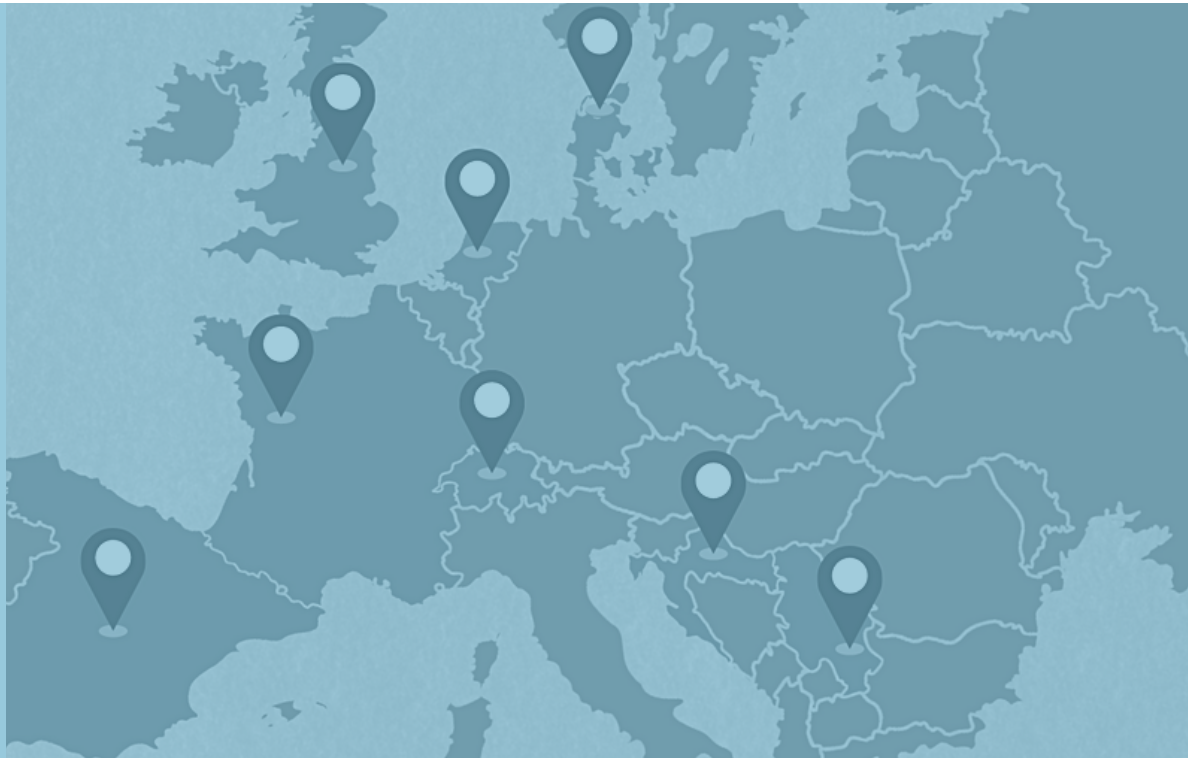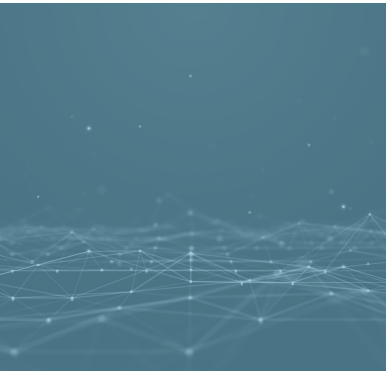# invent

EUROPEAN INVENTORY
OF CULTURAL VALUES

Digitalization and culture: impacts, practices, and perceptions in nine European countries

INVENT REPORT D5.3

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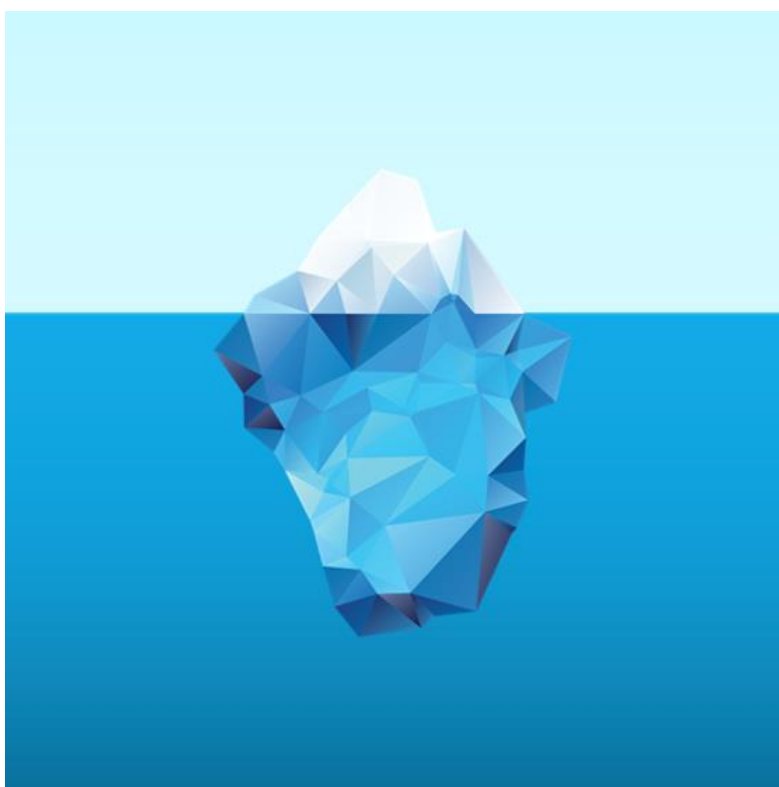
Deliverable 5.3

A report on the influence of digitalization on culture

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Deliverable 5.3. **A Report on the influence of digitalization on culture**

Digitalization and Culture

Impacts, practices and perceptions in nine European countries

Nete Nørgaard Kristensen Susanne Janssen,
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Executive Summary

This report, representing deliverable D5.3 of the H2020 funded INVENT project, provides an overview of how the project has so far studied the influence of digitalization on culture in a broad sense, applying an audience or people centered approach.

The report opens with a brief discussion of key theoretical concepts and meta-processes such as digitalization, mediatization, and datafication (of culture); (digital) media use; digital cultural participation; and the role of digitalization in connection to the other trends studied in the project – changing notions of culture, globalization, and rising social inequalities.

Second follows a part on some of the innovative digital methods applied in the project, both digitized and digital born methods, as the question of digitalization and digital technologies is important not only to the research topics and focus areas of the project but also to *how* INVENT has methodologically approached these topics.

Third, the report presents some of the preliminary empirical findings of the project so far linked to digitalization of culture, including descriptive findings from a nationally representative survey collected in 2021 in the nine INVENT partner countries, probing issues of, among other topics, digital cultural participation and the digital transformation; findings from two (of three) consecutive phases of data scraping of social media content about cultural issues; and spotlights from the ongoing interview data collection on Europeans' perceptions of cultural changes in their lives, highlighting issues pertaining to digital media in the Danish, Finnish, French, Serbian, and UK contexts.

The analyses show, among other things, that Europeans engage in a wide variety of digital cultural practices but many of the activities are done by a limited number of people. The most common activity is communicating or sharing things with friends and family – this has become a structural feature of everyday life in Europe. Several are more niche activities for separate, specific groups. Overall, Europeans seem more positive than negative about the impact of the internet in everyday life. For many, it is difficult to live without the internet nowadays – the internet has made it easier to keep in touch with others, access online entertainment, find information about arts and culture, buy (cultural) products, and make cultural connections. There is still a substantial group, however, who have difficulties in coping with the digital society, and such digital divides in the cultural domain seem to be socially stratified. Finally, when Europeans express themselves online about culture they communicate about and engage in both narrower defined types of culture and broader types of culture connecting to societal values, wellbeing, inequalities etc.

The concluding section provides a summary of key preliminary findings, reflects on the methodological and comparative issues behind the findings and points to the upcoming tasks related to WP5 and digitalization of culture.

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1 Introduction

1.1 Why study digitalization of culture?

Omnipresent digital media, information and communication technologies have deeply influenced cultural production, distribution, and participation in recent decades. Taking its point of departure in the INVENT project's overall objective three, the present report especially focuses on the latter part – cultural participation – by studying how European citizens from various social groups perceive and understand changes influenced by the introduction of information technologies into all spheres of life, in particular the transformation of cultural participation in a time of digital media.

Three focus areas of the broad and diverse field of digitalization of culture are particularly relevant for this bottom-up, people-centered approach: Firstly, digital media have changed how people access and consume culture, as people increasingly engage in digitalized cultural consumption practices, such as streaming music from e.g., Spotify, streaming movies and tv-series from e.g., Netflix, watching videos or listening to podcasts on YouTube, reading e-books, etc. (e.g., Lopez-Sintas et al., 2014; Pires, Masanet & Scolari, 2021; Weingartner, 2021).

Second, algorithmic culture, datafication, and platformization have reconfigured what culture people are presented with and their cultural decision-making processes, which subsequently influences how cultural production and distribution take shape, as user or audience data feed into the loops of production, distribution, and circulation of culture (e.g., Nieborg & Poell, 2018; Seyfert & Roberge, 2016; Striphas, 2015; Werner, 2020).

Third, digital media technologies have altered ordinary people's own production and dissemination of as well as their communication about culture, as various forms of user-generated content (UGC) have become important parts of cultural expression on the internet, challenging existing notions of cultural producers and cultural audiences (e.g., Jenkins, Ito & boyd, 2015).

Digital practices not only relate to cultural consumption, participation, and creation in the narrower sense, however. Digital practices permeate all every day or mundane-social activities (Heikkilä, 2021), as digitalization has reshaped people's cultures of communication more broadly (Ørmen, Helles & Jensen, 2021).

Such digital transformations of culture are greatly intertwined with the other meta-processes studied in the INVENT project, i.e., changing notions of culture, globalization, and increasing social inequalities.

1.2 The objectives of WP5 and the aim of this report

The INVENT project applies a bottom-up – or people-centered – approach to the study of digital cultural transformations. The core of the project's WP5: Culture is digital/boundless is, first, to explore how digital media have changed people's access to, consumption of, and participation in culture and, second, to explore how Europeans express themselves online about culture and thus how digital media have reshaped and extended Europeans' communication about culture.

The work in WP5 officially started nine months (October 2020) into to the INVENT project but preparations commenced from the very first phase (February 2020) and the work continues for the whole duration of the project (July 2023, after the extension due to Covid-19). WP5 is led by UCPH, but all INVENT partners contribute to its work to achieve its goals.

The objectives of WP5 are the following (see also Grant Agreement):

1) Identification of how European citizens from various social groups perceive and understand changes influenced by the introduction of information technologies into all spheres of life, in particular the transformation of cultural participation in a time of digital media.

2) Investigation of how perceptions and consumption of culture are shaped through media usage, in particular digital forms of media use.

3) Analysis of how Europeans express themselves online about culture through evaluative, conversational, and creative-productive modes.

This report addresses all three objectives but to varying degrees (see part 4 on findings).

The study of the digitalization of culture in WP5 has so far been based on a variety of original empirical datasets collected during the project:

• the exploratory piloting survey collected in summer 2020 to test questions later to be included in the representative survey, including probing the role of digital media in people's immediate understanding and conceptualization of culture, not least under the disruptive circumstances created by the global pandemic, Covid-19 (From et al, 2021)

• the INVENT survey conducted in spring-summer 2021 and involving responses from more than 14,000 Europeans with nationally representative samples aged 18–80-years old from Croatia, Denmark, Finland, France, the Netherlands, Serbia, Spain, Switzerland, and the UK, including questions about media use; trust in media; participation in digital culture; and perceptions of societal changes driven by digitalization (see D2.1)

• the online data scraping (phase I) during 2021, focusing on how culture is discussed on Twitter via hashtags and keywords including "culture" (see D5.1)

• the online data scraping (phase II) during 2022, focusing on e-petitions on culture, discussed in public Facebook posts, to find out what people talk about when talking about culture with the intention of making a difference or achieving a defined cultural goal (see D5.2)

• the smartphone study, using digital media technology and experience sampling to collect data about citizens' everyday participation in culture at the moment when they experience it, conducted in spring-summer 2022 (see D2.2)

• the minimum of 180 qualitative interviews collected in summer-fall 2022 (and still ongoing at the time of writing this report) about the ways in which people from diverse backgrounds see

and verbalize their experiences and meanings related to consumption of culture as well as cultural values and attitudes, including the role of digital media and digital transformations in this context

Especially the survey, the two data scraping phases and the qualitative interviews have created unique possibilities to scrutinize how Europeans understand cultural changes in view of digitalization, how their perceptions and consumption of culture are shaped by digital media, and how they express themselves online about culture, which are crucial to achieving the WP5 objectives. Thus, it is mainly the survey data and the two first phases of data scraping on which this report is based. However, we also highlight some preliminary observations from the interviews (from Denmark, Finland, France, Serbia, and the UK) about the role of digital media and digital transformations in people's everyday lives. These are preliminary and include only a selection on countries, as the data collection is not completed.

1.3 The structure of the report

The report continues with Section 2, a brief discussion on the key concepts of digitalization, (deep) mediatization, and datafication and their connection to people's use of and engagement with media, communication and information technologies and, in continuation, their connection to people's (digital) participation in culture.

Section 3 points to some of the innovative both digitized and digital born methods applied in the INVENT project, as the question of digitalization and digital media, information and communication technologies is key not only to the research topics and focus areas of the project but also to *how* INVENT has methodologically studied these topics.

Section 4 presents some of the empirical findings of the project so far linked to digitalization of culture, including descriptive findings from the nationally representative survey collected by INVENT in 2021 in the nine partner countries, probing, among other things, issues of media use, digital cultural participation and perceptions of the digital transformation; findings from two (of three) consecutive phases of data scraping of social media content about cultural issues; and spotlights from the ongoing interview data collection with Europeans, highlighting issues pertaining to digital media and digitalization in the Danish, Finnish, French, Serbian and UK contexts.

The concluding section 5 closes the report by providing a summary of the findings, reflecting on the methodological and comparative issues behind the findings and pointing to the upcoming tasks in the project related to WP5 and digitalization of culture.

2 On digitalization and culture

2.1 Mediatization, digitalization, and datafication

Mediatization, digitalization, and datafication have been agenda-setting concepts in recent years' media and communication studies, especially within media sociology. All three concepts refer to intertwined meta-processes (Hepp, 2020; Livingstone, 2019) that have greatly influenced cultural

participation in the narrow sense (e.g., consumption of arts and culture) and in the broadest sense (e.g., people's everyday lives) (see also D3.1).

The terms *digitalization* and *digitization* are often used interchangeably in the literature, though they are analytically distinct concepts. Brennen and Kreiss' (2016, p. 1) define "*digitization* as the material process of converting analog streams of information into digital bits", and "*digitalization* as the way many domains of social life are restructured around digital communication and media infrastructures". The INVENT project has a main interest in the cultural and societal dimensions of the digital transformation, i.e., in *digitalization*, rather than the technological or material aspects of *digitization*.

Digitalization is closely connected to, and to some extent overlaps with, mediatization and datafication (Livingstone, 2019). *Mediatization* concerns the long-term structural influences of changes in media and communication on culture and society (Hepp, 2020; Hjarvard, 2014). Early mediatization research focused especially on mass media e.g., news institutions, and how the logics of e.g., politics or religion were becoming increasingly dependent on (news) media logics (e.g., Finnemann, 2011; Hjarvard, 2011; Strömbäck, 2008).

While media in the mass media area were often thought of as a distinct or separate field, sphere, or domain in society (Lunt & Livingstone, 2016), as suggested by the literature on e.g., news media as political institutions (Cook, 1997), *digital media* involve "all media whose basic technologies of production, distribution and use are based on 'software algorithms'" (Hepp, 2020, p. 474). Digital media are ubiquitous, and mediatization research nowadays studies the omnipresence of computer-mediated modes of communication both at the institutional level e.g., in politics, cultural institutions, and the cultural industries, and at the individual level e.g., in citizens' everyday lives and practices (Nowak-Teter, 2019).

