainable. Secondly, for financial reasons no quotas with regard to the gender and age distributions of the offline sample were inserted in the telephone survey design to guard against skewed distributions. Thirdly, and perhaps most importantly, the underlying profile of the population of non-Internet users is naturally skewed towards older people, people with a lower levels of educational attainment and poorer people, increasing the likelihood of sampling at random people with those particular attributes.

The impact of this underlying population profile is evidenced in the relatively small strata weights necessary to adjust for the over- or underrepresentation of particular population groups in the sample as shown in Table 0-5 and Table 0-6. Thus, the applied weights in Table 0-5 suggest that only in the Lithuanian sample is the stratum of men aged 16-54 significantly underrepresented while both the strata of men and women aged 16-54 are actually somewhat overrepresented in the Polish sample compared to corresponding population shares. Meanwhile, the alternative weights computed in Table 0-6 based on the totals for all four countries suggest that similar conclusions hold true also trying to partially adjust the samples for the educational background of respondents. These findings are corroborated by the facts that in none of the four countries do people aged 16-24 and people with a tertiary education account for more than 5% or 7%, respectively, of those who have not used the Internet in the last three months.

Still, albeit sample profiles largely reflect underlying population distributions of non-Internet users, the limited sample sizes induce a high degree of uncertainty about the reliability of responses and even some uncertainty about their validity. That is, the low numbers of offline respondents in each country imply, on the one hand, that average responses are very sensitive to single idiosyncratic responses, and on the other hand, that the risk of the entire samples not reflecting the general population is increased.

Table 0-4 Unweighted number of offline survey respondents by gender, age, education, income and location

		Total	HU	IT	LT	PL
Total		252	50	101	51	50
Gender	Women	186	39	72	43	32
	Men	66	11	29	8	18
	Don't know	0	0	0	0	0
Age	16-24	19	0	1	1	17
	25-54	67	11	24	7	25
	55-74	166	39	76	43	8
	Don't know	0	0	0	0	0
Education	Primary or lower secondary or no formal	112	8	68	17	19
	Upper secondary or post-secondary, non-tertiary	100	37	23	25	15
	Bachelor's or master's or equivalent or higher	40	5	10	9	16
	Unable to determine	0	0	0	0	0
Income	Below 60% of median	126	25	42	40	19
	Below 100% of median	41	19	9	5	8
	Above 100% of median	16	4	2	0	10
	Above 150% of median	5	1	1	0	3
	Don't know	6	0	3	1	2
	Prefer not to answer	58	1	44	5	8
Location	Thinly populated	67	12	34	11	10
	Intermediate	90	11	37	23	19
	Densely populated	92	27	28	17	20
	Other	1	0	0	0	1
	Don't know	0	0	2	0	0

Note: Numbers indicate the actual, unweighted number of respondents with particular characteristic.

Table 0-5 Offline strata sizes and applied weights by gender and age

		Strata sizes (unweighted)		Applied strata weights	
		16-54	55-74	16-54	55-74
Hungary	Women	6	10	1.39	0.55
	Men	5	6	1.75	2.32
Italy	Women	20	46	1.11	0.63
	Men	5	9	3.63	0.87
Lithuania	Women	7	14	1.30	0.45
	Men	1	3	10.48	1.64
Poland	Women	27	5	0.39	3.42
	Men	15	3	0.71	3.89

Note: Numbers indicate the actual, unweighted number of respondents with particular characteristics. Weights based on shares of non-Internet users in last three months with corresponding characteristics.

Table 0-6 Alternative offline strata sizes and weights by gender, age and education

			Strata sizes (unweighted)		Alternative strata weights	
			16-54	55-74	16-54	55-74
Total	Women	Primary or lower secondary or no formal	32	54	0.65	.84
		Upper secondary, post-secondary, or tertiary	28	72	0.98	.62
	Men	Primary or lower secondary or no formal	7	19	3.01	1.81
		Upper secondary, post-secondary, or tertiary	19	21	1.43	1.21

Note: Numbers indicate the actual, unweighted number of respondents with particular characteristics. Weights based on shares of non-Internet users in last three months with corresponding characteristics.

Data validation

Two steps have been taken to validate the responses obtained through the two surveys – one internally and one externally.

Internally, responses have been checked for repeat use of the answering option "don't know" in order to detect possible bogus responses. With regard to the online survey, this constitutes an additional check on top of the continuous checks made by the survey subcontractor on the performance of each member of their national online panels. The analysis of the use of the answering option "don't know" shows that 85% of the total online sample and 92% of the total offline sample have answered "don't know" on five or fewer occasions out of a total of 44 questions. Similarly, 95% of the total online sample and 98% of the total offline sample have answered "don't know" on eleven or fewer occasions, that is, to at most one fourth of the questions. These shares should be seen in light of "don't know" arguably being a meaningful answering option in several instances (e.g., in relation to knowledge about media regulation), which likely also provides an explanation for the slightly higher shares of extensive "don't know" usage among those with the lowest levels of educational attainment. The difference between the online and the offline sample shares reasonably may be explained by the stigma of repeatedly answering "don't know" to a telephone interviewer.

Externally, responses have been tried validated through comparison with existing data on media and Internet use from Eurostat, Eurobarometer and the European Social Survey (ESS). This analysis is somewhat constrained by the wording of questions and associated answering options, but three conclusions nevertheless may be drawn about the apparent validity of responses. With regard to the online survey sample, it is possible to establish largely affirmative linkages (±5 percentage points) across gender, age and education in relation to the frequency of television watching as well as to – and more importantly given the ubiquity of television watching – the frequency of newspaper reading and cinema going. However, it is not possible to establish such linkages in relation to the frequency of Internet activities such as uploading self-created content or buying goods or services online. Even if artificially imputing all the missing responses regarding the frequency of Internet activities as zeroes, Internet activity levels in the online survey sample remain significantly above external sources. This suggests that members of the online panels from which respondents have been drawn for the online survey tend to be more active online than the average Internet user and consequently less representative thereof, at least when it comes to the Internet as other media use is more in line with average usage rates.

With regard to the offline survey sample, comparisons to external sources of media use across gender, age and education play out the concerns noted above about the high degree of uncertainty and possible lack of validity as shares generally are too inconsistent to really establish any kind of linkages. This suggests that larger offline samples are necessary to provide sufficient variation and reveal true population shares from among individual idiosyncrasies.

ANNEX E Responses to individual survey questions

This annex presents responses to the individual survey questions by gender, age, education, income and location.

Use skills

Balanced and active media use

Figure 0-1 Share of individuals who has watched television in last three months, at least once a week, and every day or almost every day
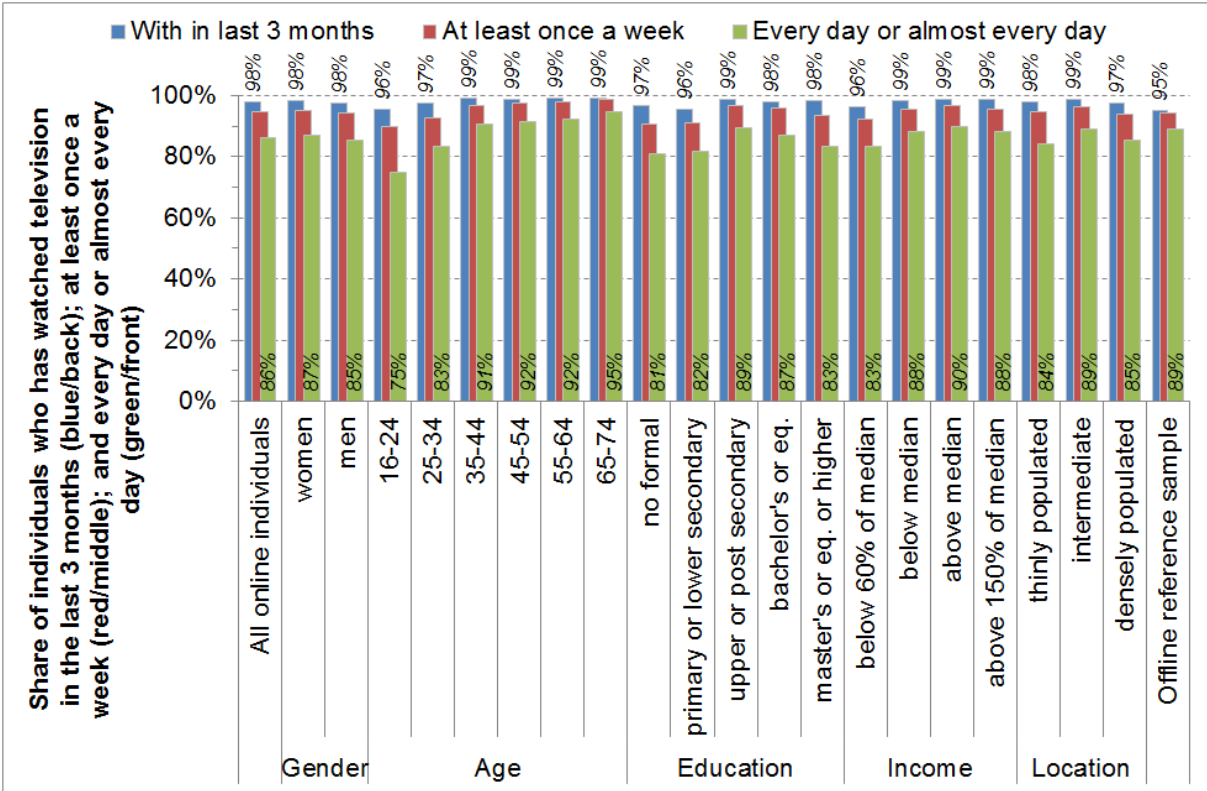
Watching television is practically ubiquitous if considered over a three month period (98%). Only very slight variation exists across age, education and income with the lowest shares of television watchers in the last three months among the youngest (96%), those with the lowest levels of educational attainment (96-97%) and the poorest (96%). This pattern of variation becomes more apparent when considering television watching on a daily basis, especially across age groups. Here there is a 20 percentage point difference between the youngest (75%) and oldest (95%). Also the percentage point difference across educational levels increases, but notably the share of daily television watchers is no higher among those with the highest levels of educational attainment (83%) than among those with the lowest levels of educational attainment (81-82%). This tail-off at the top end is played out to a minor degree across income levels as well suggesting that available time may be a factor in daily use. There is only a slight difference between the online and the offline respondents' frequencies of watching television (86% compared to 89% on a daily basis).

Figure 0-2 Share of individuals who has listened to the radio in last three months, at least once a week, and every day or almost every day
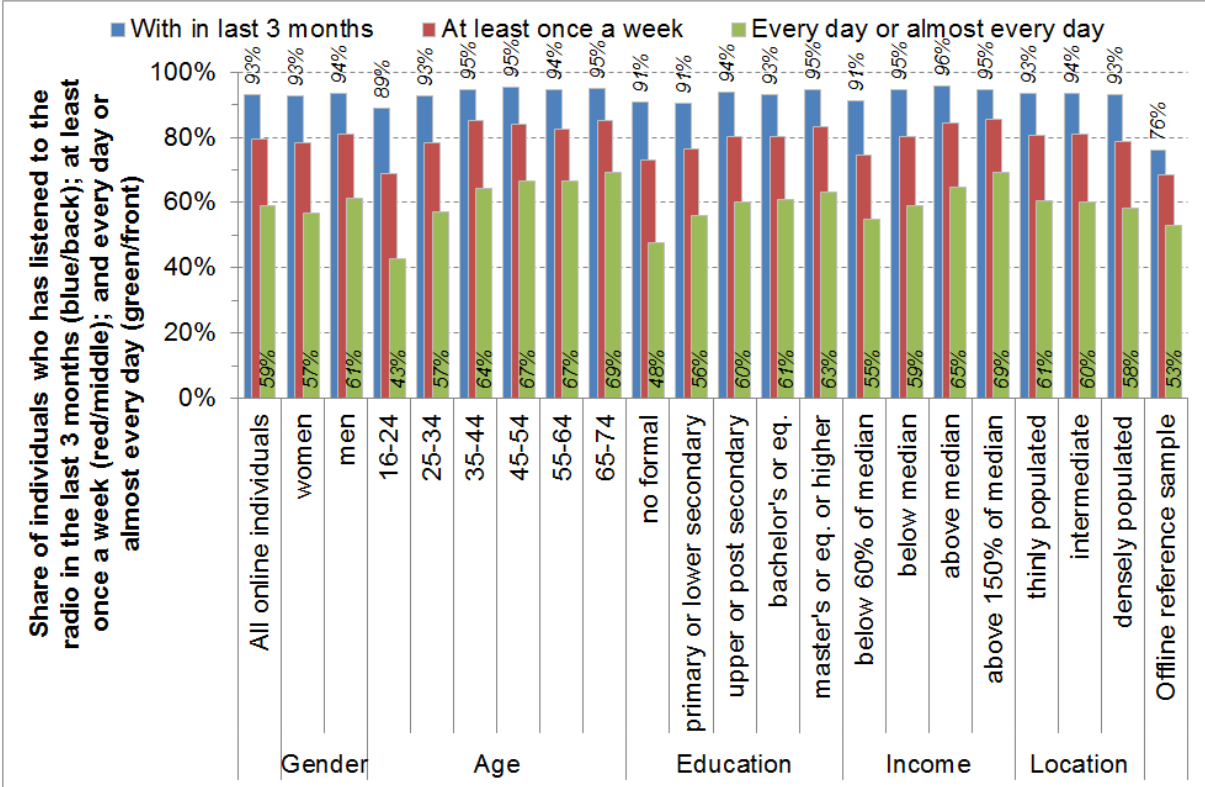
Listening to the radio is almost as ubiquitous (93%) as watching television (98%) if considered over a three month period and follows a similar age, education and income pattern with the lowest shares of radio listeners in the last three months among the youngest (89%), those with the lowest levels of educational attainment (91%) and the poorest (91%). Again this pattern of variation becomes more apparent when considering radio listening on a daily basis, but with no tail-off at the top end in relation to education and income. Thus, there is a 26 percentage point difference between the youngest (43%) and the oldest (69%), a 7-15 percentage point difference between those with the lowest levels of educational attainment (48-56%) and those with the highest levels (63%), and a 14 percentage point difference between the poorest (55%) and the most affluent (69%). Time wise, the lack of a tail-off simply may reflect that radio listening can be carried out in many more situations than television watching, for instance, while commuting (ignoring for now the increasing prevalence of Internet smart phones with capacity for digital television). As with television watching, there is only a slight difference between the online and the offline respondents' frequencies of radio listening if considered on a daily basis (59% compared to 53%). However, on a three monthly basis, a substantial difference of 17 percentage points emerges between the online and offline respondents' radio listening.

Figure 0-3 Share of individuals who has read a printed newspapers in last three months, at least once a week, and every day or almost every day
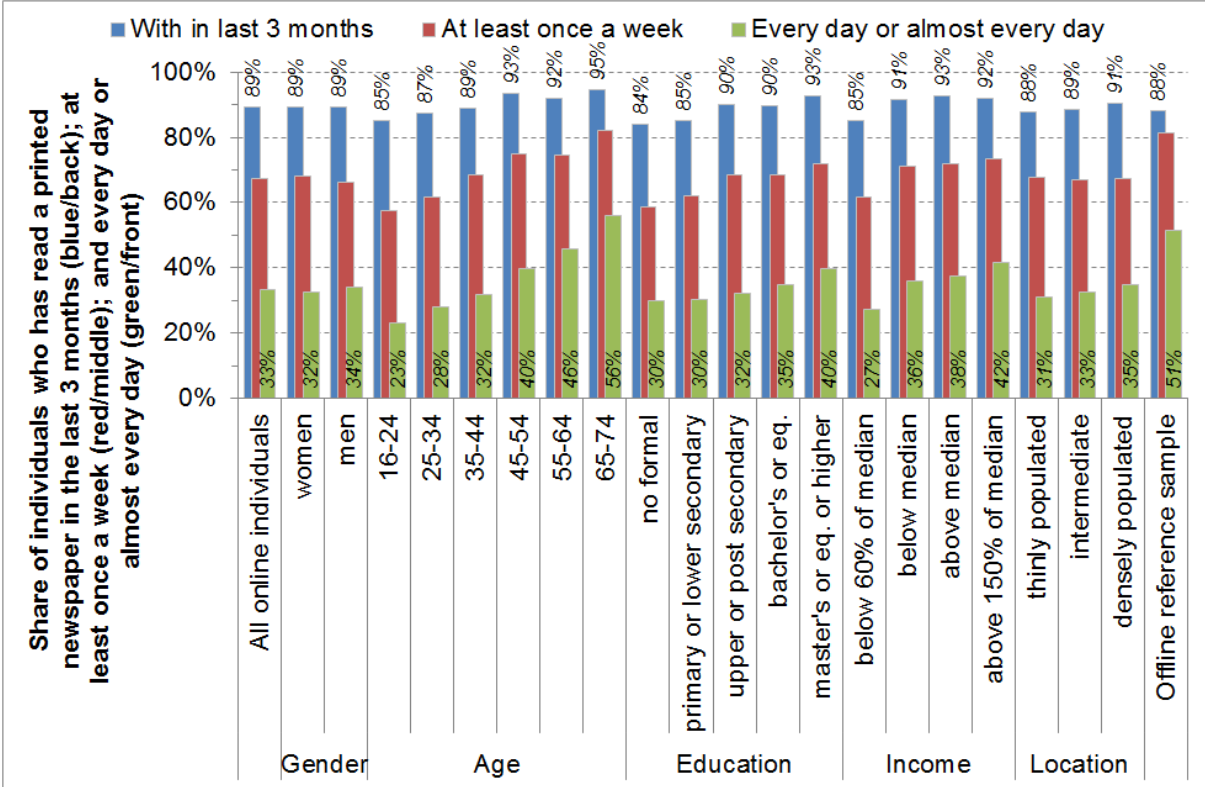
Fewer people in general have read a printed newspaper in the last three months (89%) than have watched television (98%) or listened to the radio (93%). At the same time, there is more variation across age, education and income levels although following the same directional pattern with the lowest shares of print newspaper readers among the youngest (85%), those with the lowest levels of educational attainment (84-85%) and the poorest (85%). As with television watching and radio listening, this pattern only becomes more apparent when considering print newspaper reading on a daily basis. Especially the 33 percentage point difference between the share of daily print newspaper readers among the youngest (23%) and the oldest (56%) stands out even if this difference by itself cannot be taken to imply that younger people follow daily news less closely than older people. At least part of the observed difference reasonably reflects diverging generational preferences for print and digital media and/or print and audio-visual media. Moreover, available time may explain part of the substantially higher shares of daily print newspaper readers among the oldest. While three month print newspaper reading shares are similar, offline respondents appear to be more likely to read printed newspapers on a daily basis than online respondents (51% compared to 33%). This difference may reflect a substitution of media uses between Internet and print media.

Figure 0-4 Share of individuals who has read a book in last three months, at least once a week, and every day or almost every day
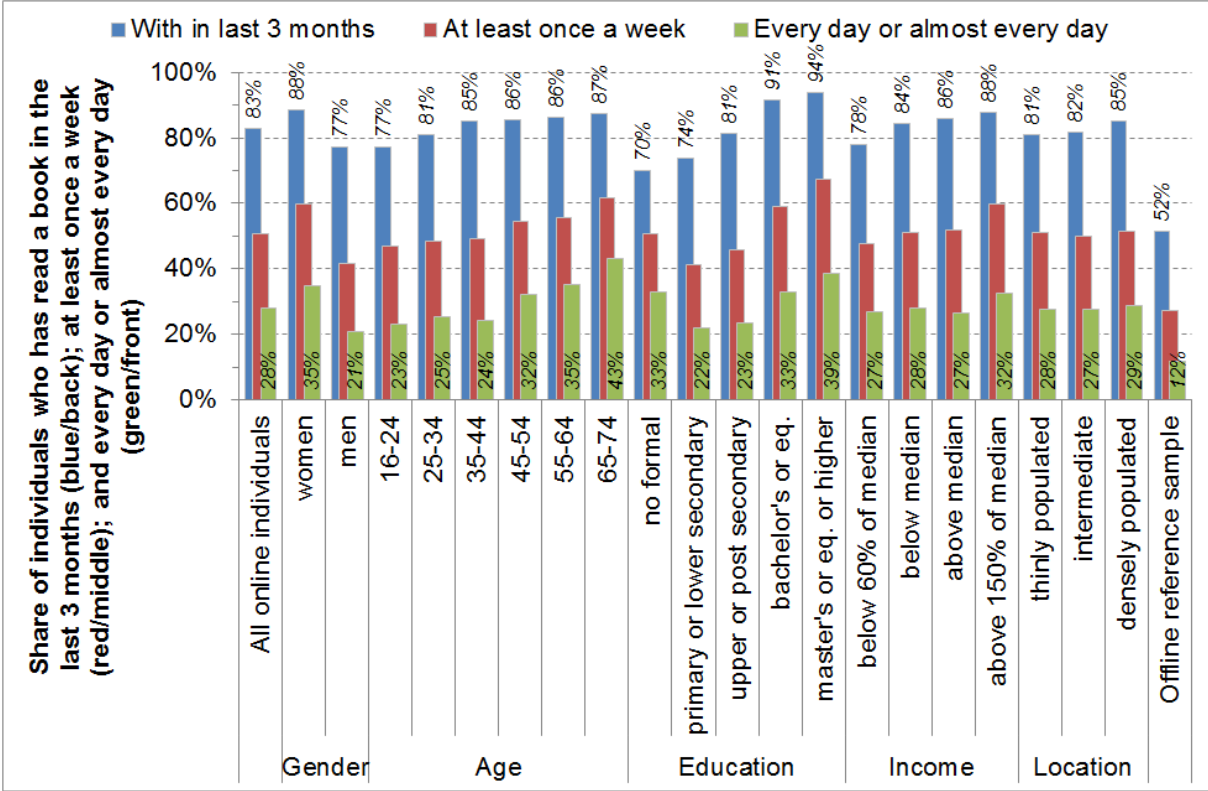
Fewer people still in general have read a book in the last three months (83%) than have read a printed newspaper (89%), and there is even more variation across age, education and income as well as across gender. Notwithstanding, the familiar directional pattern with the lowest shares among the youngest (77%), those with the lowest levels of educational attainment (70-74%) and the poorest (78%) remains. In particular, the 20-24 percentage point difference across educational levels is noticeable, and, in fact, individuals with a higher educational background are just as likely to have read a book as they are to have read a printed newspaper (91-94% compared to 90-93%). Only women display similarly comparable shares of book and print newspaper readers (88% compared to 89%), well above the share of men who have read a book within the last three months (77%). Looking instead at book reading on a daily basis, this gender difference only becomes more pronounced. In addition, age differences become more pronounced while differences across educational levels slightly diminish. These changes once again suggest that available time may be a factor in daily use together with possible diverging generational preferences for print and digital and/or audio-visual media. With regards to the differences between men and women, gender differences in reading is a well-studied academic subject, and explanations for the phenomena so far include brain physiology differences and the feminisation of reading culture since the bourgeois (reading became a female leisure activity as well as mothers become systematically responsible for the literary socialization of their offspring, "feminization" of education). Moreover, reading often appears to males as a female activity, and the latest hypotheses suggest that boys substitute books with computer games (see further Garbe 2007). Whereas offline respondents appear to be more likely than online respondents to read printed newspapers, they appear to read books at a much lower rate (52% compared to 83% in the last three months).

