# DEPARTMENT FOR DIGITAL, CULTURE, MEDIA & SPORT
# ONLINE SAFETY - MEDIA LITERACY STRATEGY

## Mapping Exercise and Literature Review - Phase 2 Report

April 2021

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# 1. INTRODUCTION

## 1.1 Introduction

RSM UK Consulting LLP was commissioned by the Department for Digital, Culture, Media and Sport (DCMS) to analyse online media literacy initiatives for United Kingdom (UK) users. The findings presented in this report provide a factual overview of existing provision in the UK, and any evaluations which accompanied existing initiatives or providers. This research aims to support a commitment set out in the 'Online Harms White Paper'[1] for the Government to develop an online media literacy strategy and contribute to its objectives to empower users to understand and manage risks so that they can stay safe online.

The research outputs were delivered in two phases: Phase 1: a mapping exercise to identify existing initiatives to build digital media literacy, and Phase 2: a literature review on levels of media literacy and the barriers/enablers for developing greater media literacy. This report presents the Phase 2 findings.

The objectives of this Phase 2 report are to:

(1) provide an informed view of the current evidence about levels of media literacy, and the barriers and enablers for developing greater media literacy, among different demographics

(2) provide an understanding of which existing initiatives are working well and if there are areas that need improvement

This report comprises the following sections:

- Media Literacy Policy – defining media literacy, policy context and intervention rationale
- Levels of Media Literacy in the UK – a broad literature review of media literacy levels in the UK, categorised by user group
- Media Literacy Initiatives – an assessment of the effectiveness of media literacy initiatives using a systematic evaluation framework and the literature review

## 1.2 Methodology

The methodology for this research involved the following 3 stages:

1. **Phase 2 Inception** – to review the Phase 1 work, and to agree:

- the draft methodology;
- the scope of the literature review; and
- the initial evaluation framework.

2. **Literature review** – a systematic review of existing research into the levels of media literacy among different user groups in the UK and the barriers/enablers for developing greater media literacy. As well as academic sources, this included policy material and self-reported evidence from media literacy providers and industry/technology umbrella groups.

3. **Assessment of evaluation evidence –** a high level assessment of available evaluations of the media literacy initiatives identified in Phase 1 to determine: how robust the evaluation is; which initiatives are working well; and what are the areas for improvement. A systematic framework for assessing the evaluation evidence was developed and agreed with DCMS,

[1] Online Harms White Paper – HM Government, April 2019, CP 57

linked to the typology of initiatives agreed in Phase 1. This set out the criteria against which each evaluation methodology was to be evaluated, and the research questions to be explored to provide evidence of impact for existing initiatives and identify areas for improvement.

# 2. MEDIA LITERACY POLICY

## 2.1 Overview

The purpose of this section is to outline the policy context for this review. The remainder of this section is structured under the following headings:

- Media Literacy
- Rationale for improving media literacy
- Policy landscape

## 2.2 Media Literacy

The internet is increasingly ingrained into our day-to-day lives. In April 2019[2] the government stated that all internet users should be empowered with media literacy knowledge and skills to manage and address risks online. To support this, it would develop an online media literacy strategy[3] to ensure a coordinated and strategic approach to online media literacy education and awareness.

There is no universal definition for 'media literacy'. Ofcom, the UK's independent communications regulator with responsibility for supporting and promoting media literacy in the UK, defines it as the "ability to **access**, **understand** and **create** communications in a variety of contexts".[4] This includes the ability to "question, analyse, appreciate and evaluate [those communications]".

The literature often describes 'access' as basic skills, such as opening software, being able to download content, knowing how to search and access information, and navigating digital networks. The 'understanding' aspect is usually described as 'information' or 'news' literacy,[5] which means the ability to check the quality, relevance, objectivity, and usefulness of content.[6] The 'create' aspect of media literacy encompasses any other aspect of media literacy, with a focus on creating online content, and participation and engagement online. For example, this would include interaction, engagement, and participation in the economic, social, and cultural aspects of society through the media, promoting democratic participation and fundamental rights, and intercultural dialogue.[7] The exploration of 'create' in some literature was less clear, and in some cases, the creative aspect of media literacy is not considered in their definition.[8]

## 2.3 Rationale for improving media literacy

There is growing concern among the public around online harms.[9] [10] Current literature suggests that many people in the UK lack the skills necessary to navigate the internet safely.[11] UK citizens, especially those from more vulnerable groups such as children and people from

[2] Online Harms White Paper – HM Government, 2019 (Chapter 9, 'empowering users')
[3] A recommendation of The Cairncross Review – A sustainable future for journalism, Cairncross, 2019
[4] Ofcom, 2004
[5] Picton, 2019
[6] Erstad, 2015
[7] Based on the skills/capabilities suggested by 'Mapping of media literacy practices and actions in EU-28' by European Audiovisual Observatory, Strasbourg 2016
[8] What is media literacy?, Livingstone, 2004
[9] Internet Safety Strategy – Green Paper, HM Government, 2017
[10] Online Harms White Paper – HM Government, 2019
[11] The Cairncross Review – A sustainable future for journalism, Cairncross, 2019

disadvantaged socio-economic groups, are left exposed to online harms due to this skills deficit.[12]

There is, however, no lack of demand from users for information and support. Users want to be able to keep themselves and their children safe, but often find that there is an insufficient supply of support and guidance, leaving them feeling defenceless. The Internet Safety Strategy Green Paper found that 49% of the people consulted agreed that there should be more internet safety information online about digital products and platforms.[13] Similarly, Ofcom's recent report on Children's Media Use and Attitudes explains that parents were more than twice as likely in 2019 than 2018 to seek out resources online to protect their children from online harms.[14]

Prominent literature by Kruger and Dunning suggests that people find it difficult to estimate their abilities in 'social and intellectual domains', often holding overly favourable views of their own abilities.[15] This is supported by evidence from the field of information literacy, which is closely related to media literacy, particularly in the 'understanding' domain.[16] As the public generally overestimate their abilities, the importance and benefits of education surrounding media literacy and online safety are likely to be underestimated. Internet users are therefore unlikely to act upon the need for such education by themselves, demonstrating a case for government intervention.

There is also a 'digital divide' between 'young people' today and the previous generation (usually their parents). This divide, evident in annual statistics on media use and attitudes from Ofcom[17], is not a discrete division between age groups, but rather a sizeable continuous decline with age in digital skills (access)[18] and other aspects of media literacy.[19] [20] It was also found in the early Byron review into risks to children from the internet and video games (2008) that children often saw themselves as the family's expert on the internet.[21]

However, although most children have better technical skills than their parents online, this does not necessarily translate into a greater understanding of internet safety, as children are not always equipped to identify potential risks.[22] Children between 5 and 11 years old are still only developing the critical evaluation and self-regulation skills needed to make judgements about risks. It should also be noted that digital skills form a separate policy area to media literacy, and while digital skills and digital inclusion are related to digital media literacy, the terms (and literature) are not interchangeable.[23]

The potential risks to people online will never be fully eliminated and therefore the government has a role to play in developing users' resilience to these risks, to ensure they have the skills

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[12] Safer Children in a Digital World – The Report of the Byron Review, Tanya Byron, 2008

[13] The Internet Safety Strategy Green Paper, Department for Digital, Culture, Media & Sport, 2017