Mediatization research has also engaged with the cultural field more generally and with distinct aesthetic fields, such as, to name a few, literature, and books (e.g., Have & Pedersen, 2015), museums, galleries, and cultural heritage (e.g., Van der Hoeven, 2017), fashion (Kristensen & Christensen, 2017; Rocamora, 2016) and sports (Frandsen, 2014) (see also Kaun & Fast, 2013). The literature has pointed to at least three areas of mediatization of the cultural field(s) (e.g., Wilke, 2014): mediatization of cultural or artistic production, i.e., the use of various forms of media technology in cultural production; mediatization of cultural dissemination, i.e., the use of media technology and media logics by cultural institutions but also by artists; and mediatization of cultural reception, i.e., how cultural consumption, participation, and engagement with arts and culture have transformed in view of e.g., mediatization of cultural offerings, institutions' increased attention to audience participation, and grassroot initiatives (e.g., Van der Hoeven, 2017).

The ubiquity of digital technologies and especially the internet, has, according to some scholars, called for a paradigmatic change from the study of media to the study of communication (e.g., Jensen, 2010, p. 70) and for a rethinking of mediatization theory (e.g., Hepp, 2020). Couldry and Hepp (2017), for example, speak of a new phase of mediatization as *deep mediatization*, which refers to "the ways in which digital media and their infrastructure are comprehensively entangled with our everyday practices that we can no longer grasp the various social domains of contemporary society *in their distinctiveness* as apart from digital media" (Hepp, 2020, p. 475, emphasis in original). In this view, people's cultural practices are interwoven with digital media and communication technologies, which means

that it is no longer meaningful to separate a range of cultural and everyday practices from media or communication practices – e.g., practices related to education or work, dating, interactions with friends and family, cultural consumption, and engagement with cultural offerings, etc.

Deep mediatization is thus also closely linked to *datafication* and algorithms, as people's practices with media leave digital traces, turning such practices into "data practices" (Hepp, 2020, p. 477). As phrased by Ytre-Arne and Moe (2021, p. 807) "algorithmic media draw on the systematic exploitation of user data often referred to as datafication…". People's interactions online "can be *captured* as data: rating, paying, enrolling, watching, dating, and searching but also friending, following, liking, posting, commenting, and retweeting" (Dijck, Poell & de Waal, 2018, p. 33), and these data are *circulated* via application programming interfaces – or APIs – to both third parties for business purposes and to other users (ibid.).

Datafication also influences processes of cultural gatekeeping, intermediation, choice-making, and engagement. Algorithmic culture concerns "the automation of cultural decision-making processes, taking the latter significantly out of people's hands" (Striphas, 2015, p. 408). Some argue that big tech companies like Amazon, Netflix, Google, or Facebook have become a new type of cultural intermediary (Hutchinson, 2017; Murray, 2021), "infomediaries" (Morris, 2015) or "the new apostles of culture" (Striphas, 2015), because their algorithms mainly expose people to cultural offerings in line with their past cultural consumption or search queries. An important driver of algorithms is thus, at the same time, the digital media practices of users themselves – i.e., their networks, connections, and what they click on, leaving data traces that feed the algorithms. This emphasizes the continued importance of studying people's *actual* use of media or what people do with digital media for, e.g., cultural purposes.

2.2 (Digital) media use

Citizens' use of media has been a main subject of study in public opinion and media research since the mid-20th century. A special concern has been the influence or power of media over audiences. As indicated, this question continues to be key in current studies of people's use of digital media, communication, and information technologies for, e.g., cultural participation.

The early phase of media effects research focused on how media influenced public opinion and people's actions. Later phases of audience research, grounded in the theory of uses and gratification, focused less on "What do the media do to people" and more on "What do people do with the media?" (Katz, 1959, 2). Especially from the 1980s and onwards, audience reception studies have applied even more nuanced perspectives by looking into factors influencing how people make meaning of media content and how such processes of meaning making are influenced by people's needs, interests, and values but also by sociocultural and demographic factors as well as the context for media use (for an overview see, e.g., Schrøder, 2019).

While digital technologies have changed people's use of media dramatically, Livingstone (2019) emphasizes that fundamental to the analysis of meta-processes such as digitalization, mediatization, and datafication is still the question of media audiences, including how digital media are today closely intertwined in people's lives and actions as citizens as well as in their everyday lives and practices. She argues for the study of the diversity of audience experiences and their decoding of media content, concluding that "Including the people in a mediated, perhaps mediatized, increasingly datafied age –

that's the task in front of us" (Livingstone, 2019, p. 11). The INVENT project has taken up this task by means of its empirical, bottom-up perspective, taking its point of departure in how Europeans in all their diversity participate in and engage with digital media for cultural engagement.

With the at once fragmented and converged digital media landscape, media audience research has increasingly taken an interest in the study of people's *media repertoires* (Webster, 2014), i.e., the composition of media used by one individual. While this research is not consistent in terms of the range and variety of media studied (Gong, Verboord & Janssen, 2020), research has shown, on the one hand, that overall patterns and trends can be identified and, on the other, that people's media repertoires are diverse both within and across countries (e.g., Hasebrink & Domeyer, 2012). Generally, audiovisual and online media are most salient, while print media have lost much of their appeal among general audiences in recent decades. Special attention is paid to people's use of *news* media to inform themselves about current affairs, and again studies have shown that social media have become increasingly important in, e.g., Europeans' news consumption, especially among younger audiences (Newman et al., 2019, p. 13). At the same time, legacy media such as television and newspapers continue to be important parts of people's news diet, as newer online media do not necessarily replace but supplement the use of such 'old media' (e.g., Hasebrink et al., 2015).

Media repertoires found in recent studies exemplify these trends, e.g., Strömbäck, Falasca and Kruikemeier's (2017)'s study of people's use of on- and offline media in the context of the Swedish 2014 elections pointing to five repertoires: minimalists, public news consumers, local news consumers, social media news consumers, and popular online news consumers; Heikkilä, Linguina and Purhonen's (2022) study of the development of media repertoires in the Finnish context from 2007 to 2018, pointing to three types of media repertoires: the wide repertoire, which increased over time; the Internet repertoire, which remained stable; and the narrow repertoire which decreased; and Gong, Verboord and Janssen's (2020) study of media repertoires in the Chinese context, identifying six media repertoires: the digitally focused, the communication oriented, the minimal users, the moderate omnivores, the voracious omnivores, and the print interested. These studies have also pointed to the social stratification of people's media repertoires with age, education, and income being important predictors (e.g., Heikkilä, Linguina & Purhonen, 2022; Lindell & Hovden, 2018; Vandenplas & Picone, 2021).

Recently, scholars have also engaged in the study of the interplay of people's media repertoires, their cultural participation, and their cultural value orientations. In the Flemish context, Vandenplas and Picone (2021, p. 1457), for example, show "that media repertoires can be valuable predictors for cultural participation", as people with a broad media use are also open to a broad range of cultural practices, while people with a highbrow media repertoire similarly are more likely to participate in highbrow cultural activities. Focusing on the interplay of Europeans' cultural value orientations and their media use, Verboord and Kristensen (2021) find that positive cultural value orientations are more strongly associated with legacy media use but that online media use does not hamper such positive cultural value orientations, which emphasizes the importance of a mix of media for promoting European culture in today's hybrid media ecology; and that regardless of how often people use legacy and online media, they are more positive in their cultural value orientations, if they trust these agents as sources of information, i.e., trust in professional journalists and experts remain important for creating cultural value orientations that are positive and geared toward the European agenda.

Media use and the use of digital information technologies have been measured by means of many

different methods, both quantitatively and qualitatively. Quantitative studies include international and national surveys, such as the Eurobarometer, the European Social Survey, the Reuters Institute's Digital News Report, and the Oxford Internet Surveys. The phrasing of questions in these surveys confirms the difficulty of measuring media use in the digital age. A main reason is, as already indicated, the complexity of the concept of "media" itself as it may cover societal institutions, technology and infrastructure, discourses, and modes of communication. The Standard Eurobarometer, for example, asks to which extent citizens "watch TV on a TV set + via the internet", "watch television on a TV set", "use the internet", "use online social networks", "listen to the radio", "read the written press", or "watch television via the internet" (European Union, 2021). Several of these categories overlap, while they, at the same time, do not distinguish between, e.g., public service television and commercial television, nationally based and foreign media sources, or different types of content/genres such as news, information, and entertainment. This "messiness" of the media concept when studying media use is supported by qualitative research. In the Dutch context, Swart, Peters, and Broersma (2016), for example, show that the boundaries that people draw between news, information, and entertainment are increasingly blurring. In the Danish context, Kobbernagel and Schrøder (2016) found that when speaking of news media in everyday life, people interchangeably refer to technological platforms or devices (television or mobile phones), institutions (public service, tabloids), and genres of content (television evening news, news by email, etc.).

Accordingly, in their study of internet use in the US, China, and Europe, Ørmen, Helles and Jensen (2021, p. 1756) propose to speak of *cultures of communication* rather than media use and media repertoires. Such cultures of communication include not only how people access and share information, opinion, and entertainment, but also the use of information technologies in "their everyday lives as citizens, consumers, patients, religious subjects, and so on." They conclude that such cultures of communication are converging across countries, especially among young people, who display similar patterns in their everyday online lives notwithstanding their otherwise different national and cultural contexts.

This further emphasizes the point that in contemporary digitalized, deeply mediatized, and datafied societies, media, information, and communication technologies are omnipresent in people's cultural practices in the narrow and the broad sense, i.e., in cultural participation practices that are a key focus of the INVENT project and of WP5 more specifically.

2.3 Digital cultural participation

In recent years, research on the influence of digitalization on citizens' cultural participation have expanded in media and communion studies (Mihelj, Leguina & Downey, 2019), cultural sociology (Weingartner, 2021), cultural policy research (Casemajor, Bellavance & Sirois, 2021), and cultural economics (De la Vega et al., 2020; Potts, 2014). A main focus has been on how digital media and communication technologies have reconfigured people's cultural practices.

One strand of research has shown that such technologies have diversified and democratized cultural participation in several ways: Digital media and devices have made cultural offerings easily available, accessible, and affordable and thus facilitated people's consumption of culture (Chen, 2015; De la Vega et al., 2020; Roose & Daenekindt, 2015). Digital media have also eased engagement in cultural debates and sharing of opinions about arts and culture, e.g., on social media, in vlogs or podcasts, on review

cites, etc. (Jaakkola, 2022; Kristensen, From & Haastrup, 2021; Verboord, 2014; Verboord & Janssen, 2015). Moreover, digital media have lowered the threshold for cultural creation and distribution, as both professionals and laypersons may today engage in digital cultural production and dissemination (Blank, 2013; Casemajor, Bellavance & Sirois, 2021; Potts, 2014).

Drawing on the broader literature about digital divides, another strand of research has shown that "digital capital" is not equally distributed, i.e., "the accumulation of digital competencies (information, communication, safety, content creation and problem solving), and digital technology" (Ragnedda, 2018, p. 2367), which may have implications for people's cultural participation (Mihelj, Leguina & Downey, 2019). While gaps in access to digital infrastructure are increasingly closing, people have different skills in using the internet, e.g., for cultural purposes, such as curating one's own digital cultural diet or creating digital cultural content (De la Vega et al., 2020; Mihelj, Leguina & Downey, 2019). This may have broader social and cultural consequences for people's opportunities to get ahead in life in the increasingly mediatized and digitalized society (van Deursen et al., 2021). The use of digital media may thus reinforce the social stratification of cultural participation documented in offline settings (Falk & Katz-Gerro, 2016; Mihelj, Leguina & Downey, 2019; Weingartner & Rössel, 2019).

Research has also demonstrated that digitalization has made the notion of cultural participation broader, more diverse, and complex (Casemajor, Bellavance & Sirois, 2021). Not only has the very concept of culture broadened and by extension the opportunities for cultural practices multiplied, as shown in D3.1. The boundaries of production, consumption, and participation in culture have also become increasingly blurry in the digital environment. For obvious reasons of demarcation, most studies of digital cultural participation so far have focused on specific cultural domains or types of cultural participation, e.g., comparing on- and offline cultural activities, and applying national perspectives. Examples include De la Vega et al.'s (2020) Spanish study of live versus online consumption of theater and performing arts; Mihelj, Leguina and Downey's (2019) British study of visits to, respectively, museums and galleries offline, and museum and gallery websites; Weingartner's (2021) Swiss study of film consumption on different platforms (flow TV, DVD, video on demand, and the internet); and Panarese and Azzarita's (2020) study of online cultural participation in Italy. Studies have also measured scales of internet use for, e.g., various creative purposes, such as making videos, music, writing, and artistic photography in the US context (Hargittai & Walejko, 2008).

In the INVENT project we aim to add to this literature by studying what types of digital cultural activities – high art, popular culture, and social-mundane (Heikkilä, 2021) activities – people residing in the nine INVENT countries participate in (see section 4.1, survey results) but also how they perceive changes to their everyday lives and cultural participation in view of digitalization (see section 4.4, interview spotlights).

2.4 Digitalization and the other mega-trends

As indicated in the previous sections, digitalization of culture is greatly intertwined with the other focus areas and mega-trends studied in INVENT – diverse notions of culture, globalization, and social inequalities. As shown by the report on WP3 (D3.1), digitalization has been seen to influence the very notion of culture, not only by affording new types of (digital) cultural products and practices and facilitating the cultural abundance of contemporary societies, but also by evening out cultural hierarchies and reconfiguring who perform as cultural gatekeepers and intermediaries. Relatedly, globalization

scholars have attributed great importance to media and communication technology in globalization processes. Media and especially the internet are important infrastructures that have reconfigured flows of communication and cultural exchange. While some have celebrated this, others have been more critical emphasizing the homogenizing cultural effects (see Kellner & Pierce, 2007, for an overview). Others again have criticized the media-centric approach or technological determinism of some globalization scholars, i.e., for putting too much emphasis on the (positive) role of media technology in globalization processes (e.g., Ampuja, 2012) (see also D4.1). Finally, as shown by the literature on digital divides more broadly and as already indicated above, digitalization of culture (as well as cultural globalization and changing notions of culture) intertwine with questions related to social inequality (see also D6.1). Digital media not only democratize and diversify access to and engagement with culture but may also potentially amplify the social stratification of and inequalities in cultural participation. At the same, scholars have also pointed to the social and cultural affordances of digital media: the opportunities to connect to individuals with different backgrounds, to voice alternative viewpoints on societal issues, to make wide-spread yet unrecognized cultural practices more visible, etc. (Janssen et al., forthcoming).

3 Methodology

3.1 Digitized and digital methods

A key ambition of the INVENT project is to offer the foundation for new methodologies for capturing the societal value of culture. This has entailed, among other things, experimenting with new(er) digital methods for studying, bottom-up, people's multiple understandings of culture and their cultural participation in and expression of opinions about contemporary European culture and societies. Accordingly, the question of digitalization and digital media is key not only to the research topics and focus areas of the project but also to *how* INVENT has methodologically approached these topics.

Due to its combination of a variety of quantitative and qualitative methods, the INVENT project applies a mixed methods design. The project uses both *digitized methods*, i.e., methods that have migrated from a non-digital form, and *digital methods*, i.e., methods that use both digital born data and methods that are digital born (Rogers, 2019). The point is to not only measure issues related to culture but also to engage with, in some cases, the inherently digital nature of cultural practices, such as social media practices. Social media may serve as a means not only to accessing digital culture (digital infrastructure) but also to engage in cultural discussion and evaluation (digital fora for cultural debate, e.g., threads, e-petitions, user review cites, etc.) and as digital cultural expression itself (digital cultural creation, e.g., visuals, short videos, memes, etc.).

As the data collections so far have been reported in detail in the accompanying technical reports of the survey (D2.1), data scraping phase I (D5.1), data scraping phase II (D5.2) and the smartphone study (D2.2), the following mainly provides overall summaries of the methodological approaches.

3.2 Digitized methods in INVENT

Methods that can be said to have migrated from a non-digital form include, first, the survey, as several

countries (Denmark, Finland, France, Netherlands, Spain, Switzerland, UK) used computer-assisted web interviewing (CAWI) as part of the survey data collection, either as sole method or combined with other methods (see D2.1). The advantage of CAWI is that it yields high-quality data, while being efficient (e.g., allowing respondents to fill out the questionnaire at a convenient time and being, in some countries, less costly for researchers).