Figure 0-5 Share of individuals who has gone to a cinema in last three months, at least once a week and every day or almost every day
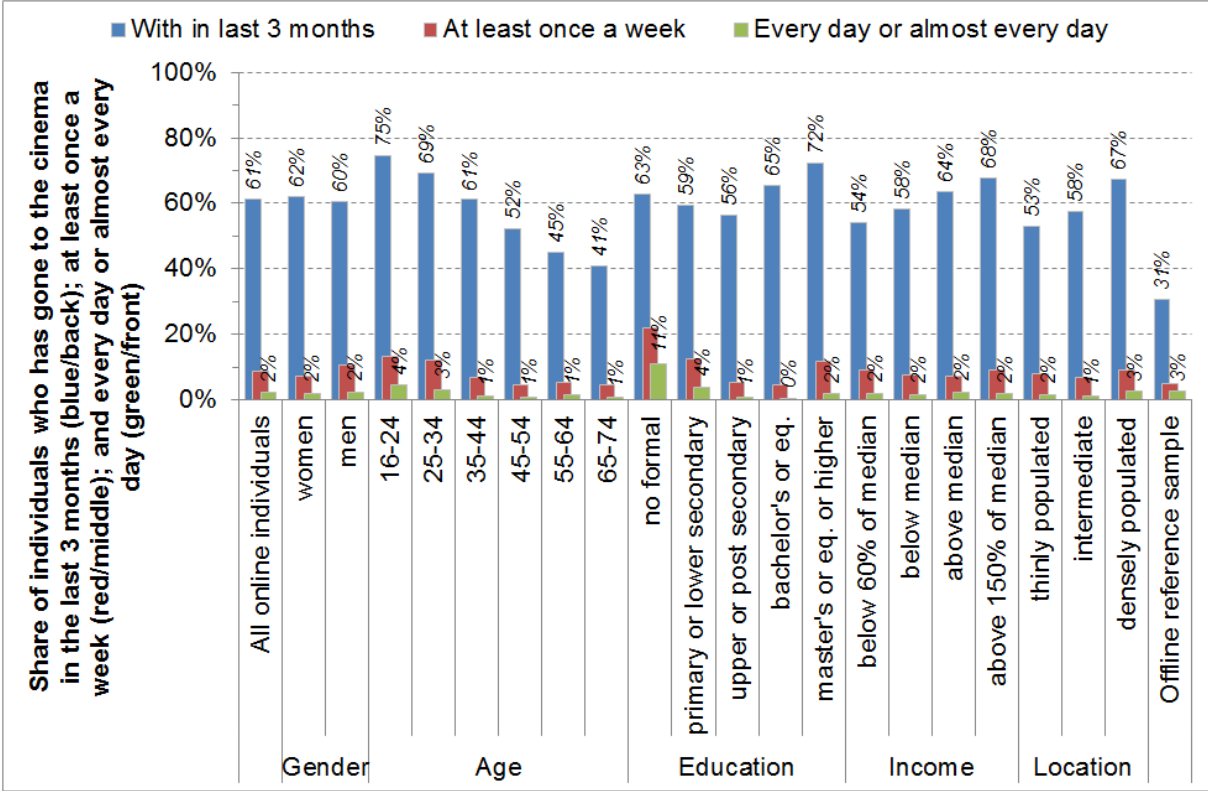
Only about three in five people have gone to the cinema in the last three months (61%), which is significantly less than who have watched television (98%), listened to the radio (93%), read a print newspaper (89%) or even a book (83%). Moreover, in breaks from the directional pattern observed above, the lowest shares of cinema goers in the last three months are among the oldest (41%) and individuals with upper or post-secondary educational backgrounds (56%), and not among the youngest (75%) or those with the lowest levels of educational attainment (59-63%). In addition, variation is much more pronounced across income levels, albeit in the familiar direction with the lowest share among the poorest (54%), as well as across location (with the lowest share among those living in thinly populated areas at 53%), which otherwise has appeared to be largely a non-factor. The former breaks from the familiar directional pattern must be seen in combination as the odd educational pattern for the most part is an artefact of the diverging educational profiles of the various age groups. Thus, taking out the youngest age groups, shares of cinema goers among those with the lowest levels of educational attainment quickly resemble the share of cinema goers among individuals with upper or post-secondary educational backgrounds. Meanwhile, the increased importance of income and location suggest that there likely is a pure cost effect (ticket, beverage, popcorn, etc.) involved in the choice of going to the cinema, and that the ready availability of (or hassle of getting to) a cinema in an urban (or rural) environment equally may affect this choice. This corresponds well with the latest cultural statistics from Eurostat, which suggest that lack of time is the main barrier to accessing culture, while high expenses is the second most important barrier.[28]

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[28] http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-32-10-374/EN/KS-32-10-374-EN.PDF

Figure 0-6 Share of individuals who has played a computer or video game in last three months, at least once a week, and every day or almost every day
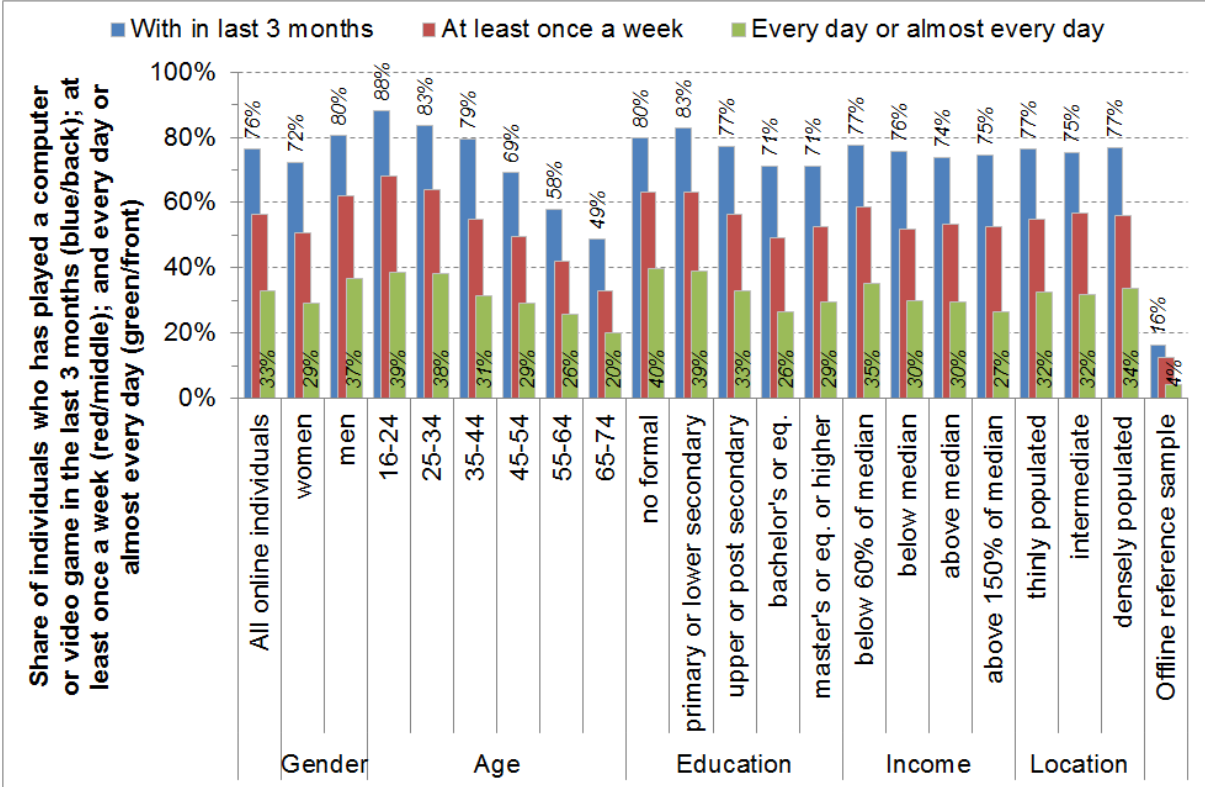
The share of individuals who has played a computer or video game within the last three months (76%) is somewhat higher than the share of individuals who has gone to the cinema (61%). Corresponding with attending the cinema, the lowest shares of computer and video game players within the last three months are found among the oldest (49%) and among people with a higher educational background (71%), while the highest shares are found among the youngest (88%) and those with the lowest levels of educational attainment (80-83%). Furthermore, like with book reading, there is a noticeable gender difference in who plays computer and video games, only this time men (80%) are more active than women (72%). This underlines the hypothesis of males substituting reading with computer games while females substitute reading with games (Garbe, 2007). These differences remain also when considering computer and video game playing on a daily basis, and unlike with cinema going, the reverse educational pattern does not disappear with the exclusion of the youngest age groups. The differences thus would appear to reflect, on the one hand, and reasonably, diverging generational preferences for print and digital media and/or print and audio-visual media, much like – and perhaps stronger than – in relation to print newspaper and book reading; and, on the other hand, and more speculatively, diverging educational preferences for entertainment, again much like – albeit perhaps weaker than – in relation to book reading. The offline population naturally shows a much lower frequency of playing computer and video games (16% compared to 76% in last three months).
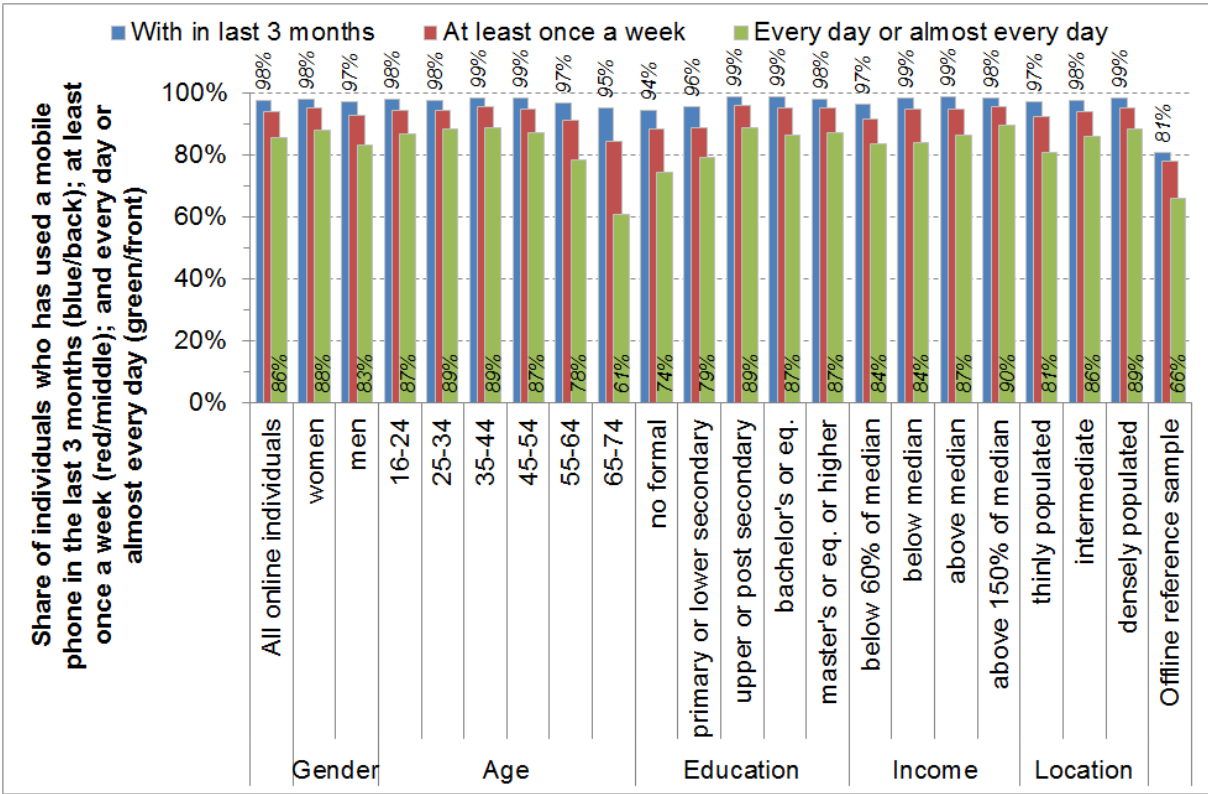
Like watching television (98%) and listening to the radio (93%), using a mobile phone is practically ubiquitous if considered over a three month period (98%) with very little variation across age, education and income. The lowest shares are found among the oldest (95%), those with the lowest levels of educational attainment (94-96%) and the poorest (97%) – a pattern only reinforced if considering daily mobile phone use. Here there is a 28 percentage point difference between the youngest (89%) and the oldest (61%), a 10-15 percentage point difference between those with the lowest levels of educational attainment (74-79%) and the highest levels (89%), and a 6 percentage point difference between the poorest (84%) and the most affluent (90%). There is also a noticeable 8 percentage point difference in daily mobile phone use rates between those living in thinly populated areas (81%) and those living in densely populated areas (89%). This difference most likely reflects the impact of poorer network coverage in rural environments on mobile phone use. Also offline respondents appear to use mobile phones at slightly lower rates than online respondents (81% compared to 98% in last three months).

Critical Understanding Skills

Understanding media and its functioning

Reliability perception

It is difficult to objectively establish the appropriate levels of trust in the reliability of various media platforms as sources of information as well as to distinguish sound scepticism from paranoid suspicion. However, it seems certain at least that a total belief in the reliability of media is never advisable in any context and irrespective of personal psychology. It also seems relatively certain, on the one hand, that media in general rarely are totally unreliable and, on the other, that lack of any opinion at all about the reliability of media is not conducive to taking a critical stance. Applying this double standard to television, 86% of individuals believe that television is not totally reliable as a source of information or do not have an opinion and 79% express a concrete opinion that television is neither totally reliable nor totally unreliable. Limited variation exists in the former measure across gender, age and education albeit slightly higher shares believe that television is not totally reliable among those with the highest levels of educational attainment (89-90%) and to some extent the most affluent (87-89%). More variation is apparent in the second measure as particularly the youngest (76%) and those with the lowest levels of educational attainment (66-72%) are more likely to either not have an opinion (3-9%) or believe that television is totally unreliable (6-10%). Offline respondents appear to be about as likely to believe that television is not totally reliable as online respondents (81% compared to 86%). However, like online respondents with lower levels of educational attainment, they are much likely to believe that television is totally unreliable (9%).

A very similar pattern is evident in relation to radio as a source of information where 85% of individuals believe that radio is not totally reliable or do not have an opinion and 78% express a concrete opinion that radio is neither totally reliable nor totally unreliable with the only systematic variations across age and education and to some extent income. Again offline respondents appear to be about as likely to believe that radio is not totally reliable as online respondents (81% compared to 85%), but this time instead of being more likely to believe that radio is totally unreliable, they tend to be more likely not to know too.

Figure 0-10 Share of individuals believes newspapers is not a totally reliable source of information, and neither totally reliable nor totally unreliable or don't know
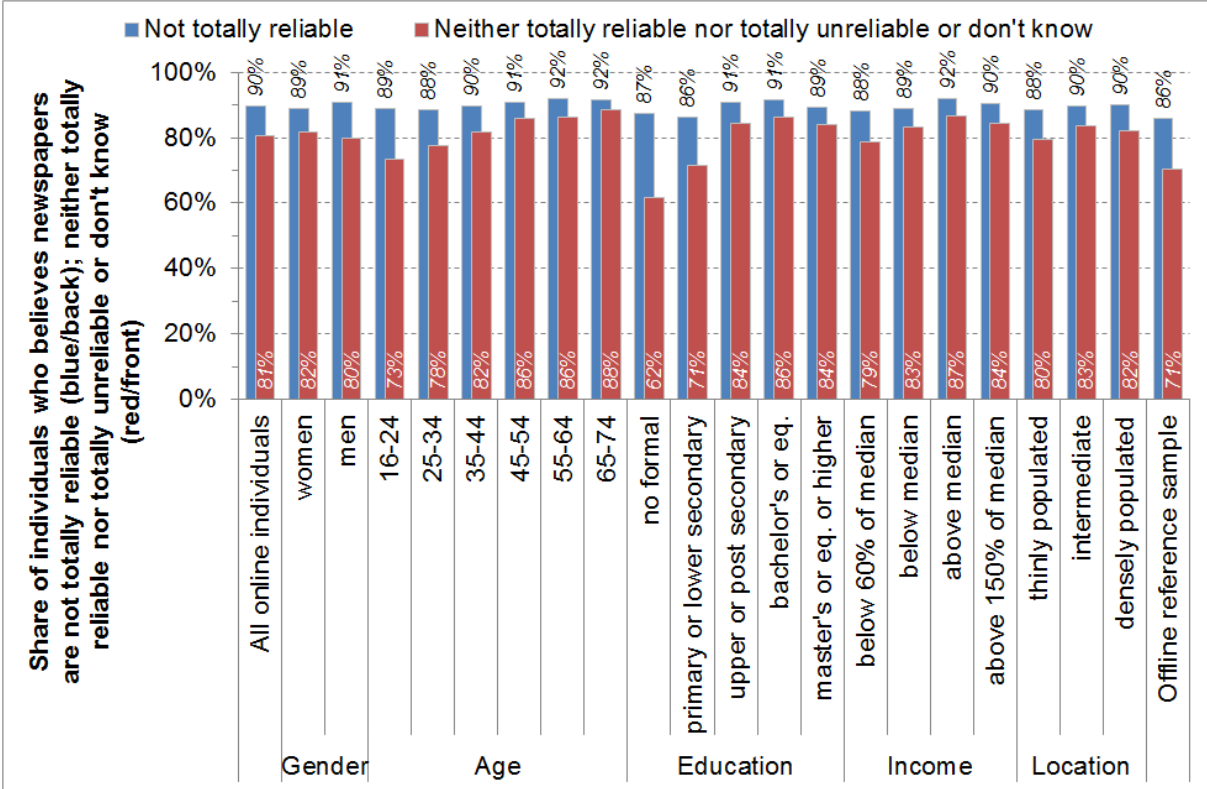
A very similar pattern also is evident in relation to newspapers as a source of information. Here 90% of individuals believe that newspapers are not totally reliable or do not have an opinion and as few as 62-73% and as many as 84-88% express a concrete opinion that newspapers are neither totally reliable nor totally unreliable around an average of 81%. The slightly lower share who believe newspapers are totally reliable (10%) compared to television (14%) and radio (15%) may reflect the still looming presence of public broadcasting companies in the latter national markets. Also in relation to newspapers do offline respondents appear to be about as likely to believe that they are not totally reliable as online respondents (86% compared to 90%).

Finally, much the same pattern can be observed in relation to the Internet as a source of information. But interestingly, and perhaps worryingly, a slightly higher share believe that the Internet is totally reliable (18%) than is the case with television (14%) and radio (15%), although the Internet presents a much less controlled environment with fewer external quality approval mechanisms and arguably higher consequent risks of misinformation. Thus, only 82% of individuals believe that the Internet is not totally reliable or do not have an opinion while 76% express a concrete opinion that the Internet is neither totally reliable nor totally unreliable. Only among the oldest and those with the highest levels of educational attainment does the scepticism towards the Internet resemble the scepticism towards the reliability of the more traditional types of broadcasting media (86% compared to 84-85% and 84-88% compared to 86-90%, respectively). Noticeably, offline respondents appear to be highly sceptical of the Internet too (88% responded that the Internet is not totally reliable), but this largely reflects that offline respondent tend not to know about the reliability of the Internet (only 22% respond that the Internet is neither totally reliable nor totally reliable).

Difference awareness

Figure 0-12 Share of individuals who believes there are differences in the way that the same or related information is portrayed by different television channels
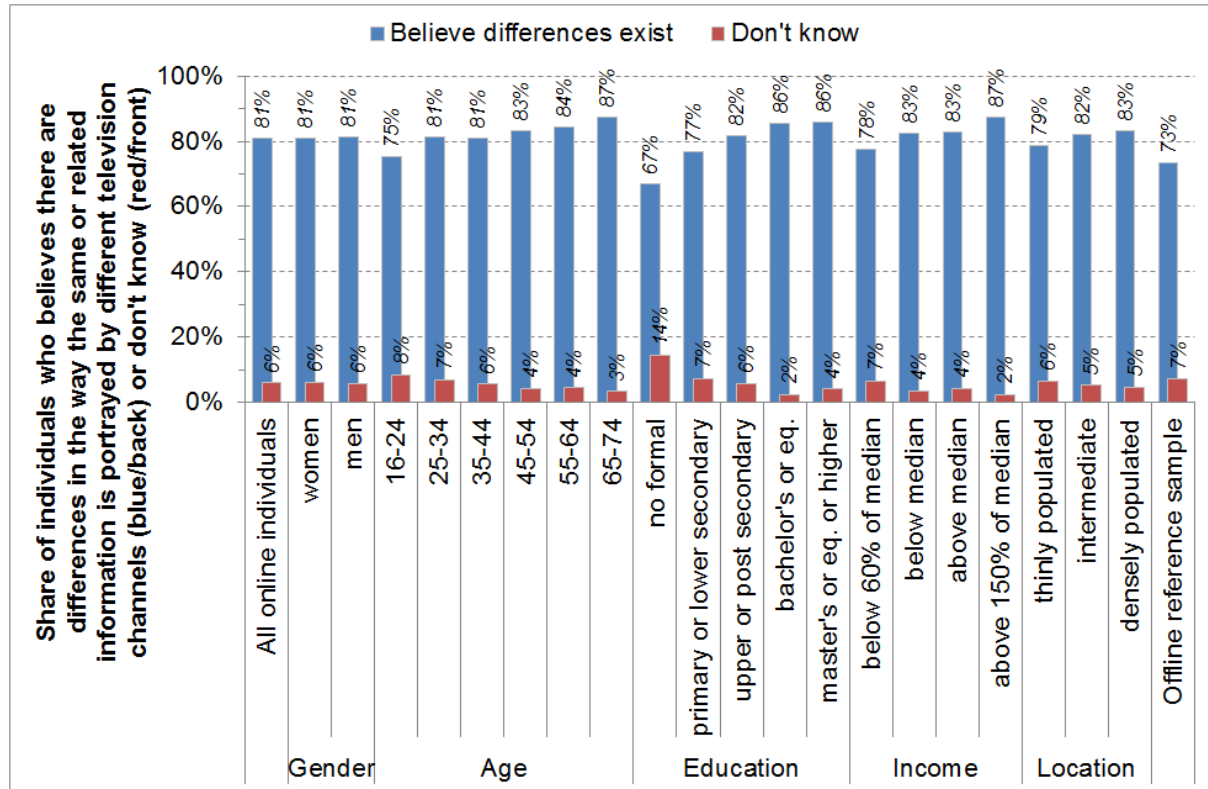
Closely related to perceptions about reliability and ultimately truth and lie as well as fact and fiction is awareness about the many nuances of truth and suppression that can be applied to build or denigrate a piece of information without exactly lying. One common expression of these techniques is the concept of story angle, which deliberately is applied on a regular basis to shape opinion and simply to attract attention. Hence, even if media in general are relatively reliable and essentially to be trusted, different media are still likely to interpret the same information differently in stories that reflect their profile (political, commercial or otherwise) and the expected preferences of their audiences and supporters. Applying this alternative standard to television, 81% of individuals believe that there are differences in the way the same or related information is portrayed by different television channels while 6% don't know. Like with the reliability questions above, this share varies considerably by age, education and income with the lowest shares among the youngest (75%), those with the lowest levels of educational attainment (67-77%), and the poorest (78%). Likewise, the share of individuals without an opinion increases following a similar pattern as in relation to the reliability questions, but neither in this case does uncertainty seem conducive to taking a critical stance. Offline respondents appear to be slightly less aware of differences between different television channels (73% compared to 81%).

Figure 0-13 Share of individuals who believes there are differences in the way that the same or related information is portrayed by different radio channels
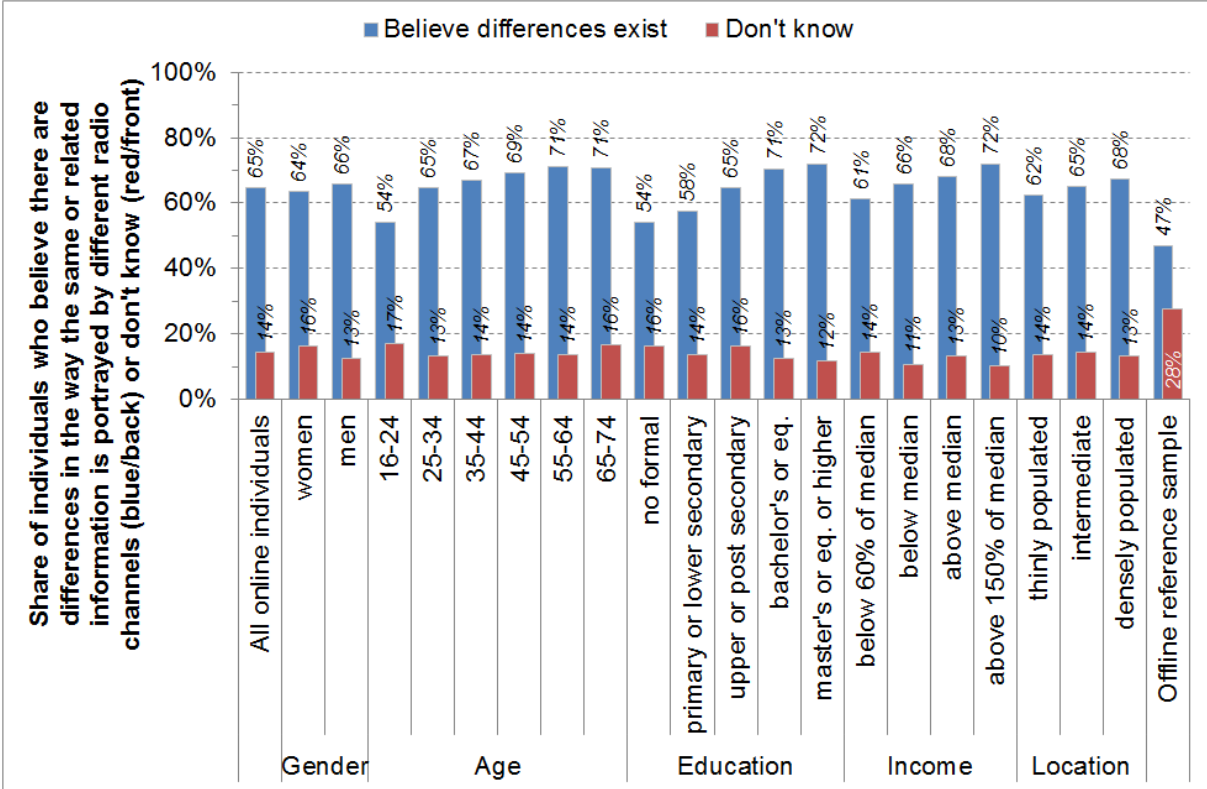
A significantly lower share of individuals believe that there are differences in the way the same or related information is portrayed by different radio channels (65%) as compared to television channels (81%), and uncertainty is greater (14% compared to 6%). Nevertheless, the same directional pattern of variation across age, education and income pertains with the lowest shares among the youngest (54%), those with the lowest levels of educational attainment (54-58%), and the poorest (61%). The noticeable discrepancy between the shares who believe differences exist between radio channels and between television channels is probably best explained by the much larger presence of music and talk shows on radio, which may provide less meaningful grounds for comparisons. Offline respondents appear to be substantially less aware of differences between different radio channels than do online respondents (47% compared to 65%). Moreover, significantly higher shares tend not to know what to believe (28% compared to 14%), which may reflect their lower frequency of listening to the radio.