[14] Children's Media Use and Attitudes Report 2019, Ofcom, 2020

[15] Unskilled and Unaware of IT: How Difficulties in Recognising One's Own Incompetence Lead to Inflated Self-Assessments, Kruger and Dunning, 2009

[16] Do People Overestimate their Information Literacy Skills? A Systematic Review of Empirical Evidence on the Dunning-Kruger Effect, Mahmood, 2016

[17] Most recently Adults: Media Use and Attitudes Report, 2019, Ofcom, 2020; this includes survey research with 1883 adults taken from the ongoing Ofcom Media Literacy Tracker study

[18] Exploring the UK's Digital Divide, ONS, 2019

[19] Digital Inclusion Evidence Review 2018, Age UK, 2018

[20] Leaving No One Behind in a Digital World, Hernandez and Roberts, 2018

[21] Safer Children in a Digital World – The Report of the Byron Review, Tanya Byron, 2008

[22] Digital Natives: where is the evidence?, Helsper and Enyon, 2009

[23] Digital literacy has been defined as the 'functional skills required to operate and communicate with technology and media' - see Digital participation, digital literacy and school subjects – a review of the policies, literature and evidence, futurelab, 2009

and critical thinking needed to navigate the internet more safely. However there is also the need for a 'shared culture of responsibility' between individuals, parents, industry, government, and other public sector organisations.[24] Current UK government public awareness campaigns with industry involvement include 'Cyber Aware' (on cyber security), 'Don't Feed the Beast' (on disinformation), the 'Thinkuknow' education programme on child sexual exploitation and abuse, and 'Your Data Matters' on data protection rights. Industry can provide the technology and engineering expertise, while government can provide coordination and impetus.

## 2.4 Policy landscape

Since the Byron Review in 2008 there has been an increasing policy and educational focus on online safety, with the establishment of the Digital Charter in 2018 that aims to balance the freedom of users online with their protection. This reflects a shift in policy focus from protective policies such as regulations, towards education and user 'resilience', to work in parallel with new regulations in place.[25] The 2019 Cairncross Review recommended that the government work with Ofcom and the digital media sector to develop a media literacy strategy to identify gaps in provision and opportunities for greater collaboration.[26]

The current government policy framework is set out in the 2019 'Online Harms White Paper', which includes a commitment to:

- empower users to keep themselves and their children safe online
- increase transparency about the level of investment in, and effectiveness of, different interventions
- develop a new online Media Literacy Strategy

This is in acknowledgement of the potential for media literacy to equip users with the skills they need to:

- spot online dangers, (such as bullying, radicalisation, grooming, and child sexual abuse)
- critically appraise information
- take steps to keep themselves safe online

The other pillar of the proposed approach to media literacy is the role of an independent regulator which will set clear safety standards and codes of practice, supported by powers to require annual transparency reports from companies in scope and to take effective enforcement action against companies that have breached their statutory duty of care.

The Department for Education (DfE) has been incorporating online safety into the school curriculum to help children and young people understand healthy relationships online, improve their digital literacy, and equip them to manage the different and escalating risks that young people face. It is making Relationships Education compulsory for all primary pupils, Relationships and Sex Education compulsory for all secondary pupils and Health Education compulsory for all pupils in all primary and secondary state-funded schools in England.

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[24] Introduction – Kids online: opportunities and risks for children, Livingstone and Haddon, 2009

[25] Competition vs Collaboration: A Study of Promoting Children's Parental and Teacher's Collaborative Roles in Twenty First Century Digital and Media Literacy Education, Bilici, 2014

[26] Department for Digital, Culture, Media & Sport, 2019

Teaching material will include how to stay safe online, critically considering information and how people present themselves online, and how data is gathered, shared, and used.

This work was acknowledged in the Online Harms White Paper, which stated that schools would be 'encouraged' to include digital literacy and online safety in lessons from September 2019 (and that many schools are already doing this) before it became compulsory across England from September 2020.

Guidance also exists to support schools in teaching their pupils how to stay safe online within new and existing school subjects.[27] This covers privacy, challenging and recognising unacceptable behaviour, and how to report concerns.

This approach has drawn lessons from findings from academics and researchers, who often call for media literacy education/intervention to accompany the existing legal framework, rather than relying solely on regulation and other protective measures.[28] [29] [30] [31] [32].

## 2.5 Summary

Online safety is a major concern for UK citizens and poses serious risks, personally and financially. There is a strong rationale for government intervention in online safety and digital media literacy on the grounds of equity, efficiency, and effectiveness.

The persistence and growth of illegal and unacceptable online content and activity, and its pace of development, all indicate the need for more media education and user empowerment. Online platforms can be used for abuse and to undermine the democratic values of society.[33] Accordingly, there is currently much work in progress within government around online harms legislation and the development of an online media literacy strategy. However, alongside this, more needs to be done to support users to keep themselves safe online.[34]

[27] Teaching online safety in School – Guidance supporting schools to teach their pupils how to stay safe online within new and existing school subjects, Department of Education, 2019

[28] Lee, 2018

[29] Simone van der Hof 2012

[30] Arming the citizen-consumer: the intervention of media literacy within UK communications policy, Wallis and Buckingham, 2013

[31] Tackling the Information Crisis: A Policy Framework for Media System Resilience – The Report of the LSE Commission on Truth Trust and Technology, Livingstone, 2018

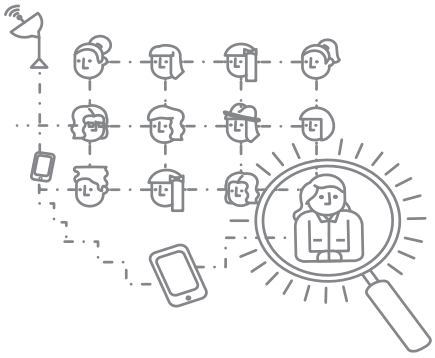
[32] Media and Information Literacy Policies in the UK, McDougall and Sefton-Green, 2014

[33] Online Harms White Paper – HM Government, 2019

[34] Online Harms White Paper – Initial Consultation Response, Department for Digital Culture, Media & Sport, 2020

# 3. LEVELS OF MEDIA LITERACY IN THE UK

## 3.1 Overview



This section presents an informed view of the current evidence on levels of media literacy among different groups of people. It is structured under the following headings:

- Background
- Children
- Adults
- Variations
- Conclusions

It presents the evidence on media literacy levels by target groups, focusing on '***access***', '***understanding***', and '***creating***' digital communications, based on the Ofcom definition of media literacy. These three aspects of media literacy have been mapped to the definitions provided by the European Audiovisual Observatory, and the literature available[35], to provide the following descriptions:

**Figure 1: Definitions and descriptions based on broad literature**

| Access | Understanding | Creating |
|---|---|---|
| Basic digital skills needed to access and use online content and digital inclusion. | The ability to understand, analyse, and evaluate content; separated into 2 aspects: understanding (knowledge) and understanding (behaviour/skills) | Communicative abilities e.g. participating in economic, social, and cultural aspects of society through online media or such as building and generating media content. |

[35] Mapping of media literacy practices and actions in EU-28, European Audiovisual Observatory, 2016

## 3.2 Background

### 3.2.1 Measuring Media Literacy

Measuring media literacy is a relatively new area of research and there is currently no standardised method of assessment.[36] It is a "multifaceted phenomenon, observable but not directly measurable",[37] which has been a challenge for the academics involved. Therefore, it is important to consider a wide range of evidence in this literature review, including 'grey' literature (where publishing is not the primary activity, e.g. conference abstracts, report) from government and associated bodies. Furthermore, media literacy is often either referred to alongside, or encompasses, a variety of literacy-related skills, such as 'digital literacy', 'digital competence', 'information literacy', and 'advertising literacy'. This literature review incorporates all these competencies where possible.