Second, the qualitative interviews were in some countries conducted using commonly used digital video platforms, such as zoom or teams. The digitization of interviews affects several steps of the empirical process: the invitation to participate in the interview study (by e-mails), the data collection (via online video conferencing platforms with the interviews being recorded both in the format of video and audio), as well as the data storage (storing the video and audio on a secure data drive). In theory, even the transcription of the interview data can be partly automated thanks to transcription software. Qualitative interviewing has traditionally been conducted face-to-face, by telephone, or using pen and paper, but increased and improved internet access and use of digital technology has facilitated interviewing in a digital setting. Most recently, the Covid-pandemic forced scholars across disciplines to turn fully to digital platforms for interview data collection. As the INVENT interview data collection is still ongoing, a detailed technical report will be submitted by end January 2023 as part of D2.4, the point here being that while digitally conducted interviews may have limitations in terms of, e.g., technical difficulties, and the potential exclusion of digitally less skilled participants, they also have benefits. These include, among others, broader geographical reach and that such platforms are easy to use, less time and cost consuming, and thus convenient, flexible, and comfortable for both interviewees and interviewers (e.g., Archibald et al. 2019; Oliffe, Kelly & Ko, 2021).

3.3 Digital methods in INVENT

Methods used in INVENT that are digital born, in the sense that they are based on digital born data and digital born data collection methods as well as involve computational analysis of the data, include the three phases of scraping of online content (two completed at the time of writing this report) and the smartphone study.

Social media are inherently digital, and digital tools and software are developed specifically to scrape data from particular online platforms, i.e., to capture the particular digital infrastructures of, e.g., Twitter or Facebook, affording how cultural conversations and cultural participation take place, are shaped, and circulate (e.g., Twitter's 280 characters, Facebook's emoticons, etc.). The data scraped from those platforms can be defined as natural or "found", as they are not specifically made for research (Jensen, 2012). Such data are also less straight forward to interpret than, e.g., survey data, interviews, or focus groups but they are unobtrusive and represent "natural behaviour" in the digital sphere. Furthermore, scraping of big data allows for covering a large time span and a large sample. Thus, the goal of such data collections and analyses in the context of INVENT is to cover new grounds for how online data can be employed to observe contemporary debates about and conceptions of culture (see DiMaggio, Nag & Blei, 2013).

In phase I of the data scraping, we used web scraping tools, more specifically an academic research product track with the V2 API (Application Program Interface) and a Premium account with R package *rtweet* to map the cultural Twittersphere in all INVENT partner countries. The focus was on 1) which topics were associated with the keyword 'culture' during 2019 (pre-Covid) and 2020 (during Covid), 2)

the types of actors that engaged in these conversations about culture on Twitter, and 3) the extent of their interactions, i.e., the extent to which the platform affordances were used for engagement in cultural conversation. We used R programming language, focused on tweets posted from users' home locations in each country, and analyzed the tweets through topic modelling, an effective computational method for detecting relevant hidden data structures (see D5.1 for more details).

In phase II of the data scraping, we used web scraping tools, more specifically CrowdTangle, an online tool that gives access to large amounts of data from Facebook, to identify a specific type of digital cultural participation on Facebook – discussions about e-petitions related to culture. The original dataset was obtained by scraping public Facebook posts that contained the term "petition" in the respective languages. The data was then filtered with keywords directly relating to the concept of culture, derived from phase I and the INVENT survey, and these keywords were used to identify relevant posts. Each country retrieved Facebook posts published with administrators located in the same country before the outbreak of Covid-19 (January 2018 – March 2020) and the first two years of the pandemic (March 2020 – December 2021). All further steps were standardized across all countries, adapting a script written in R to the country contexts. Topic modelling was used as analytical approach, as this collection of algorithms is, as mentioned, suited for discovering hidden thematic structures in large datasets by means of machine learning methods (DiMaggio, Nag & Blei, 2013) (see D5.2 for more details).

In both phases of data scraping, we applied a mixed method approach, looking more qualitatively into relevant parts of the data to get an idea about the specificities of, e.g., Twitter debates or specific e-petitions about culture, i.e., to contextualize the big data obtained via scraping tools (see also Mills, 2018).

The smartphone survey study, see D2.2, aimed to gain insight into how people in Europe meet and experience culture in their daily lives by asking questions close to the moment when people talk about culture or participate in culture. We used the Experience Sampling Technique (ESM) (Myin-Germeys & Kuppens, 2021), which is a daily diary asking respondents to report on their experiences, feelings, and engagements in, in this case, culture several times during a delimed period, either at the very moment when participating in culture or shortly after such participation. Capturing such moments of cultural conversation and participation were enabled by digital media technology. Data were collected via people's smartphones through the app m-Path, a free and GDPR compliant platform for academics, developed by the University of Leuven (https://m-path.io/landing/) and allowing researchers to program a survey that can be sent to participants at time slots determined by the researchers. Experimenting with this method and investigating whether and how it can be applied in research into cultural participation was the main aim of this study. The methodological take aways are reported in D2.2, while findings are expected to feed into academic journal articles and/or the concluding INVENT report/book publication, D7.3.

Deliverable 5.3. A Report on the influence of digitalization on culture

4 Findings

In the following we present some preliminary findings from the INVENT project pertaining to the objectives of WP5, based on: the parts of the survey asking about media use, digital cultural participation, and perceptions of digital transformations; the first two phases of data scraping of online conversations about culture on Twitter and Facebook respectively; and some highlights from the qualitative interviews with Europeans from selected INVENT countries about their perceptions of the digital transformation, including its influence in their cultural participation.

4.1 Survey: Media use, digital cultural participation, and digital transformations

The survey included questions of relevance to all three objectives of WP5, but especially the first two: 1) how people perceive and understand changes influenced by the introduction of digital media, information, and communication technologies, in particular the transformation of cultural participation in a time of digital media, and 2) how perceptions and consumption of culture are shaped through media usage, in particular digital forms of media use.

More specifically, the survey asked about people's media use broadly (Q11) and their use of the internet in general (Q12) and for various cultural purposes and practices specifically (Q12a), i.e., for different types of digital cultural participation. In addition, the survey included items about Europeans' perceptions of how the internet has influenced their everyday lives (Q16, items 3 and 8) and how the internet had changed the situation in the country they live during the past five to ten years (Q23, items 3 and 6). I.e., questions that tap into both public and scholarly debates about digital connectivity and digital divides.

The following presents descriptive analyses and visualizations of Europeans' responses to these questions for all countries and/or country by country, including basic sociodemographic divisions of relevance to the given question, such as age, gender, urbanity, education, and/or migrant background. Appendix A1 provides more detailed information about the operationalization of the survey variables used in the following sections. Any reported differences between socio-demographics or countries are statistically significant, unless indicated otherwise.

4.1.1 Media use

A key purpose of (news) media in Western democracies is to support citizens in staying updated on political and societal issues and being able to participate in public debate (e.g., Strömbäck, 2005). Accordingly, the INVENT survey did not ask about media use in general but how often Europeans use (eight) different types of media to stay informed about current affairs. This phrasing aligns with the European Social Survey (ESS10-2020), which asks "On a typical day, about how much time do you spend watching, reading or listening to news about politics and current affairs?".[1] However, unlike the ESS question, the INVENT survey asked about the frequency with which eight types of media are used, to probe into the importance of different types of media as news sources for respondents from specific socio-demographic groups and countries. Frequency was measured on a five-point scale: 0 (almost) never; 1 = less than once a month; 2 = at least once a month; 3 = at least once a week; 4 = (almost

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[1] ESS10-2020, Appendix 7 Codebook, p. 5.

daily). In Figures 1 below, categories 1 and 2 have been combined under the heading "occasionally".

Public service television and social media are the most often used types of media by Europeans for staying informed about current affairs, which confirms the hybridity of the current media ecology (Chadwick, 2017). The declining role of printed newspapers also shows in the data, as only one in three uses printed newspapers (almost) daily (see Figure 1). Despite the globalized media landscape, domestic news media still dominate compared to foreign news sources.

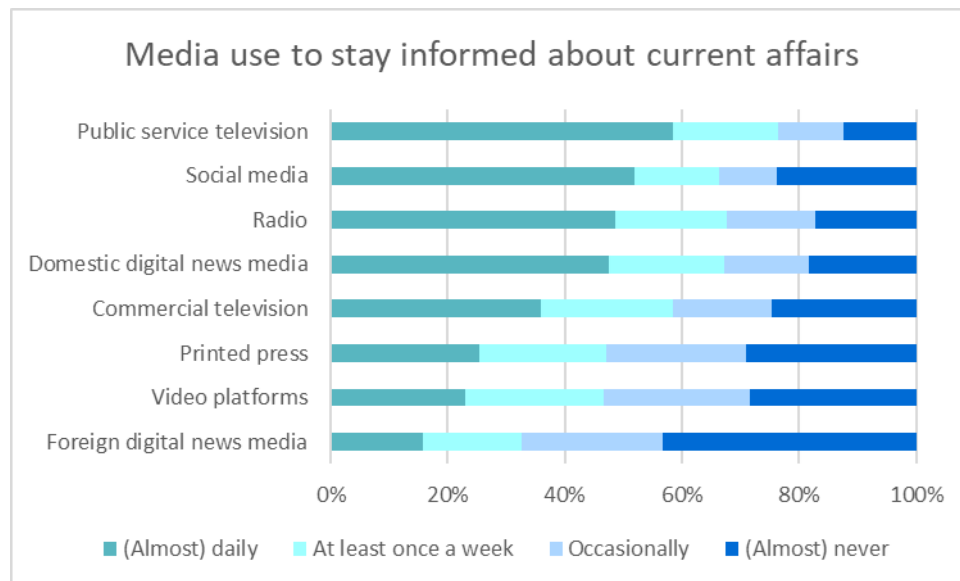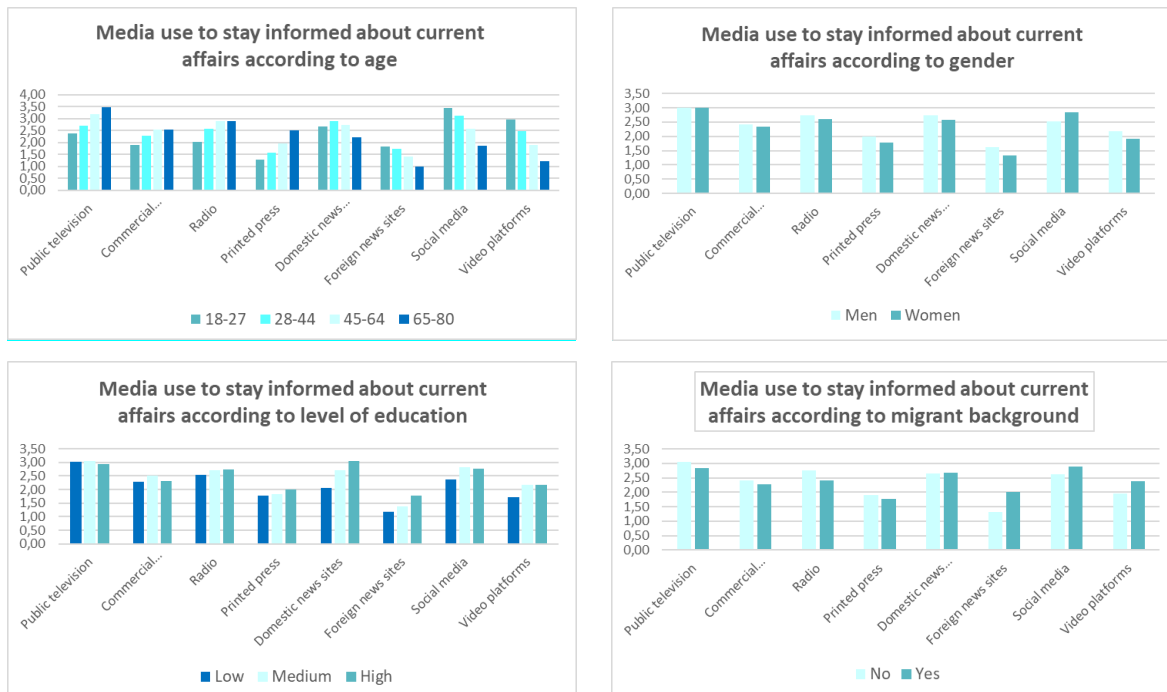**Figure 1.** *Frequency of use of eight media types to stay informed about current affairs*

Figure 2. *Average use of eight media types to stay informed about current affairs according to age, gender, education, and migration background*
Note: Average score ranging from 0 (almost never) to 4 (almost daily).

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Sociodemographic differences in media use: Not surprisingly, sociodemographic factors influence people's media use (see Figure 2): older age groups use legacy media (such as television, radio, and printed newspapers) more often than younger age groups, who have a more digital profile, as social media, video sharing platforms, and digital news sites play a bigger role in their media use. Some gender differences are significant, as women use social media for news more than men do, who instead use video platforms more than women. Thus, both men and women use newer digital media offerings, but not necessarily the same ones. As for education, highly educated Europeans use most types of media more often, except for television. People with a migrant background more often turn to digital international news sites, social media, and video platforms for news, while they use radio and public and commercial television less often.

Cross-national differences in media use: Overall, some country differences emerge across the nine INVENT countries in people's use of media to stay informed about current affairs. The scores for the four highest ranking countries differ significantly from those of the other five countries, that in turn also show significant differences between them. Especially the UK stands out with the least frequent media use (see Figure 3).
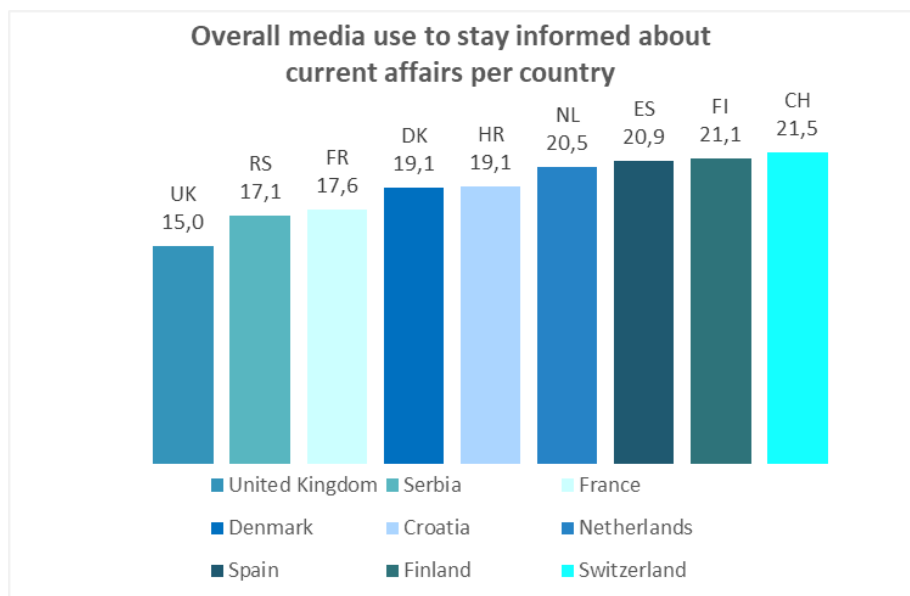
Figure 3. *Overall use of eight media types to stay informed about current affairs per country*
Note: Sum score based on frequency with which eight types of media are used. Possible range 0-32.

When looking at particular types of media use across countries, *public service television* seems to have a strong position in Denmark and Finland in accordance with the Nordic media welfare state, in which public funding for public service media play a key role as part of the social democratic welfare ideology (e.g., Enli & Syvertsen, 2020). Interestingly and perhaps paradoxically, the use of public service television is lowest in the UK (see Figure 4). *Commercial television* holds a strong position in Croatia, Spain, and Serbia, which can be viewed in light of such media offerings providing an alternative to the often-strong political parallelism between public media and the political establishment (e.g., Dobek-Ostrowska, 2015).