Figure 0-14 Share of individuals who believes there are differences in the way that the same or related information is portrayed by different newspapers
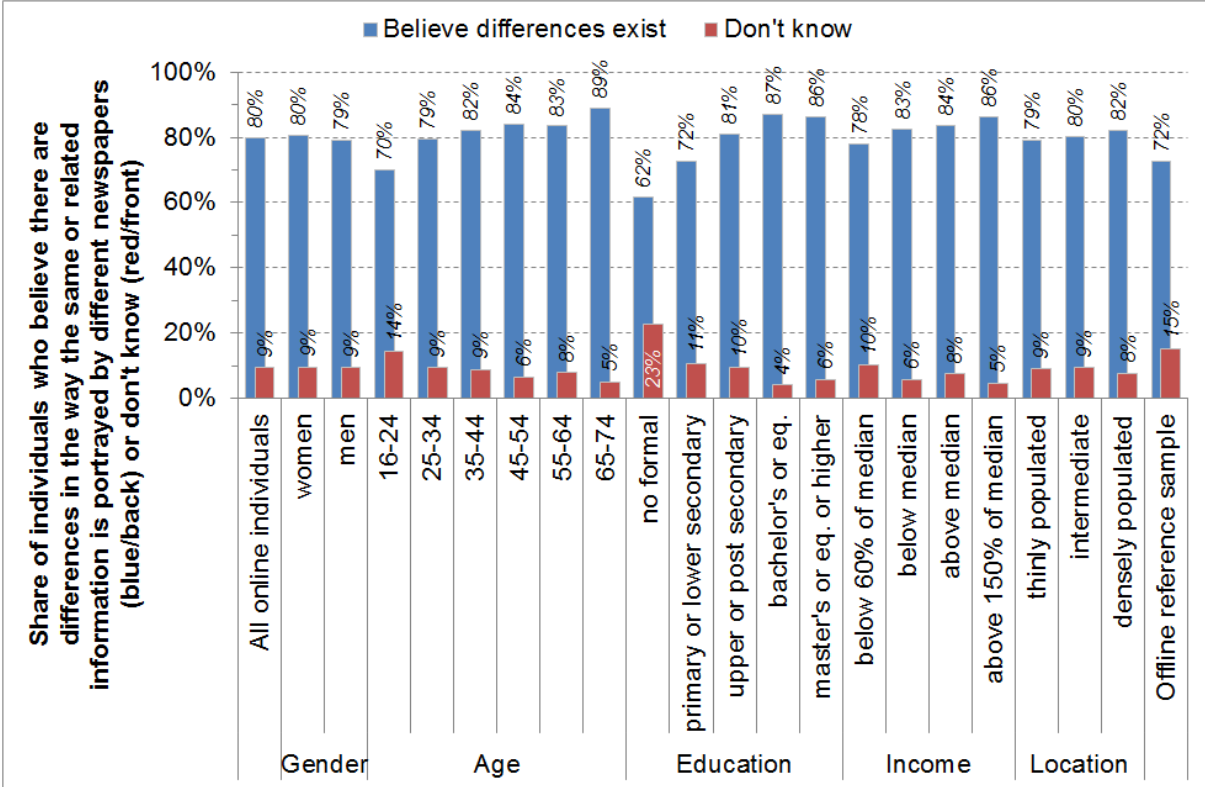
While a noticeable difference exist between people's opinions about radio and television, approximately the same share of individuals believe there are differences in the way the same or related information is portrayed by different newspapers (80% overall) as believe there are differences between different television channels (81%). In fact, shares are largely equal across all socio-economic and demographic breakdowns with the lowest shares among the youngest (70%), those with the lowest levels of educational attainment (62-72%), and the poorest (78%). This similarity would seem to suggest in continuation of the musings above that the prominence of news compared to other content or people's reliance on a particular media for news or information seeking may affect awareness about differences in story angles and subject matters. The share of offline respondents who believe differences exist between different newspapers equally is comparable to television (72%) although slightly more respondents tend not to know.

Figure 0-15 Share of individuals who believes there are differences in the way that the same or related information is portrayed by different websites
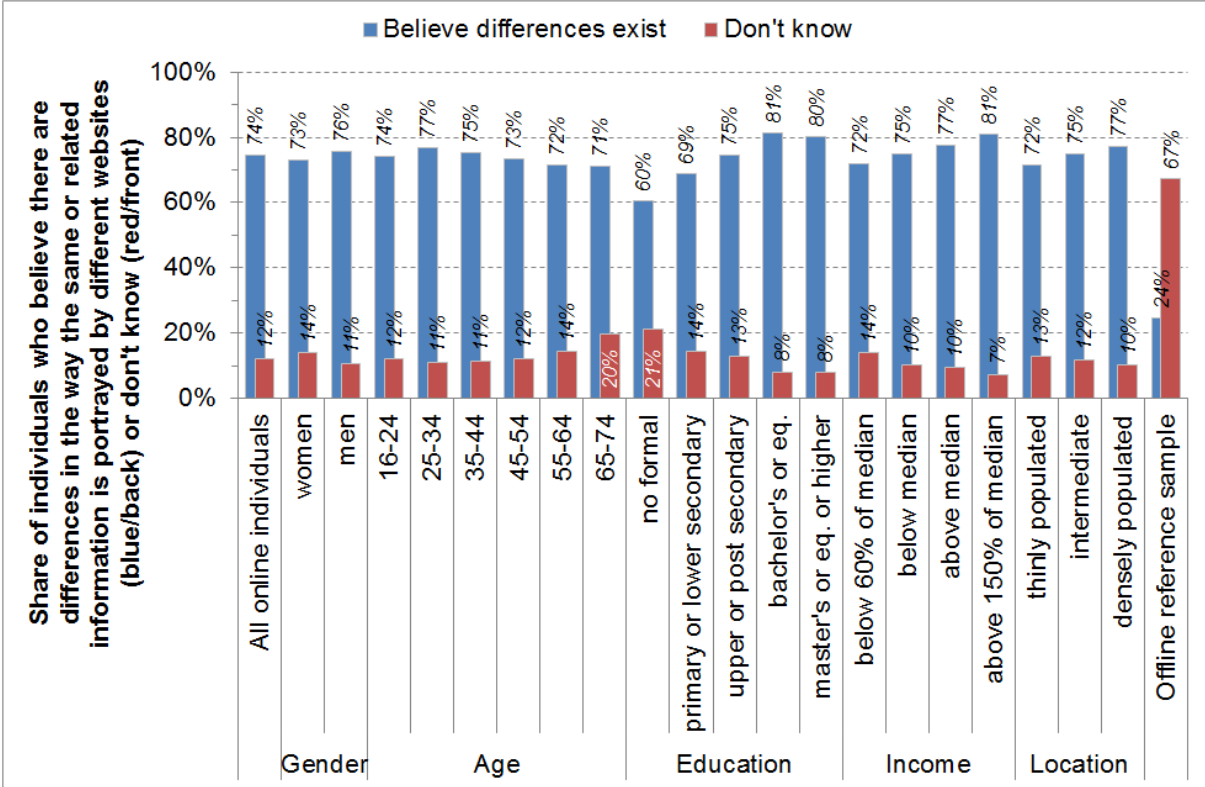
Also the share of individuals who believe there are differences in the way the same or related information is portrayed by different websites (74%) is higher than in relation to radio channels (65%) albeit slightly lower than in relation to television channels (81%) and newspapers (80%). Thus, websites too would seem to fit the conjecture that awareness about differences somehow is affected by use of the media for news and information seeking. In contrast to awareness of differences in relation to the other media platforms, variation across age groups in relation to websites is more limited and tends to take on the opposite directional pattern with the lowest shares among the oldest (71%). As was the case with the reliability of the Internet as a source of information, the majority of offline respondents tend not to know what to think about the existence of differences between different websites (67% compared to 12% among online respondents).

Awareness of media effects

Figure 0-16 Share of individuals who has ever thought "this is actually advertising although it is made not to look that way" during their media use
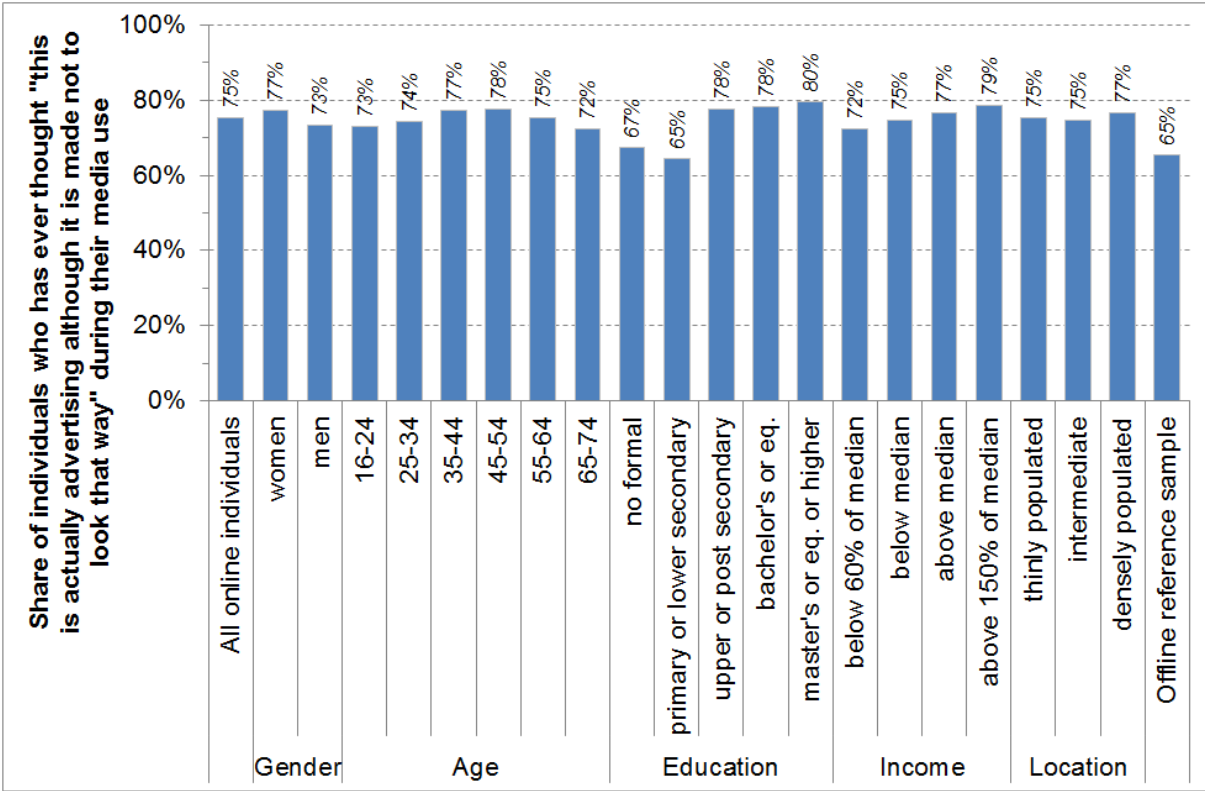
In addition to general awareness about differences in media portrayals of information and the basic reliability of media as sources of information there are certain specific topic areas that merit particular attention due to their prominence in the public debate about the impact of media. Most notably these topics include people's abilities to distinguish advertisements from other content and their understanding of idealisation, idolisation and stereotyping in fictional as well as scripted reality content. While advertisement is becoming increasingly sophisticated, appearing surreptitiously in films and games or pretending to be editorials or independent advice, the good news is thus that 75% of individuals appear to have consciously stopped at one point or other in their media use (watching television, reading newspapers, surfing the Internet, playing computer or video games) to think "this is actually advertising although it is made not to look that way". Encouragingly, also the youngest age group in the sample shows this type of awareness in significant numbers (73%) and there may in fact be just as much reason to worry about the oldest (72%) as the youngest. However, by far the lowest shares are recorded among those with the lowest levels of educational attainment (65-67%) with a difference of 11-15 percentage points compared to everyone else (78-80%). Only offline respondents show similar low shares (65%) with this type of media awareness.
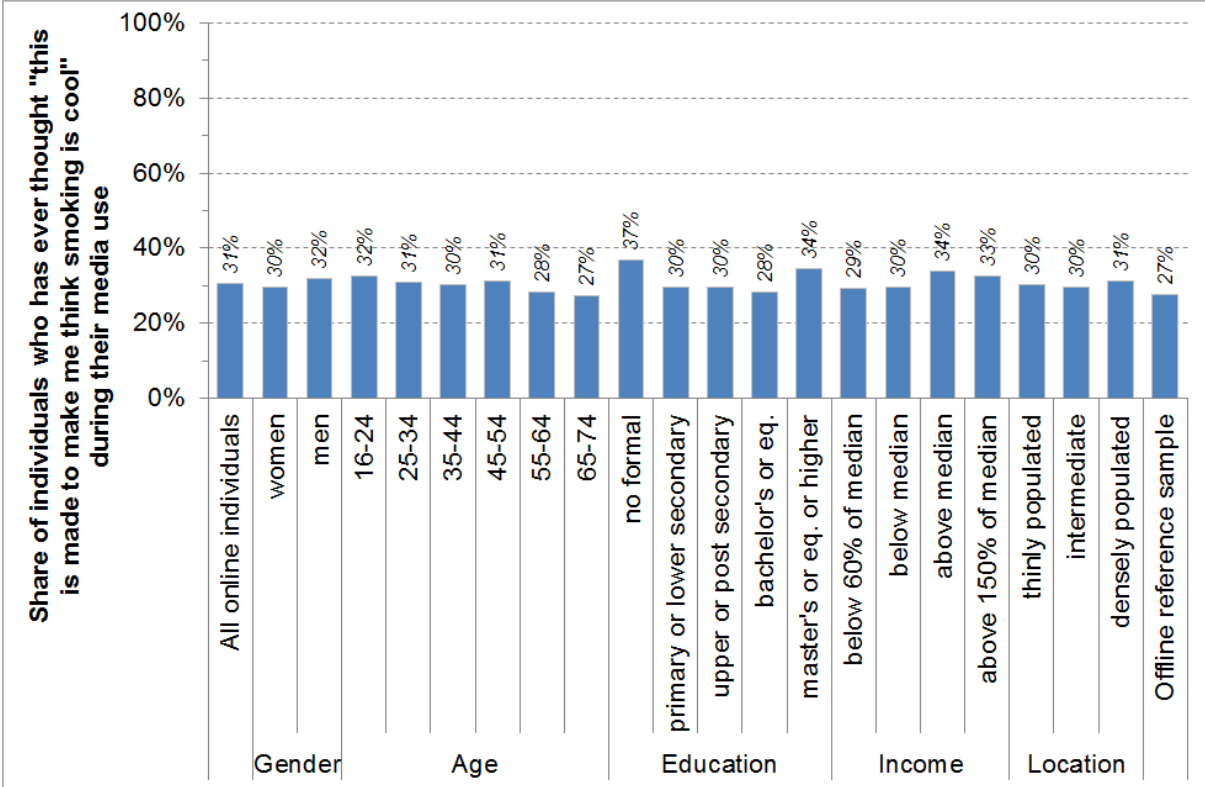
Less encouragingly, just one in three people reports ever to have thought during their media use "this is made to make me think smoking is cool" (31%) with limited variation across age, education or income. The lowest shares are found among the oldest (27%) and the poorest (29%) while again the youngest age group appear to be no more ignorant of or susceptible to media influences than everybody else (32%). Although discouraging on the face of it, it should be noted that the general lack of awareness of positive smoking influences possibly might reflect the effectiveness of regulation in banning such images rather than the power of the tobacco industry and advertisement agencies to continuously broadcast subconscious messages to the liable public.

Figure 0-18 Share of individuals who has ever thought "this would hurt more in real life" during their media use
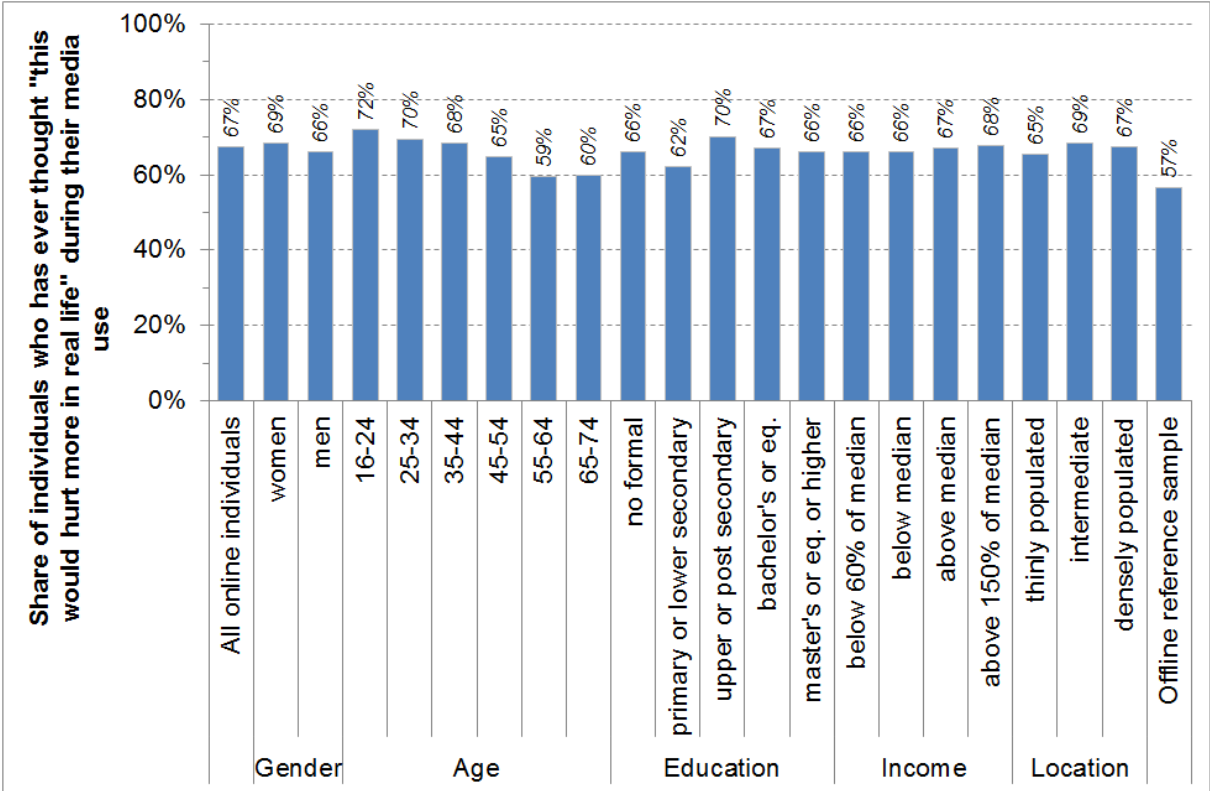
Besides the ability to identify advertisements when and where encountered in the media, much debate revolves around the ability of individuals, and especially young individuals, to set media experiences in proper perspective before translating them into real life. Amidst first-person shooter games, heroic movie flicks and fake wrestling shows, for instance, there may be a distinct risk of losing sense of what is humanly possible and/or acceptable without causing bodily harm. Luckily in this regard, or perhaps worrisome, awareness of unrealistic violence appear to be closer to, but still lower than awareness of hidden advertisements (75%) as two in three people (67%) report to have thought "this would hurt more in real life" at some point in their media use. Variation primarily exists in relation to age with the lowest shares among the oldest (59-60%) and the highest share among the youngest (72%). Given the lack of systematic variation across education and income, this pattern may reflect the likely greater consumption of violent content by young people. The share of offline respondents with this type of awareness is on par with the oldest age groups (57%).

Figure 0-19 Share of individuals who has ever thought "this is not a natural body shape to have" during their media use
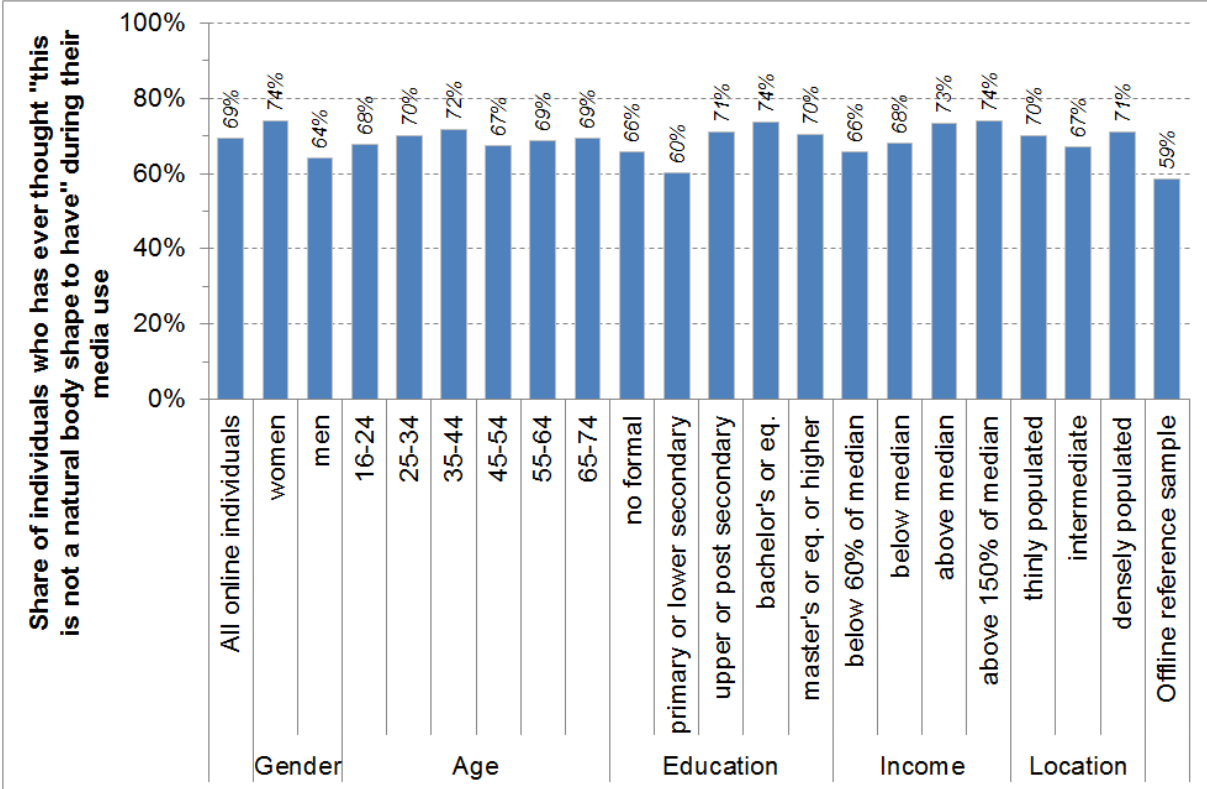
Another much debated media effect is whether consumption of magazines, music videos, reality shows and the like creates unhealthy expectations and aspirations regarding body shape and appearance (thinner waist, bigger breasts, bigger muscles, etc.). Awareness of such unrealistic body ideals appear to be roughly similar to the awareness about unrealistic violence as 69% of individuals report ever to have thought during their media use "this is not a natural body shape to have" (compared to 67% above). However, the response patterns are noticeable different with significant gender as well as education and income differences in the awareness of unrealistic body ideals. Clearly, women (74%) are more aware than men (64%) about this issue – perhaps because they feel the highest pressure to conform to the media-developed body ideals. Otherwise, the lowest shares are found among those with the lowest levels of educational attainment (60-66%) and the poorest (66%). Again, the share of offline respondents with this type of awareness appears to be on par with the least aware among the online respondents (59%).

Higher functional literacy

Figure 0-20 Share of individuals who find it easy or very easy to understand complex texts the first time they read them
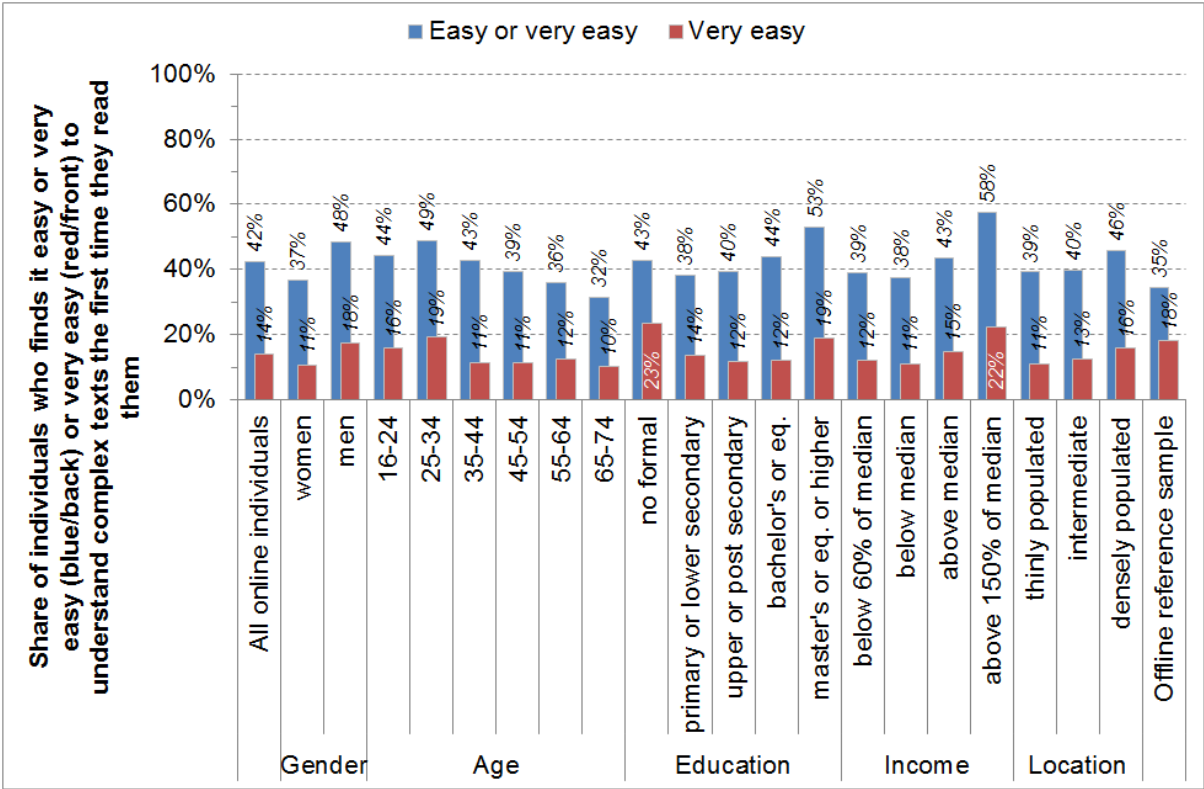
To engage with and understand most media and to use the media productively requires reading and writing skills as well as problem solving skills such as being able to define information needs and evaluate gathered information. Assuming that most of the participants in the survey have at least some basic literacy skills, higher functional literacy was used as a reference point to create variation in the responses. At the same time, higher functional literacy is important in itself due to its likely step-change character in relation to future work and education opportunities. Accordingly, 42% of individuals find it easy or very easy on a five-point scale to understand complex texts such as technical manuals or specialised articles the first time they read them. This share varies substantially by gender, age, education and income with the lowest shares among the oldest (32%), those with the lowest levels of educational attainment (38-43%), the poorest (38-39%) and among women (37%), but so that changes across educational and income levels primarily relate to the top category (53% and 58% respectively). Part of the explanation for this pattern, of course, is that the skills identified intentionally are relatively advanced. However, there also would appear to be a tendency for people with a lower levels of educational attainment to maybe overestimate their own abilities as evidenced in particular by the surprisingly high share of people with no formal educational background who find it very easy to read and understand complex texts (23% compared to 14% among those with a basic educational background). Inclusion of the word "technical" may provide an explanation for the observed gender difference. Among offline respondents, 35% find it easy or very easy to read complex texts, which is slightly lower than among online respondents.