Methodologies used in measuring media literacy consist of a mix of self-reported surveys and observational studies. Self-assessment studies are prevalent for many reasons, such as the ability to present a large number of questions around a set of skills in a relatively short timeframe, the ability and ease in scoring and processing, and their overall cost. However, self-assessments are considered less robust as individuals often overestimate their own abilities (see section 2.3). In addition, the European Association for Viewers Interest (EAVI) highlights that a challenge in measuring media literacy is refining the scope of possible indicators[38]. As media literacy (and use of online media) is part of everyday life and a number of activities, it is difficult to measure. Therefore, a survey will only capture a small snapshot of the influences that media literacy has on daily life.

Nevertheless, both qualitative and quantitative methods have been used by several academics to measure media literacy. [39] [40] [41] However, Rasi et al note that a cross section survey, even if well designed, can only provide a partial view.[42] This literature review therefore aims to consider a large body of literature with different approaches in measuring media literacy.

In addition to the difficulties in measuring media literacy, there is a lack of benchmarks in the literature to determine what constitutes an 'advanced' or 'sufficient' level of media literacy and while statistics have been given, few conclusions have been drawn. When a benchmark is given, this is often measured in reference to international/European standards. However even with these comparative studies, it is difficult to determine how objectively 'good' UK media literacy levels are amongst UK citizens, even if some case studies suggest that the UK's level of media literacy is above average.

As a result, this literature review is constrained in its ability to determine whether UK citizens have sufficient levels of media literacy. Furthermore, there are gaps in the literature, with certain

[36] Evaluating Media Literacy in Higher Education: Validity and Reliability of the Digital Online Media Literacy Assessment (DOLMA), Hallaq, 2016

[37] Study on Assessment Criteria for Media Literacy Levels: A Comprehensive view of the concept of media literacy and an understanding of how media literacy levels in Europe should be assessed, EAVI Paolo Celot, 2010

[38] Testing and Refining Criteria to Assess Media Literacy Levels in Europe Final Report, EAVI, 2011

[39] Alexander J.A.M. Van Deursen 2014

[40] Celot, 2009

[41] Arke ET1, 2009

[42] Testing and Refining Criteria to Assess Media Literacy Levels in Europe Final Report, EAVI, 2011

aspects of media literacy being more thoroughly researched than others, and a focus on children compared to adults or more vulnerable groups.[43]

### 3.2.2 UK Context

The largest contributor to media literacy assessment in the UK has been Ofcom. Under the Communications Act 2003, Ofcom is responsible for the promotion and research of media literacy in the UK. Accordingly, Ofcom produces annual audits on the media use and attitudes of the UK population, consisting of four reports a year: two studies (quantitative and qualitative) on the media literacy of adults (people aged 16 and above) and two studies (quantitative and qualitative) on children (aged 5 to 15 year old) and parents.

These studies have a relatively stronger focus on the 'access' aspect of media literacy compared to more recent definitions.[44] Buckingham and Wallis note that due to Ofcom's broad definition of media literacy, its annual reports appear not to fully align with some other definitions of media literacy which focus more on 'understanding'.[45] In addition, it is suggested they focus on access and ensuring protection of vulnerable groups against harmful or offensive content, rather than reporting on the 'understanding' of online communication. They argue that this is mainly due to the remit of Ofcom.

Therefore, this review also incorporates a large body of research around media literacy levels. This ranges from small surveys on media literacy levels conducted for a media literacy education initiative, and reports by relevant bodies/stakeholders, to scholarly/academic literature in the UK and abroad.

## 3.3 Children

### 3.3.1 Age

Many of the studies around media literacy levels investigate the knowledge and skills of children. The academic literature suggests that levels of media literacy are not homogenous across all age groups. According to evidence from surveys, observational studies, and from research into child cognitive development, certain skills and experiences are developed as children grow older.

Byron explains that the frontal cortex of the brain (affecting critical evaluation skills) develops throughout childhood, so younger children (mainly those from 5 to 11 years old) with less developed frontal cortices will be less able to judge information based on factors such as context and relevance.[46]

While children aged 11 to 14 years old may have a more developed frontal cortex, they are more prone to mental health problems and lower self-esteem. Young people at this age may become more vulnerable to messages about social acceptance including issues relating to body image – this is an age range associated with a significant increase in problems such as eating disorders, low self-esteem or depression. Alongside this is a shift in the nature of thinking; adolescents are more self-aware and self-reflective than children who have not yet reached

[43] Media Literacy Education for All Ages, Rasi et al, 2019
[44] Measuring Digital Skills to Tangible Outcomes, van Deursen et al, 2014
[45] Media literacy: the UK's undead cultural policy, Wallis & Buckingham, 2016
[46] Safer Children in a Digital World – The Report of the Byron Review, Tanya Byron, 2008

puberty. This is again due to brain developments, where their ability to process social information falls temporarily until the age of 16.

However, when children reach between 15 and 18 years of age, their brain functioning is extremely close to that of an adult, and so their critical thinking skills will be much higher than that of younger children. Findings from research into child cognitive development therefore helps to explain variances in media literacy levels between children of different ages. This is supported by various literature and will be discussed throughout the section.

**Summary**

**Media literacy levels in children vary by age, and generally improve as their cognitive development and skills increase, and as a result of more experience online.**

**Key findings show that:**

- **Children aged 5-11 are developing cognitively and are therefore less able to critically evaluate information.**
- **Judgement and critical evaluation skills develop throughout childhood, which improves most children's abilities to identify and evaluate risks online.**
- **Children aged 11-14 are particularly vulnerable to harmful content which can contribute to mental health problems and low self-esteem.**
- **The brain functioning of children aged 15-18 is similar to that of an adult, meaning their critical thinking skills are much higher.**

### 3.3.2 Access

**Summary**

**The majority of children have grown up with digital technologies embedded in their daily lives, equipping them with the skills needed to access a broad range of online content with ease.**

**Key findings show that:**

- **87% of children are confident using the internet to find information.**
- **Since 2015 the use of mobile phones and tablets increased by up to 68% in children aged 5-15, whereas the use of laptops and desktops declined by up to 12% in the same time period.**
- **Studies suggest that children are most able to access and navigate the online environment, compared to other areas of media literacy.**

**Summary**

- **Comparatively, children have less confidence and a reduced ability to understand the online environment, and evaluate the content they encounter.**

The children of today are commonly known as 'digital natives'. They have grown up with digital technology embedded in their everyday lives and can therefore use it with ease. Similarly, literature suggests that children often possess the high levels of skills needed to 'access' a broad range of online content. This is evident in their levels of confidence and more varied internet use compared to older age groups. [47] [48] [49] [50] For example:

- The UK Children Go Online Project - a survey which examined the 'internet literacy' of children aged 9 to 19 years old - found that a large majority (87%) were confident in using the internet to find information[51]
- Ofcom statistics[52] show that while 75% of parents of children who go online feel they know enough to keep their child safe, their confidence declines with the age of the child (from 81% of parents of 5-7 year olds, to 74% of parents of 12-15 year olds, suggesting a lack of ability to 'keep up' as children develop online skills
- The Byron review found that children and young people generally have high levels of functional literacy (the ability to gain access to media content), with both children and parents claiming that the children are often the 'experts' of the internet in the household[53]

The research also highlights that access to, and use of, technology has increased among children. Specifically, the most recent Ofcom media use and attitudes report[54] found that in 2019 9 in 10 children aged 5 to 15 used a device to go online and during 2015 to 2019 the use of tablets (68% in 2019) and mobile phones (55%) increased, to become the most commonly used devices. Laptop and desktop computer use declined over the same period, with laptops falling from 68% (the most common device) in 2015 to 55% (joint second most common) in 2019.