Figure 3. *Frequency of use of eight media types to stay informed about current affairs according to country*
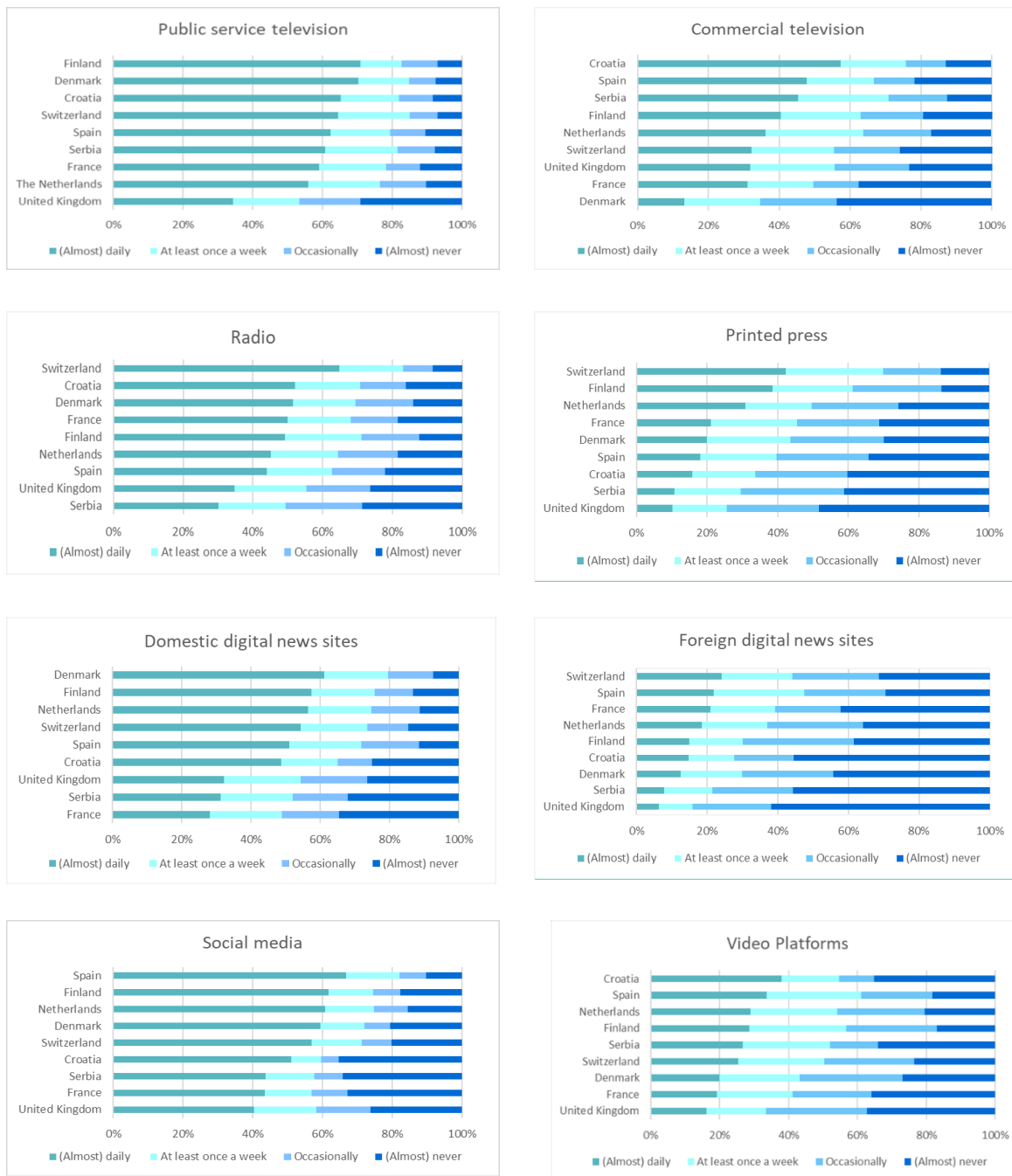
The high levels of internet penetration in many of the studied countries, not least in Northern Europe, are also visible in Figures 4 with, e.g., the high use of domestic digital news sites in countries such as Denmark, Finland, the Netherlands, and Switzerland, and the high use of social media for news in Spain, Finland, the Netherlands, Denmark, and Switzerland. The UK, surprisingly, ranks relatively low on most of the different types of media use for current affairs, whether public or commercial, print or digital, legacy or social media. Perhaps this is related to the negative impact that both Brexit and the Covid-19 had on the news sector in the UK (Newman et al., 2021, p. 62).

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Even though the specific measurements typically differ, similar trends are overall found in other studies of media use for news in specific national contexts (see, e.g., the annual Reuters Institute Digital News Reports).

4.1.2 Internet use

Household *access* to the internet in Europe is measured annually by, e.g., Statista: As of 2022, the internet penetration rate in selected INVENT countries are: 99% for Denmark, 98% for the UK and Switzerland, 96% for the Netherlands, 94% for Spain and 93% for France,[2] and in 2020, the share of households with internet access in selected INVENT countries were: 97% for the Netherlands and the UK, 96% for Finland, 95% for Denmark, 85% for Croatia, and 81% for Serbia.[3] Overall the level of access to the internet in the INVENT countries is high, but for Croatia and Serbia it is clearly lower than for the other countries. Thus, gaps in digital access, or what has been labelled "the first digital divide", is not a main issue in most of the studied countries.

People's *use* of the internet has been included in various cross-national surveys. The INVENT survey comprised such a question as well (Q12), measured on a five-point scale (0-4). The phrasing of the question was inspired by the Eurobarometer and the European Social Survey.
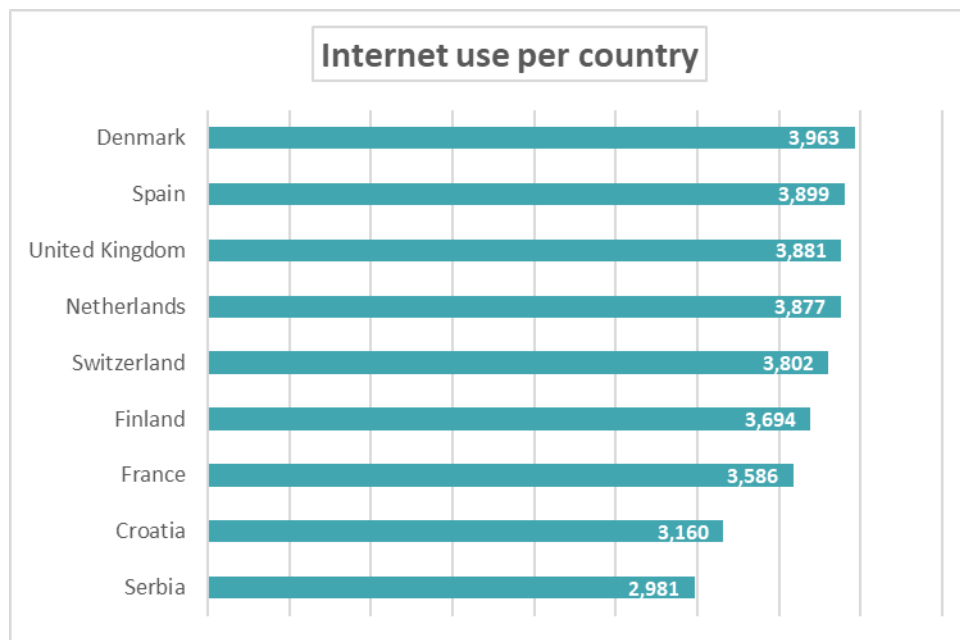
Figure 4. *Average use of the internet per country*
Note: Average score ranging from 0 (almost never) to 4 (almost daily).

Figure 5 shows differences in frequency of use of the internet across the nine INVENT countries: Denmark has the highest frequency, followed by Spain, the UK, the Netherlands, Switzerland, Finland, and France, while Serbia and Croatia have the lowest frequency. The differences between the four top ranking countries in Figure 5 are statistically not significant and the same applies to the difference

[2] https://www.statista.com/statistics/227082/countries-with-the-highest-internet-penetration-rate/ (last retrieved Oct. 27, 2022).
[3] https://www.statista.com/statistics/185663/internet-usage-at-home-european-countries/ (last retrieved Oct. 27, 2022).

between Finland and France. Croatia and Serbia have significantly lower scores than all other countries, but the frequency of internet use is higher for Croatia than for Serbia. Thus, access and use, as could be expected, go hand in hand.

The question about frequency of internet use served as a filter question for a follow-up battery on various cultural activities that people may use the internet for (Q12a). Only respondents who reported using the internet at least once a month were asked about their engagement in different digital cultural activities, as it made little sense to ask them to complete the follow-up battery about their participation in digital *cultural* activities, if they rarely engaged in digital activities *more generally*. As a result, 862 respondents (6.0%) were excluded, the majority come from Serbia (274), Croatia (188), and France (181). The sample for the analysis of digital cultural participation thus included 13,522 respondents.

4.1.3 Use of the internet for digital cultural purposes

A key question in the INVENT survey concerned Europeans' use of the internet for cultural purposes and feeds directly into the second WP5-objective about how perceptions and consumption of culture are shaped through media usage, in particular digital forms of media use. As mentioned, the literature has shown that the internet has provided new opportunities for participating in and engaging with culture (e.g., Casemajor, Bellavance & Sirois, 2021) but it has also shown that people may benefit from these new opportunities to different degrees because of differences in, e.g., digital access or digital skills (Mihelj, Leguina & Downey, 2019; Weingartner, 2021). In line with the INVENT project's bottom-up and inclusive conceptualization of culture, the survey comprised a 14-item battery (Q12a), measured on a five-point scale, on different types of cultural activities that people may use the internet for, ranging from everyday digital cultural practices and types of communication to digital cultural consumption and creative forms of digital cultural production. To our knowledge, no study has so far measured such a wide range of digital cultural practices, on a national or cross-national, e.g., European, level (see D2.1 for a detailed technical outline of the survey and phrasing of the items).

Average participation in 14 digital cultural practices

Practice	Score
Communicate or share things with your friends or family	2,98
Watch short entertainment videos (e.g. YouTube, TikTok)	2,08
Watch films or TV-series on streaming services (e.g. Netflix, HBO,…	1,97
Search information on arts, culture or entertainment (e.g. music,…	1,89
Listen to music via streaming services (e.g. Spotify, Deezer)	1,75
Publish or post photographs that you took yourself	1,37
Play video or computer games online	1,14
Follow celebrities or influencers (e.g. on Facebook, Instagram,…	1,14
Buy cultural products or services (e.g. books, tickets, art works)	1,09
Use sharing or service platforms (e.g. E-bay, Uber, Airbnb)	0,94
Share your opinions about arts, culture or entertainment	0,82
Participate in petitions or political activities	0,70
Visit online concerts, museums, or performances	0,69
Publish/post other creative content you produced yourself (e.g.…	0,65

Figure 5. *Average participation in 14 digital cultural practices*
Note: Average score ranging from 0 (almost never) to 4 (almost daily).

Deliverable 5.3. **A Report on the influence of digitalization on culture**

Communicating and sharing things with friends and family is by far the most frequent activity, i.e., an activity that can be seen as a mundane integral part of everyday life (see Figure 6). Other most frequent activities include *watching short entertainment videos, e.g., on YouTube or TikTok,* and *watching films or TV-series on streaming services such as Netflix or HBO*, i.e., more entertainment-oriented activities or types of cultural consumption of a shorter or longer duration. Activities either requiring more skills and effort such as *publishing/posting self-produced creative content (e.g., blogposts, videos, podcasts, web-zines)*; of a more high-art nature such as *visiting online concerts, museums, and performances*; or with a more politicized dimension such as *participating in e-petitions or political activities online*, are the least frequent digital cultural activities that Europeans participate in. Some other activities associated with the digital age, such as following celebrities or influencers on social media, and using sharing platforms, have also modest participation rates. Still, following celebrities or influencers is something people do either very frequently (about 22% of the internet users do this on weekly or daily basis) or not at all (about 59%). Using sharing or service platforms is done by a relatively large group monthly or a couple of times per year (about 35%).

Socio-demographic differences in (average) digital cultural participation: As was the case with media use more generally, we also see sociodemographic differences in Europeans' use of the internet for cultural purposes (see Figure 7). Average digital cultural participation decreases with age; higher educated people participate more in digital cultural activities than those with medium or lower education; the same is the case for people residing in urban areas compared to people in areas of less urbanization, and for people with a migrant background compared to people with a non-migrant background. However, contrary to the offline context, gender differences are not significant when it comes to the average digital participation score.
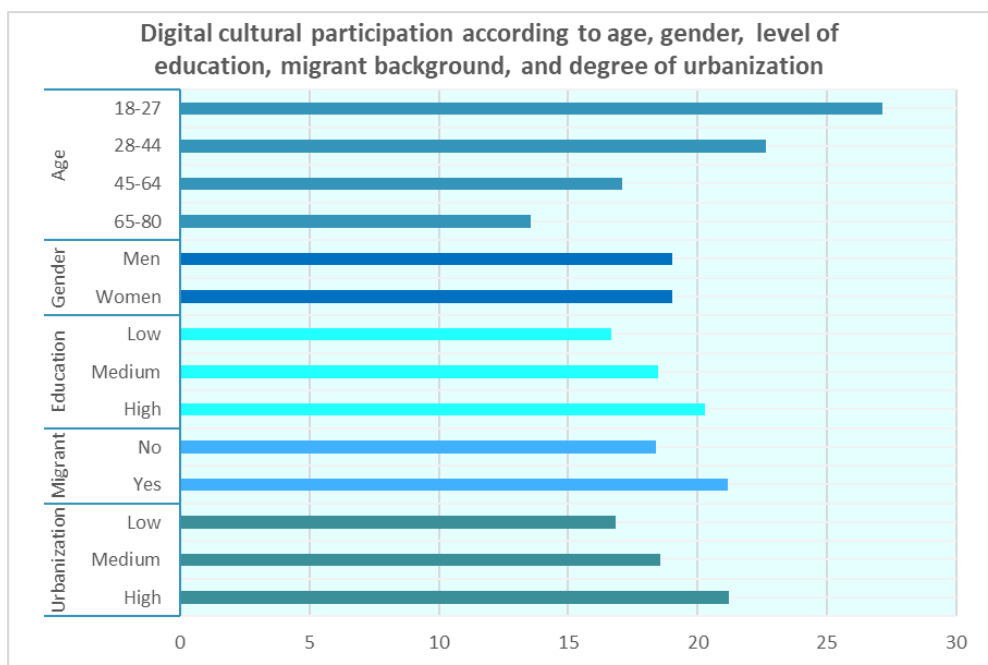

Figure 6. *Overall digital cultural participation according to age, gender, level of education, migrant background, and degree of urbanisation*
Note: Sum score based on frequency with which 14 digital cultural practices are done. Possible range 0-64.

Cross-national differences in digital cultural participation: Overall, the average digital cultural participation score varies some between countries with people in the Netherlands, Spain, and Serbia being most active, and people in Denmark and Switzerland least so (see Figure 8). This suggests that less frequent use of the internet more generally does not necessarily parallel less use of the internet for *cultural purposes* more specifically. The average digital *cultural* participation score is, for example, higher for Serbia than for Denmark.
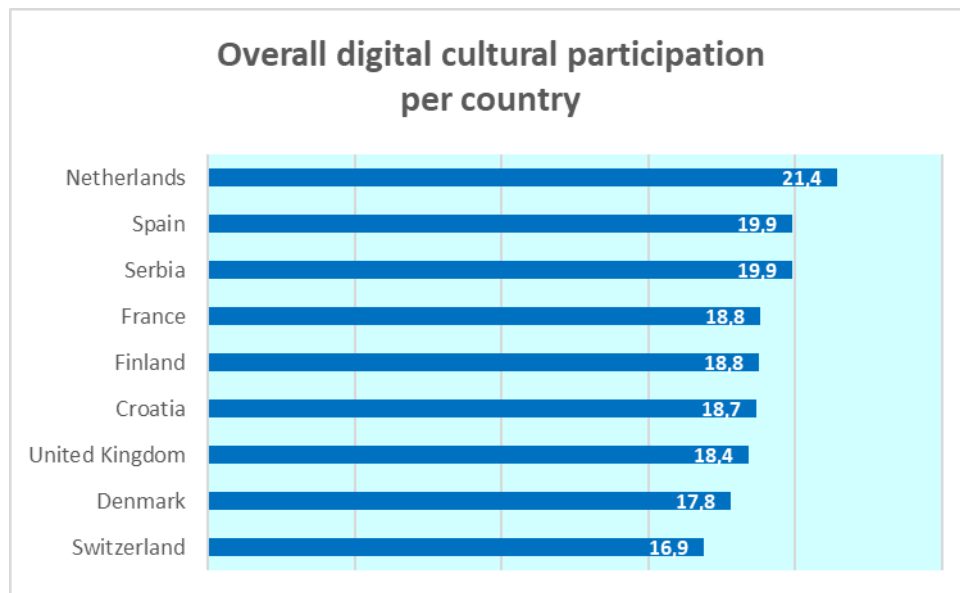

Figure 7. *Overall digital cultural participation per country*
Note: Sum score based on frequency with which 14 digital cultural practices are done. Range 0-64.