About the same share of people find it easy or very easy to write complex texts such as work or study-related letters or reports that present a case in a clear and logical structure (43%) as did reading and understanding complex texts (42%). Yet response patterns are noticeably different with no gender difference and barely any age differences. The primary variation thus is across educational and income levels with the lowest shares among those with the lowest levels of educational attainment (30-40%) and the poorest (39-40%). However, the share of people with no formal educational background who find it very easy to write complex texts (19% compared to 11% among those with a basic educational background) is still suspiciously high. While the share of offline respondents who find it easy or very easy once more is slightly lower than among online respondents (38%), the share of offline respondents who find it very easy to write complex texts is comparable to among those with the highest levels of educational attainment (27%).

Figure 0-22 Share of individuals who find it easy or very easy to precisely define the information they need to solve a given problem or task
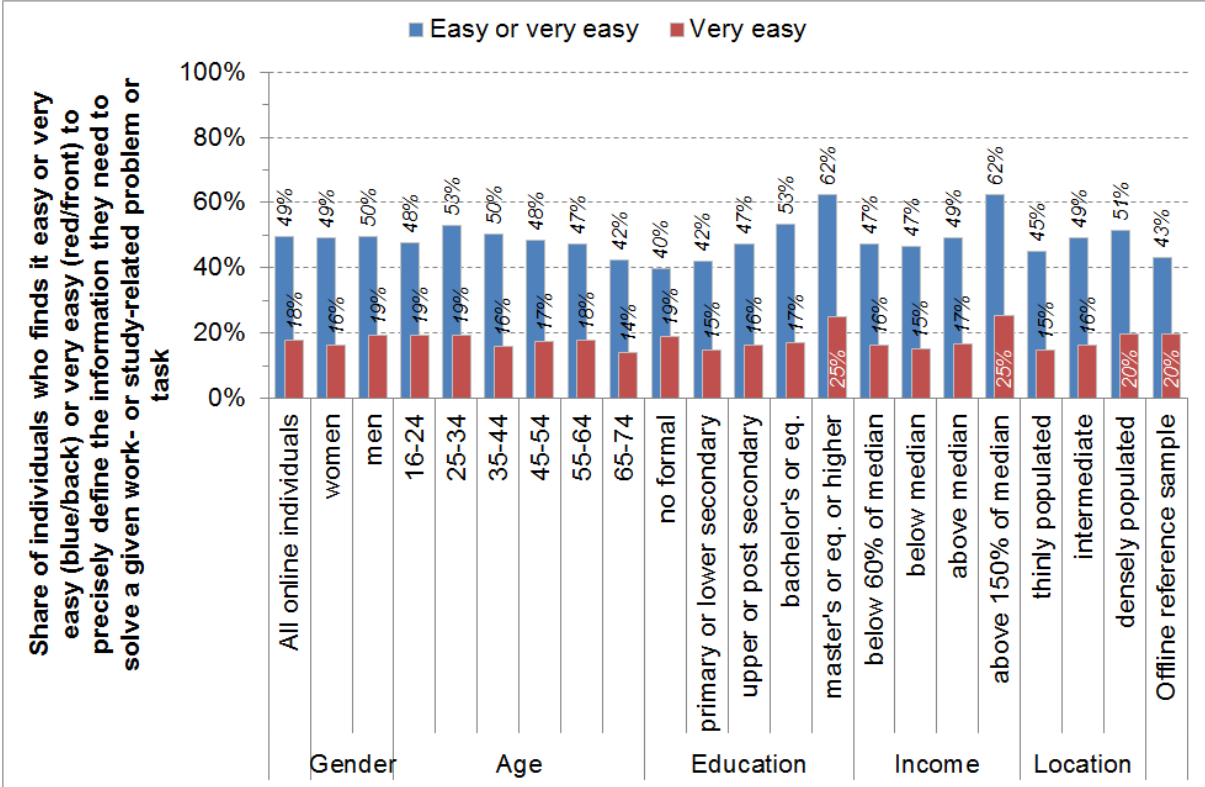
Compared to reading (42%) and writing (43%), slightly more people find it easy or very easy to precisely define what information they need to solve a work- or study-related problem or task (49%), and of the three questions this question seems to have the least problems with possible overestimation of skills levels among people with no formal educational background (19% find it very easy to define information needs compared to 15% among those with a basic educational background). These issues aside, the directional pattern across age, education and income clearly resembles the response pattern for reading and understanding with the lowest shares among the oldest (42%), those with the lowest levels of educational attainment (40-42%) and the poorest (47%). Consistent with the previous two questions, the share of offline respondents who find it easy or very easy to define their information needs is slightly lower than among online respondents (43%).

Figure 0-23 Share of individuals who find it easy or very easy to accurately and fairly assess contradicting pieces of information they have gathered to solve a given problem or task
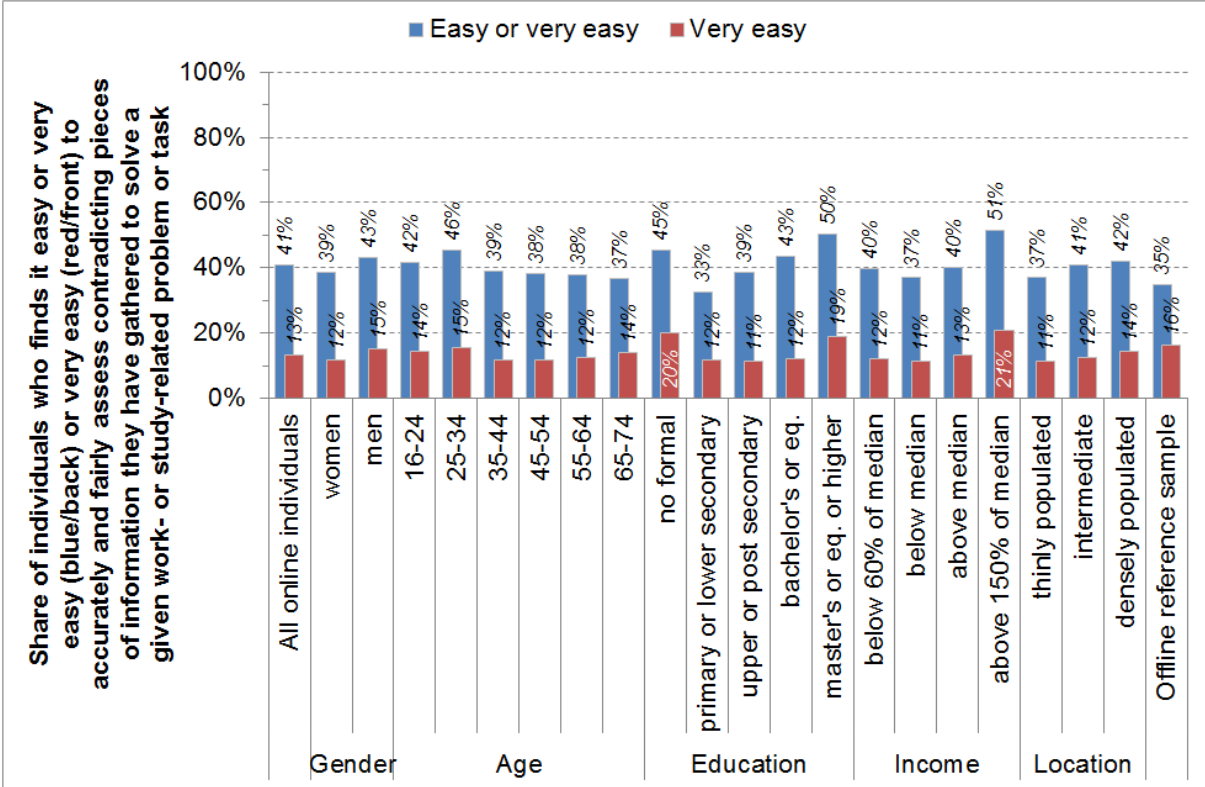
Somewhat fewer people find it easy or very easy to accurately and fairly asses contradicting pieces of information they have gathered to solve a work or study-related problem or task (41%) than find it easy or very easy to precisely define the information needs in the first place (49%). This drop-off likely reflect the higher complexity of sorting out noise in a real life setting compared to dealing with an idealised information world on paper. Again, the share of people with no formal educational background shoots up suspiciously (45% compared to 33% among those with a basic educational background), also accounting for most of the variation across age groups, while the income pattern remains unchanged. Compared to online respondents, a slightly lower share of offline respondents appears to find evaluation information easy or very easy (35%).

Knowledge about media and media regulation

Figure 0-24 Share of individuals who believes rules (laws) exist to regulate what advertisements can be about
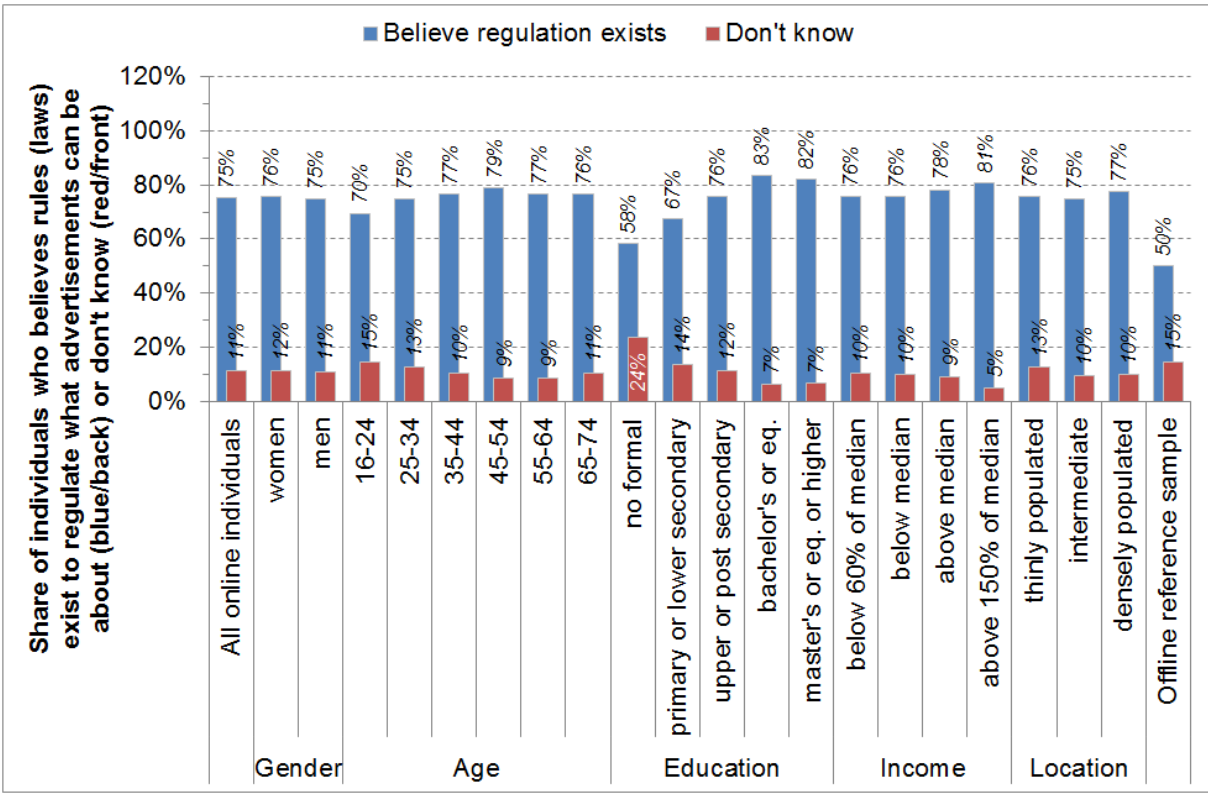
Three in four people (75%) believe that rules exist to regulate what advertisements can be about while 11% do not know. Little variation exists in this share across gender, age or income except for the youngest age group (70%) and the top income level (81%). However, substantial variation exists across educational levels with the lowest shares among those with the lowest levels of educational attainment (58-67%) and the highest shares among those with the highest levels of educational attainment (82-83%). In a pattern recognisable elsewhere as well, low shares with knowledge about the existence of regulation tend to be associated with larger shares of people who are either uncertain about what to think or do not care enough to find out. Neither seems conducive to taking a critical stance although both are valid responses in their own right. Compared to online respondents, offline respondents appear to be substantially less aware of regulation concerning what advertisements can be about (50%)

Figure 0-25 Share of individuals who believes rules (laws) exist to regulate when and where advertisements can be placed
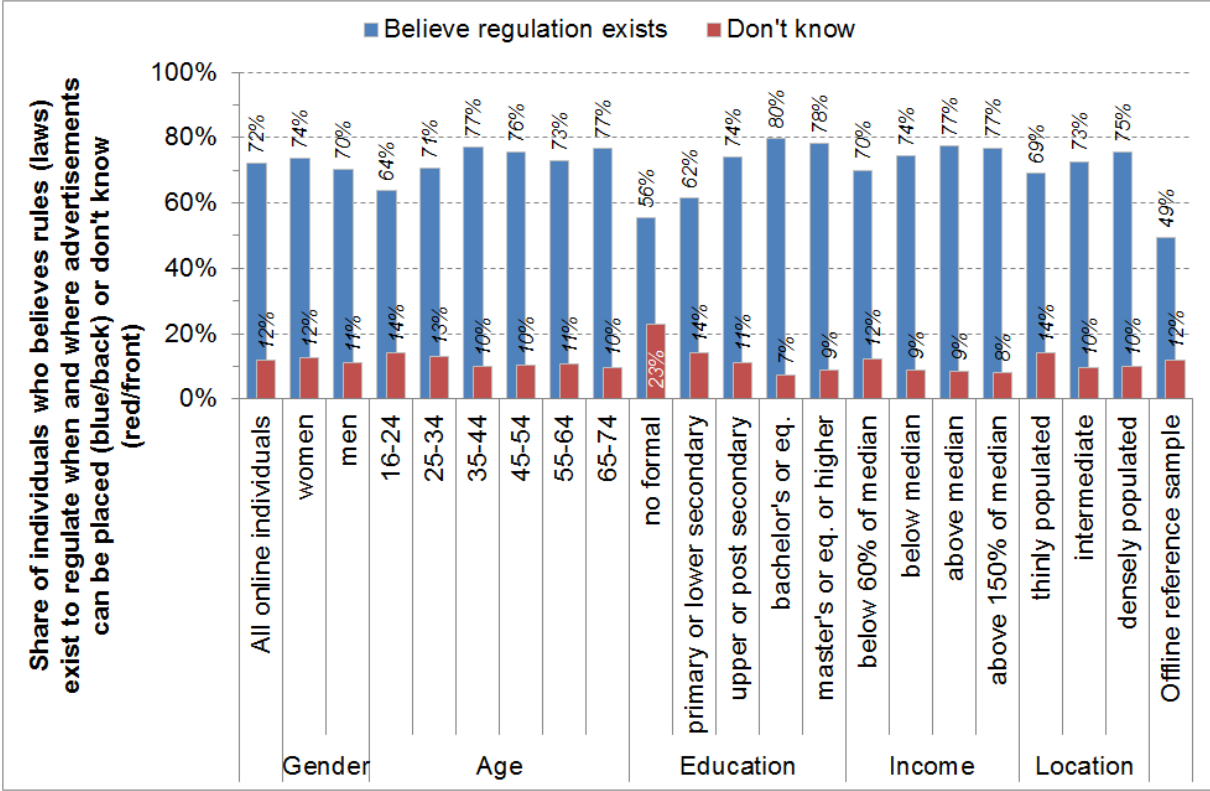
Almost identical shares of people (72% compared to 75%) believe that rules exist to regulate when and where advertisements can be placed or do not know (12% compared to 11%). In addition, the most substantial variation is across educational levels with the lowest shares among those with the lowest levels of educational attainment (56-62%) and the highest shares among those with the highest levels of educational attainment (80-78%). In addition, slightly more variation is apparent across age and income as well as location reinforcing the directional pattern with lowest shares among the youngest (64%) and the poorest (70%) and in thinly populated areas (69%). Also in relation to regulation concerning when and where advertisements can be placed, do offline respondents appear to be significantly less aware than online respondents (49%).

Figure 0-26 Share of individuals who believes rules (laws) exist to regulate the types of content that can be shown
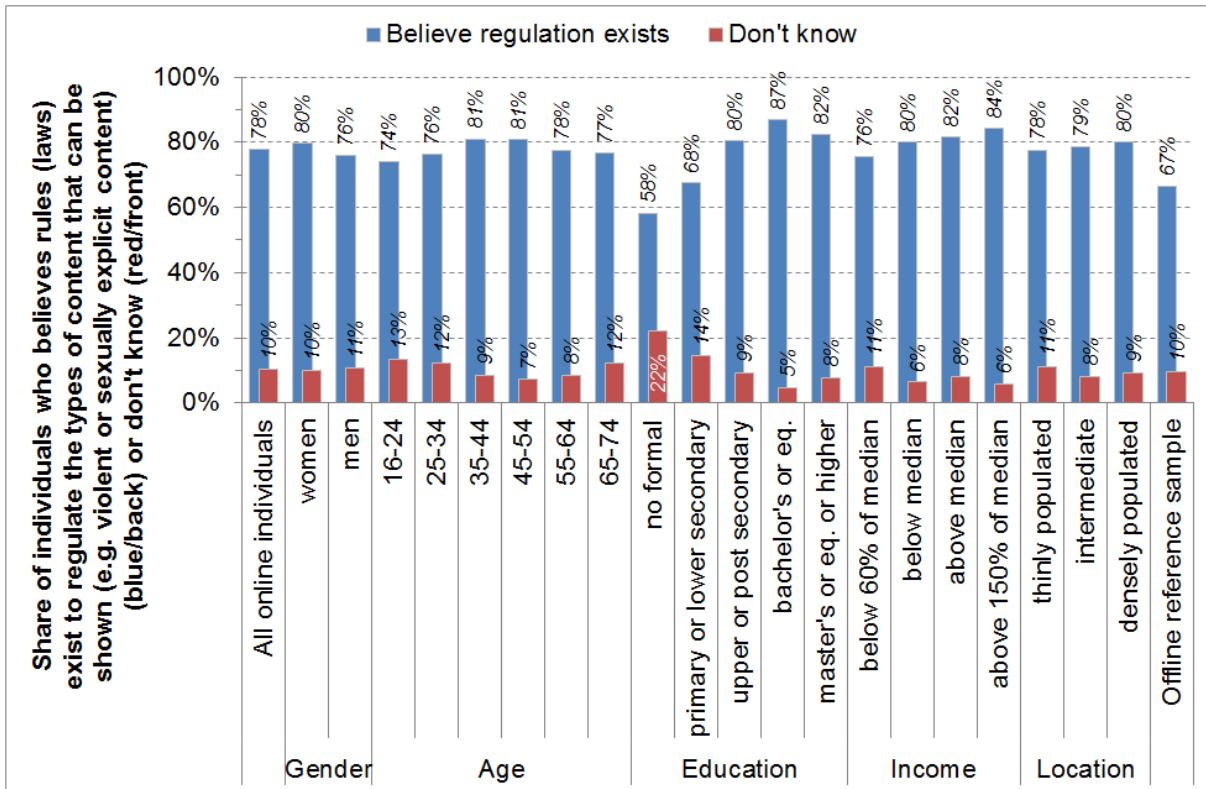
Continuing the pattern established in the first two questions, 78% of individuals believe that rules exist to regulate the types of content that can be shown such as violent content or sexually explicit content with the most substantial variation across educational levels and less pronounced variation across age and income. As before, by far the lowest share is found among those with the lowest levels of educational attainment (58-68%). While still lower than among online respondents, the difference between offline and online respondents in relation to regulation concerning the types of content that can be shown is somewhat smaller than in relation to advertisement (67% compared to 78%).

Figure 0-27 Share of individuals who believes rules (laws) exist to regulate the rights of authors to protect their intellectual property
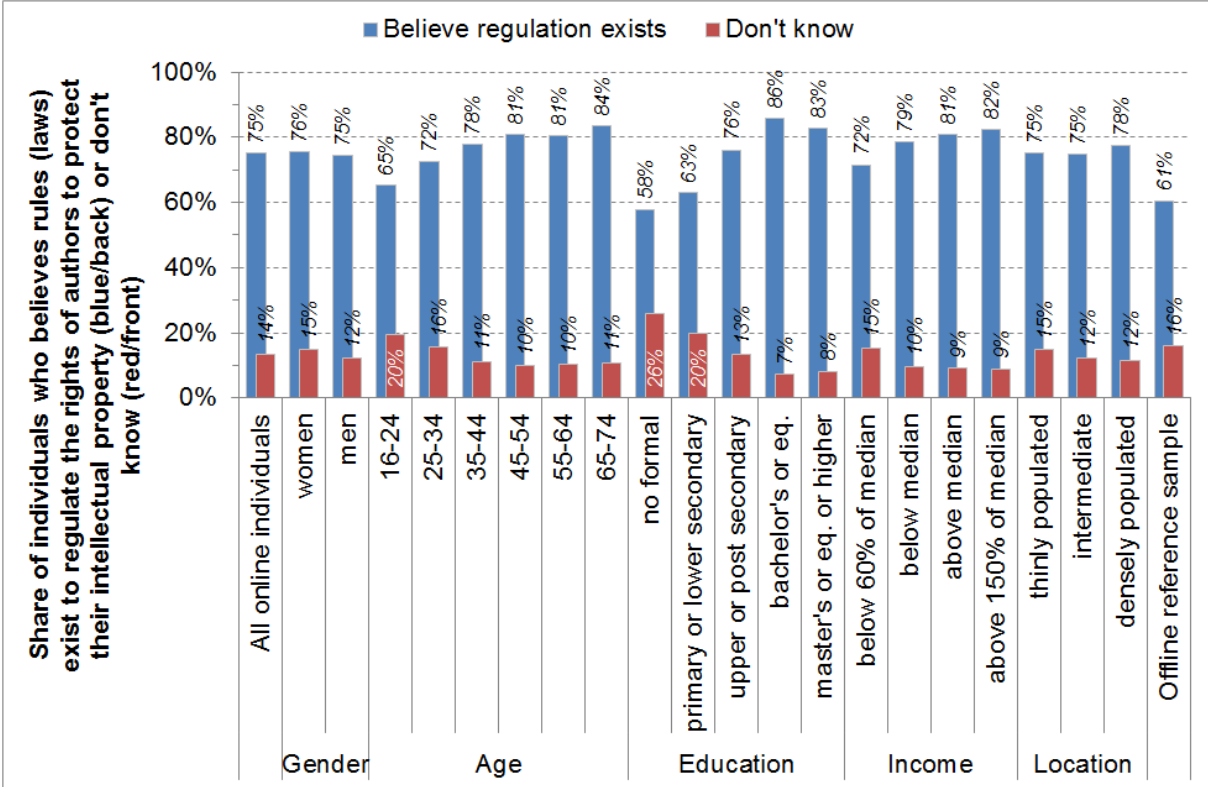
Finally, 75% of individuals believe that rules exist to regulate the rights of authors to protect their intellectual property while 14% do not know. Compared to the previous questions, slightly more variation is apparent across age groups with the lowest shares among the youngest (65%). Nevertheless, the most substantial variation continues to be associated with education with the lowest shares among those with the lowest levels of educational attainment (58-63%). A somewhat lower share of offline respondents appear to be aware of regulation concerning intellectual property rights compared to online respondents (61%).