As it has become generally accepted that children have the skills and abilities to access online content, recent research in this area is limited, with more recent studies focused on their 'understanding' of online content[55]. In addition, while there is a lack of objective benchmarking evidence with other countries, an OECD report suggests that the proportion of "youth with low cognitive and digital skills" in the UK is relatively high (by international standards)[56] and there are variations across socio-economic groups.

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[47] Digital access, skills and confidence among 11-18 year olds in the UK, Lloyds Bank, 2019
[48] Atari Metcalf, 2008
[49] Risks and safety for children on the internet: the UK report, Livingstone et al, 2010
[50] Adults: Media Use and Attitudes Report 2019, Ofcom, 2020
[51] Sonia Livingstone, 2005
[52] Children's Media Use and Attitudes Report 2019, Ofcom, 2020
[53] Byron, 2008
[54] Children's Media Use and Attitudes Report 2019, Ofcom, 2020
[55] This is often reported under digital inclusion rather than media literacy or understanding.
[56] OECD Skills Outlook 2019: Thriving in a Digital World – How does the United Kingdom compare?, OECD, 2019

There has been a shift towards focusing on their 'understanding' of online content and this aspect of media literacy is often reported under digital inclusion. UNICEF has found that "a shift is happening from an instrumental view of digital literacy, in other words, what a digitally literate individual should be able to do, towards a more comprehensive understanding of what it should mean to be digitally literate today" – in terms of digital citizenship (understanding).[57] As a result, there are few direct modern equivalents to the access studies, such as UK Children Go Online and the Byron review, referenced in this section.

Nevertheless, evidence based on the literature suggests children generally have a strong foundation in the 'access' aspect of media literacy. However, there is a lack of objective benchmarking evidence with other countries, and the evidence above suggests there is room for improvement. Also, some evidence suggests that while children are confident in the 'access' aspect of media literacy, they often tend to be less confident and able in 'understanding'.

### 3.3.3 Understanding (knowledge/awareness)

**Summary**

**Children and young people have a basic awareness of online harms and internet safety. However deeper understanding is generally limited as they often struggle to grasp why certain behaviours are harmful, and apply their awareness to the online environment.**

**Key findings of the literature review showed that:**

- **Only around half of children aged 8-17 always think about what personal information they could be sharing before posting a photo or video online.**
- **Almost a quarter of children do not know how to control what people can see on their social media.**
- **Children aged 12-15 are more aware of the need for critical thinking skills in the online environment, and more than 50% recognised a need to critically analyse the news.**
- **50% of children understand how platforms are funded, and that influencers may be paid to advertise certain products.**
- **Children's knowledge of harms associated with privacy and data is often specific to their immediate online engagement, with a failure to understand the complexities and context surrounding these harms such as how other users or companies may use their data.**

**Online safety**

The literature suggests that children and young people (under 25) understand the concept of online harms and internet safety (i.e. the rules they must abide by to keep themselves safe).[58] However, while young people are aware of potential online harms such as 'stranger danger' and cyberbullying[59] [60] Ofcom's 'Children's Media Lives' report, a qualitative longitudinal study with a

[57] Digital Literacy for Children – Exploring definition and frameworks, Nascimbeni and Vosloo, 2019
[58] David Buckingham, 2005
[59] Metcalf et al, 2010
[60] Atari Metcalf, 2010

panel of 18 children, suggests this knowledge is limited. Specifically, when asked about online safety rules children could easily cite common advice, such as “don’t talk to strangers”; however when asked why they should follow such advice, they found it difficult to answer, beyond high level responses, such as suggesting that “something bad” would happen to them.[61]

The National Literacy Trust’s research has found that children generally have some basic awareness that there is material online that they might not want to see. It found that nearly all children aged 8 to 11 years old mentioned that if they ever found anything ‘nasty’ or worrying online, they would tell someone they trust, such as a family member.[62] They also recognise that cyberbullying is a concern, with 45% of respondents in the UK indicating that they strongly agree or tend to agree that cyberbullying is a bigger problem to young people than drug abuse.[63] [64] It was also found that 83% of 11 to 25 year olds believe social media companies could do more to tackle cyberbullying on their platforms[65].

However, some studies suggest that this knowledge is likely to be limited to a foundational level. When asked to articulate their knowledge of online safety, children found it difficult despite their overall confidence online.[66] [67]

**Privacy and data**

There is evidence that children’s confidence in their knowledge might not be equal across all aspects of media literacy. Research from the UK Safer Internet Centre suggests that while children generally understand basic online safety, they have less knowledge of areas such as handling information and privacy. For example[68]:

- only around a half of children aged 8 to 17 years old ‘always’ think about what personal information they could be sharing before posting a photo or video online.
- almost a quarter of children internet users do not know how to control what people can see on their social media.

Research by Livingstone et al also found that while children across all ages understand the dangers of directly disclosing information for safety reasons (e.g. stalking), they struggle to understand the potential uses of their personal data.[69] For example, it is noted that while children understand that their online activities can be tracked and recorded and that certain advertisements start appearing after they show commercial interest in specific items, they are unequipped to understand the causes of this and the ‘bigger picture’ relating to a service’s use of their personal data. It is suggested that children do not typically understand who uses their data, why their data is valuable, and that the same company may be behind the multiple platforms they use (e.g. Google and YouTube, Facebook, and WhatsApp). This is further evident in a report by the London School of Economics and Political Science (LSE), which found

[61] Children’s Media Lives 2019, Ofcom ,2020

[62] Children and Parents: Media Use and Attitudes Report 2019, Ofcom, 2020

[63] Cyberbullying, YouGov/Vodafone, 2015

[64] Cyberbullying is defined by the Anti-Bullying Alliance as “repetitive, intentional hurting of one person or group by another person or group, where the relationship involves an imbalance of power” which occurs through cyberspace.

[65] Safety Net: Cyberbullying’s impact on young people’s mental health – inquiry report, The Children’s Society, 2018

[66] Subjective versus objective knowledge of online safety/dangers as predictors of children’s perceived online safety and attitudes towards esafety education in the United Kingdom, Macaulay et al, 2019

[67] Children’s online risks and safety – a review of the available evidence, Spielhofer, 2010

[68] Power of Image: A Report into the Influence of Images and Videos in Young People’s Digital Lives, Safer Internet Centre, 2017

[69] Livingstone defines data traces as “data left, mostly unwillingly, by participation online and captured via data-tracking technologies such as cookies, web beacons or device/browser fingerprinting, location data and other metadata”.

that commercial privacy is a particular weakness of children compared to other factors such as interpersonal privacy.[70]

Livingstone suggests this may be due to several factors:[71]

- children lack understanding of 'institutional and commercial' motivations behind the acquisition of data. For instance, one student explained "I don't see what they'd get out of it, to be honest".
- children may not understand that being monitored is a privacy concern; they are used to constantly being under the watch of adults (parents, carers, teachers etc.).
- they often have a large sense of trust in the companies they use and know, assuming they would act with integrity and honesty for the sake of the company's reputation.