When it comes to country differences for each of the 14 digital cultural participation items other country distinctions emerge, and overall trend being, however, that especially Spain, Serbia, Croatia, and France rank high on many of the digital cultural activities (see Figure 9).

As for posting photos, posting other self-produced creative content, or watching short entertainment videos people in Serbia, Spain, and Croatia are far more active than people in, e.g., Switzerland or Denmark. Sharing opinions about arts and culture in the digital sphere and visiting online exhibitions, performances, and concerts are most common in Spain, Serbia, and France.

People from the UK and France engage significantly less than people in the other INVENT countries in mundane activities such as communicating or sharing things with friends and family. But when it comes to engaging in more politicized activities such as e-petitions, people from the UK and France are most active, while they also more often play games online than people from most other countries (except Spain).

A digital born cultural activity such as following celebrities or influencers on social media is most common in Finland, Serbia, and Spain and least so in the UK and Switzerland. Using platform businesses such as Uber or Airbnb is most common in the Netherlands, Serbia, and Croatia and least so in Denmark (one explanation being that Uber is not available in Denmark). Buying cultural products online, e.g., on Amazon, is most common in Spain, France, and Switzerland and least so in Serbia and Croatia. Similarly,

regarding more entertainment-oriented activities such as streaming, e.g., film and TV-series or music, people from Croatia and Serbia are least active compared to people in Spain, the Netherlands, Denmark, Finland, and the UK, which may link to differences in digital infrastructure in the respective countries.
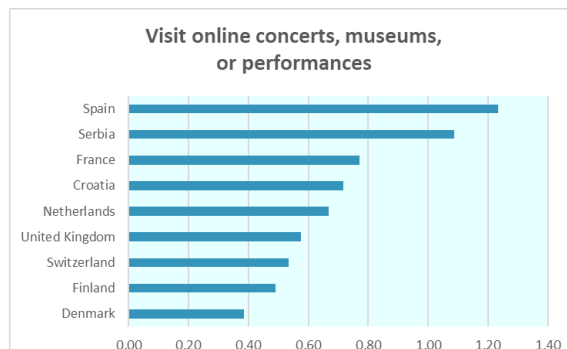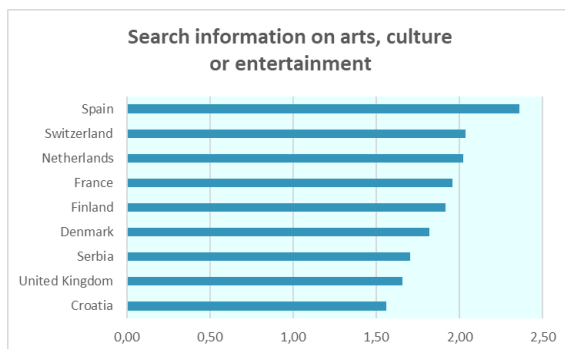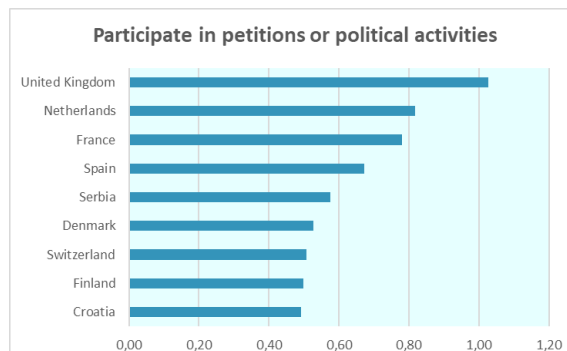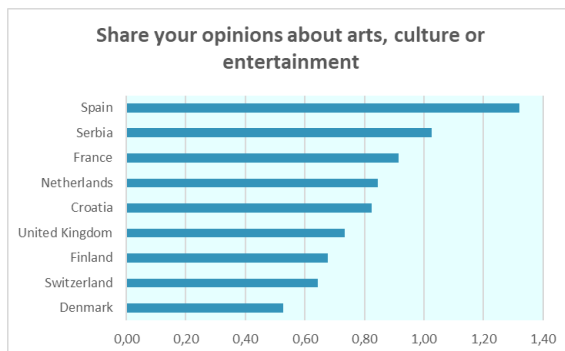
Deliverable 5.3. **A Report on the influence of digitalization on culture**
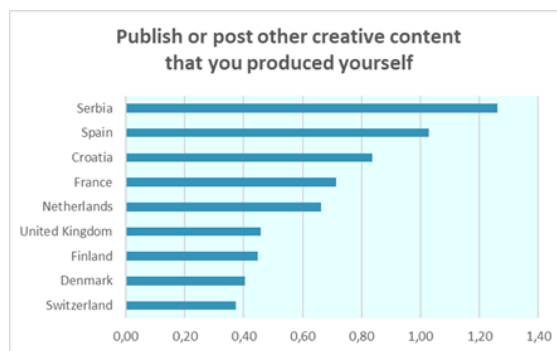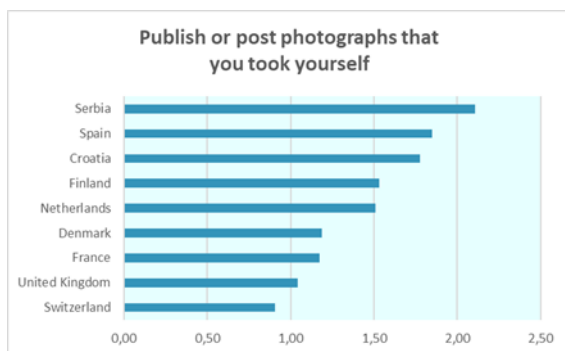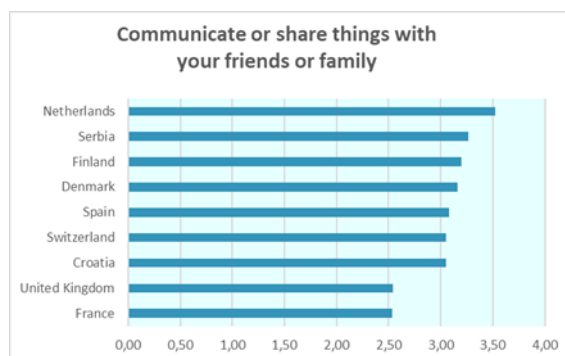
Figure 8. *Average participation in 14 digital cultural activities per country*
Note: Average score ranging from 0 (almost never) to 4 (almost daily).

4.1.4   Perceptions of the impact of the internet

To investigate some of the broader sociocultural changes entailed by digitalization, the survey asked about people's perceptions of the internet in their everyday lives – more specifically (in Q16) to which degree people agreed with the statements "The Internet has enabled me to make contact with people who share the same cultural interests as me", and "I often lack the skills to find the information I need on the Internet". Furthermore, the survey asked about how the internet had changed the situation in the country they live during the past five to ten years – more specifically (in Q23) to which degree they agreed with the statements "The increased use of the Internet has created more problems than solutions in my country", and "It has become very difficult to live your life without using the Internet in my country".

The internet clearly plays a major role for the large majority of Europeans, as eight in ten agree that is has become very difficult to live their life without using the internet (see figure 10). Less than one in ten disagrees with this statement. Europeans are quite divided, however, in whether they find that the internet has created more problems that solutions where they live – one in three agrees and one in three disagrees with this statement.
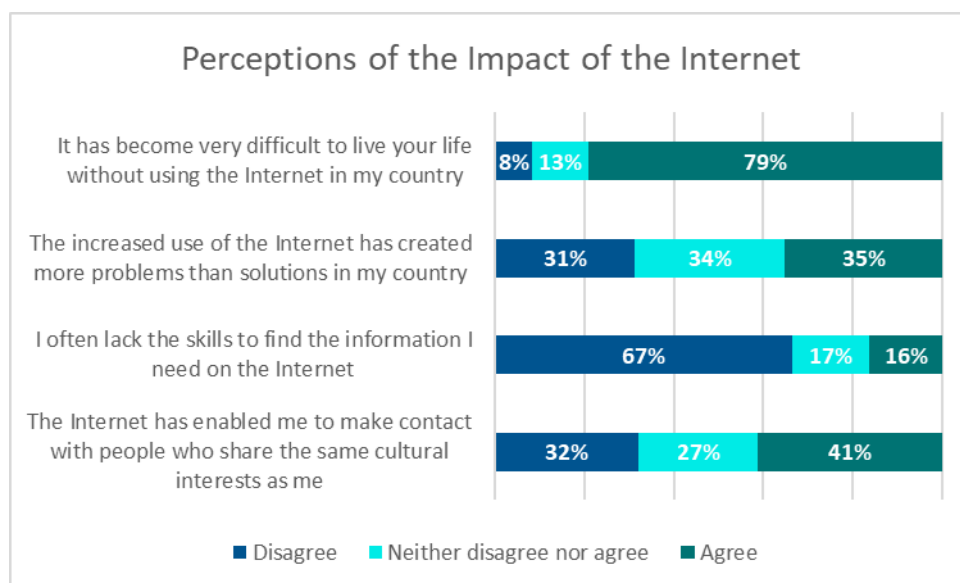
Figure 9. *Perceptions of the impact of the internet*

The majority perceives themselves as skilled in finding the information they need on the internet, which indicates a relatively high level of confidence in own digital skills. Only one in six lack such confidence. Furthermore, more Europeans agree than disagree that the internet has enabled them to make cultural connections with likeminded, suggesting overall more positive than negative perceptions of the impact of the internet in everyday life.

Sociodemographic differences in perceptions of the internet: These perceptions of the digital transformations afforded by the internet differ according to age groups, however (see figure 11): Younger age groups generally have more positive perceptions of the internet than older age groups across all statements. In some regards, gender also plays a role, as women more than men think that the internet has created more problems than solutions, but also more women than men find it difficult to live their life

without using the internet. Higher educated people also have a more positive view of the internet than lower educated, the same is the case for people living in urban areas compared to people living in rural areas.
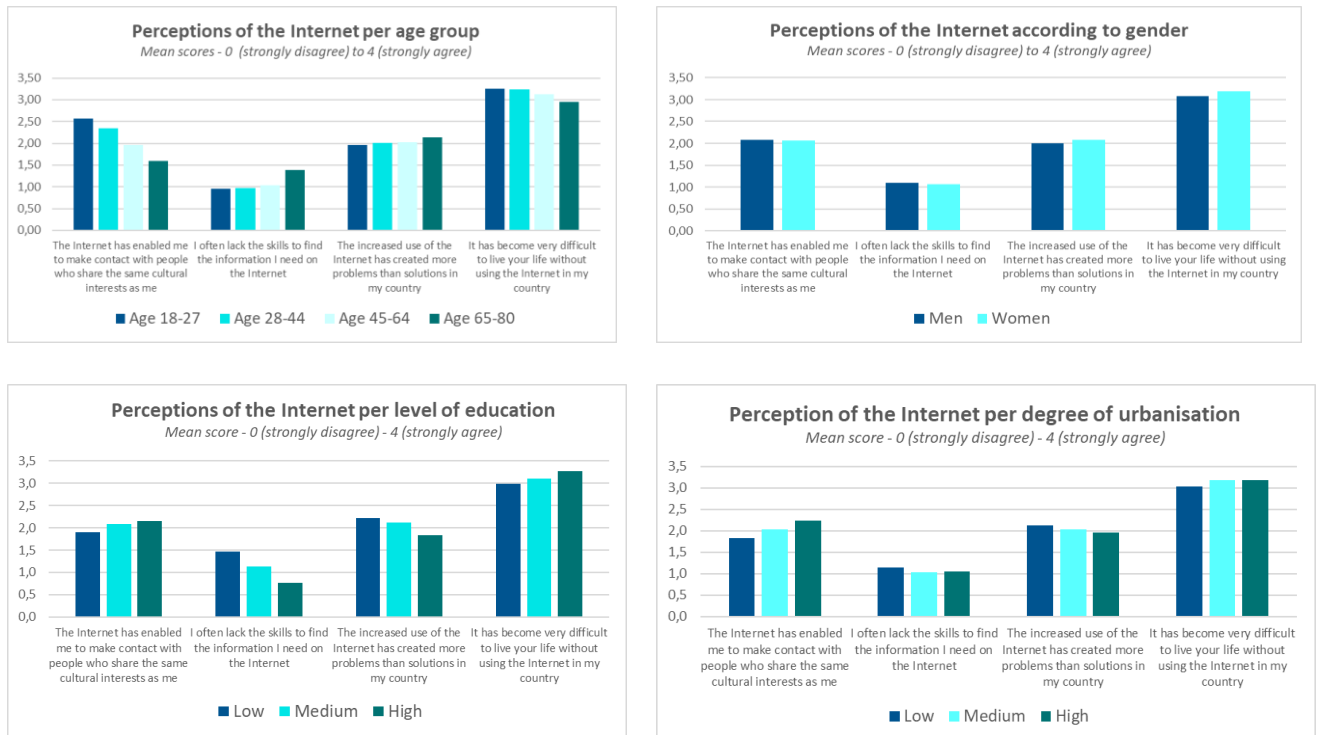
Figure 10. Perceptions of the impact of the internet according to age, gender, level of education, and degree of urbanisation

Thus, people who think that the internet have enabled cultural connections are typically younger, highly educated, and live in urban areas; people who find that they often lack the skills to find needed information on the internet are older, lower educated, and live in rural areas; people who find that the internet has created more problems than solutions in their country are typically older, female, less educated, and live in more rural areas; and people who agree that it has become very difficult to live their life without the internet are typically younger, female, have high levels of education, and live in urban areas. This points in the direction of the social stratification of digital divides more generally with age and education being important predictors (Mihelj, Leguina & Downey, 2019).

Cross-national differences in perceptions of the internet: Differences, and to some extent digital divides, also emerge across countries. People living in Spain, Serbia, and Croatia generally agree more to the statement that the internet as enabled them to connect with people with similar cultural interests (see figure 12). People from the same countries, however, also agree more with the statement that they often lack the skills to find the information they need on the internet, also considerably more than people from highly digitalized societies such as the Netherlands, Denmark, and Switzerland.