User behaviour

Figure 0-28 Share of individuals who tries to compare with information elsewhere when they notice differences in the way the same or related information is portrayed by different sources
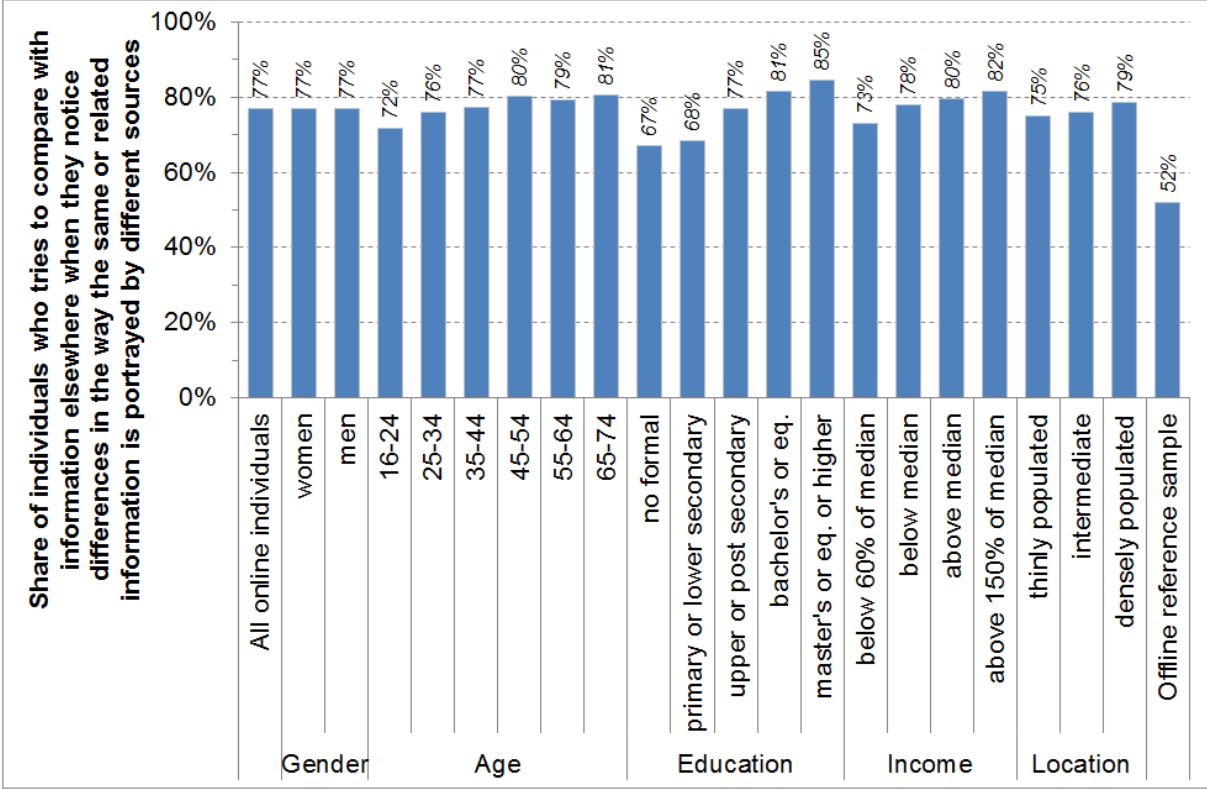
Various strategies can be imagined for how to manage irregularities occurring during media use, some of which arguably show higher critical capacity than others. Ideally, people should be on the watch for irregularities and react to them by actively trying to sort them out or align them rather than passively letting them slip by unresolved. One such active strategy for managing irregularities is to compare with information elsewhere. This is a strategy employed by nearly four in five people (77%) when they notice differences in the way the same or related information is portrayed by different sources, and in particular by those with the highest levels of educational attainment (85%) and the most affluent (82%). Conversely, the lowest shares that employ this strategy are found among those with the lowest levels of educational attainment (67-68%) and the poorest (73%) as well as among the youngest (72%). Moreover, this is a strategy which only about half (52%) of all offline respondents appear to employ, perhaps because of the difficulty of obtaining auxiliary information when not using the Internet.

Figure 0-29 Share of individuals who asks friends, family members or others for their opinion when they notice differences in the way the same or related information is portrayed by different sources
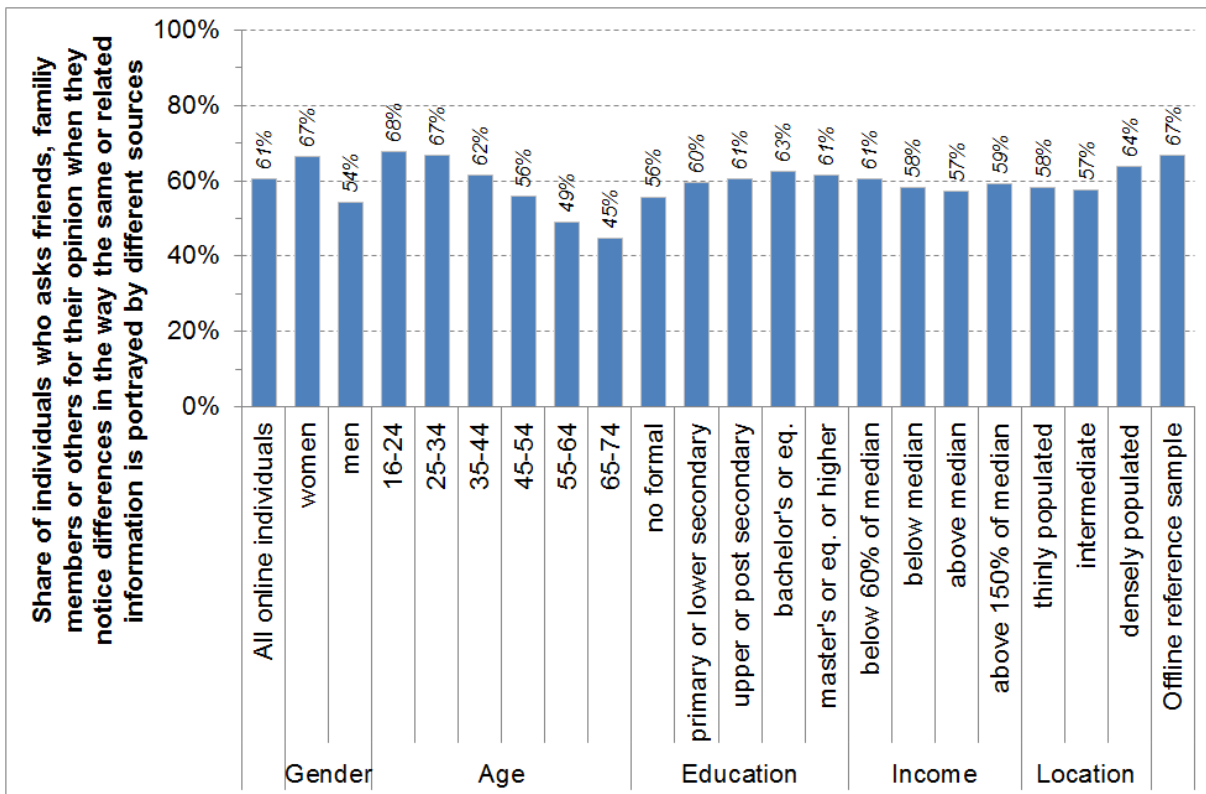
Another active strategy for managing irregularities involves asking friends, family members or others for their opinion, which is also a way of corroborating information externally. Somewhat fewer people, namely three in five (61%) compared to four in five (77%) employ this strategy when they notice differences in the way the same or related information is portrayed by different sources. Moreover, the directional pattern of variation is noticeably different for this strategy, primarily being related to age rather than education with the highest shares among the youngest (68%) and the lowest shares among the oldest (45%). In addition, women (67%) appear to employ this strategy substantially more than men (54%). Also offline respondents appear to employ this strategy more (67%).

Figure 0-30 Share of individuals who shares concerns with civic or social organisations when they notice differences in the way the same or related information is portrayed by different sources
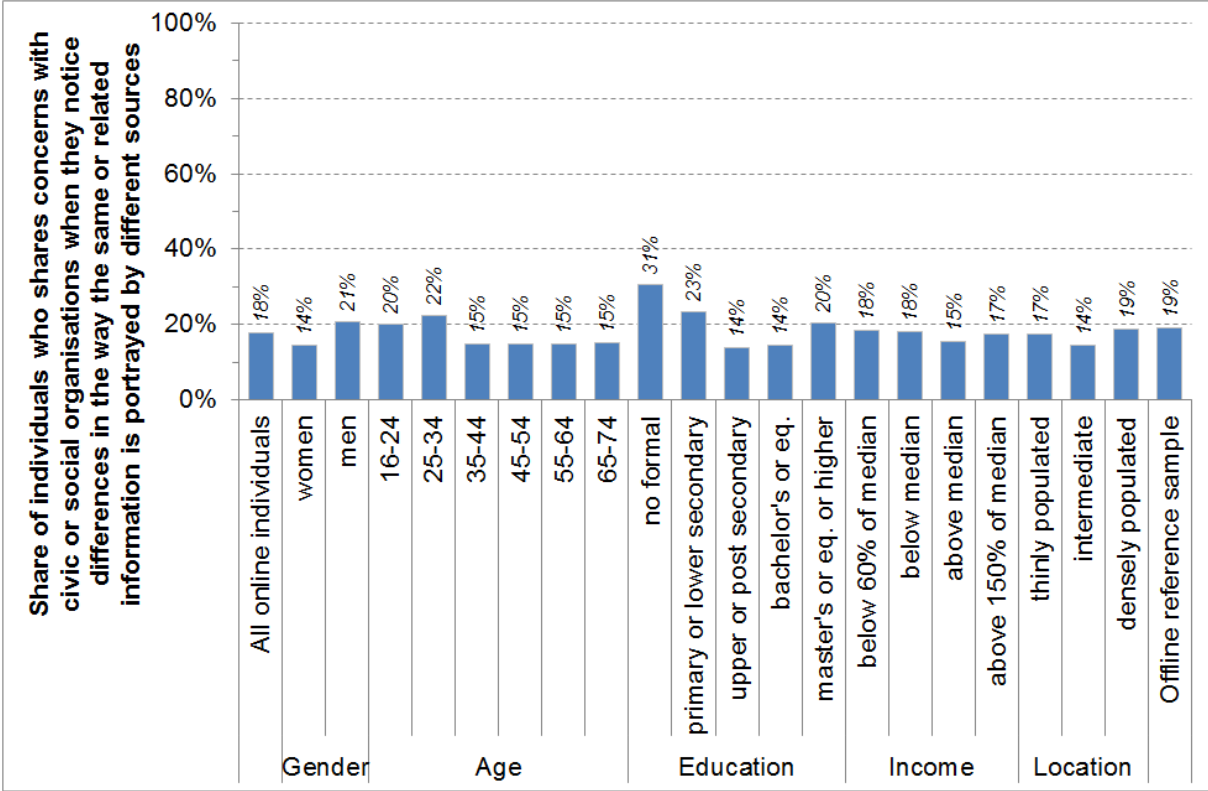
A third active strategy for managing irregularities, at least on the face of it, involves sharing concerns with civic or social organisations. This too in a sense is a way of corroborating information externally and is a strategy employed by roughly one in five people (18%) when they notice differences in the way the same or related information is portrayed by different sources, and in particular by men (21%), young people (20-22%) and those with the lowest levels of educational attainment (23-31%). The low overall use of this strategy compared to the other strategies (77% and 61% respectively) probably reflects the existence of a threshold for when differences become sufficiently important to merit attention from civic or social organisations presumably expected to act on behalf of the petitioner in some way or form. Similar shares of online and offline respondents appear to employ this strategy (19%).

Figure 0-31 Share of individuals who ignores or disregards differences when they notice differences in the way the same or related information is portrayed by different sources
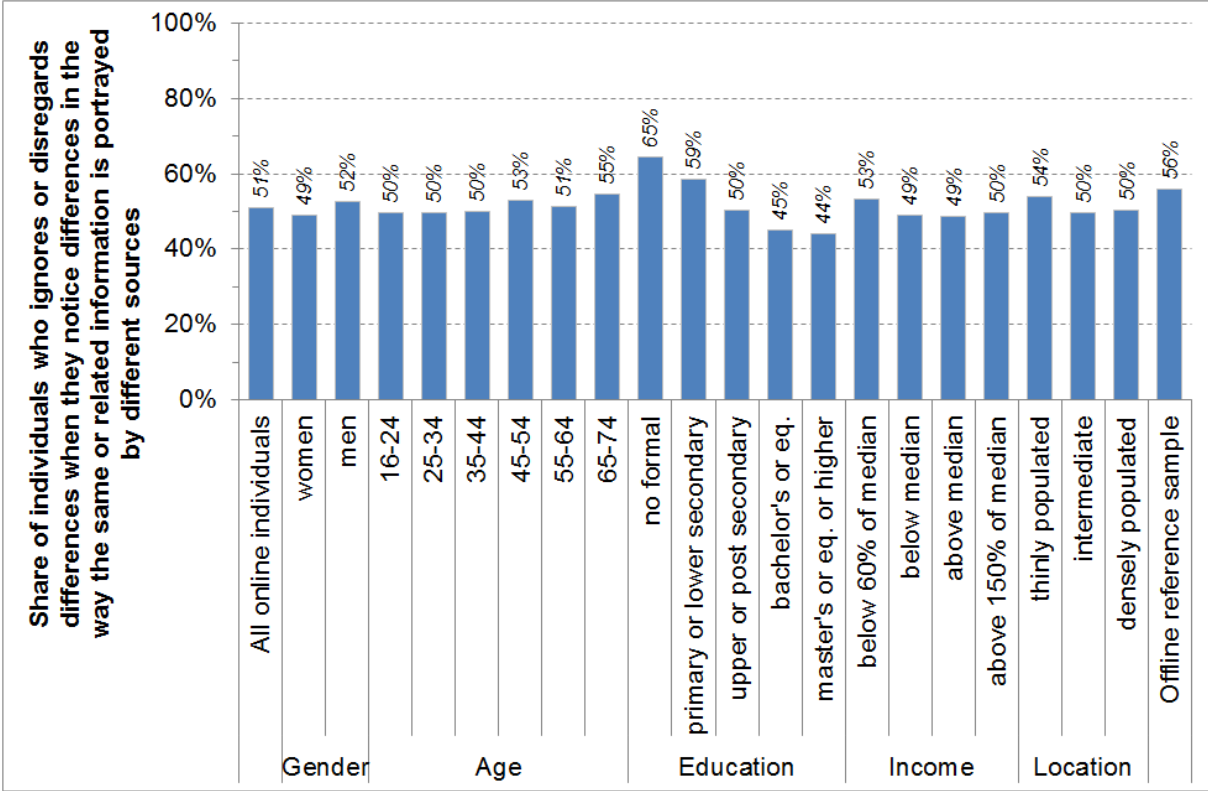
In contrast, the essential passive strategy for managing irregularities involves simply doing nothing – deliberately ignoring or disregarding any irregularities. This is a strategy employed by approximately one in two people (51%) when they notice differences in the way the same or related information is portrayed by different sources, and in particular it seems, it is a strategy employed by those with the lowest levels of educational attainment (59-65%). The relative prevalence of this strategy across gender and age groups may reflect a basic necessity for filtering out the most trivial and/or irrelevant differences so as not to go mad or suffer from information overload. Like asking friends and family members for their opinion, this is a strategy, which offline respondents appear to employ more than online respondents (56%).

Figure 0-32 Share of individuals who usually only consults one source of information
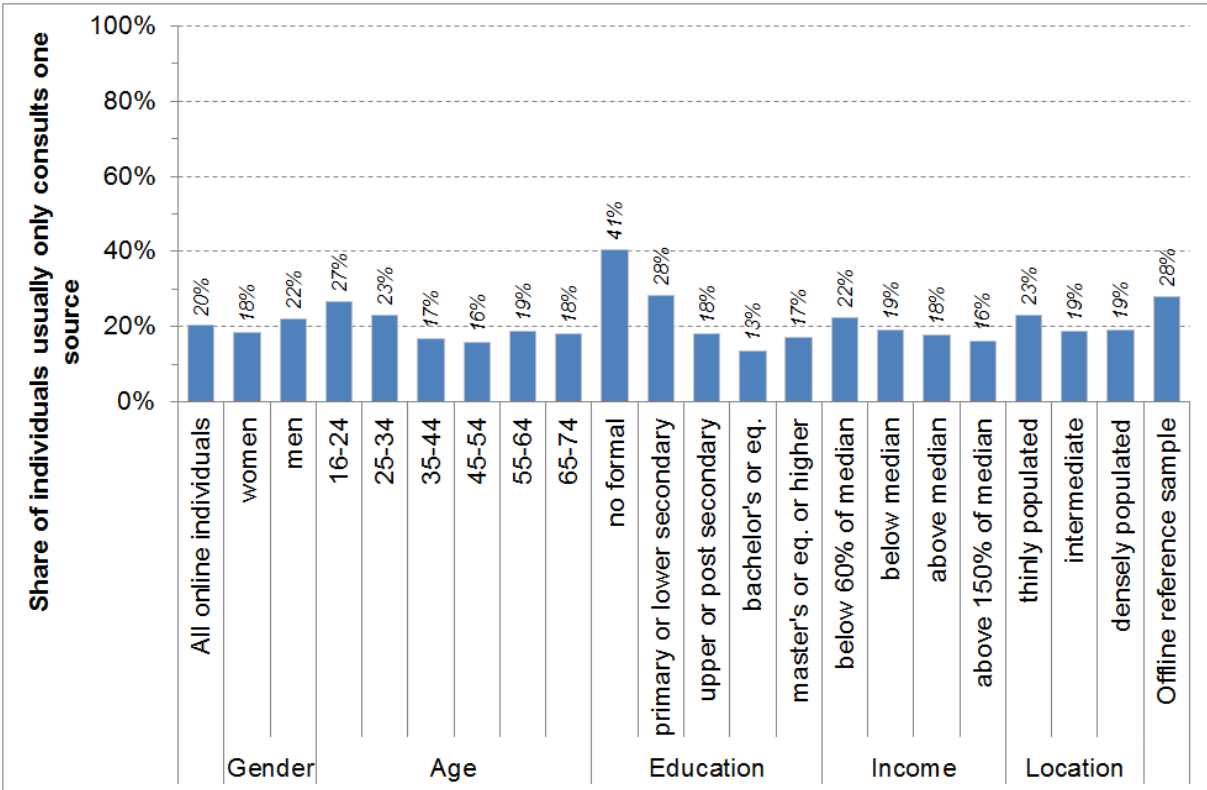
Another conceivable passive strategy for managing irregularities involves relying on one source only and not bothering with contrasting views. Like the strategy of sharing concerns with social or civic organisations (18%), this is a strategy employed by only one in five people (20%) when they notice differences in the way the same or related information is portrayed by different sources. However, this strategy too is a strategy most employed by those with the lowest levels of educational attainment (28-41%) as well as by the youngest (27%) and the poorest (22%). Furthermore, this also is a strategy that appears to be employed more by offline respondents (28%).

In addition to the active and passive strategies described above, a third alternative type of strategy for managing irregularities logically seems to exist in between, namely to believe a little of each based on general knowledge about the sources. Figuratively, this is a sort of internal triangulating with input, for instance, about who tends to be left and right or play things up or down. Approximately three in four people (74%) employ this strategy when they notice differences in the way the same or related information is portrayed by different sources, and in particular the oldest (84%) – perhaps because it is a low demand, experience-based strategy. In addition, this strategy seems ideally suited to quickly manage less important daily information flows. It does not appear to be a strategy employed much by offline respondents, however.

Communicative abilities

Content creation

Figure 0-34 Share of individuals who has written a piece of news or a magazine article in the last year or prefer not to answer
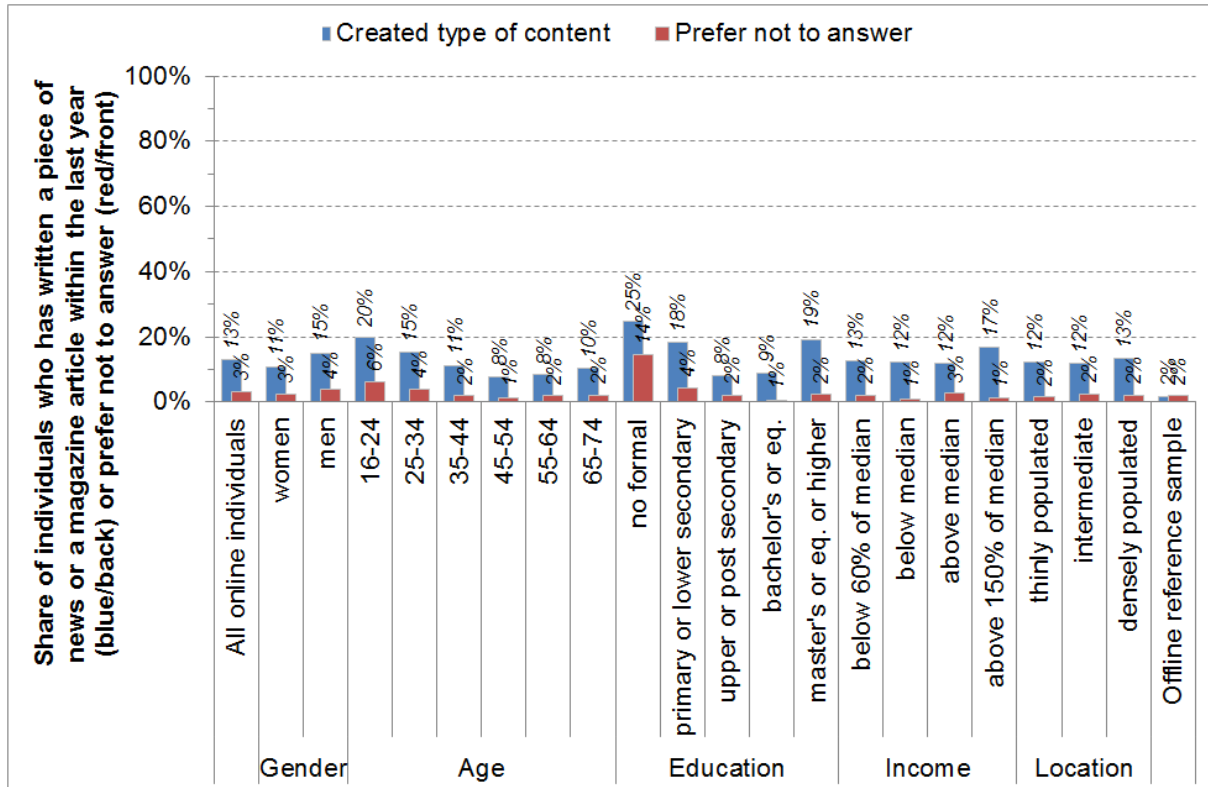
About one in ten people (13%) has written a piece of news or a magazine article in the last year with noticeable variations across age, education and income. On the one hand, substantially higher shares have written a piece of news or a magazine article in the last year among the youngest (20%) and those with the lowest levels of educational attainment (18-25%), and on the other hand, higher shares also are found among the top educational and income categories (19% and 17% respectively). The former pattern to some extent may reflect recent school activity, but the majority of people in the youngest age group formally would be enrolled in upper or post-secondary or tertiary education if still in school, and among this educational category the share of news creators is comparatively low (8%). Accordingly, the former pattern really may reflect two divergent patterns, namely a general tendency for young people to be commentators on the Internet and a tendency for some people with a lower educational background to quickly become agitated or indignant about matters of interest as tentatively suggested in relation to use of the strategy of sharing concerns with civic and social organisations. Meanwhile, the latter pattern of high shares of news creators among the top educational and income categories simply may reflect work-related activities feeding into the news industry, but it also may reflect higher engagement in local civic, cultural and political activities. Among offline respondents practically no one appears to have written a piece of news or a magazine article in the last year (2%).

Figure 0-35 Share of individuals who has written a letter to a newspaper in the last year or prefer not to answer
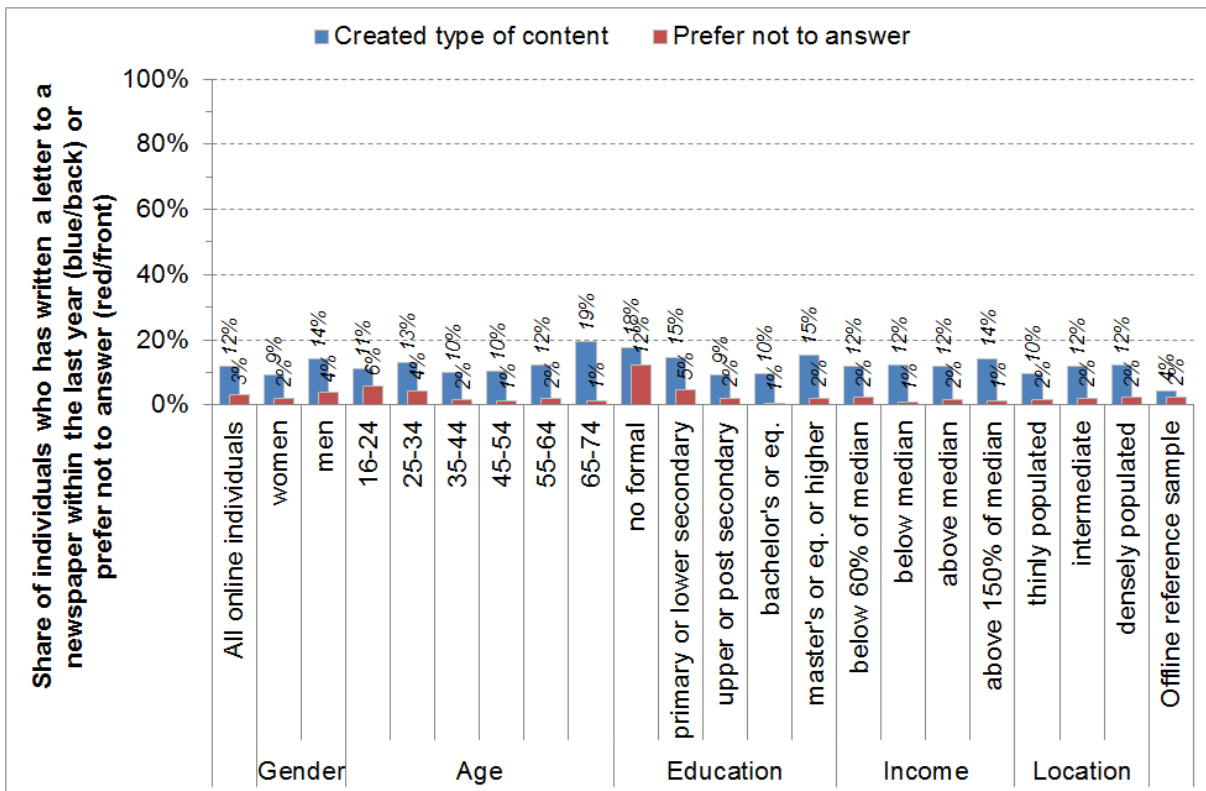
Approximately the same share of individuals (12%) has written a letter to a newspaper in the last year as has written a piece of news or a magazine article (13%). However, variation across age groups runs in the opposite direction as the highest share is found among the oldest (19%) and not the youngest (11-13%). In contrast, the directional pattern across educational levels remains largely unchanged with the highest shares among those with the lowest levels of educational attainment (15-18%) followed by those with the highest levels of educational attainment (15%). Both patterns seem to corroborate the proposed explanations above. Thus, the changing age pattern may reflect that young people do not as much write letters to newspapers as maybe comment on their websites or forward them an e-mail (in which case it becomes a question of whether e-mails are letters) whereas older people presumably would have time to engage in such content creation and arguably have a generational preference too for writing in hand/printing and mailing rather than e-mailing. Regarding the observed educational patterns, the same explanations appear valid once again, namely social indignation on the one hand, and higher interest for local civic, cultural and political events, on the other. Again, offline respondents practically appear not to engage in this type of content creation (4%).