This is supported by a Norwegian study which found that children's knowledge on privacy tends to be context-specific.[72] For example, while children may know not to post photos of themselves to strangers online, they do not understand the risks associated with uploading videos of themselves on social media platforms (e.g. TikTok).

**Where children are more aware of commercial models this is viewed as a benefit to them rather than an understanding of the potential harms. Therefore, the literature suggests that while children can understand the basics around internet safety, they struggle to understand more complex 'bigger picture' issues.**

Ofcom's 'Children and parents: media use and attitudes' report suggests that older children are somewhat aware of issues around trustworthiness of online information, such as information presented on online profiles and news stories.[73] Specifically:

- more than 50% of 12 to 15-year olds recognised a need to critically assess the news.
- 80% of them had heard of the term 'fake news'.
- more than half of those that had heard of 'fake news' claimed that they would act if they saw a fake news story online.[74]

It is also suggested that children are aware of funding sources for platforms such as YouTube (54% of children using YouTube recognised that it is funded by advertisers) and increasingly understand that vloggers are sometimes paid to endorse products (63%).[75] New guidance and regulations means vloggers now need to declare paid-for posts[76]; however, there is no research in the public domain investigating the impact this has had on user awareness of this funding.

### Differences across Age Groups

Levels of media literacy are not homogeneous across age groups and increase with age. For example the literature reviewed highlighted that:

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[70] Children's data and privacy online: Growing up in a digital age – an evidence review, Livingstone et al, 2018

[71] Children's data and privacy online: growing up in a digital age: research findings, LSE Research Online, Livingstone et al, 2019

[72] Digital natives or naïve experts? Exploring how Norwegian children understand the internet, Bhroin, 2019

[73] Children and parents: media use and attitudes report 2019, Ofcom, 2020

[74] Ibid

[75] Ibid

[76] Social media endorsements: being transparent with your followers, CMA, 2019

- secondary school students are likely to be more aware of fake news than primary school children.[77]
- children's awareness of the use of language and persuasive advertisement increases with their knowledge of the world and social development (which in turn increases with age).[78]
- children's 'commercial literacy' increases with age as they become less likely to think that all information in the media is true and become aware that Google sponsored adverts have been paid for.[79]
- older children are more confident about their internet skills in general.[80]

### 3.3.4 Understanding (behaviour/skills)

**Summary**

**There is a disconnect between children's awareness of issues related to privacy and data, and the application of their knowledge in the online environment.**

**Key findings showed that:**

- **Despite having an awareness of misinformation and disinformation children find it difficult to critically appraise information, with only 2% of children in the UK having the appropriate media literacy levels to determine whether a news article is fake.**
- **Children's ability to think critically about online advertising is limited, as they struggle to identify 'hybrid' advertising. For example, children are largely aware of paid endorsements through vloggers, yet only 23% of children could correctly identify sponsored links on Google.**

**Privacy and data**

Some evidence suggests that while many children are aware of the dangers online and feel confident in dealing with these, they often lack the skills or willingness to apply this knowledge in real life.

For example, Ofcom's 2019 'Children's Media Use and Attitudes Report' found that younger secondary school children often cited 'protecting personal information' and 'online stranger danger' as online threats in their annual surveys. Despite this there were "occasional indications that some children did not recognise a potentially dangerous situation, unwittingly giving out personal information for example".[81] In addition, Ofcom's recent report on Children's Media

[77] National Literacy Trust, 2018

[78] Buckingham, 2005

[79] Children's commercial media literacy: new evidence relevant to UK policy decisions regarding GDPR, Sonia Livingstone, 2017 [URL: https://blogs.lse.ac.uk/medialse/2017/01/26/childrens-commercial-media-literacy-new-evidence-relevant-to-uk-policy-decisions-regarding-the-gdpr/] Accessed 17/02/2020

[80] Net Children Go Mobile: The UK Report – A Comparative report with findings from the UK 2010 survey by EU Kids Online, Livingstone et al, 2014

[81] Children's Media Use and Attitudes Report 2019, Ofcom, 2020

Lives[82] found a gap between knowledge and application, as although some children reported that sharing photos in a school uniform was risky, they uploaded these images anyway.[83]

Nevertheless, there is some evidence of children as young as eight applying this knowledge in practice. In a report by the Children's Commissioner for England, children were able to cite specific strategies they used to protect their privacy, such as hiding their school uniforms and checking the backgrounds of their photos first before posting on social media.[84]

The disconnect between knowledge and skills / behaviour can also be seen in relation to privacy issues beyond the direct extraction of data. Ofcom's research on children and parents media use and attitudes found that in 2018, only 41% of children aged 12 to 15 knew how to use a private mode or "incognito" mode on their web browser and only 8% understood how to use a proxy server to access certain websites and apps.[85] A study by Youth Tech Health[86] confirmed this low level of knowledge but found that it was improving; they cite a European longitudinal survey which found that amongst 9 to 16 year olds, there was an increase in the proportion of children who did know how to change their privacy settings. Nonetheless, many children chose not to use this information: there was in fact an increase over time in the proportion of children with a public social media profile.

**Critical thinking, misinformation, disinformation and technology for deception**

The disconnect between awareness/knowledge and skills/behaviour is also evident in children's ability to apply their awareness in assessing and evaluating information and media online. For example, Ofcom's Children's Media Lives report suggests that children often believed the violence they had seen online was real[87] while the National Literacy Trust found that children are less confident in evaluating online information and content[88]. This is further emphasised in Ofcom's annual audit[89] where social media users aged 12 to 15 noted that they found it difficult to determine whether news on social media is accurate.

Furthermore, although many children seem to be aware of fake news, the Commission on Fake News and the Teaching of Critical Literacy in Schools (from the National Literacy Trust), found that only 2% of children in the UK have the appropriate media literacy levels to determine whether a news article is fake,[90] and more than half of parents believe their children do not possess the skills to identify fake news, even though most parents believe they lack digital skills compared to their children. This is reflected by a survey by the National Association of Schoolmasters Union of Women Teachers which reported that many students have been citing inaccurate information in the classroom or in homework.[91] As a result, many teachers (54%) believe that the national curriculum fails to equip children with the skills to identify fake news.[92]

However, this disconnect cannot be entirely attributed to skills. In the same Ofcom survey in 2020, there is a divergence between awareness of 'fake news' (80% of children have heard of

[82] Children's Media Lives 2019, Ofcom, 2020
[83] Children's Media Lives 2019, Ofcom, 2020
[84] Life in 'likes' Children's Commissioner report into social media use among 8-12 year olds, Children's Commissioner, 2017
[85] Children and Parents Media Use and Attitudes: Annex 1, Ofcom, 2019
[86] Teen Privacy & Safety Online: Knowledge, Attitudes & Practices, youth tech health, 2017
[87] Ofcom Media Lives 2019, Ofcom, 2020
[88] Family News Literacy Report, National Literacy Trust, 2019
[89] Children's Media Use and Attitudes Report 2019, Ofcom, 2020
[90] Family News Literacy Report, National Literacy Trust, 2019
[91] Josephine Ramm, 2017
[92] Family News Literacy Report, National Literacy Trust, 2019

the term) and the frequency with which children act upon this (only 26% of children mentioned that they think about the accuracy of a news story when reading it)[93]. As well as a lack of skills, this may also reflect a lack of motivation, a lack of knowledge (for example, of the scale of the problem) or a combination of both.