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The Internet has enabled me to connect with people with similar cultural interests
Percentage respondents who (somewhat) agree with statement

Country	%
Spain	61%
Serbia	52%
Croatia	51%
United Kingdom	41%
Denmark	41%
France	37%
Finland	35%
Netherlands	29%
Switzerland	27%

I often lack the skills to find the information I need on the Internet
Percentage repondents who (somewhat) agree with statement

Country	%
Croatia	31%
Serbia	29%
Spain	22%
France	21%
Finland	14%
United Kingdom	10%
Switzerland	10%
Denmark	9%
Netherlands	9%

It has become very difficult to live your life without using the Internet in my country
Percentage respondents who (somewhat) agree with statement

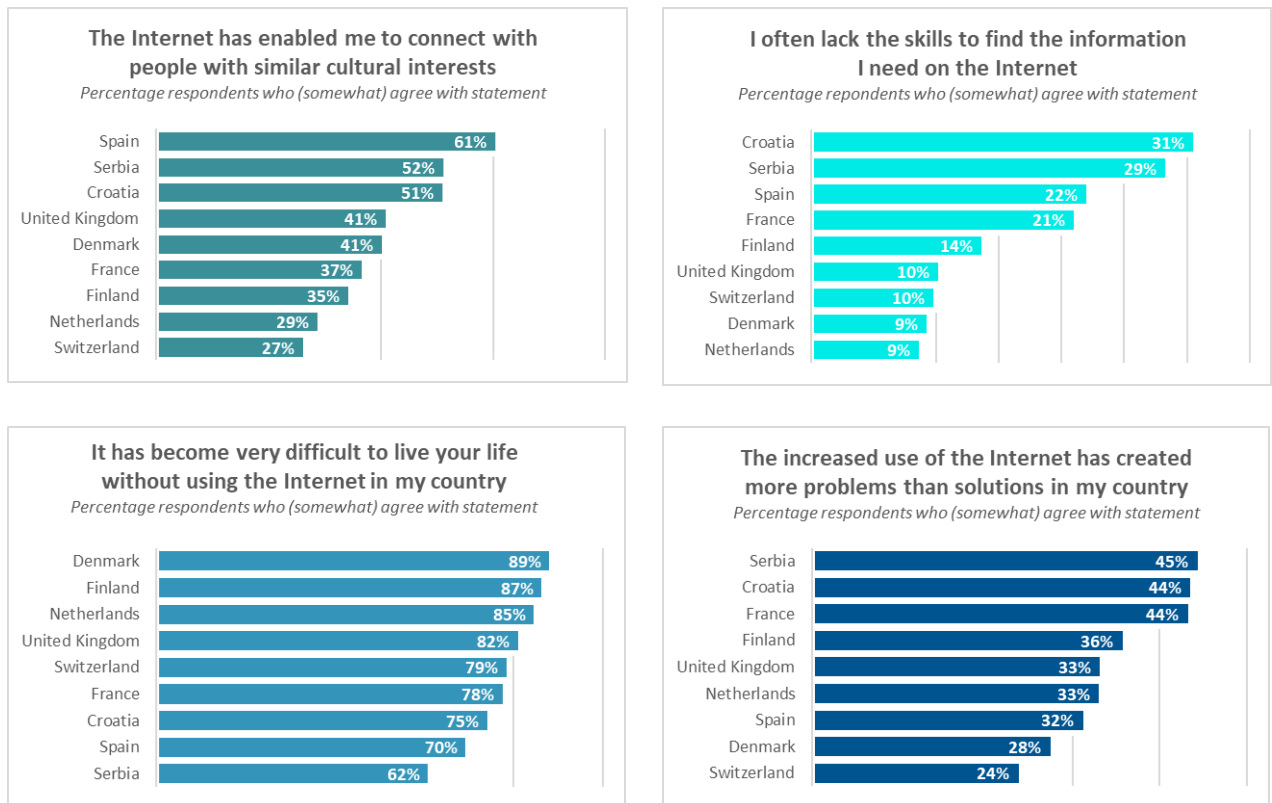| Country	%
Denmark	89%
Finland	87%
Netherlands	85%
United Kingdom	82%
Switzerland	79%
France	78%
Croatia	75%
Spain	70%
Serbia	62%

The increased use of the Internet has created more problems than solutions in my country
Percentage respondents who (somewhat) agree with statement

Country	%
Serbia	45%
Croatia	44%
France	44%
Finland	36%
United Kingdom	33%
Netherlands	33%
Spain	32%
Denmark	28%
Switzerland	24%

Figure 11. Perceptions of the impact of the internet according to country

Similarly, people from such highly digitalized societies, including Denmark, Finland, the Netherlands, and the UK tend to agree more with the statement that it has become very difficult to live their lives in the respective countries without using the internet, again to a much larger degree than people in Spain, Serbia, and Croatia. Finally, people in Serbia, Croatia and France find that the internet has created more problems and solutions compared to people living in Switzerland, Denmark, and the Netherlands, but also Spain.

4.2 Data scraping phase I: The cultural Twittersphere

In view of the duration of the INVENT project we had the opportunity to conduct several phases of data scraping. As the phase III is ongoing, this report focuses on phase I and II, summarizing findings reported in detail in D5.1 and D5.2. The data scraping feeds directly into the third objective of WP5; the analysis of how Europeans express themselves online about culture through evaluative, conversational, and creative-productive modes.

Topics associated with culture in the Twittersphere: Phase I, focusing on the cultural Twittersphere and conducted in 2021, identified the topics associated with the keyword 'culture' and the actors engaged in such conversations in 2019 and 2020, pointing to both cross-European and country specific themes of relevance to EU and national cultural policy makers. More specifically, eight thematic topics groups were identified in almost all nine INVENT countries: (1) Film/TV/Theatre, (2) Literature/Arts, (3) Music/Concerts/Festivals, (4) Policies and Politics, (5) Identities and Boundaries, (6) Society and Inequalities, (7) Economics/Business/Work, and (8) Spaces and Places. Country-specific topics connect to e.g.,

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#MeToo (Denmark) or Health (UK). These topics suggest, on the one hand, that when people talk about culture, they often talk about culture in a narrow sense ("culture as arts"), as three of the eight thematic topic groups refer to the sphere of arts and creativity, and all countries contribute at least one topic to each group. Hence, there are Twitter users in all countries who relate culture to (1) filmmaking, cinema, television, online streaming, theatres, and similar kinds of performing arts ("Film /TV/Theatre"); (2) books, literature, or visual arts presented in museums or galleries ("Literature /Arts"); and (3) music, concerts, festivals, and similar events ("Music/Concerts/Festivals").

On the other hand, the meaning of culture is not restricted to the arts but also includes aspects of human life such as politics, inequality, and economics ("culture as way of life"). The five remaining thematic topic groups cover a wide range of political, societal, and economical discussions. Culture in a broader sense can refer to such diverse topics as (4) political debates about the distribution of public funds (especially for the arts sector) or the educational system ("Policies and Politics"); (5) the demarcation of boundaries between social groups, often on the level of nation states and therefore aiming at reinforcing national identities ("Identities and Boundaries"); (6) the cohesion of societies and the unequal opportunities of privileged and underprivileged groups, most prominently inequalities between genders and races ("Society and Inequalities"); (7) economic developments related to organizational structures, management, employment relations, or digitization ("Economics/Business/Work"); and (8) differences between particular spatial entities such as regions (including a rural-urban divide), countries, or cities ("Spaces and Places").

The fact that all topic groups (1 to 8) can be detected in almost all countries indicates that there is something like a common core of what culture means in Europe. This does not mean, however, that the eight thematic topic groups encompass everything that culture can possibly be understood to be. This is suggested by the fact that there are "Other Topics" related to culture.

Tweeters about culture: As for the most active actors in the cultural Twittersphere, the data shows that media and cultural organizations, or institutions, and professional individuals such as journalists and artists account for a significant share of tweets in each country. This suggests that the viewpoints of institutionalized cultural intermediaries continue to play a prominent role in online cultural debates, at least on Twitter (see also Kristensen, From & Haastrup, 2021). Hence, our data could be biased towards topics that are particularly relevant for such news media and institutionalized actors. On the other hand, one could argue that, e.g., news media are keen on reaching as many people as possible to attract as larger audience. Consequently, they often seek to cover a broad range of topics, which in turn would be an advantage for our analyses. At the same time, the data points to a large variety of users in each country contributing to cultural discussions on Twitter, which indicates the usefulness of analyzing Twitter as a platform for how Europeans express themselves online about culture.

Changes in view of Covid-19: The period studied included a "pre-covid" phase (2019) and an "in-the-midst of covid" phase (2020), and in many countries the pandemic emerged in the debates in the cultural Twittersphere, though to varying degrees. Interestingly, however, Covid-19 does not appear as a *separate* topic or topic group. Rather, it is discussed within existing topics from several topic groups. For instance, in Finland, France, the Netherlands, Spain, and Switzerland Covid-19 impacts discourses about public subsidies for the arts and related cultural policies. In France, the Netherlands, Serbia, and Switzerland, Twitter users additionally discuss the lockdown of cultural venues and events (e.g., cinemas, museums, festivals), and, at least in France and the Netherlands, possible (digital) alternatives. In

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the Netherlands, France, and Spain, Covid-19 appears also related to discussions about broader cultural issues such as healthcare, education, telework, sports, and tourism.

Overall, for most countries, we find a lot of stability in the topics discussed before and during the pandemic in relation to culture. This stability is likely connected with the prominence of various categories of institutional and professional users that routinely use Twitter and other social media for dissemination and discussion of content related to their areas of specialization and interest. These highly active users include, for example, news media, (cultural) organizations, policy bodies, NGOs, journalists, scholars, activists, and artists who mostly maintain and sometimes even increase their presence on Twitter during the pandemic.

However, this continuity does not imply that nothing changes in the Twitter discourses about culture. In some countries (Croatia, Denmark), the range of topics and discourses in the 2020 data decreases compared to the pre-Covid period, whereas in other countries (the Netherlands and Serbia) a wider range of topics are discussed. In most countries, new topics emerge in the 2020 Twittersphere that are not (very) manifest in 2019, a prominent example being "Cancel culture". In some countries (Denmark, the Netherlands, Finland), it appears as a separate topic, whereas in other countries it is enmeshed with existing discourses, for instance, with ongoing social inequalities debates in the Swiss case.

Finally, as already noted, the impact of Covid-19 is clearly visible in the 2020 data for most countries, especially in discussions about cultural offerings and venues (e.g., limited access, online alternatives), and policies and public funding (e.g., crisis support for culture and other sectors), but also in culture-related discussions about tourism, sports, leisure, healthcare, and education. In some countries, new, Covid-related topics emerge, such as "Education" in the Spanish case, related to people discussing alternative, digital tools for teaching and learning, and "Family" in the UK case, discussing Covid-related changes in family life (e.g., spending more time with one's family, or being unable to visit relatives).

4.3 Data scraping phase II: E-petitions about culture on Facebook

Phase II of data scraping explored a specific type of digital cultural participation; e-petitions related to culture, taking its point of departure in the research question: "What do people talk about when they talk about culture *with the intention of making a difference or achieving a defined cultural goal?*". Corresponding to INVENT's bottom-up approach, cultural petitions can be seen as a distinct way for Europeans to express themselves online about culture. The survey showed that using the internet for more politicized digital cultural activities such as e-petitioning is not the most widespread digital activity among Europeans (see Figure 9). Nonetheless, it is not uncommon either. It is most common in the UK, the Netherlands, France, and Spain, and least so in Serbia, Denmark, Switzerland, Finland, and Croatia.

Phase II of data scraping corroborates that e-petitioning, as a form of civil involvement, is prevalent in all countries, though to different degrees. As also shown by the survey, e-petitioning seems to be a widespread practice in France and the UK, while it is applied on a smaller scale in Denmark and Croatia. In many countries, governmental bodies are addressed on general e-petition platforms compiling all sorts of topics, petitioners, and addressees. Other countries' governments maintain their own e-petitioning platform. This is the case in the UK, but also happens at the European level, where the EU facilitates petitions directed to the European parliament.

Platforms that are directly linked to or even maintained by governments signal that the opinions and input of citizens are taken seriously. INVENT recommends all European governments (at various levels) to consider and explore the possibility of facilitating e-petitions via a government-related e-platform, to collect input and perspectives of citizens. Taking such input seriously also means that governments should respond in a timely and serious manner to citizen suggestions. Hence, an additional recommendation to national and local governments is to explicitly formulate rules regarding government's responsibilities in dealing with widely supported petitions.

Themes in cultural e-petitions: A first finding is that people across the nine European countries deem a wide variety of cultural themes worthy of advocating for via online petitioning. More specifically, seven overall themes pertaining to the most trending cultural issues discussed on Facebook through online petitions emerged, both on supranational and national levels: (1) children and education, (2) social equality and human rights, (3) social inequality and rifts, (4) national/international rifts, (5) climate change/sustainability, (6) Covid-19 pandemic, and (7) popular culture.

Country differences are mainly represented in the particular focus that each country places within each theme. All countries are concerned with similar causes, but the ways in which people suggest tackling specific issues differ. The wide variety of cultural themes identified stems from an open and broad conceptualization of culture employed in the study. The diversity of cultural petitions emerging from phase II confirms that such a broad conceptualization of culture is required to bring all cultural interests and forms of expression into view, and it accords with the INVENT project's bottom-up approach to studying diverse notions of culture and diverse forms of, in this case, digital cultural participation.

Digitalization: A second finding is that e-petitioning is a good example of how digital media technology both democratizes access to cultural participation in the broadest sense and lowers the threshold of such participation, in this case political participation and sociocultural engagement. Here the Covid-19 pandemic serves as a particularly interesting case in point. Throughout Europe, cultural sectors proved innovative in continuing their cultural activities as much as possible throughout the pandemic, not least via digitalization of their offerings. Nonetheless, our results suggest dissatisfaction, as several petitions, especially in Serbia, Croatia, Switzerland, and the Netherlands, called for a release of restrictions and reopening of cultural venues and continuation of events during the pandemic.

We observed several affordances of e-petitions. Besides of, in some cases, directly influencing policy and decision-making and changing a government's course, e-petitions fulfil, amongst others, the purpose of expressing dissatisfaction and frustration; finding like-minded and forming communities; or alerting others to issue of concern. Additional interpretative research is required, however, to gain more specific insights into the motivations and sentiments that people have when they advocate for culture through online petitions, as well as the expectations they foster regarding the outcomes.

The recommendations for policy are two-fold: Digitalization of culture in times of restrictions has proven a viable substitute for live cultural participation. At the same time, policy makers that are highly enthusiastic about digitalization must keep in mind the difference for cultural participation in digital/non-digital contexts, as digital cultural events are not experienced in the same intensity and with similar emotional engagement as live events. Digitalization of culture can never fully replace live cultural participations where people experience and participate in culture in real-life and in proximity of others. On the other hand, e-petitioning lowers the threshold for political participation and societal

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engagement for many people, especially compared to the traditional form of paper petitioning. When looking at the recipients that are addressed through petitions relating to culture in the different countries, we see that local and national governmental bodies are spoken to the most. In Croatia (local level), Denmark, Finland, France, and Serbia respectively, there is a formal rule as to when (i.e., at what number of signatures) a governmental body is required to discuss or react to a petition or even put the issue up for vote.
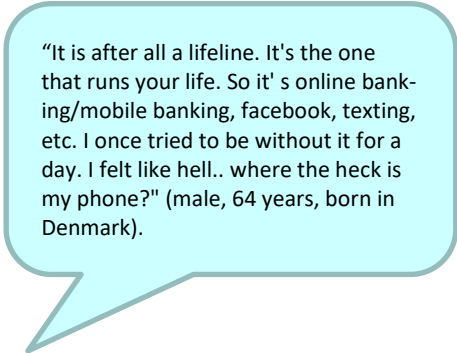
Employing an open and broad view on culture in cultural policy is necessary to achieve the imperative of inclusiveness, and thus making culture accessible to all European citizens.

4.4 Interview spotlights: experiences of the digitalization of culture and everyday life

The qualitative interviews, a minimum of 20 in each INVENT country conducted during summer and fall 2022, i.e., a total of circa 180, overall aimed to gain new insights into the ways in which people from diverse backgrounds (citizens with and without migrant background in the respective countries) see and verbalize their (changing) experiences and meanings related to participation in culture as well as cultural values and attitudes, including a subset of questions about the role of digital media and digital transformations in this context. Thus, part of the interviews addressed issues feeding directly into the first and second objective of WP5: the identification of how Europeans perceive and understand changes influenced by the introduction of information technologies into all spheres of life, in particular the transformation of cultural participation in a time of digital media; and the investigation of how perceptions and consumption of culture are shaped through media usage, in particular digital forms of media use.

The interview guide asked if people use computers, smartphones, and tablets and for what purposes; what role such devices play in their everyday life; and if such devices and digital media, communication, and information technologies more generally have changed their cultural activities, e.g., in terms of access to, consumption of, communication about, and creation of culture, and if so, in which ways. Furthermore, the interviews with people with migrant backgrounds explored the role digital media play for the connection to (family/friends in) their country of origin. In short, the interviews explored how people relate to the media in their lives, and how those practices impact their cultural practices. Due to varying progress of transcription, we in the following present preliminary highlights from the interviews, emphasising data from the 20 Danish interviews (in view of UCPH leading WP5) but interview quotes from Finland, France, Serbia, and UK are also included to illustrate central findings beyond the Danish context.

Digital media in everyday life: Using words such as "crucial", "it plays a very big role", "literally everything to us", or even "too big a role", interviewees point, first and foremost, to digital media technologies being very important in their daily lives. Some add critical reflections about their relationship to such technologies, suggesting that they are addicted to or dependent on them or explicitly state that they are *not* addicted. This exemplifies affective and normative relationships with media in everyday life, reproducing negative perceptions of "What do the media do to people", such as being a "smartphone junkie".