Slightly more people have created written literature of any kind in the last year (16%) than have written a piece of news or a magazine article (13%) or a letter to a newspaper (12%), but the content category is also much broader including everything from books to essays and poems and beyond. By far the highest share of written literature creators is found among the youngest (32%), but variation also exists across educational and income levels following the same directional pattern as previously. The latter patterns put the proposed explanations for the observed variation above somewhat to question as writing literature would appear to be less straightforwardly associable with the indignation and local engagement envisioned in those explanations. Also among offline respondents do slightly more people appear to have created some kind of written literature (7%).

A similar share of people has created video or audio material of any kind in the last year (17%) as have created written literature (16%). Again by far the highest share of video or audio material creators is found among the youngest (29%) whereas the education and income patterns are less pronounced, especially at the top end. However, as a new wrinkle substantially more men (22%) appear to be creators of video or audio material than women (13%). This pattern is slightly surprising giving the inclusion of songs in the content category, but possibly the technical aspects of actually recording any song material may explain this difference (note that a substantial gender difference also was noted in reading abilities likely due to the inclusion of the word technical in the question). A similar share of people as has created some kind of written literature likewise has created some kind video or audio material among offline respondents (9%).

Citizen participation

Two in five people (40%) have contacted a politician or a political party in the last year to voice their opinion with noticeable variations across gender, age and education. The highest shares are found among the oldest age groups where at least half of all individuals (50-57%) have voiced their opinion in this way. High shares also are found among men (43%) and among those with lowest and highest levels of educational attainment (51% and 46% respectively). Interestingly, the directional pattern across gender and education bears some resemblance to the observed patterns in individuals who share their concerns with civic or social organisation when they notice differences in the way the same or related information is portrayed by different sources as well as in individuals who create letters to newspapers. This tentatively suggests that the tendency to contact a politician or a political party equally may be impacted, on the one hand, by engagement in local civic, cultural and political events, and, on the other, and perhaps more surprisingly, by inability to personally manage less clear-cut situations and media images. Just 4% of offline respondents appear to have voiced their opinion in this way in the last year.

Figure 0-39 Share of individuals who has donated money to a civic or political cause in the last year or prefer not to answer
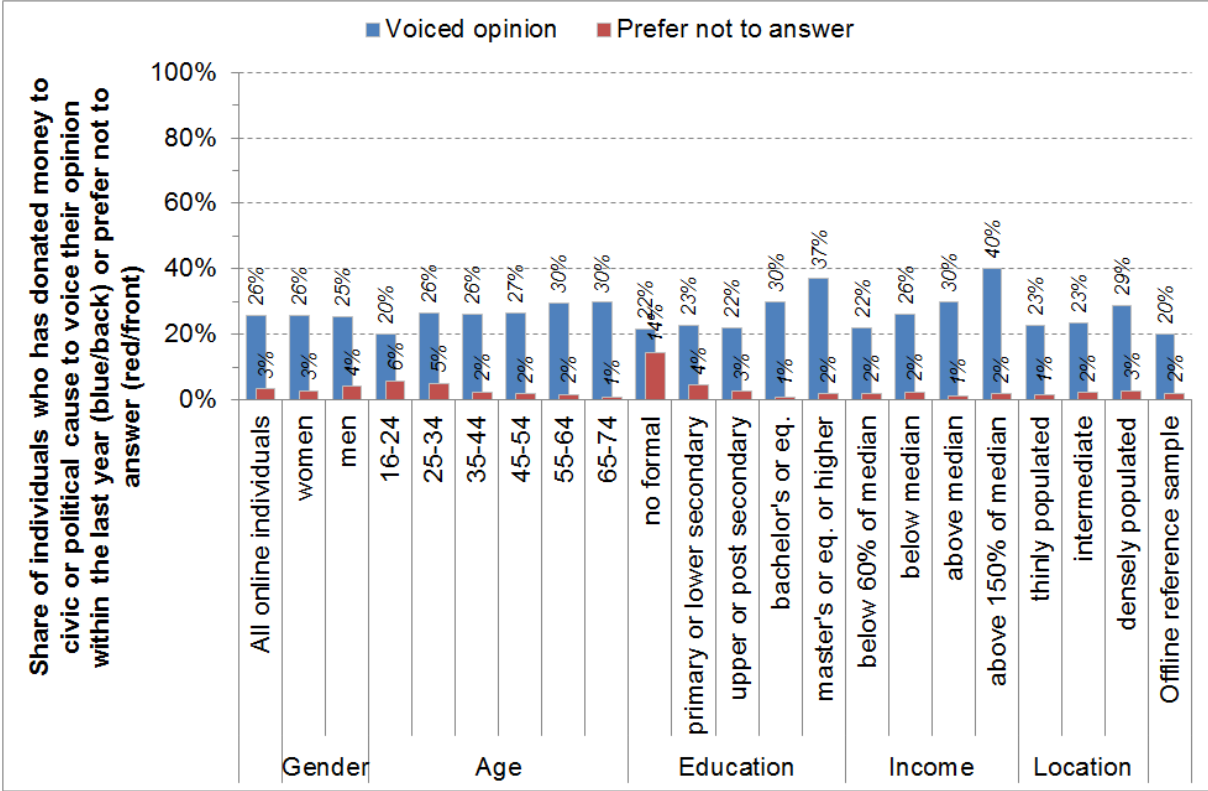
Only one in four people (26%) has donated money to a civic or political cause in the last year to voice their opinion. This is significantly less than the share of individuals who has contacted a politician or a political party (40%), which may reflect the economic cost involved in this type of civic participation. Such an interpretation is corroborated by the variation across education and income with the highest shares among those with the highest levels of educational attainment (37%) and the most affluent (40%). The lowest share is found among the very youngest, slightly below all other age groups (20%). A slightly lower share who has voiced their opinion in this way also is found among the offline respondents (20%).
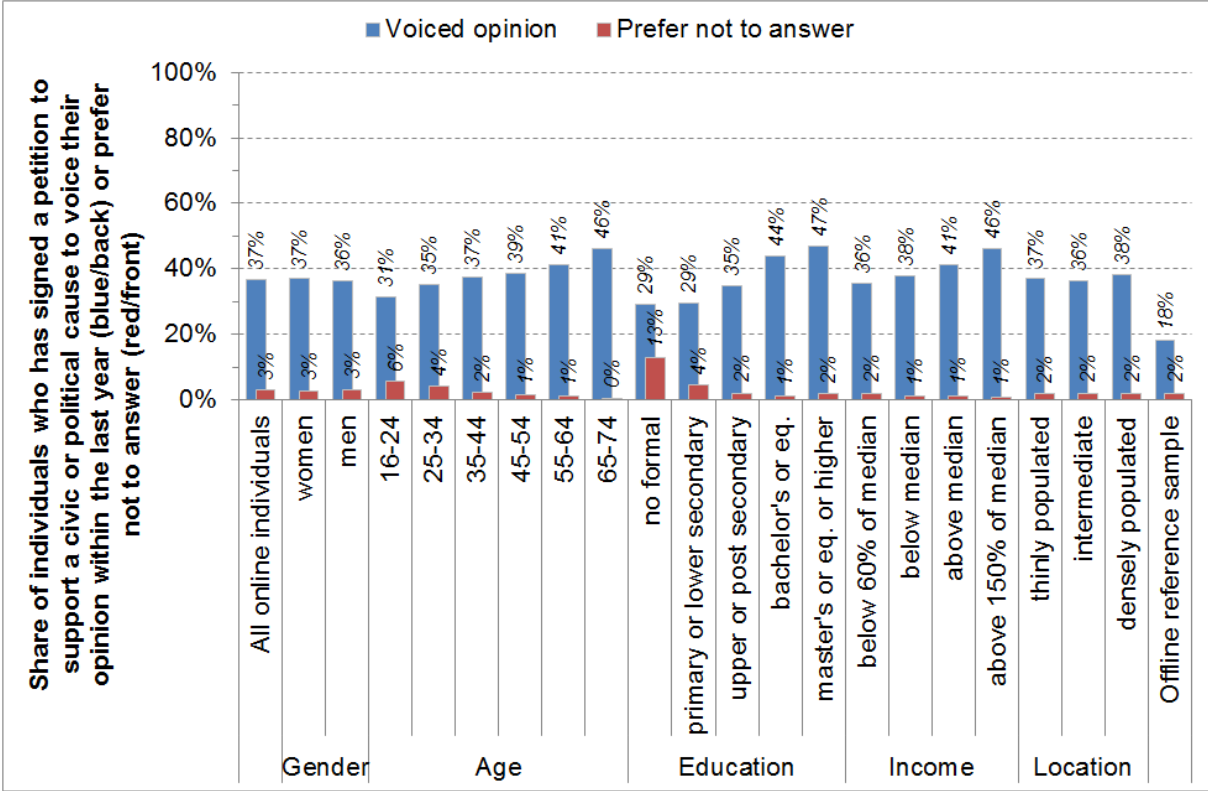
In continuation of the above ruminations about the possible impact of economic costs on civic participation, almost as many people have signed a petition to support a civic or political cause in the last year (37%) as have contacted a politician or a political party (40%). However, the directional pattern is somewhat different with practically no gender difference and a clearer relationship across age, education and income. The highest shares are found among the oldest (46%), those with the highest levels of educational attainment (47%) and the most affluent (46%). A substantially lower share of offline respondents appear to have voiced their opinion in this way (18%).

Then again, fewer people have taken part in a public, peaceful demonstration in the last year to voice their opinion (14%) than have even donated money to a civic or political cause (26%). This would seem initially to run against the notion a negative impact of economic costs on civic participation, but arguably there are fewer opportunities for participating in this way as well as a potential social cost associated with openly showing support that is not incurred by either contacting a political or a political party or by signing a petition. The highest shares of individuals who have taken part in a public, peaceful demonstration are found among men (17%), the youngest (18%) and among those with lowest and the highest levels of educational attainment (24% and 19% respectively) in the u-shaped pattern also observed in relation to contacting a politician or a political party. Approximately the same share of offline respondents as online respondents appear to has voiced their opinion in this particular way (12%).

Finally, about three in ten people (28%) have commented on a political or civic issue in a blog post, on Twitter or on a social networking site in the last year to voice their opinion. This is approximately the same as have donated money to civic or political cause (26%), again seemingly running contrary to the argument about the impact of economic (or social) costs on citizen participation. However, in this case the newness of the phenomena may explain part of the lower frequency rates although commenting online also could be perceived of as a relatively low threshold activity, which rather should result in higher frequency rates. The highest shares are found among men (32%), the youngest (29-32%) and the most affluent (36%). Not surprisingly practically noone among the offline respondents has voiced their opinion online (4%).

Annex F Tentative country media literacy scores

This annex presents the individual country media literacy scores derived through extrapolation of survey results according to the gender, age and educational composition of national populations aged 16-74. As the variation in survey scores accounted for by these socio-economic and demographic characteristics is relatively limited, these scores should be considered very tentative and interpreted with much caution until actual surveys have been implemented in each country.

In addition, to the tentative country media literacy scores, this annex also presents some supplemental data on Internet use that may be used to complement the scores, which primarily reflect media use more broadly (e.g., television, radio, newspapers and books). The Internet use data are collected from the Eurostat Community survey on Internet usage in households and by individuals, 2010 edition, except for the computer skills data collected from the 2009 edition (questions regarding computer skills were not included in the 2010 edition, but are planned to reappear in the 2011 edition).

All percentages refer to shares of all individuals aged 16-74 unless otherwise noted.

Austria (AT), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	24%	49%	27%	13	16%	51%	33%	14
Critical understanding	31%	40%	28%	13	29%	41%	30%	11
Communicative abilities	71%	17%	12%	20	68%	18%	13%	27

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	46%	35%	19%	50%	31%	38%	46%	15%
Critical understanding	29%	46%	24%	30%	41%	29%	38%	36%	26%
Communicative abilities	45%	29%	27%	73%	16%	11%	81%	12%	7%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	74%	95%	92%	86%	77%	53%	28%

Basic computer skills	13%	11%	12%	14%	16%	14%	9%
Medium computer skills	29%	35%	35%	34%	30%	22%	9%
Advanced computer skills	29%	51%	42%	33%	25%	16%	4%
Basic Internet skills	38%	25%	34%	47%	52%	37%	22%
Medium Internet skills	31%	56%	47%	35%	22%	15%	7%
Advanced Internet skills	6%	14%	11%	5%	3%	:	:

Reading news	43%	51%	58%	50%	46%	30%	15%
Purchasing goods or services (in last 12 months)	42%	51%	67%	53%	38%	25%	10%
Banking	38%	37%	63%	48%	37%	22%	10%
Interacting with public authorities	39%	38%	57%	51%	40%	28%	11%

Uploading self-created content to any website to be shared	20%	39%	30%	20%	14%	9%	4%
Posting messages to social media sites or instant messaging	27%	69%	45%	23%	15%	8%	3%

Belgium (BE), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	25%	47%	28%	11	17%	50%	34%	13
Critical understanding	31%	40%	29%	11	31%	40%	29%	18
Communicative abilities	69%	17%	14%	8	67%	18%	15%	9

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	36%	19%	48%	33%	39%	45%	16%
Critical understanding	29%	47%	24%	30%	41%	29%	36%	35%	29%
Communicative abilities	44%	28%	28%	71%	16%	14%	78%	15%	8%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	78%	97%	93%	90%	75%	63%	35%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	18%	21%	18%	21%	19%	16%	11%
Medium computer skills	27%	44%	34%	31%	22%	16%	8%
Advanced computer skills	18%	26%	29%	19%	18%	10%	3%
Basic Internet skills	39%	30%	33%	49%	49%	41%	26%
Medium Internet skills	30%	47%	45%	33%	25%	19%	8%
Advanced Internet skills	8%	18%	15%	7%	4%	2%	0%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	38%	40%	49%	44%	34%	35%	18%
Purchasing goods or services (in last 12 months)	38%	42%	58%	49%	37%	24%	11%
Banking	51%	44%	73%	65%	50%	40%	22%
Interacting with public authorities	32%	27%	45%	42%	32%	25%	13%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	18%	33%	26%	19%	13%	9%	4%
Posting messages to social media sites or instant messaging	30%	68%	46%	29%	17%	13%	5%

Bulgaria (BG), Cluster 2b

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	36%	45%	20%	26	17%	51%	32%	24
Critical understanding	36%	40%	24%	27	31%	40%	29%	21
Communicative abilities	75%	13%	11%	29	68%	18%	14%	25

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	24%	45%	31%	31%	47%	22%	50%	40%	10%
Critical understanding	38%	42%	20%	34%	44%	23%	43%	33%	24%
Communicative abilities	51%	26%	24%	77%	12%	11%	86%	9%	4%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	43%	78%	62%	52%	39%	19%	3%

Basic computer skills	11%	18%	16%	14%	11%	5%	1%
Medium computer skills	18%	36%	27%	18%	14%	8%	2%
Advanced computer skills	7%	15%	13%	8%	5%	2%	0%
Basic Internet skills	21%	25%	25%	31%	24%	13%	3%
Medium Internet skills	18%	36%	29%	19%	15%	7%	1%
Advanced Internet skills	7%	20%	13%	7%	3%	1%	:

Reading news	20%	29%	31%	25%	19%	10%	2%
Purchasing goods or services (in last 12 months)	5%	9%	11%	6%	3%	1%	:
Banking	2%	1%	5%	4%	2%	1%	:
Interacting with public authorities	15%	21%	23%	19%	16%	8%	1%

Uploading self-created content to any website to be shared	12%	33%	22%	11%	5%	2%	:
Posting messages to social media sites or instant messaging	24%	57%	40%	24%	15%	6%	1%

Cyprus (CY), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	33%	45%	22%	24	16%	50%	34%	10
Critical understanding	33%	41%	26%	20	31%	40%	29%	17
Communicative abilities	71%	15%	13%	18	67%	19%	15%	12

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	20%	45%	35%	29%	46%	25%	53%	38%	8%
Critical understanding	31%	45%	24%	32%	44%	25%	40%	33%	27%
Communicative abilities	46%	28%	26%	75%	13%	12%	83%	12%	5%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	52%	90%	71%	58%	39%	19%	7%

Basic computer skills	7%	8%	9%	7%	6%	5%	2%
Medium computer skills	16%	28%	21%	19%	12%	9%	5%
Advanced computer skills	29%	56%	44%	32%	18%	7%	3%
Basic Internet skills	24%	24%	30%	35%	25%	12%	6%
Medium Internet skills	24%	47%	35%	21%	15%	7%	3%
Advanced Internet skills	6%	21%	9%	4%	1%	0%	0%

Reading news	29%	40%	44%	35%	22%	12%	3%
Purchasing goods or services (in last 12 months)	18%	28%	31%	20%	9%	6%	3%
Banking	17%	13%	31%	25%	14%	7%	4%
Interacting with public authorities	22%	20%	37%	28%	19%	10%	3%

Uploading self-created content to any website to be shared	19%	54%	28%	13%	5%	2%	1%
Posting messages to social media sites or instant messaging	25%	68%	35%	17%	8%	3%	0%

Czech Republic (CZ), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	27%	48%	25%	16	16%	52%	32%	20
Critical understanding	32%	41%	27%	19	29%	41%	30%	10
Communicative abilities	73%	16%	12%	24	69%	18%	13%	29

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	20%	45%	35%	22%	50%	28%	39%	46%	15%
Critical understanding	31%	47%	23%	30%	42%	27%	41%	35%	24%
Communicative abilities	44%	28%	28%	75%	15%	11%	85%	9%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	66%	92%	83%	80%	66%	42%	19%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	14%	14%	16%	20%	14%	9%	6%
Medium computer skills	20%	32%	25%	22%	19%	15%	5%
Advanced computer skills	19%	41%	27%	19%	13%	8%	3%
Basic Internet skills	31%	15%	30%	42%	39%	34%	17%
Medium Internet skills	32%	59%	46%	35%	26%	14%	8%
Advanced Internet skills	7%	21%	12%	5%	3%	1%	:

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	44%	60%	57%	53%	43%	27%	13%
Purchasing goods or services (in last 12 months)	27%	39%	44%	35%	22%	10%	4%
Banking	23%	17%	36%	33%	24%	11%	3%
Interacting with public authorities	17%	11%	25%	24%	20%	11%	4%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	6%	20%	10%	5%	2%	1%	:
Posting messages to social media sites or instant messaging	26%	70%	40%	22%	12%	5%	3%

Denmark (DK), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	21%	48%	30%	7	17%	50%	33%	21
Critical understanding	31%	40%	29%	8	31%	41%	29%	20
Communicative abilities	68%	17%	15%	5	67%	18%	15%	4

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	44%	37%	16%	49%	35%	31%	49%	20%
Critical understanding	29%	50%	21%	30%	40%	30%	35%	37%	28%
Communicative abilities	41%	27%	32%	70%	16%	14%	77%	15%	9%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	88%	98%	97%	97%	92%	80%	56%

Basic computer skills	15%	7%	11%	15%	16%	21%	17%
Medium computer skills	35%	46%	37%	37%	35%	34%	20%
Advanced computer skills	31%	45%	44%	36%	29%	17%	9%
Basic Internet skills	36%	13%	17%	36%	48%	51%	46%
Medium Internet skills	40%	59%	58%	47%	37%	27%	10%
Advanced Internet skills	11%	27%	20%	13%	6%	2%	1%

Reading news	63%	62%	74%	73%	69%	56%	38%
Purchasing goods or services (in last 12 months)	68%	80%	84%	79%	70%	54%	29%
Banking	71%	68%	87%	84%	74%	62%	40%
Interacting with public authorities	72%	63%	85%	86%	79%	68%	43%

Uploading self-created content to any website to be shared	37%	73%	56%	41%	27%	18%	8%
Posting messages to social media sites or instant messaging	45%	84%	68%	52%	34%	22%	8%

Estonia (EE), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	24%	48%	28%	10	15%	51%	33%	6
Critical understanding	31%	41%	29%	9	28%	41%	31%	2
Communicative abilities	70%	17%	13%	11	66%	19%	15%	11

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	36%	19%	49%	32%	38%	46%	16%
Critical understanding	28%	47%	24%	28%	42%	30%	38%	35%	26%
Communicative abilities	44%	28%	27%	72%	16%	12%	82%	11%	7%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	74%	98%	96%	90%	71%	47%	24%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	10%	10%	10%	13%	11%	8%	:
Medium computer skills	20%	28%	28%	25%	16%	14%	5%
Advanced computer skills	28%	54%	45%	29%	19%	10%	:
Basic Internet skills	23%	9%	15%	35%	35%	26%	16%
Medium Internet skills	32%	44%	51%	38%	27%	17%	5%
Advanced Internet skills	17%	45%	28%	12%	7%	:	:

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	66%	84%	87%	80%	63%	43%	20%
Purchasing goods or services (in last 12 months)	17%	23%	29%	25%	12%	5%	:
Banking	65%	74%	92%	83%	65%	41%	18%
Interacting with public authorities	48%	52%	71%	64%	48%	28%	10%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	32%	73%	57%	25%	14%	8%	:
Posting messages to social media sites or instant messaging	35%	81%	59%	32%	17%	8%	:

Finland (FI), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	21%	48%	30%	6	16%	51%	33%	7
Critical understanding	29%	40%	31%	4	29%	41%	30%	7
Communicative abilities	68%	18%	14%	6	66%	19%	15%	6

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	37%	15%	50%	36%	32%	48%	19%
Critical understanding	28%	49%	22%	27%	41%	32%	34%	36%	30%
Communicative abilities	41%	28%	31%	69%	17%	13%	76%	15%	9%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	86%	99%	100%	96%	93%	75%	43%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	18%	12%	11%	17%	23%	24%	15%
Medium computer skills	26%	35%	31%	31%	29%	20%	11%
Advanced computer skills	33%	51%	55%	42%	31%	15%	5%
Basic Internet skills	48%	33%	30%	58%	65%	58%	38%
Medium Internet skills	33%	55%	55%	35%	26%	18%	6%
Advanced Internet skills	5%	11%	15%	4%	2%	1%	0%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	74%	92%	92%	85%	74%	61%	35%
Purchasing goods or services (in last 12 months)	59%	71%	86%	76%	62%	37%	15%
Banking	76%	72%	98%	91%	83%	66%	36%
Interacting with public authorities	58%	60%	77%	72%	62%	45%	24%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	15%	34%	25%	18%	8%	4%	3%
Posting messages to social media sites or instant messaging	42%	84%	74%	48%	29%	15%	5%

France (FR), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	27%	45%	28%	14	18%	48%	33%	26
Critical understanding	34%	39%	27%	22	35%	39%	26%	27
Communicative abilities	70%	16%	14%	9	67%	17%	16%	10

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	44%	37%	20%	47%	33%	42%	43%	15%
Critical understanding	28%	48%	24%	33%	40%	27%	40%	33%	26%
Communicative abilities	44%	27%	29%	70%	14%	15%	79%	15%	7%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	79%	98%	96%	85%	83%	63%	39%

Basic computer skills	10%	:	5%	8%	12%	15%	15%
Medium computer skills	35%	32%	43%	46%	39%	29%	11%
Advanced computer skills	30%	65%	46%	34%	22%	13%	4%
Basic Internet skills	31%	10%	19%	39%	41%	40%	25%
Medium Internet skills	32%	38%	49%	35%	34%	22%	14%
Advanced Internet skills	18%	52%	30%	15%	10%	4%	:

Reading news	21%	27%	31%	21%	21%	16%	11%
Purchasing goods or services (in last 12 months)	56%	67%	77%	64%	61%	39%	19%
Banking	53%	54%	75%	59%	56%	41%	24%
Interacting with public authorities	37%	43%	56%	44%	36%	24%	15%