Similar levels of vulnerability to fake news have also been found in other jurisdictions, such as Australia[94] and the EU. For example, the EU Kids Online project report (which excludes the UK) shows that children are often overestimated for being digital natives in terms of information navigation skills.[95]

The gap between knowledge / awareness and behaviour / skills can also be seen in children's knowledge about advertisements. The research suggests that while most (65%) are aware that vloggers can be paid to endorse goods or a service, only 23% of 8 to11-year olds could correctly identify sponsored links on Google.[96] This is further highlighted in a UK Safer Internet Centre report which found that although most children (70% of 8 to 17-year-olds) recognise that online content can be misleading, only a third say they find it easy to verify this content. Nearly half mentioned they are more likely to trust that something has happened if they see an image or video[97].This is supported by a study on Flemish children which suggests that while children are equipped to identify traditional advertising, they struggle to identify 'hybrid' advertising[98].

However, a 2018 review of media literacy and education[99] reported positive outcomes on students' knowledge, skills, and attitudes in analysing and critically understanding the media and disinformation.

**Wellbeing online**

The gap between knowledge, and the behaviours and skills required to put that knowledge into practice, can also be seen in terms of children's awareness of social pressure and its potential impact on wellbeing. The National Literacy Trust found that 78% of children feel there is pressure to look popular online[100]. It suggests these pressures are particularly felt by girls, with girls feeling nearly double the amount of pressure to "look popular …all the time" compared to boys (20% and 11% respectively). This may reflect that children are also more likely to make risky and impulsive decisions to look 'popular'[101]. Ofcom's recent report[102] also suggests that there is pressure for young people to receive online social acknowledgement (or 'likes').

A report by the Children's Commissioner for England on young teenagers[103] suggests a mixed view of the impact that new technologies (specifically social media) can have on wellbeing. While it found they can have a negative influence by creating new worries for children (e.g. their online reputation) and in some cases an 'addiction', they also enabled young people to connect

[93] Ofcom, 2020
[94] Tanya Notley, 2017
[95] EU Kids Online 2020, Smahel and Machackova, 2020
[96] Children Media Use and Attitudes Report 2019, Ofcom, 2020
[97] Power of Image: A report into the influence of images and videos in young people's digital lives, UK Safer Internet Centre, 2017
[98] The Adult White Paper: Recommendations for a future-proof regulatory framework for commercial communication aimed at children, AdLit, 2018
[99] Teaching media literacy in Europe: evidence of effective school practices in primary and secondary education. McDougall, Zezulkova, van Driel, Sternadel, 2017
[100] Family News Literacy Report, National Literacy Trust, 2019
[101] Decision-making under risk in children, adolescents, and young adults, Paulsen et al, 2011
[102] Children's Media Lives – Wave 6, Ofcom, 2020
[103] Life in 'likes' – Children commissioner report into social media use among 8-12 year olds, Children Commissioner, 2017

with others, learn, and keep entertained. There is also research which suggests that young children as a whole have a varied and balanced life and online use is only one part of their daily activities.[104]

A study by McDool et al[105] investigated the relationship between broadband speed and wellbeing outcomes for children, such as children's feelings around schoolwork, appearance, family, friends, school, and life. This research found that greater broadband speed – used in the research as a proxy for more internet use – was associated with lower levels of wellbeing, especially in terms of children's happiness with their appearance. Their findings of negative associations can be explained by 'crowding out', where beneficial activities have been replaced by increased social media use. This is supported by a Children's Society report[106] which identified a connection between intensive social media use and poorer mental health. It also found that children are being affected by cyberbullying in terms of mental health and wellbeing.

It is also noted that while children can be confident in discussing how to stay safe online from a 'physical perspective' they are less confident on discussing this at an emotional level. A report by the Children's Commissioner for England on 8 to 12 year olds highlights that while some children knew to ignore cyber bullies, many talked about how upsetting content and comments on social media could affect them emotionally.[107]

Nevertheless, a report by the Science and Technology Committee[108] acknowledges that "there is a need for further evidence around the impact of social media and screen use on children's physical and mental well-being" and recommends an expansion of the evidence base. This is also supported by the Chief Medical Officers' commentary on 'screen-based activities and children and young people's mental health and psychosocial wellbeing: a systematic map of reviews' [109], which called for further research and made recommendations for greater information transparency from technology firms. As a result of the lack of research, this report does not investigate the issue of wellbeing in terms of screen time in depth.

However, there is some research which suggests that young children as a whole, have a varied and balanced life. Online use is only one part of their daily activities, which also includes sports[110].

A US report finds that many teens are having their sleep interrupted by notifications. However, the report also finds that most children do not see their usage as 'hurting their relationships', and more children were more likely to spend the 'right amount of time' on their devices compared to previous years[111].

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[104] Young Children (0-8) and Digital Technology: A qualitative study across Europe, Chaudron, Di Giola & Gemo, 2018

[105] The internet and children's psychological wellbeing, McDool et al, 2019

[106] Safety Ney: Cyberbullying's impact on young people's mental health – inquiry report, The Children's Society and YoungMinds, 2018

[107] Life in 'likes' Children Commissioner's report into social media use among 8-12 year olds, Children's Commissioner, 2018

[108] Impact of social media and screen-use on young people's health: fourteenth report of session 2017-19, Science and Technology Committee, 2019

[109] United Kingdom Chief Medical Officers' commentary on 'Screen-based activities and children and young people's mental health and psychosocial wellbeing: a systematic map of reviews', Chief Medical Officers, 2019

[110] Young Children (0-8) and Digital Technology: A qualitative study across Europe, Chaudron, Di Giola & Gemo, 2018

[111] Screens and sleep: the new normal: parents, teens, screens and sleep in the united states, common sense, 2019

Contrastingly, as mentioned above in 'knowledge', in terms of reacting to upsetting online content such as violent or self-harm videos, some children have shown resilience with coping strategies, such as talking to adults or looking for advice online[112].

Therefore, the limited evidence around this broad topic suggests that children's understanding of wellbeing in terms of behaviour and skills is limited. More research in this area, however, is needed. While there are a variety of online harms related to wellbeing, social media, screen time, and in game spending have been the most prominent.