"It is after all a lifeline. It's the one that runs your life. So it' s online banking/mobile banking, facebook, texting, etc. I once tried to be without it for a day. I felt like hell.. where the heck is my phone?" (male, 64 years, born in Denmark).

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The interviews identify smartphones/mobile phones as the most central technology, combining daily communication, access to information (google, etc.), social media, online banking, etc. Computers and laptops were most often mentioned in connection with work (i.e., the professional domain) or streaming and creative hobbies such as photo collections (i.e., the private domain), emphasizing a multitude of affordances and the pervasiveness of media technology in almost all parts of life. Especially the communication aspect of digital technologies is perceived as self-evident and ubiquitous, meaning that many respondents do not mention them explicitly. For migrants, being able to stay in daily contact with relatives and friends in the home country is clearly important and afforded by digital media technology. While being physically distant and disconnected from daily news, digital technology helps them stay in touch with people.

> "Yes, of course! Sure, sure, yeah, yeah! Daily. Okay, I thought that went without saying (smiles) [...]" (male, around 30 years, born in Serbia, living in Austria,).
>
> "The phone is mainly to communicate through WhatsApp or Facebook a little bit. It's mostly to communicate with the family in Tahiti" (female, around 60 years, living in France).
>
> "I am not following what is happening in Turkey as I used to. There is a distance growing. I think it's mentally healthy for me. Mostly because of the current situation in Turkey. This doesn't affect my conversations with my friends in Turkey. Their daily hurdles are as important to me as the daily news" (male, 37 years, born in Turkey, living in Denmark).

Access to culture: Especially in relation to culture, most people mention access to information about cultural activities, recommendations, library, etc. as a main (positive) affordance of digital technology. Searching for information about arts, culture, and entertainment was also an activity that ranked high in the survey (4th) among the digital cultural activities that Europeans engage most often in (see Figure 6). Culture is something that is accessed online or informed by online content, confirming the democratization of cultural access afforded by digital technology. The broadening of cultural consumption is also mentioned as a positive (side)effect of digital media technology, as people discover things that they would usually not encounter without all the information so easily available, i.e., ease of use and usefulness in terms of accessibility being additional affordances.

> "It's definitely a big influence. There is so much information you have at hand, especially with a phone, you can just look something up any time. There is so much more that you can discover that you might not have known about. In that sense it is enriching to be able to find what kind of cultural events are happening around you." (female, 32 years, born in Germany, living in Denmark).

Covid19 and the digital: Though not prompted by the interviewer, most people mentioned increased digital and online activities in relation to the Covid-19 pandemic. A common experience from this period, characterized by social distancing and lockdown measures, was an increase in digital personal communication and increased use of a variety of digital cultural offers and recommendations such as digital library services, audio books and podcasts, and streaming platforms. Many interviewees did mention cultural events such as live streams of theatre, concerts, or museum guides as part of their cultural repertoire, tried out during the pandemic. However, they all emphasized not enjoying such activities as much as physical cultural activities, confirming the important social dimension of onsite cultural participation also highlighted by several e-petitions in phase II of the data scraping. Interviewees indeed found it important to clearly differentiate between a digital and a physical experience.

“Some of it, for example with Instagram it's like, you'll have something on TV and if it's something that I'm half interested in, I'm watching TV, I might be scrolling a bit just to keeping up to see what's going on outside in the world as well. So, it's kind of always there" (female, 38 years, born in UK).

“We have tried some [virtual/online] theatre performances. And also we've watched concerts. [...] I remember very clearly when we were driving through Kymenlaakso, and then the phone rang. And we had just taken out our picnic coffees and were sitting on a field, when a relative says that she's sending us a message. And we got a piano performance video, her son was playing the piano, in the middle of the field. So I thought it was a really great [technological] development [laughing]. It was really magnificent." (female, around 60 years, born in Finland).

However, when talking about personal communication, keeping in touch with friends, family, and communities, etc., *social affordances* and aspects were more important than the channel or technology to interviewees, as they did not make a clear distinction between the digital/non-digital context.

Some interviews exemplify situations of not only cross-media but simultaneous, intertwined forms of media use, emphasizing the different affordances and mundane consumption practices of digital media. Consuming cultural products and participating in cultural activities in a digital age implies many modes of mobility.

Expressing, creating, and (not) belonging: Being able to reach a community of like-minded through online forms of expression, mostly on social media, is also highlighted as a positive aspect to digital media technology. However, several interviewees also felt it important to add that they are not "that kind of person", by which they mean active social media users that participate in online discussions. The digital appears as an environment to either be immersed in or as an external power that poses risks, possibilities, and a need for "keeping up". Age or generational differences might play a role, especially in terms of having only online friends or communities. Differences occur when interviewees describe the digital environment as "something to catch up with" or having to make an active effort to stay part of, as an uncontrollable force.

“We also had an Instagram page for this gymnastics team, so we did a little bit of promotion of what we do [...] and then I was really proud of this choreography that I've done. I wanted to show it to people I know in my network who are from or connected to the gymnastics world. And then I was contacted by former gymnastics coaches and my mother's old gymnastics friends and some I've gone to gymnastics with myself. Who have commented that it was cool I did this, it was a good choreography. And it makes you quite happy, it's definitely warming. Especially when it's a former coach who taught you, etc., it's really cool to get feedback like that” (female, 21 years, born in Denmark).

”I am a passive user. But I don't post anything, it's very rare. I don't belong in that category” (female, around 60 years, born in Denmark).

“And since I didn't need a computer in my working career, I've had to do a hell of a "digital leap" in the last three years, and I still almost can't cope with it. [...] But yeah, I think this [digitalization] is very unequal. Because I'm this age, I'm an old person” (Female, around 60 years, born in Finland).

This preliminary analysis of spotlights from a section of interviews points to relevant observations about how digitalization is shaping European's cultural practices, which will be explored more in-depth in the following and final phase of the INVENT project.

5 Conclusion

This final section summaries (some of) the findings so far from the INVENT project about the digitalization of culture in view of the three objectives for WP5; reflects on the methodological and comparative issues behind the findings; and points to the upcoming tasks in the project related to WP5 and the digitalization of culture.

5.1 Findings so far

With regards to one of the core questions of WP5 – how perceptions and consumption of culture are shaped through media usage, in particular digital forms of media use – we find that most of the cultural online practices we distinguished, especially as part of the survey research, are done by a limited number of people. The most common activity is communicating or sharing things with friends and family – this has become a structural feature of everyday life in Europe. Also popular is the consumption of digital entertainment (short videos, films, TV-series, music) via platforms or streaming services, and searching for information on arts, culture, or entertainment. The other activities, affording more skills and effort, with a more politicized component, or mainly associated with the digital age, are done less often by our sample. Perhaps these are more niche activities for separate specific groups, or they are part of the repertoire of a highly omnivorous group. This needs to be examined in follow-up research.

An important finding relating to another key question in WP5 – how European citizens perceive and understand changes influenced by the introduction of information technologies into all spheres of life – is that overall Europeans seem more positive than negative about the impact of the internet in everyday life. Three points need to be made here. First, for many people the rise of digitalization seems a matter of fact, judging by the large group of respondents who state that it is difficult to live without the internet nowadays, yet do not complain about it. In addition to representing a very large group of people, this group is characterized by typically being younger, female, having high levels of education, and living in urban areas. Second, for this group of people the internet has made life probably easier and (more) comfortable, in terms of keeping in touch with others, accessing online entertainment, finding information, and buying (cultural) products. Some – typically younger, highly educated people living in urban areas – also find that the internet has enabled cultural connections. The first preliminary analyses of the interviews attest to this perception. Third, there is still a substantial group that is negative about the Influence of the internet and appears to have difficulties in coping with the digital society: they see relatively many problems or think they do not have sufficient digital skills to navigate the internet. As expected, this group is typically older, lower educated, and lives in rural areas. This points in the direction of the social stratification of digital divides more generally with age and education being important predictors.

As for the third main WP5-question – how Europeans express themselves online about culture through evaluative, conversational, and creative-productive modes – the phase I and II of data scraping have provided unique insights into, first, what topics emerge when Europeans talk about culture in the Twittersphere, and, second, what people talk about when they talk about culture on Facebook with the intention of making a difference or achieving a defined cultural goal via e-petitions. A key finding across both phases is that Europeans – institutions as well as citizens – communicate about and engage in

both narrower understandings of culture and broader understandings connecting to societal values, wellbeing, inequalities etc.

5.2 Methodological reflections

The broad range of phenomena related to the digitalization of culture is captured through the INVENT project's multifaceted and ambitious methodological approach. By applying mixed methods, the project combines the strengths of several methods, thereby capturing the essential characteristics of digitalization, including: datafication (data scraping), media repertoires (survey), everyday immersion and use (interviews); as well as digital cultural participation and mobility (smartphone study). The research design enables tracing Europeans' digital participation, creation, and access on both the macro, structural level (survey and data scraping) and micro, agency level (interviews, smartphone study).

This setup of a large-scale empirical project furthermore enables different temporal approaches. Via the survey and interviews, we capture snapshots of general participation and attitudes during several years (2021 and 2022, respectively). The data scraping and the smartphone study furthermore enable a longitudinal data collection, capturing cultural participation and expression over the course of many years, or over the course of one whole week respectively.

Finally, the fact that the project includes nine different European countries with different cultural policy models, media systems, and levels of digitalization represent a unique opportunity for comparative research about the influence of digitalization on culture. All countries participate in all data collections based on the same research designs and overall data collection methods.

5.3 Next steps

To explore more in-depth both the bottom-up understandings of digitalization in people's lives, and of their cultural participation specifically, and the connections that can be drawn to inform cultural policy making, the project has planned further data collection and analysis: A phase III of data scraping; focus groups; and case studies.

For phase III of the data scraping, the INVENT project is planning on tracing specific topics and cases of relevance in the countries' (online) debates, derived from the e-petitioning initiatives found in phase II. Hereby, this final data scraping phase focuses on the nature of online discussions, exploring the role of societal values of culture for European citizens. Some of these specific topics and cases will explore issues of digitalization, e.g., in the Danish case how the very advanced level of a digitalized society risks excluding the most marginalized groups in society and culture due to little or no access to the internet and limited skills in navigating the digital sphere.

In relation to the cultural policy context, we will conduct focus group sessions, addressing relevant topics with a variety of actors from the cultural field. These discussions will revolve around the project's key themes, the mega-trends, and thus also explore the role of digitalization from the perspective of policy makers and institutions.

Lastly, a collection of case studies, three from each partner country and 27 in total, will contribute, through concrete examples of successful or failing cultural policy initiatives, to the understanding of multi-faceted cultural practices and initiatives in Europe. Danish cases contribute to this collection by

exploring the multi-platform nature of cultural institutions and initiatives, which serve as good examples for digital technologies to engage citizens in culture and promote societal values of culture.

6 References

Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using zoom Videoconferencing for qualitative data Collection: Perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods*, 18. https://doi.org/10.1177/1609406919874596

Ampuja, M. (2012). *Theorizing Globalization. A Critique of the Mediatization of Social Theory*. Leiden: Brill

Blank, G. (2013). Who creates content? Stratification and content creation on the Internet. *Information, Communication & Society, 16*(4), 590–612.

Brennen, J.S, .& Kreiss, D. (2016). Digitalization. In K. B. Jensen, & R. T. Craig (Eds), *The International Encyclopedia of Communication Theory and Philosophy.* John Wiley & Sons, DOI: 10.1002/9781118766804.wbiect111

Casemajor, N., Bellavance, G., & and Sirois, G. (2021). Cultural participation in digital environments: goals and stakes for Quebec cultural policies. *International Journal of Cultural Policy, 27*(5), 650–666.

Chadwick, A (2017). *The Hybrid Media System*. Oxford: Oxford University Press.

Chen, W. (2015). A moveable feast: Do mobile media technologies mobilize or normalize cultural participation? *Human Communication Research, 41*(1), 82–101.

Cook, T. (1997). *Governing with the news: The news media as a political institution*. Chicago: University of Chicago Press.

Couldry, N., & Hepp, A. (2017). *The Mediated Construction of Reality*. Cambridge: Polity Press.

Dijck, J. van, Poell, T., & de Waal, M. (2018). *The Platformization of Society*. NY: Oxford University Press.

DiMaggio, P., Nag, M., & Blei, D. (2013). Exploiting affinities between topic modeling and the sociological perspective on culture: Application to newspaper coverage of U.S. government arts funding. *Poetics, 41*(6), 570-606.

De la Vega, P., Suarez-Fernández, S., Boto-García, D., & Prieto-Rodríguez, J. (2020). Playing a play: online and live performing arts consumers profiles and the role of supply constraints. *Journal of Cultural Economics, 44*, 425–450

European Union (2021). The Standard Eurobarometer. https://europa.eu/eurobarometer/surveys/detail/2532.

Dobek-Ostrowska, B. (2015). 25 Years after communism: Four models of media and politics in Central and Eastern Europe. In B. Dobek-Ostrowska, & M. Głowacki (Eds.), *Democracy and Media in Central and Eastern Europe 25 Years On*. Peter Lang.

Enli, G., & Syvertsen, T. (2020). The Media Welfare State: Why such a concept, what is it used for, does it have a future? *Nordic Journal of Media Studies, 2*(1), 37-45. https://doi.org/10.2478/njms-2020-0004

European Social Survey (2020). ESS10-2020, Appendix 7 Codebook. ESS10_appendix_a7_e01_0.pdf (windows.net) (last retrieved Oct. 29, 2022).

Falk. M., & Katz-Gerro, T. (2016). Cultural participation in Europe: Can we identify common

determinants? *Journal of Cultural Economics, 40*, 127–162.

Finnemann, N.O. (2011). Mediatization Theory and Digital Media. *Communications, 36*(2011), 67-89.

Frandsen, K. (2014). 23. Mediatization of sports. In K. Lundby (Ed.), *Mediatization of Communication* (pp. 525-546). Berlin, Boston: De Gruyter Mouton. https://doi.org/10.1515/9783110272215.525

From, N, Nørgaard Kristensen, N, Marquart, F., Yodovich, N., Katz-Gerro, T, Janssen, S. & Verboord, N. (2021. What does culture mean to Europeans? – Findings of INVENT's exploratory survey in Denmark, the Netherlands and the UK. INVENT Newsletter 1, August 2021.

Gong, Q. (Qiong), Verboord, M., & Janssen, S. (2020). Cross-Media usage repertoires and their political impacts: The case of China. *International Journal of Communication, 14*, 3799–3818. http://hdl.handle.net/1765/134056

Hargittai, E., & Walejko, G. (2008.) The participation divide: Content creation and sharing in the digital age. *Information, Community and Society, 11*(2), 239–256.

Hasebrink, U., & Domeyer, H. (2012). Media repertoires as patterns of behaviour and as meaningful practices. *Participations, 9*(2), 757-779.

Hasebrink, U., Jensen, K.B., van den Bilck, H., Hölig, S., & Maeseele, P. (2015). Changing patterns of media use across cultures: A challenge for longitudinal research. *International Journal of Communication, 9(*2015), 435-457.

Have, I., & Pedersen, B.S. (2015). *Digital Audiobooks: New Media, Users, and Experiences* (1st ed.). Routledge. https://doi.org/10.4324/9781315743080.

Heikkilä, R. (2021). The slippery slope of cultural non-participation: Orientations of participation among the potentially passive. *European Journal of Cultural Studies, 24*(1), 202–219.

Heikkilä, R., Leguina, A., & Purhonen, S. (2022). The stratification of media usage in Finland, 2007–2018: Signs of socio-political polarization? *New Media & Society, 24*(5), 1053–1075. https://doi.org/10.1177/1461444820971612

Hepp, A. (2020). Agency, social relations, and order: Media Sociology's shift into the digital. *Communications, 47*(3), 470-493.