Uploading self-created content to any website to be shared	27%	55%	40%	24%	21%	17%	8%
Posting messages to social media sites or instant messaging	32%	80%	54%	25%	23%	11%	7%

Germany (DE), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	23%	49%	29%	9	16%	51%	33%	15
Critical understanding	31%	40%	29%	10	29%	41%	30%	12
Communicative abilities	70%	17%	13%	14	68%	18%	14%	20

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	44%	36%	17%	50%	33%	34%	48%	18%
Critical understanding	29%	49%	23%	29%	41%	30%	37%	36%	27%
Communicative abilities	43%	28%	30%	72%	16%	12%	80%	13%	8%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	80%	98%	96%	93%	84%	65%	41%

Basic computer skills	16%	11%	12%	16%	19%	21%	17%
Medium computer skills	32%	46%	33%	37%	33%	27%	18%
Advanced computer skills	28%	39%	48%	32%	25%	16%	7%
Basic Internet skills	41%	16%	29%	51%	54%	50%	34%
Medium Internet skills	33%	62%	51%	36%	28%	17%	9%
Advanced Internet skills	8%	21%	18%	8%	4%	:	:

Reading news	42%	42%	58%	51%	44%	33%	22%
Purchasing goods or services (in last 12 months)	59%	70%	85%	76%	61%	40%	22%
Banking	43%	38%	69%	55%	42%	30%	18%
Interacting with public authorities	37%	32%	55%	47%	41%	31%	14%

Uploading self-created content to any website to be shared	22%	44%	34%	23%	15%	12%	7%
Posting messages to social media sites or instant messaging	33%	87%	59%	31%	19%	9%	4%

Greece (GR), Cluster 2b

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	37%	43%	20%	28	17%	50%	33%	22
Critical understanding	35%	39%	25%	24	33%	39%	28%	23
Communicative abilities	74%	14%	12%	26	68%	18%	14%	21

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	21%	46%	33%	30%	46%	23%	57%	36%	6%
Critical understanding	33%	44%	23%	34%	43%	23%	40%	33%	27%
Communicative abilities	47%	28%	25%	76%	12%	12%	83%	12%	4%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	44%	86%	68%	54%	35%	15%	4%

Basic computer skills	13%	20%	17%	14%	15%	6%	1%
Medium computer skills	15%	31%	23%	18%	12%	5%	1%
Advanced computer skills	13%	27%	21%	16%	8%	3%	0%
Basic Internet skills	25%	32%	35%	33%	25%	13%	4%
Medium Internet skills	18%	46%	29%	20%	10%	4%	1%
Advanced Internet skills	4%	11%	7%	3%	3%	0%	0%

Reading news	25%	40%	40%	33%	23%	8%	3%
Purchasing goods or services (in last 12 months)	12%	19%	21%	15%	11%	4%	1%
Banking	6%	5%	10%	8%	6%	3%	1%
Interacting with public authorities	13%	12%	21%	20%	14%	6%	1%

Uploading self-created content to any website to be shared	10%	26%	16%	10%	4%	1%	0%
Posting messages to social media sites or instant messaging	21%	62%	36%	19%	8%	2%	1%

Hungary (HU), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	31%	45%	24%	22	18%	50%	33%	25
Critical understanding	35%	39%	26%	23	33%	40%	27%	25
Communicative abilities	73%	15%	12%	23	68%	17%	15%	19

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	21%	45%	34%	24%	48%	29%	48%	41%	11%
Critical understanding	32%	46%	22%	34%	41%	25%	38%	34%	27%
Communicative abilities	46%	27%	27%	74%	14%	13%	82%	12%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	62%	91%	80%	76%	63%	42%	13%

Basic computer skills	14%	9%	17%	21%	16%	15%	6%
Medium computer skills	22%	30%	30%	23%	24%	18%	5%
Advanced computer skills	27%	54%	39%	31%	20%	11%	2%
Basic Internet skills	24%	18%	25%	31%	28%	25%	10%
Medium Internet skills	31%	48%	42%	37%	28%	20%	7%
Advanced Internet skills	12%	27%	20%	12%	9%	3%	0%

Reading news	41%	55%	53%	50%	44%	28%	8%
Purchasing goods or services (in last 12 months)	18%	22%	31%	23%	18%	7%	2%
Banking	19%	17%	30%	26%	23%	11%	3%
Interacting with public authorities	28%	22%	36%	39%	37%	20%	5%

Uploading self-created content to any website to be shared	34%	66%	50%	38%	28%	15%	4%
Posting messages to social media sites or instant messaging	36%	72%	51%	39%	30%	16%	4%

Iceland (IS), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
19%	49%	33%	1	16%	50%	34%	4	19%
29%	41%	30%	5	29%	41%	30%	9	29%
65%	19%	16%	1	65%	19%	16%	1	65%

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	37%	15%	49%	36%	27%	51%	22%
Critical understanding	28%	49%	23%	28%	40%	32%	33%	37%	30%
Communicative abilities	42%	28%	30%	69%	17%	14%	74%	16%	10%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	93%	99%	99%	99%	95%	87%	64%

Basic computer skills	16%	11%	12%	15%	22%	21%	19%
Medium computer skills	36%	44%	36%	39%	34%	32%	16%
Advanced computer skills	32%	41%	45%	38%	27%	17%	:
Basic Internet skills	25%	10%	11%	25%	34%	43%	39%
Medium Internet skills	45%	44%	45%	53%	52%	40%	18%
Advanced Internet skills	23%	46%	42%	22%	10%	:	:

Reading news	88%	89%	91%	96%	90%	84%	58%
Purchasing goods or services (in last 12 months)	45%	48%	59%	55%	42%	31%	:
Banking	77%	82%	92%	87%	76%	64%	38%
Interacting with public authorities	77%	77%	86%	89%	77%	71%	42%

Uploading self-created content to any website to be shared	41%	72%	61%	42%	25%	16%	10%
Posting messages to social media sites or instant messaging	43%	76%	69%	42%	26%	13%	:

Ireland (IE), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	28%	45%	26%	18	17%	49%	34%	11
Critical understanding	32%	40%	28%	15	31%	40%	29%	19
Communicative abilities	71%	16%	13%	15	67%	18%	15%	8

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	20%	46%	34%	22%	47%	30%	46%	42%	12%
Critical understanding	32%	44%	24%	31%	41%	27%	37%	35%	28%
Communicative abilities	47%	28%	26%	72%	15%	13%	80%	14%	7%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	67%	88%	86%	75%	60%	40%	20%

Basic computer skills	12%	14%	12%	13%	13%	10%	6%
Medium computer skills	20%	27%	25%	21%	19%	13%	6%
Advanced computer skills	22%	33%	33%	25%	15%	8%	2%
Basic Internet skills	36%	33%	38%	44%	43%	30%	18%
Medium Internet skills	23%	41%	35%	24%	13%	7%	3%
Advanced Internet skills	5%	11%	9%	4%	1%	0%	0%

Reading news	21%	22%	31%	25%	16%	12%	4%
Purchasing goods or services (in last 12 months)	36%	38%	52%	45%	33%	18%	8%
Banking	34%	26%	52%	43%	28%	19%	6%
Interacting with public authorities	27%	20%	38%	38%	27%	16%	7%

Uploading self-created content to any website to be shared	14%	27%	23%	12%	7%	3%	1%
Posting messages to social media sites or instant messaging	25%	57%	40%	20%	9%	3%	1%

Italy (IT), Cluster 2b

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	35%	44%	20%	25	18%	50%	32%	27
Critical understanding	36%	39%	25%	26	35%	39%	26%	26
Communicative abilities	75%	14%	12%	28	69%	17%	14%	28

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	23%	45%	32%	28%	47%	25%	54%	38%	8%
Critical understanding	36%	44%	20%	36%	42%	22%	40%	33%	27%
Communicative abilities	47%	26%	27%	76%	13%	12%	82%	12%	5%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	51%	82%	70%	62%	50%	31%	11%

Basic computer skills	9%	9%	10%	11%	11%	9%	4%
Medium computer skills	18%	29%	23%	22%	20%	11%	3%
Advanced computer skills	23%	45%	37%	27%	18%	10%	3%
Basic Internet skills	20%	13%	18%	27%	29%	20%	8%
Medium Internet skills	23%	44%	35%	26%	19%	11%	3%
Advanced Internet skills	12%	28%	22%	12%	7%	3%	1%

Reading news	24%	36%	35%	29%	24%	16%	5%
Purchasing goods or services (in last 12 months)	15%	18%	24%	20%	14%	8%	2%
Banking	18%	11%	27%	26%	19%	12%	4%
Interacting with public authorities	17%	14%	23%	23%	22%	14%	4%

Uploading self-created content to any website to be shared	19%	50%	33%	18%	11%	6%	2%
Posting messages to social media sites or instant messaging	21%	59%	38%	21%	12%	5%	1%

Latvia (LV), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	26%	47%	26%	15	16%	51%	33%	9
Critical understanding	32%	41%	27%	17	28%	41%	30%	5
Communicative abilities	71%	16%	13%	16	67%	19%	14%	17

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	36%	22%	49%	30%	42%	44%	13%
Critical understanding	29%	47%	24%	29%	43%	28%	41%	34%	24%
Communicative abilities	44%	28%	28%	73%	15%	12%	85%	9%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	66%	96%	90%	81%	62%	35%	11%

Basic computer skills	11%	11%	15%	15%	12%	8%	3%
Medium computer skills	23%	41%	30%	26%	20%	13%	3%
Advanced computer skills	17%	38%	25%	15%	10%	4%	1%
Basic Internet skills	22%	12%	18%	32%	34%	24%	11%
Medium Internet skills	29%	36%	44%	37%	26%	15%	3%
Advanced Internet skills	19%	51%	31%	15%	6%	1%	0%

Reading news	51%	64%	70%	67%	50%	28%	10%
Purchasing goods or services (in last 12 months)	17%	24%	33%	21%	11%	5%	1%
Banking	47%	54%	75%	63%	47%	24%	6%
Interacting with public authorities	31%	41%	47%	40%	29%	15%	4%

Uploading self-created content to any website to be shared	38%	80%	62%	41%	20%	10%	1%
Posting messages to social media sites or instant messaging	28%	66%	45%	25%	13%	6%	1%

Lithuania (LT), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	29%	46%	25%	19	16%	51%	34%	3
Critical understanding	32%	41%	27%	16	28%	41%	31%	4
Communicative abilities	70%	16%	13%	12	67%	19%	14%	15

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	20%	45%	35%	25%	47%	28%	44%	43%	13%
Critical understanding	30%	46%	25%	29%	44%	27%	40%	34%	25%
Communicative abilities	46%	28%	26%	74%	14%	12%	84%	10%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	60%	94%	83%	68%	52%	30%	10%

Basic computer skills	8%	6%	11%	12%	10%	5%	3%
Medium computer skills	19%	29%	26%	22%	17%	8%	3%
Advanced computer skills	27%	61%	42%	22%	15%	8%	2%
Basic Internet skills	17%	9%	16%	27%	23%	19%	6%
Medium Internet skills	24%	31%	34%	28%	24%	13%	4%
Advanced Internet skills	23%	57%	38%	17%	8%	3%	1%

Reading news	52%	76%	73%	61%	46%	27%	9%
Purchasing goods or services (in last 12 months)	11%	18%	22%	11%	5%	3%	0%
Banking	37%	43%	62%	45%	33%	17%	5%
Interacting with public authorities	22%	26%	35%	25%	22%	10%	2%

Uploading self-created content to any website to be shared	28%	70%	43%	22%	12%	5%	2%
Posting messages to social media sites or instant messaging	41%	82%	65%	39%	25%	13%	4%

Luxembourg (LU), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	20%	48%	32%	3	16%	49%	34%	2
Critical understanding	29%	41%	30%	6	29%	41%	30%	8
Communicative abilities	66%	18%	16%	2	65%	18%	16%	2

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	44%	37%	16%	48%	36%	29%	50%	21%
Critical understanding	29%	49%	22%	29%	40%	31%	31%	38%	31%
Communicative abilities	42%	27%	31%	69%	17%	14%	73%	17%	10%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	90%	98%	100%	95%	87%	80%	64%

Basic computer skills	12%	7%	8%	11%	13%	15%	25%
Medium computer skills	31%	32%	37%	30%	36%	29%	15%
Advanced computer skills	42%	58%	51%	47%	36%	32%	13%
Basic Internet skills	37%	22%	30%	43%	44%	46%	38%
Medium Internet skills	40%	51%	49%	42%	36%	33%	22%
Advanced Internet skills	11%	27%	18%	8%	8%	2%	1%

Reading news	59%	60%	75%	62%	57%	53%	36%
Purchasing goods or services (in last 12 months)	60%	52%	80%	67%	62%	51%	26%
Banking	56%	35%	74%	69%	61%	45%	32%
Interacting with public authorities	55%	49%	70%	58%	57%	51%	23%

Uploading self-created content to any website to be shared	35%	59%	45%	35%	28%	21%	15%
Posting messages to social media sites or instant messaging	39%	73%	54%	33%	29%	21%	16%

Malta (MT), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	34%	43%	23%	23	19%	48%	32%	28
Critical understanding	36%	38%	26%	25	38%	38%	24%	28
Communicative abilities	72%	15%	13%	19	68%	17%	15%	16

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	18%	45%	36%	26%	47%	28%	56%	37%	7%
Critical understanding	28%	45%	28%	37%	40%	22%	40%	33%	27%
Communicative abilities	46%	29%	25%	73%	13%	14%	82%	14%	5%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	62%	99%	85%	76%	51%	32%	13%

Basic computer skills	12%	11%	18%	11%	13%	7%	16%
Medium computer skills	18%	33%	19%	25%	15%	8%	6%
Advanced computer skills	20%	48%	30%	23%	10%	4%	2%
Basic Internet skills	24%	17%	29%	39%	29%	17%	9%
Medium Internet skills	31%	59%	45%	35%	20%	14%	4%
Advanced Internet skills	7%	23%	11%	4%	2%	2%	1%

Reading news	40%	63%	52%	48%	34%	23%	8%
Purchasing goods or services (in last 12 months)	38%	67%	59%	46%	27%	13%	4%
Banking	38%	56%	61%	43%	30%	18%	6%
Interacting with public authorities	28%	36%	42%	38%	25%	14%	3%

Uploading self-created content to any website to be shared	12%	25%	20%	10%	6%	4%	1%
Posting messages to social media sites or instant messaging	31%	78%	49%	26%	13%	7%	1%

Netherlands (NL), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	21%	48%	31%	5	16%	50%	34%	8
Critical understanding	30%	40%	30%	7	30%	40%	30%	15
Communicative abilities	67%	18%	15%	4	66%	18%	15%	7

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	20%	45%	36%	16%	49%	36%	31%	49%	20%
Critical understanding	30%	47%	24%	29%	40%	31%	34%	36%	30%
Communicative abilities	45%	28%	27%	70%	16%	14%	75%	16%	9%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	90%	99%	100%	98%	94%	83%	56%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	13%	7%	8%	13%	16%	20%	17%
Medium computer skills	30%	43%	31%	30%	31%	26%	16%
Advanced computer skills	40%	49%	57%	50%	37%	26%	14%
Basic Internet skills	48%	25%	41%	53%	56%	61%	46%
Medium Internet skills	36%	62%	50%	39%	32%	20%	10%
Advanced Internet skills	6%	11%	9%	7%	6%	2%	1%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	48%	53%	63%	56%	48%	37%	20%
Purchasing goods or services (in last 12 months)	67%	77%	86%	81%	69%	51%	25%
Banking	77%	83%	92%	88%	79%	67%	41%
Interacting with public authorities	59%	50%	73%	68%	63%	53%	31%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	27%	56%	39%	26%	18%	12%	8%
Posting messages to social media sites or instant messaging	40%	87%	56%	37%	26%	19%	12%

Norway (NO), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	18%	49%	32%	2	16%	50%	34%	1
Critical understanding	28%	41%	31%	1	27%	41%	31%	1
Communicative abilities	66%	18%	15%	3	66%	19%	16%	3

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	44%	37%	14%	49%	37%	27%	52%	22%
Critical understanding	28%	49%	22%	27%	40%	33%	30%	39%	32%
Communicative abilities	41%	27%	31%	68%	18%	14%	74%	16%	10%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	93%	99%	100%	97%	97%	86%	63%

Basic computer skills	17%	8%	10%	16%	21%	22%	24%
Medium computer skills	30%	39%	29%	29%	29%	31%	20%
Advanced computer skills	38%	51%	57%	45%	32%	22%	12%
Basic Internet skills	36%	15%	28%	39%	47%	47%	38%
Medium Internet skills	43%	54%	57%	46%	42%	28%	20%
Advanced Internet skills	12%	30%	15%	11%	6%	4%	1%

Reading news	78%	77%	93%	84%	80%	69%	53%
Purchasing goods or services (in last 12 months)	71%	83%	90%	82%	71%	55%	27%
Banking	83%	79%	97%	91%	88%	77%	54%
Interacting with public authorities	68%	61%	85%	78%	75%	55%	41%

Uploading self-created content to any website to be shared	27%	55%	31%	24%	22%	14%	8%
Posting messages to social media sites or instant messaging	44%	79%	64%	46%	34%	17%	12%

Poland (PL), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	29%	47%	24%	21	16%	52%	32%	17
Critical understanding	33%	41%	26%	21	29%	41%	30%	13
Communicative abilities	72%	15%	12%	22	68%	19%	13%	24

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	46%	35%	25%	48%	27%	45%	43%	12%
Critical understanding	29%	47%	24%	30%	43%	27%	42%	34%	24%
Communicative abilities	44%	28%	28%	75%	14%	11%	85%	9%	5%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	59%	95%	84%	71%	50%	28%	10%

Basic computer skills	16%	20%	22%	22%	16%	10%	4%
Medium computer skills	19%	38%	29%	21%	14%	8%	2%
Advanced computer skills	14%	34%	24%	12%	6%	3%	:
Basic Internet skills	28%	23%	34%	41%	36%	21%	9%
Medium Internet skills	24%	47%	38%	27%	15%	10%	3%
Advanced Internet skills	9%	27%	17%	8%	2%	1%	:

Reading news	17%	26%	27%	20%	14%	9%	3%
Purchasing goods or services (in last 12 months)	29%	49%	50%	37%	18%	9%	3%
Banking	25%	26%	46%	36%	22%	11%	3%
Interacting with public authorities	21%	21%	37%	28%	19%	10%	3%

Uploading self-created content to any website to be shared	11%	33%	17%	9%	4%	2%	1%
Posting messages to social media sites or instant messaging	41%	89%	66%	45%	24%	12%	3%

Portugal (PT), Cluster 2b

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	37%	42%	21%	27	20%	48%	32%	29
Critical understanding	38%	38%	24%	29	39%	38%	23%	29
Communicative abilities	74%	14%	13%	25	68%	16%	16%	13

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	22%	44%	34%	29%	46%	24%	58%	35%	6%
Critical understanding	33%	46%	21%	39%	40%	20%	39%	33%	28%
Communicative abilities	47%	26%	27%	75%	12%	13%	82%	14%	5%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	51%	89%	79%	62%	41%	28%	10%

Basic computer skills	11%	9%	11%	13%	13%	12%	4%
Medium computer skills	16%	23%	25%	19%	13%	9%	4%
Advanced computer skills	27%	64%	47%	30%	16%	9%	:
Basic Internet skills	15%	8%	17%	21%	20%	15%	5%
Medium Internet skills	27%	50%	44%	34%	20%	13%	6%
Advanced Internet skills	11%	32%	22%	11%	4%	2%	:

Reading news	29%	48%	44%	36%	22%	16%	6%
Purchasing goods or services (in last 12 months)	15%	25%	30%	19%	9%	5%	2%
Banking	19%	21%	35%	28%	16%	12%	4%
Interacting with public authorities	23%	24%	39%	32%	22%	14%	5%

Uploading self-created content to any website to be shared	21%	61%	37%	20%	9%	5%	:
Posting messages to social media sites or instant messaging	35%	81%	61%	40%	22%	13%	5%

Romania (RO), Cluster 2b

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	39%	44%	17%	29	17%	51%	32%	23
Critical understanding	36%	42%	22%	28	32%	40%	28%	22
Communicative abilities	75%	14%	12%	27	68%	18%	14%	23

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	26%	46%	28%	36%	45%	19%	54%	38%	8%
Critical understanding	42%	41%	17%	35%	45%	20%	43%	33%	25%
Communicative abilities	50%	25%	24%	78%	11%	11%	86%	10%	4%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	36%	65%	52%	38%	28%	13%	3%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	17%	25%	23%	19%	14%	8%	2%
Medium computer skills	10%	22%	13%	10%	7%	4%	1%
Advanced computer skills	9%	21%	14%	8%	6%	2%	0%
Basic Internet skills	25%	36%	33%	31%	24%	13%	4%
Medium Internet skills	16%	33%	26%	14%	10%	4%	1%
Advanced Internet skills	1%	2%	1%	0%	0%	1%	:

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	22%	35%	35%	24%	17%	9%	2%
Purchasing goods or services (in last 12 months)	4%	6%	7%	3%	2%	1%	:
Banking	3%	2%	8%	4%	3%	1%	:
Interacting with public authorities	7%	5%	13%	9%	6%	3%	0%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	15%	35%	23%	13%	8%	4%	0%
Posting messages to social media sites or instant messaging	17%	39%	27%	14%	10%	3%	0%

Slovakia (SK), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	24%	48%	27%	12	16%	51%	33%	16
Critical understanding	31%	41%	28%	12	30%	41%	29%	16
Communicative abilities	71%	17%	13%	17	68%	19%	13%	26

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	36%	19%	51%	31%	42%	44%	14%
Critical understanding	29%	47%	24%	29%	41%	29%	39%	35%	26%
Communicative abilities	44%	28%	27%	74%	16%	11%	82%	12%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	76%	98%	90%	87%	81%	46%	18%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	17%	12%	21%	20%	24%	15%	6%
Medium computer skills	33%	48%	38%	36%	36%	17%	8%
Advanced computer skills	21%	36%	27%	25%	16%	5%	2%
Basic Internet skills	29%	15%	27%	39%	42%	30%	15%
Medium Internet skills	41%	59%	53%	45%	39%	21%	8%
Advanced Internet skills	9%	24%	14%	7%	4%	1%	0%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	37%	44%	42%	43%	42%	25%	7%
Purchasing goods or services (in last 12 months)	33%	42%	49%	41%	30%	14%	4%
Banking	33%	24%	47%	48%	39%	15%	2%
Interacting with public authorities	35%	40%	40%	46%	43%	18%	5%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	9%	22%	13%	6%	5%	3%	1%
Posting messages to social media sites or instant messaging	39%	83%	54%	35%	27%	9%	2%

Slovenia (SI), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	27%	47%	26%	17	16%	51%	33%	18
Critical understanding	31%	40%	28%	14	30%	41%	30%	14
Communicative abilities	72%	16%	12%	21	68%	18%	13%	22

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	46%	35%	21%	50%	30%	43%	43%	13%
Critical understanding	29%	48%	23%	30%	42%	29%	39%	34%	26%
Communicative abilities	43%	28%	29%	73%	16%	11%	83%	11%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	68%	97%	93%	83%	64%	39%	12%

Basic computer skills	12%	7%	9%	15%	18%	13%	5%
Medium computer skills	21%	26%	27%	29%	20%	13%	4%
Advanced computer skills	28%	64%	48%	29%	18%	6%	1%
Basic Internet skills	30%	13%	29%	42%	43%	28%	8%
Medium Internet skills	28%	51%	44%	30%	17%	13%	4%
Advanced Internet skills	12%	33%	22%	11%	6%	2%	1%

Reading news	41%	59%	58%	50%	39%	22%	7%
Purchasing goods or services (in last 12 months)	27%	39%	44%	35%	19%	12%	3%
Banking	29%	15%	47%	41%	30%	18%	5%
Interacting with public authorities	40%	54%	58%	50%	38%	24%	6%

Uploading self-created content to any website to be shared	29%	65%	48%	30%	13%	11%	2%
Posting messages to social media sites or instant messaging	36%	87%	58%	33%	19%	12%	3%

Spain (ES), Cluster 2a

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	31%	44%	25%	20	18%	49%	34%	19
Critical understanding	33%	39%	28%	18	33%	39%	28%	24
Communicative abilities	71%	16%	14%	13	67%	17%	16%	5

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	20%	44%	36%	23%	47%	30%	51%	39%	10%
Critical understanding	30%	46%	24%	33%	41%	26%	37%	34%	29%
Communicative abilities	46%	27%	27%	72%	14%	14%	79%	14%	6%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	64%	94%	85%	75%	60%	34%	13%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	10%	9%	12%	13%	13%	8%	5%
Medium computer skills	22%	34%	28%	26%	21%	13%	5%
Advanced computer skills	28%	51%	42%	30%	20%	10%	3%
Basic Internet skills	30%	21%	31%	41%	39%	23%	11%
Medium Internet skills	29%	57%	44%	31%	20%	11%	4%
Advanced Internet skills	7%	18%	12%	7%	3%	1%	0%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	40%	51%	54%	48%	37%	23%	8%
Purchasing goods or services (in last 12 months)	24%	30%	38%	31%	21%	11%	4%
Banking	27%	21%	40%	37%	26%	15%	4%
Interacting with public authorities	32%	41%	46%	41%	30%	15%	4%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	23%	64%	37%	19%	10%	6%	2%
Posting messages to social media sites or instant messaging	31%	74%	50%	30%	17%	8%	2%

Sweden (SE), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	19%	50%	31%	4	16%	51%	33%	12
Critical understanding	29%	41%	31%	3	29%	41%	30%	6
Communicative abilities	68%	18%	14%	7	67%	19%	14%	14

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	19%	45%	36%	14%	51%	36%	28%	50%	21%
Critical understanding	28%	48%	24%	27%	40%	33%	33%	38%	29%
Communicative abilities	43%	29%	28%	70%	18%	12%	75%	15%	9%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	91%	100%	99%	99%	95%	87%	58%

Basic computer skills	23%	27%	21%	21%	24%	27%	21%
Medium computer skills	30%	35%	35%	35%	30%	26%	17%
Advanced computer skills	21%	25%	32%	28%	22%	12%	6%
Basic Internet skills	38%	19%	25%	39%	48%	54%	42%
Medium Internet skills	37%	50%	45%	44%	36%	26%	15%
Advanced Internet skills	14%	28%	27%	14%	8%	4%	1%

Reading news	54%	47%	63%	61%	59%	51%	40%
Purchasing goods or services (in last 12 months)	66%	74%	82%	80%	67%	51%	31%
Banking	75%	73%	92%	88%	79%	65%	45%
Interacting with public authorities	62%	50%	75%	75%	68%	57%	37%

Uploading self-created content to any website to be shared	28%	54%	39%	27%	21%	14%	8%
Posting messages to social media sites or instant messaging	46%	88%	69%	50%	36%	19%	9%

United Kingdom (UK), Cluster 1

Overall tentative country scores

	Extrapolation of online and offline survey				Extrapolation of online survey only			
	Basic	Medium	Advanced	Ranking	Basic	Medium	Advanced	Ranking
Use skills	22%	48%	30%	8	16%	51%	34%	5
Critical understanding	29%	40%	31%	2	28%	40%	32%	3
Communicative abilities	69%	18%	13%	10	67%	19%	14%	18

Tentative country scores by age group

	Aged 16-24			Aged 25-54			Aged 55-74		
	B	M	A	B	M	A	B	M	A
Use skills	18%	46%	36%	17%	49%	34%	33%	48%	19%
Critical understanding	28%	43%	29%	28%	41%	31%	33%	37%	30%
Communicative abilities	48%	30%	22%	71%	17%	13%	77%	15%	9%

Internet use

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Regular Internet users (in last three months)	83%	97%	92%	93%	84%	72%	46%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Basic computer skills	15%	13%	15%	13%	18%	19%	12%
Medium computer skills	27%	33%	30%	29%	26%	24%	18%
Advanced computer skills	29%	42%	39%	38%	23%	18%	:
Basic Internet skills	38%	25%	31%	44%	44%	47%	35%
Medium Internet skills	36%	52%	46%	41%	35%	22%	12%
Advanced Internet skills	9%	21%	16%	8%	6%	:	:

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Reading news	43%	51%	48%	51%	43%	34%	20%
Purchasing goods or services (in last 12 months)	67%	74%	79%	78%	70%	58%	32%
Banking	45%	44%	61%	55%	46%	38%	18%
Interacting with public authorities	40%	30%	48%	48%	47%	39%	20%

	Total	Aged 16-24	Aged 25-34	Aged 35-44	Aged 45-54	Aged 55-65	Aged 65-74
Uploading self-created content to any website to be shared	32%	48%	45%	36%	23%	21%	10%
Posting messages to social media sites or instant messaging	36%	73%	55%	37%	26%	14%	:

ANNEX G Findings on minors

In the inception meeting on 25 June 2010, the Commission requested respondents younger than 16 to be included somehow in the study. The request derives from the obligation to report on a number of issues concerning minors set in the Audio-visual Media Services Directive, including:

- The impact of media content on the physical, mental and moral development of minors in all audio-visual media services, including audio-visual commercials, and services specifically intended for children with automatic filtering systems.
- The impact of audio-visual commercials of alcoholic beverages, commercials causing physical or moral detriment to minors
- The effect of commercials to exhort minors to buy or hire a product or service by exploiting their inexperience or credulity, directly encouraging them to persuade their parents or others to purchase the goods or services being advertised.