### 3.3.5 Creating

**Summary**

**There is mixed evidence that children enjoy building, creating and making things online, as well as sharing their creations online.**

**Key findings show that:**

- **80% of children aged 8-17 have been inspired by online images to take positive action.**
- **Social activism amongst 12 to 15 year olds increased in 2019, with interest and participation in online petitions and news articles.**

Overall, there is some evidence that children are participating as 'digital creators', including on civic engagement, makerspaces, and virtual worlds/third spaces. For example, Di Giola and Gemo (2018)[113] found that younger children often start by creating digital drawings and paintings, graduate to taking photographs and videos as they grow older, and in a few cases learn to edit pictures and videos or create objects within video games (chiefly Minecraft). Ofcom found that most children in its 2019 Children and Parents: Media Use and Attitudes Report use YouTube to build, create or 'make things' and that this has increased from previous years[114]. Similarly, more than a third (out of 675 children) in a Safer Internet Centre report stated that they had posted an image or video for a positive response, such as sharing something interesting with someone else online or encouraging others to do something positive such as supporting friends, or encouraging others to do something positive[115]. Some respondents, especially younger children, enjoyed creating content on platforms such as TikTok. Similarly, Ofcom[116] suggests that children are creating content such as recordings of themselves playing video games and broadcasting these online on streaming services[117].

Contrastingly, an American study on media literacy suggests that young people dedicate limited time to creating their own content,[118] although this does not necessarily suggest a lack of skills.

Ofcom's 2019 Children and Parents Media Use and Attitudes report also suggests there has been a 'Greta effect' (with reference to teenage environmental activist Greta Thunberg) leading

[112] Children's Media Lives – Wave 6 – A report for Ofcom, Ofcom, 2020

[113] Young Children (0-8) and Digital Technology: A qualitative study across Europe, Chaudron, Di Giola & Gemo, 2018

[114] Children and Parents: Media Use and Attitudes Report 2019, Ofcom, 2020

[115] Power of Image: A Report into the Influence of Images and Videos in Young People's Digital Lives, Safer Internet Centre, 2017

[116] Children and parents: media use and attitudes report 2019, Ofcom, 2020

[117] Parenting Generation Game report, Internet Matters, 2019

[118] The Common Sense Census: Media Use by Tweens and Teens, Common Sense Media, 2019

to an increase in online social activism in 2019 (relative to 2018). It notes that the proportion of children aged 12 to 15 years old using social media to support causes through sharing or commenting on online posts has increased, with 10% having signed online petitions on social media that year.

### 3.3.6 Conclusion

**Children: summary**

- **Children's media literacy levels vary according to age in line with brain development. This is something that should be considered by media literacy providers.**
- **Children often have the skills needed to access digital technology, however they do not always have the skills to use the internet safely or to critically analyse content.**
- **Children often have a basic awareness of online safety issues however this knowledge does not always translate into online skills or behaviours.**
- **There is some evidence that children enjoy creating online, and can be inspired by online images to take positive action.**

It is important to note that there are disparities in the amount of literature covering the different aspects of media literacy, with certain areas researched in more depth than others. The most comprehensive studies about media literacy in children focus on privacy. This is likely to be due to increased concerns by parents,[119] and possibly due to events raising the profile of the issue, such as the introduction of the General Data Protection Regulation (GDPR) and high profile incidents such as the Facebook / Cambridge Analytica data breach, affecting up to 87 million Facebook profiles, disclosed in 2018.

## 3.4 Adults

### 3.4.1 Access

**Summary**

- **The majority of UK internet users (87%) are confident in their abilities to access the internet. This is highest amongst younger adults, and lowest for those from disadvantaged socio-economic groups aged over 55.**

[119] Children's data and privacy online – growing in a digital age. An evidence review, Livingstone et al, 2018

Research by Ofcom finds that the majority (87%) of internet users are confident in their abilities.[120] While this has remained stable over the last few years there is variation by age and socio-economic status. Confidence is highest amongst younger adults (those aged between 16 and 24) and is lowest for those from the most disadvantaged socio-economic groups aged over 55. However, despite this general confidence, Ofcom found that more than a third of these users only use websites or apps that they have used before, and less than 20% mentioned that they frequently use websites or apps they have not used before.

### 3.4.2 Understanding (knowledge/awareness)

**Summary**

**UK adults have a basic knowledge of online safety, media literacy and privacy. However adult users' confidence in their knowledge is usually overestimated.**

**Key findings showed that:**

- **74% of adults say they are confident about managing their personal data online, but half were unaware of the ways in which companies can collect their data.**
- **UK adults have some awareness of personalised advertisements (60%), paid influencers and content creators (80%) and framing of social media to make lives appear more interesting (54%), all of which has led to an increased scepticism in social media organisations.**
- **UK adult users' understanding about the online environment and associated harms is above average when compared to other European states, however there are still gaps in basic knowledge, for example regarding hate speech and misinformation.**

**Online safety**
Ofcom has found that, in general, adults possess some basic knowledge of online safety and media literacy. For example, most users demonstrate knowledge of general online safety and three in five adults use strong passwords, or anti-virus or anti-spyware software[121].

**Privacy and data**
Moreover, adult users demonstrate basic knowledge around privacy with 74% noting that they feel confident about managing personal data online.[122] [123] Most adults aged 16 to 65 (more than 80%) are aware of at least one method by which their personal data can be collected. One in ten use a virtual private network (VPN) to hide other personal information.

However, the extent of this knowledge remains limited, despite high levels of confidence. When there is knowledge, this seems to be incomplete. For example, while 70% of adults are aware of the use of cookies to collect information, Ofcom found that less than 40% of adults aged 16 to

[120] Adults Media Use and Attitudes Report 2019, Ofcom 2020
[121] Ibid
[122] Ibid
[123] Online Nation 2019, Ofcom, 2019

75+ are aware that companies could collect data online from four main sources: registration forms, cookies, social media, and mobile applications[124].

In addition, half were unaware that data was collected on their location and preferences from mobile applications. However, Ofcom found that this has improved, with more people now aware of how companies collect and use personal data, as a result of high-profile scandals such as Cambridge Analytica's acquisition of personal data on Facebook users[125]. Ofcom's 2019 Adults Media Lives report[126], a qualitative longitudinal study tracking 19 adults, finds that some respondents described themselves as 'more careful' with their data, for example with public Wi-Fi registration and smart speakers.

The 2019 Adults Media Lives report[127] also highlighted new concerns about personalised advertisements and 'spying'. For example, four out of the 19 participants, without being prompted, recalled experiences of online advertisements which were related to topics they had discussed with family and friends offline. However, many did not find this to be a concern, assuming that data was 'only' being used for commercial uses. A literature review prepared by RAND Europe[128] also suggests mixed results on awareness around the existence and functioning of data algorithms; however, they conclude that literature in this area is limited.

**Critical thinking, misinformation, disinformation and technology for deception**

Research has found mixed results about processing information online and misinformation, disinformation, deception and similar issues. For example, Ofcom[129] finds that more than half of adults consider that only 'some' of the factual information found online is true, reflecting some (but limited) general understanding, with only three per cent believing all information online to be true in 2017. Similarly, around half (54%) of adults agree that media posted by other users can be framed to make their lives look more interesting, with six per cent disagreeing.