Hjarvard, S. (2011). The mediatisation of religion: Theorising religion, media and social change. *Culture and Religion, 12*(2), 119-135, DOI: 10.1080/14755610.2011.579719

Hjarvard, S. (2014). Mediatization and cultural and social change: an institutional perspective. In K. Lundby (Ed.), *Mediatization of Communication* (pp. 199-226). Berlin, Boston: De Gruyter Mouton. https://doi.org/10.1515/9783110272215.199

Hutchinson, J. (2017). Algorithmic Culture and Cultural Intermediation. In. J. Hutchinson, *Cultural Intermediaries: audience participation in media organisations*. Springer.

Jaakkola, M. (2022). *Reviewing Culture Online*. Palgrave MacMillan.

Janssen, S., Kristensen, N.N., Marquart, F., Verboord, M., & Lamberti, G. (forthcoming) Affordances and barriers for Europeans' digital cultural participation, *INVENT working paper*.

Jenkins H., Ito, M., & boyd d. (2015). *Participatory Culture in a Networked Era*. Polity.

Jensen, K.B. (2010). *Media Convergence. The Three Degrees of Network, Mass, and Interpersonal Communication*. London: Routledge.

Deliverable 5.3. A Report on the influence of digitalization on culture

Jensen, K. B. (2012). Lost, Found, and Made. Qualitative data in the study of three-step flows of communication. In K. Jensen (Ed.) *The handbook of media and communication research: Qualitative and quantitative methodologies* (pp. 435–450), 2 ed., New York: Routledge.

Katz, E. (1959). Mass communications research and the study of popular culture: An editorial Nnte on a possible future for this journal. *Studies in Public Communication, 2*, 1-6. https://repository.upenn.edu/asc_papers/165.

Kaun, A., & Fast, K. (2013). *Mediatization of culture and everyday life*. Södertörn: Södertörn University.

Kellner, D., & Pierce, C. (2007). Media and globalization. In G. Ritzer (Ed.), *The Blackwell Companion to Globalization* (pp. 383-395). Oxford, UK: Blackwell Publishing Ltd, 2007. https://doi.org/10.1002/9780470691939.ch19

Kobbernagel, C., & Schrøder, K. C. (2016). From everyday communicative figurations to rigorous audience news repertoires: A mixed method approach to cross-media news consumption. *Medie-Kultur: Journal of Media and Communication Research, 32*(60), 26 p. https://doi.org/10.7146/mediekultur.v32i60.21302

Kristensen, N. N., & Christensen, C. L. (2017). The mediatization of fashion: The case of fashion blogs. In O. Driessens, G. Bolin, A. Hepp, & S. Hjarvard (Eds.), *Dynamics Of Mediatization: Institutional Change and Everyday Transformations in a Digital Age* (pp. 225-245). Palgrave Macmillan. https://doi.org/10.1007/978-3-319-62983-4_11

Kristensen, N.N., From, U., and Haastrup, H.K. (Eds.) (2021). *Rethinking Cultural Criticism: New Voices in the Digital Age*. Singapore: Palgrave Macmillan.

Lindell, J., & Hovden, J. F. (2018). Distinctions in the media welfare state: audience fragmentation in post-egalitarian Sweden. *Media, Culture & Society, 40*(5), 639–655. https://doi.org/10.1177/0163443717746230

Livingstone, S. (2019). Audiences in an age of datafication: Critical questions for media research. *Television & New Media, 20*(2), 170–183. https://doi.org/10.1177/ 1527476418811118

López-Sintas, J., Cebollada, À., Filimon, N., & Gharhaman, A. (2014). Music access patterns: A social interpretation. *Poetics, 46*, 56-74.

Lunt, P., & Livingstone, S. (2016). Is 'mediatization' the new paradigm for our field? *Media, Culture & Society, 38*(3), 462–470.

Mihelj, S., Leguina, A., & Downey, J. (2019). Culture is digital: Cultural participation, diversity and the digital divide. *New Media & Society, 21*(7), 1465–1485.

Mills, K. A. (2018). What are the threats and potentials of big data for qualitative research? *Qualitative Research, 18*(6), 591–603. https://doi.org/10.1177/1468794117743465

Morris, J. W. (2015). Curation by code: Infomediaries and the data mining of taste. *European Journal of Cultural Studies, 18*(4–5), 446–463. https://doi.org/10.1177/1367549415577387

Murray, S. (2021). Secret agents: Algorithmic culture, Goodreads and datafication of the contemporary book world. *European Journal of Cultural Studies, 24*(4), 970–989. https://doi.org/10.1177/1367549419886026

Myin-Germeys, I., & Kuppens, P. (2021). *The Open Handbook of Experience Sampling Methodology*. Second edition. Leuven: REAL.

Deliverable 5.3. A Report on the influence of digitalization on culture

Newman, N., Fletcher, R., Kalogeropoulos, A., & Nielsen, R.K. (2019). *Reuters Institute Digital News Report 2018*. Oxford: Reuters Institute.

Newman, N., Fletcher, R., Schulz, A., Andı, S., Robertson, C. T., & Nielsen, R. K. (2022). *Reuters Institute Digital News Report 2021*. Oxford: Reuters Institute.

Nieborg, D. B., & Poell, T. (2018). The platformization of cultural production: Theorizing the contingent cultural commodity. *New Media & Society, 20*(11), 4275–4292. https://doi.org/10.1177/1461444818769694.

Nowak-Teter, E. (2019). Mediatization: Conceptual developments and research domains. *Sociology Compass*, 13:e12672. Doi.org/10.1111/soc4.12672.

Oliffe, J. L., Kelly, M. T., Gonzalez Montaner, G., & Yu Ko, W. F. (2021). Zoom Interviews: Benefits and Concessions. *International Journal of Qualitative Methods, 20*. https://doi.org/10.1177/16094069211053522.

Ørmen, J., Helles, R., & Bruhn Jensen, K. (2021). Converging cultures of communication: A comparative study of Internet use in China, Europe, and the United States. *New Media & Society, 23*(7), 151–1772. https://doi.org/10.1177/14614448211015977

Panarese, P., & Azzarita, V. (2020). Online cultural participation in Italy: The role of digital media across generations. In Q. Ghao, & J. Zhou (Eds.), *Human Aspects of IT for the Aged Population: Healthy and Active Aging*. New York.

Pires, F., Masanet, M.-J., & Scolari, C. A. (2021). What are teens doing with YouTube? Practices, uses and metaphors of the most popular audio-visual platform. *Information, Communication & Society, 24*(9), 1175-1191. DOI: 10.1080/1369118X.2019.1672766

Potts, J. (2014). New technological and cultural consumption. In V. B. Ginsburgh, & D. Throsby (Eds.), *Handbook of the Economics of Arts and Culture* (pp. 215–231). Amsterdam: Elsevier.

Ragnedda, M. (2018). Conceptualizing digital capital. *Telematics and Informatics, 35*(2018), 2366

Raffa, M., & Pronzato, R. (2021). The algorithmic imaginary of cultural producers. Towards platform-optimized music? *H-ermes, J. Comm. 19*, (2021), 293-321, DOI 10.1285/i22840753n19p293.

Rocamora, A. (2017). Mediatization and digital media in the field of fashion. *Fashion Theory, 21*(5), 505-522, DOI: 10.1080/1362704X.2016.1173349

Rogers, R. (2019). *Doing Digital Methods*. LA: Sage.

Roose, H., & Daenekindt, S. (2015). Trends in cultural participation. In J. Wright J (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (pp. 447–452). Oxford, England: Elsevier.

Schrøder, K. C. (2019). Audience reception research in a post-broadcasting digital age. *Television & New Media, 20*(2), 155-169. https://doi.org/10.1177/1527476418811114.

Seyfert, R., & Roberge, J. (Eds.) (2016). *Algorithmic Cultures. Essays on meaning, performance and new technologies*. NY: Routledge.

Striphas, T. (2015). Algorithmic culture. *European Journal of Cultural Studies, 18*(4-5), 395-412.

Strömbäck, J. (2005). In search of a standard: four models of democracy and their normative implications for journalism. *Journalism Studies, 6*(3), 331-345. DOI: 10.1080/14616700500131950.

Deliverable 5.3. A Report on the influence of digitalization on culture

Strömbäck, J. (2008). Four phases of mediatization: An analysis of the mediatization of politics. *The International Journal of Press/Politics, 13*(3), 228–246. https://doi.org/10.1177/1940161208319097

Strömbäck, J., Falasca, K., & Kruikemeier, S. (2018). The mix of media use matters: Investigating the effects of individual news repertoires on offline and online political participation. *Political Communication, 35*(3), 413-432. DOI: 10.1080/10584609.2017.1385549.

Swart, J., Peters, C., & Broersma, M. (2017). Navigating cross-media news use. *Journalism Studies, 18*(11), 1343-1362. DOI: 10.1080/1461670X.2015.1129285.

Van der Hoeven, A. (2017). The mediatization of urban cultural heritage: Participatory approaches to narrating the urban past. In O. Driessens, G. Bolin, A. Hepp, & S. Hjarvard (Eds.), *Dynamics of mediatization: Institutional change and everyday transformations in a digital age* (pp. 293-312). London: Palgrave Macmillan.

van Deursen, A. J. A. M., der Zeeuw, A., de Boer, P., Jansen, G., & van Rompay, T. (2021). Development and validation of the Internet of Things Skills Scale (IoTSS). *Information, Communication & Society.* Epub ahead of print 25 March 2021.

Vandenplas, R., & Picone, I. (2021). Media as the great emancipators? Exploring relations between media repertoires and cultural participation in Flanders. *Convergence, 27*(5), 1439–1461. https://doi.org/10.1177/1354856521990246

Verboord, M. (2014). The impact of peer-produced criticism on cultural evaluation. *New Media & Society, 16*(6), 921–940.

Verboord, M., & Janssen, S. (2015). Internet and culture. In D.J. Wright (Ed.), *International Encyclopedia of the Social & Behavioral Sciences* (pp. 587–592), 2 ed., vol 5. Oxford, England: Elsevier.

Verboord, M., & Kristensen, N.N. (2021.) EU cultural policy and audience perspectives: how cultural value orientations are related to media usage and country context. *International Journal of Cultural Policy, 27*(4), 528-543, DOI: 10.1080/10286632.2020.1811253.

Webster, J. G. (2014). *The Marketplace of Attention: How Audiences Take Shape in a Digital Age*. The MIT Press. http://www.jstor.org/stable/j.ctt9qf9qj

Weingartner, S. (2021). Digital omnivores? How digital media reinforce social inequalities in cultural consumption. *New Media & Society, 23*(11), 3370–3390. https://doi.org/10.1177/1461444820957635

Weingartner, S., & Rössel, J. (2019). Changing dimensions of cultural consumption? The space of lifestyles in Switzerland from 1976 to 2013. *Poetics, 74*, 101345.

Werner, A. (2020). Organizing music, organizing gender: algorithmic culture and Spotify recommendations. *Popular Communication, 18*(1), 78-90. DOI: 10.1080/15405702.2020.1715980.

Wilke, J. (2014). Art: Multiplied mediatization. In K. Lundby (Ed.), *Mediatization of Communication*, Berlin: De Gruyter.

Ytre-Arne, B., & Moe, H. (2021). Folk theories of algorithms: Understanding digital irritation. *Media, Culture & Society, 43*(5), 807–824. https://doi.org/10.1177/0163443720972314

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Appendix A1. Operationalization of survey variables used in this report

Concept	Item/question wording and values
Media use	How often do you use the following media to stay informed about current affairs? *0 – (Almost) never; 1 – Less than once a month; 2 – At least once a month; 3 – At least once a week; 4 – (Almost) daily* 1. Public service television 2. Commercial television 3. Printed press (newspapers, magazines) 4. Domestic digital newspapers, news websites, or news apps 5. Foreign digital newspapers, news websites, or news apps 6. Radio 7. Social media (e.g. Facebook, Twitter, WhatsApp) 8. Video sharing platforms (e.g. YouTube)
Overall media use	Sum score based on frequency with which the above eight types of media are used. Possible range 0 (all eignt media are never used) to 32 (all 8 media types are used almost daily.
Internet use	How often do you use the Internet? (either on a computer, laptop, tablet, smartphone, or smart television) *0 – (Almost) never; 1 – Less than once a month; 2 – At least once a month; 3 – At least once a week; 4 – (Almost) daily*
Digital cultural participation	How often do you do the following things on the Internet? (either on a computer, laptop, tablet, smartphone, or smart television) *0 – (Almost) never; 1 – Less than once a month; 2 – At least once a month; 3 – At least once a week; 4 – (Almost) daily* 1. Communicate or share things with family and friend 2. Publish or post photographs that you took yourself 3. Publish or post other creative content that you produced yourself (e.g., blogposts, videos, podcasts, web-zines) 4. Share your opinions about arts, culture, or entertainment (e.g., via posts, ratings, reviews) 5. Participate in petitions or political activities 6. Follow celebrities or influencers (e.g., on Facebook, Instagram, YouTube) 7. Buy cultural products or services (e.g., books, tickets, art works) 8. Search information on arts, culture, or entertainment (e.g., music, movies, museums) 9. Buy cultural products or services (e.g. books, tickets, art works) 10. Listen to music via streaming services (e.g., Spotify, Deezer) 11. Watch films or television series on streaming services (e.g., Netflix, HBO, Disney+) 12. Play video or computer games online 13. Watch short entertainment videos (e.g., YouTube, TikTok) 14. Visit online concerts, museums, or performances

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Concept	Item/question wording and values
Overall digital cultural participation	Sum score based on frequency with which the above 14 digital activities are done. Possible range 0 (all activities are almost never done) to 64 (all activities are done almost daily).
SOCIODEMOGRAPHICS	
Age	In what year were you born? *Recoded in this report into age in years and subsequently into 4 age groups: 1 - 18-27 years old; 2 – 28-44 years old; 3 – 45-64 years old; 4 – 65 years old or older*
Gender	What is your gender? *1. Female 2. Male 3. Other 4: Prefer not to say Recoded in this report into: 0 – Male; 1 – Female*
Degree of urbanisation (place of residence)	In which type of city or place do you live? *0 – House or farm in the countryside 1 – Country village with less than 1.000 inhabitants 2 – Municipality with 1.000 to 10.000 inhabitants 3 – Town or municipality with 10.000 to 40.000 inhabitants 4 – Town or municipality with 40.000 to 80.000 inhabitants 5 – City with 80.000 to 150.00 inhabitants 6 – City with 150.000 to 250.000 inhabitants 7 – City with 250.000 to 500.000 inhabitants 8 – City with more than 500.000 inhabitants 9 – Capital city of [country]* *Recoded in this report into three categories 1 – Low (municipality with less than 10.000 inhabitants) 2 – Medium (town or city with 10.000 to 150.000 inhabitants) 3 – High (city with more than 150.000 inhabitants)*
Level of education	*Country-specific educational attainment recoded first into ISCED 2011 codes and further summarized into six categories to allow for comparison across countries* What is the highest educational diploma you have achieved? *1 – No formal education/Primary education; 2 – Lower secondary education (4 years or less); 3 – Upper secondary education (5 or 6 years); 4 – Post-secondary non-tertiary education; 5 – Vocational tertiary education; 6 – University education*

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Concept	Item/question wording and values
	Recoded in this report into three categories: *1 – Low (no formal education; primary education; lower secondary education)* *2 – Medium (upper secondary general; upper secondary vocational)* *3 – High (vocational tertiary; university)*
Migrant background	Were you born in [country]? (*yes/no*) Were your parents born in [country]? (Mother – Father *yes/no*) *Recoded into Migrant background if either was answered with 'yes'*
PERCEPTIONS OF THE IMPACT OF THE INTERNET	
Individual-level impact	To what extent do you agree or disagree with the following descriptions of yourself? *0 – Strongly disagree; 1 – (Somewhat) disagree; 2 – Neither agree nor disagree; 3 – (Somewhat) agree; 4 – (Strongly) agree* • The Internet has enabled me to make contact with people who share the same cultural interests as me • I often lack the skills to find the information I need on the Internet.
Societal-level impact	Here are some statements on how the situation in [COUNTRY OF RESIDENCE) has changed in the past 5 to 10 years. To what extent do you agree or disagree with each statement? *0 – Strongly disagree; 1 – (Somewhat) disagree; 2 – Neither agree nor disagree; 3 – (Somewhat) agree; 4 – (Strongly) agree* • The increased use of the Internet has created more problems than solutions in [COUNTRY] • It has become very difficult to live your life without using the Internet in [COUNTRY].

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