Based on the following findings of a report carried in July 2010 on the feasibility and the possible extent of the full inclusion of minors into our project, we carried out further research on the main research approaches to topics directly relevant for the AVMSD in order to conclude a small set of indicators covering the protection of minors added to the media literacy measurement tool.

- Firstly, no comparable quantitative data of this age group exists across the countries as the official statistics used in the indicators generally cover the target of 16-79;
- Secondly, the body of existing research and literature on children and media is vast but heterogeneous in terms of target group, methods used, questions asked, etc. Carrying out a desk research in order to track down the latest research across Europe is an undertaking worth of a separate project as the example of the Kids Online I-II shows. Furthermore, such exercise is very unlikely to lead to a robust and comparable set of data across European countries;
- Finally, including the youngest age group in a survey requires a considerable extra effort due to ethical and practical considerations. Young children cannot be simply added to a typical general public survey, as they require specifically designed questions, possibly different interviewing methods, specifically trained interviewers, etc. It is because of this that the youngest age groups are mostly surveyed separately from their adult counterparts.

This review therefore will draw conclusions from existing academic research and methods on the consumption and effects of advertising on children and young people. However, we must emphasise that these are only preliminary findings and that there are certainly limitations to this study. The scope of all literature on this subject is vast and we cannot cover all the issues or all the studies here. We have tried, however, to give a balanced view based on what we have found to be the most prominent research to date. We should be cautious about drawing definitive conclusions from the research. Advertising is necessarily a very complex industry and research into its effects has to date, not taken into account the full extent of commercialisation that pervades children's lives. Results of these types of studies are highly specific to the culture, time and place of the research and we should be careful about drawing general conclusions, especially in the absence of any comparative studies at European level.

To date there have been no comparative studies of young people's ability to critically assess media or advertising via media at the European level. Research and literature over the past thirty years concerning minors has focused on food, tobacco and alcohol advertising, looking

at the effects of advertising in children, especially television advertising and has not taken a holistic approach to looking at advertising in all its facets. Scholars recently have turned focus to new technologies underlining that advertising through e.g. branded websites, brand placement and social media (Facebook, twitter etc.) is fundamentally different from traditional advertising (Buijzen et. al, 2010). The boundaries between advertising, entertainment and information have become more blurred, making it more difficult for young people to distinguish between these genres (Kjorstad, 2000; Wright et al, 2005; Buijzen et al. 2010).

Traditionally, there have been two ways of thinking about the issue of advertising and children:
1. The critical approach: this portrays children as passive 'victims' of the influence of commercial advertising, whereby commercials are seen as a negative factor in their daily life which leads to calls for increased regulation and legislation. This approach focuses on the effects of advertising on the recipient. (Kjorstad, 2000:3)
2. The interpretative approach: this focuses on understanding the meaning of advertising as part of the world of the child (Borch 2000). Instead of passive recipients, it views consumers as rational beings, capable of interpreting and influencing the meaning of advertising. Advertising it is not simply an objective message transmitted from sender to receiver; the message is subjective and can be interpreted differently in different settings and in different times. The aim of this approach then is to educate children and expose them to different types of advertising in order that they gain the skills to be able to better critically assess it.

The need for educating children is based on the following assumptions dominating the debate around child-directed advertising: 1) children have a lower level of advertising literacy than adults, and 2) advertising literacy reduces advertising's effects on children (Rozendaal, 2011; Livingstone & Helsper, 2006).

The first main concern is that children, lacking the skills and experience of adults, are thought to be more susceptible to the persuasive influences of advertising. However, recent research (e.g. Rozendaal, 2011) suggests that age only does not necessarily protect against the negative or persuasive effects of advertising and that older children might be just as susceptible as younger children. Rozendaal (2011) also argues that these assumptions, as yet, lack a strong scientific foundation, in lack of an accepted definition as to what it means to have an 'adult level' of advertising literacy; and what is more, comparative studies between adult and child levels of advertising literacy as yet do not exist.

With regard to the second point, it is widely believed that any potential harm caused by advertising (and the media in general) can be mitigated by increased media literacy skills, and in this case 'advertising literacy'. There is to date, however, little hard evidence for this in general and it should be the subject of future research (Livingstone & Hargrave, 2006). Wollslager's 2009 study in the U.S. of 9-11 year olds found positive effects of a very short advertising literacy training session. This training was designed to establish a basic understanding of the types of advertising present online. Children were tested prior to the training, using an interactive computer test. Only 23% of the children could initially identify the purpose of branding games as advertising. After the training session, 33% more of the 52 children could identify embedded advertisements with online games, and 26% increase in the identification of 'advergames' as advertising rather than entertainment. Moreover, although

initially there was a marked difference between the abilities of younger and older children, after the training these differences were levelled out.

Research on the effects of advertising

Literature on the effects of advertising stresses the importance to take into account the cognitive development. This model emphasises that ability to assess advertising (and indeed media content) is directly related to age. The so-called persuasion model maps out four phases in the development of children's ability to process the intent of advertising, or indeed 'persuasion processing':

> Early childhood (younger than 5 years), middle childhood (6-9 years) late childhood (10-12 years) and adolescence (13 years and older).

During each phase, young people accumulate consumer-and advertising-related skills and experience (Buijzen et al. 2010) with many assuming that by age 16, the young person has the same level of skills as an adult (Valkenburg, 2004). As studies have shown, in early childhood, children consider advertising as providing entertainment and are not yet capable of understanding the selling intent behind advertising.

However, many studies about the effect of advertising have placed too much emphasis on the stages of cognitive development, which has been criticised (e.g. Buckingham, 2005; Marshall, 2010) as too mechanical and narrow in its approach, by not taking other factors into account. Furthermore, recent research suggests that, with regard to digital marketing, teenagers are just as persuadable as younger children. The persuasion model depends on explicit mental processes and it has been pointed out that it does not consider the formation of *implicit* attitudes when children come into contact with certain stimuli (Nair & Fine, 2008).

Indeed, a recent study carried out in Australia into *Children's understanding of the selling versus persuasive intent of junk food advertising: Implications for regulation* (Carter et al., 2011) claims that previous literature has failed to differentiate between children's awareness of 'selling' versus 'persuasive' intent. This latter concept is a greater awareness of an advert's intentions, i.e. to create a 'need' for a product so that children will want to buy it. In keeping with previous studies, by 7 or 8 years old, 70% of children could identify the 'selling' intent of television advertising, rising to 90% for 11-12 years. However, their awareness of 'persuasive' intent was much lower: only 40% of the oldest age group (11-12). They conclude, thus, that vulnerability to television advertising may persist until children are far older than previously assumed.

Nairn and Fine (2008), however, point out that understanding persuasive intent is not, in itself, sufficient for the ability to assess advertising, i.e. advertising literacy. They argue that modern marketing practices and technologies lead to evaluative conditioning which leads children and young people to a pre-disposed reading or interpretation of advertising, (through e.g. product placement in films, celebrity endorsements and 'advergames'). This leads to an implicit attitude change in children and their subsequent consumer behaviour, as they lack the necessary 'control' resources to form an explicit attitude. Thus, according to Nairn and Fine, age alone is not enough to 'protect' children from advertising. There is a need to investigate the ways in which contemporary marketing practices succeed in bringing out this attitude change without the 'explicit' awareness of the consumer.

Rozendaal (2011) investigated children's understanding of six popular tactics used by advertisers to trigger certain advertising effects, including ad repetition, product demonstration, peer popularity appeal, humour, celebrity endorsement, and premiums. The

findings of her study showed that children's understanding of these tactics increased significantly at age 10, and differed by advertising tactic. Product demonstration proved to be the most difficult for children to understand, with children's understanding significantly lower than that of adults. However, children in the 10-12 age range understood advertisers' intentions behind celebrity endorsement better than adults did.

As already demonstrated, research has heavily depended on the developmental model, which compares the abilities of the child to those of an adult. These approaches have been criticised as they align 'ages and stages' in a rather mechanical way, which fails to distinguish between differences across individual children and also between competence and performance. The research is often carried out in the context of a laboratory experiment which might not be conducive to an accurate reflection of the child's abilities (Rozndaal, 2011).

On the other hand, more 'child-centred' approaches to assessment often result in higher attainment than on development tests (cf. Donaldson, 1978). These include the use of non-verbal measures, more 'open-ended' approaches and the use of more naturalistic settings. Assessment via multiple-choice questionnaires and attitude sales "is likely to prove reductive unless it is supplemented with other approaches" (Buckingham, 2005). What is more, recent research has suggested that children can be taught critical skills earlier than once thought, even if they do not yet possess the tools to express these abilities independently or verbally.

Bazalgette advocates a three sided approach which incorporates cultural, creative and critical components (Profile: Cary Bazalgette, 2006 in Wollslager, 2009). More concretely, Silverblatt et al. (1999) propose five approaches to studying advertising literacy: ideological, autobiographical, nonverbal, mythic and production elements. An ideology approach needs to deal with the hegemony of consumerism in combating a consumer culture where "social problems are resolved through consumerism rather than political action" (Silverblatt, Ferry & Finan, 1999). Advertising literacy, therefore, should have a multi-faceted, wide-ranging approach that challenges the fundamentals of commercialism and could also promote active citizenship instead of passive consumerism.

Behavioural changes and harmful outcomes of advertising

Research on the effects of advertising has mostly concluded that advertising is one factor in encouraging certain types of behaviour, but the link between advertising and behavioural changes has ultimately proved difficult to pin down. There is a moderate body of evidence which suggests modest effects of both intentional (i.e. product-promoting) and incidental (i.e. product context) advertising messages. *The Impact of Alcohol Advertising and Media Exposure on Adolescent Alcohol Use: A Systematic Review of Longitudinal Studies* (Anderson et al. 2009) reviewed thirteen high quality studies on the relationship between adolescent exposure to alcohol advertising and promotion and drinking. Twelve of these studies found evidence that exposure to advertising predicts both the onset of drinking among non-drinkers and increased levels of consumption among existing drinkers. Anderson goes further to say that as advertising is only a small part of the promotional effort behind alcohol products, these studies are likely to underestimate the effects on young people. Studies rarely look at the cumulative impact of a coherent marketing and communications campaign.

Research also suggests that advertising has some influence on product choice, and that the nature of its portrayals has some influence on the attitudes and beliefs of its audience (Livingstone & Hargrave, 2006). For example, there is evidence that advertising influences

desire for brands and that it influences behaviours such as short-term food, alcohol and cigarette consumption (Young, 2011).

To date, there is only sporadic research devoted to children's understanding of advertisers' attempts to persuade and change their behaviours (Rozendaal, 2011). This research has started to develop more sophisticated models and research methods regarding children's understanding of advertising. These investigate not just whether children can recognise commercial content, but also whether they can identify the persuasive intent of advertising (e.g. Rozendaal, 2011; Carter et al. 2011).

It is often difficult to compare studies into the effects of advertising as 'exposure' to advertising is operationalised in different ways across the studies (e.g. receptivity, influence and awareness). Moreover, a methodological challenge of evaluating the evidence on the effect of advertising "is to achieve standardization and consistency in measuring of exposure to alcohol advertising" (Anderson et al. 2009: 242).

Research on critical assessment skills of minors on Internet

In 2006, Mediappro[29] carried out a study in nine European countries to explore how young people between the ages of 12-18, appropriate digital media, including networks and portable media, such as the Internet, mobile phones and video games. This study found that young people were generally aware of risks but do not feel unduly at risk and are able to take appropriate action to mitigate risks. It also revealed that children would like tools to find out if they can trust the articles they find on the Internet.

The UKCGO survey (Livingstone et al., 2005) also focused on trust proxies to measure critical understanding of information presented on the Internet and found that 38% of young people aged 9-19 trusted most of the information on the Internet, 50% thought that some information could be trusted, but only 10% said they were sceptical about much of the information online. Furthermore, 'beginners' were found to lack 'searching and critical skills' and where therefore less trustful of online content than more advanced Internet users.

Ofcom[30] carries out yearly assessments of young people's (aged 5-15) media literacy skills in the UK according to its own definition of media literacy "the ability to use, understand and create media and communications". Its 2011 report suggested that children aged 5-7 use the Internet for about 5.2 hours in a typical week, 8-11s use them for 8.4 hours per week and 12-15s for an estimated 15.6 hours weekly. More than half of children use the Internet solitarily, and nearly half (44%) of 12-15s who use search engine websites are not critically aware of the provenance of its content. Many (31%) believe that the information must be truthful if presented by an engine and others (21) do not question the veracity of information. This level has been unchanged since 2009.

Ofcom also registered a 12% rise since 2009 reaching a 47% of children who have a social network profile (though they visit children sites, such as Club Penguin or Moshi Monsters and

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[29] The consortium assembled for the Mediappro project gathered national institutions specialised in the media, and new media, education field. These institutions operate as part of either universities or education ministries in their respective country. This consortium features a broad geographical coverage as it includes organisations with high national status and wide international recognition. For more information: http://www.mediappro.org/default.htm

[30] Ofcom is the Independent regulator and competition authority for the UK communications industries. For more information: http://www.ofcom.org.uk/

not traditional adult social sites). The 67% of 8-11s and 57% of 12-15s who use the Internet at home only visited websites they've been to before.

Children of age 8-11s and 12-15, who had ever visited specific types of websites (ones used for schoolwork / homework, for news purposes, sites with user-generated contents, e.g. blogs or sites like Wikipedia and social networking sites), found information on news sites or on homework sites is mostly true (82-85%), on blogs or social sites only (31-48%) found mostly true.

Social networking has become one of the most popular activities online, as shown by the *EU Kids Online* survey of 9-16 year old Internet users in 25 countries, 59% of 9-16 year old Internet users in Europe have an Social Network Site profile.[31] Many providers ban users under 13 and many apply particular technical protection mechanisms and moderated services for minors under 18, but the question is whether minors possess the skills to use these embedded safety tools and services, including their ability to change their privacy settings or to block other users).

In 2000, Kjorstad carried out a study in Sweden of 12 year old children to delineated types of advertisements that children found easy and hard to recognise as commercial. Kjorstad's research suggested that children were accustomed to traditional visual techniques of commercial advertising, such as flashing and the use of banners. However, when the content is more subtle, the visual appearance looks like that of 'information'- more plain, with more text, that children become less able to assess the contents as being advertising or 'information'. These are sponsorship, newsletters and chat-commercials. Advertisers are finding new ways to reach children by using new methods that children will not recognise or expect. Another important point was that children found it difficult to understand that collecting personal information can be for commercial reasons; most believed it would benefit them in some way.

As Buckingham (2005:21) points out, "there is as yet relatively little research about how children make judgments about the reliability of information on the Internet, or how they learn to deal with unwelcome or potentially upsetting content". Furthermore, there is little research on what exactly children do with advertising, or indeed the long-term effects of advertising on behaviour and beliefs (Marshall, 2010).

Television.
According to the Ofcom research, children spend 14.8 hours watching TV per week for 5-7s, 16.4 hours per week for 8-11s, and 17.2 hours per week for 12-15s. Television remains the preferred medium for 5-7s (52%) and also for 8-11s (45%), although an increase for Internet preference increased in this group as compared to previous year by 5%. (2010 v. 2009).

The critical understanding of children aged 8-11 and 12-15 who watch television at home was measured by their feelings of truthfulness of reality TV programmes (like *Big Brother*), TV documentary programmes (like wildlife programmes) or news programmes (like *Newsround*). Children in both age groups were more likely to believe that documentary or news programmes show a true picture of what really happened, the majority of 12-15s (58%) but

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[31] See Livingstone, S., Haddon, L., Görzig, A., and Ólafsson, K. (2011). *Risks and safety on the Internet: The perspective of European children. Full Findings.* LSE, London: EU Kids Online.

much less of 8-11s (38%) said reality TV programmes do not give a true picture of what really happened. This age group however showed a high level of uncertainty in the level of truthfulness (53% for boys-65% for girls).

An interesting correlation was found between understanding how Internet search engines work and how truthful TV programmes are among children 12-15s. These children are more likely to say as compared to all 12-15s who watch TV at home, that reality TV programmes do not show a true picture of what really happened (68% vs. 58%).

Other media.
Ofcom's study in the UK found that the use of mobile phones to reach Internet rose by 9% (to 23%) among 12-15s, in 2010, while the use of games console/player to reach the Internet also rose by 5% (now it is also 23%). 92% of children has access to games, either those that are connected to a television or handheld / portable games players. 52% of all children aged 5-15 now exposed to a digital video recorder at home (DVR), and its take up shows a significant increase 17% increase in one year for 5-7s, 14% increase for 8-11s and 9% for 12-15s. Smartphone use also increased while traditional radio decreased (but digitals stagnate or increased in age group 12-15s). .

Methodological concerns

A lot of media literacy research is based on self-reporting. As scholars have pointed out, self-reporting often does not match 'performance'. For example, young people may well say that they are aware of Internet risks and claim they can effectively use websites etc., but we are much less certain about what they do in practice with the information they find on the Internet. To assess this, we would have to carry out observational or ethnographic studies (Buckingham, 2005).

 A further criticism of the cognitive development model is that this way of researching media literacy is normative and imposes 'preferred' definitions of 'adult' behaviour onto children. This type of media literacy could thus represent a narrow and rationalistic view of how children 'should' behave in relation to the media. Whereas it could also be said that adults do not behave rationally, morally or always display 'self-control' when using media. Thus in traditional advertising/media literacy there is little place for pleasure, sensuality and irrationality, which are arguably central to our experiences of media (Buckingham, 2005).

It can be difficult to assess children's ability to verbally describe their understanding of advertising, especially with very young children. Some recent studies (Carter at al., 2011; Oates et al, 2003) have found that small discussion groups, instead of individual interviews, give rise to a richer exploration of children's thought processes: "the children appeared more at ease and helped each other… in elaborating their explanations" (Carter et al, 2011:963). Owen at al. (2007) claim that reliance on verbal methods may have underestimated children's understanding of persuasive intent (Owen et al., 2007). In 1997, Martin's meta-analysis of 23 studies indicated than two-thirds have used verbal methods and none had used pictorial cueing. Younger children are likely to respond according to what they think the researcher wants to hear, or what they think is the 'right' answer. Owen, Auty, Lewis and Berridge's study suggests that the use of pictorial methods, along with verbal methods, can tap into both articulated knowledge and implicit understanding, and provide children instead with a range of acceptable responses (Owen et al., 2007). The emphasis in the literature is on the need for multiple assessment types, which are appropriate and accessible for the age of the child being tested.

ANNEX H Manual for using the core set of questions

The core questions on media literacy is a basic survey which measures trends in media access, balanced use, critical understanding, communication and participation. The core set can also serve as a core for a rotating survey in which these basic elements are measured over time. The core questions measures three areas of media literacy: use skills, critical understanding, and communicative abilities.

Calculating scores
The scores for each of the three areas are calculated by summing the results for each respondent and three levels can be calculated: The basic level, the medium level and the advanced level.

- The calculation for use skills is basic level (score: 0 – 11), medium level (score: 12-16) and advanced level (score: 17-21)
- The calculation for critical understanding is basic level (score: 0 – 5), medium level (score: 6-8) and advanced level (score: 9-11)
- The calculation for communicative abilities is basic level (score: 0 – 1), medium level (score: 2-3) and advanced level (score: 4-5)

The core set of questions

Use skills

A. In the last three months, how often on average did you carry out the following activities?
- Read a book (whether print or e-book)
- Read a newspaper (whether print or online)
- Play a computer or video game
- Go to the cinema
- Use the Internet

  Answering options and scores: [At least once a week=3] [At least once a month=2] [Less than once a month=1] [Never=0]

B. Which of the following activities have you already carried out?
- Send an e-mail with attached files
- Used the Internet to make telephone calls
- Created a web page

  Answering options and scores: [Yes=2] [No=0]

Critical understanding

C. On a scale from 1 to 5, where 1 is totally reliable and 5 is totally unreliable, how reliable do you believe newspapers are as a source of information?
  Answering options: [1 – Totally reliable=0] [2=1] [3=1] [4=1] [5 – Totally unreliable=1]

D. Do you believe there are differences in the way information is portrayed by different websites?
  Answering options: [Yes=1] [No=0]

E. When you notice differences in the way information is portrayed by different media, do you usually try to compare with information elsewhere (for example, books, encyclopedia, another television channel or newspaper)?

Answering options: [Yes=1] [No=0]

G. When you visit new websites, do you usually check information across other sites?

Answering options: [Yes=1] [No=0] [Don't use the Internet=0]

F. In your media use (when you watch television, read newspapers, surf the Internet, play video games), have you ever thought any of the following?
- "This is actually advertising although it is made not look that way"
- "This is not a natural body shape to have"
- "This is upsetting to others although not to me or my nearest friends and family"

Answering options: [Yes=1] [No=0]

H. Have you done something to prevent receiving unwanted messages or e-mails (for example, installing filters or blocking senders)?

Answering options: [Yes=1] [No=0] [Don't use the Internet=0]

I. Do you believe laws (rules) exist that regulate when and where advertisements can be placed?

Answering options: [Yes=1] [No=0]

J. On a scale from 1 to 5, where 1 is very easy and 5 is very difficult, how difficult or easy do you usually find it to…?
- Precisely define the information you need to solve a work or study-related problem or task
- Accurately and fairly asses contradicting pieces of information you have gathered to solve a work or study-related problem or task

Answering options: [1 – Very easy=1] [2=1] [3=0] [4=0] [5 – Very difficult=0]

Communicative abilities

K. In the past year, have you created any of the following media content yourself?
- Written literature of any kind (book, essay, poem, blog, etc.)
- Video or audio material of any kind (movie, cartoon, song, etc.)

Answering options: [Yes=1] [No=0]

L. In the last three months, have you used the Internet for the following purposes?
- Uploading self-created content (for example, text, images, photos, videos, music) to any website to be shared
- Participating in social networks privately or professionally (for example, using Facebook, MySpace, LinkedIn or Twitter)
- Collaborating with others on a joint project (including contributing to a wiki)

Answering options: [Yes=1] [No=0] [Don't use the Internet=0]