Furthermore, around 60% of adult users are aware of personalised advertisements, 80% understand that influencers and content creators can be paid by companies to review products/services/companies favourably, and around 80% of adults are aware that YouTube is funded by advertisement. Ofcom notes that this level of awareness regarding personalised advertisements has remained the same for a few years. However, Ofcom's 2019 'Media Use and Attitudes' report[130] shows that there has been increasing scepticism of media organisations among participants. While scepticism could be considered 'healthy', particularly in the context of improving media literacy, the actions of media organisations are described by Ofcom as 'a source of frustration'[131] for the public. This could lead to disengagement, and in some cases a culture of post-truth, where objective facts are less influential in shaping public opinion than appeals to emotion or personal belief.[132] [133] [134]

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[124] Adults: Media Use and Attitudes Report 2019, Ofcom, 2020
[125] "Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach", The Observer, 18 Mar 2018
[126] Adults Media Lives 2019, Ofcom, 2020
[127] Ibid
[128] Study on media literacy and online empowerment issues raised by algorithm-driven media services, RAND Europe, 2017
[129] Adults: Media Use and Attitudes Report 2017, Ofcom, 2018
[130] Adults: Media Use and Attitudes Report 2019, Ofcom, 2020
[131] Adults Media Lives 2019, Ofcom, 2020
[132] From post-truth to post-trust?, European Parliament, 2018
[133] Truth and Trust: How Audiences are Making Sense of Fake News, Zaryan, 2017
[134] Critical Literacy in the Post-Truth Media Landscape, Barton, 2019

### Cross country comparisons

The mixed landscape of media literacy across research into critical thinking is supported by a report commissioned by the European Commission[135]. This analyses EU countries and their citizens' attitudes towards, and awareness of, fake news and disinformation online (including the UK). This reinforces the mixed picture, where the majority of participants 'totally trust' or 'tend to trust' news and information they receive from traditional media such as radio, television, and printed media; however, less than half (47%) trust online newspapers. Even lower proportions of respondents trust online social networks and messaging apps (27% and 26% respectively). This was found to be consistent across all EU member states.

Despite this, Ofcom[136] also finds (through its Media Literacy Tracker, a representative survey of UK adults) that although nearly all users make use of search engines for online information, only six in ten understand that not all information is objective and accurate. One in five assume that all information produced by a search engine search is unbiased. Similar results are also found with commercial content.

While most adults can identify how television programmes are funded, this appears to be less true for online content. Around 80% of adults are aware of how BBC television programmes are funded; however, only 62% are aware that the license fee also funds the website and BBC iPlayer. [137] Moreover, just over half of adults understand how search engines are funded, and this is less than half for YouTube. This is an important aspect of media literacy, as understanding the source of funding is crucial to understanding the motivations behind certain content.[138.] Ofcom notes that a large minority (around 40%) think that as long as the internet provides 'good websites', its funding is irrelevant, showing that users are ill-equipped to process all the risks associated with online content. In addition to this, Ofcom finds that two thirds of adults who use price comparison websites do not realise that the first few deals on the list are sometimes paid-for content.

Similarly, the research suggests a mixed picture around challenging unwanted / inappropriate content behaviour online. Ofcom finds that while many users appear to be aware of the reporting features online, most adults are unable to explain what is considered harmful content and what qualifies as 'hate speech', as many assumed these terms described more intense forms of bullying and trolling[139].

The Audiovisual Media Services Directive set an obligation for the European Commission to systematically measure the state of media literacy levels across EU member states. The European Association for Viewers Interests (EAVI) compares the media literacy levels between European countries (based on the adult population only), producing a numerical value for each EU member state. This has a near identical definition of 'media literacy' to that adopted by Ofcom, focusing on the ability to access, analyse, and evaluate.

In an EAVI pilot study which devised a tool for measuring and comparing media literacy levels[140], only a sample of the European Union Member (27) states were compared with the UK. The report shows that in terms of basic computer skills (**access**) the UK was ranked 'medium' rather

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135 Flash Eurobarometer 464 Report: Fake news and disinformation online, 2018

136 Adults: Media Use and Attitudes Report 2019, Ofcom, 2020

137 Ibid

138 Ibid

139 Ibid

140 Study on Assessment Criteria for Media Literacy Levels: A Comprehensive view of the concept of media literacy and an understanding of how media literacy levels in Europe should be assessed, EAVI Paolo Celot, 2010

than ‘advanced’; however, its standardised score of 26 was above average (23). In terms of general media literacy (**access, understanding and creating**) the UK has the fourth highest overall score(136) behind Finland (146), Denmark (142), and the Netherlands (137). EAVI notes a large difference in standardised scores between these four countries, collectively ranked as ‘advanced’, and the lowest ranked countries, such as Romania (below 70).

The UK is also an anomaly among similar highly populated countries (such as France, Germany and Spain) which often achieve a ‘medium’ level of general media literacy. EAVI notes that the highest ranked countries tend to be those with higher GDPs and those that have been part of the EU for a longer time. Another survey by EAVI in the following year, including seven European member states at that time (including the UK), with a sample size of around 8,000 people, showed consistent results with the previous survey[141].

However, it is worth noting that the sample size in both reports is small and they are relatively dated. A recent study on EU member states on disinformation and how much citizens trust news and information through online newspaper and news magazines placed the UK in the middle of the scale (18th out of 28 countries)[142]. It is worth noting that scepticism is only one aspect of media literacy and may not necessarily translate into skills to evaluate information.

Rasi et al[143] reference OECD’s international survey of adult skills (including digital skills), which covers 33 countries globally, reports that nearly half of adults have ‘low proficiency’ in solving problems in technology-based environments. This means that nearly half of adults in this sample struggle to use digital technology and tools to access and evaluate information, communicate online, and perform tasks online for work. The research found that only 5.4% of adults in these countries were able to reach the highest level of skills, meaning that they can, for example, combine information from several sources. This shows that the lack of media literacy is a worldwide phenomenon. Nevertheless, comparisons between states should be made with caution; the average level of media literacy is quite low and may not be sufficient to deal with the harms users face online, so an ‘above average’ rating is not in itself evidence of high literacy.

OECD’s Skills Outlook Report[144] explains that the share of 16 to 29-year-olds in the UK with basic digital skills is below the international average, contradicting the European studies. However, it does place the UK above average for those aged 55-65. It also places the UK as around the median for “a meaningful share of well-rounded individuals”; that is, the fraction of population that have a well-rounded set of skills, combining high levels of literacy and numeracy, and problem-solving skills in technology-rich environments, and are therefore better able to protect themselves online and reduce their exposure to digital risks.

Also, in their Skills Matter survey[145] the OECD places the UK in the top 10 for “proficiency in problem solving in technology rich environments among adults” across OECD countries (above the United States, Germany, and Canada, and above the OECD average). Nevertheless, the OECD highlights that every participating country has a large portion of adults who are “unable to display any proficiency in problem solving in technology-rich environments”. [146] This mixed

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141 Testing and Refining Criteria to Assess Media Literacy Levels in Europe Final Report, EAVI, 2011

142 Flash Eurobarometer 464 Report: Fake news and disinformation online, 2018; survey research with 26,576 respondents, with at least 1,000 responses in all but the 3 smallest EU countries

143 Media Education for All Ages, Rasi et al, 2019

144 OECD Skills Outlook 2019, OECD, 2109

145 Skills Matter – Additional Results from the Survey of Adult Skills, OECD, 2019

146 Skills Matter – Additional Results from the Survey of Adult Skills, OECD, 2019

picture suggests that more research is needed to understand media literacy across several skill and issue types.

Therefore, the research suggests that media literacy around knowledge (understanding) amongst adults is **limited but above average** when compared to other European states. UK adults have some general knowledge but there are still **gaps** in basic knowledge around, for example, hate speech and misinformation. Also, where there is knowledge, there is a **lack** of a more **comprehensive understanding** of the issue types. This knowledge also varies with age and socio-economic background, as explained later in this report.

### 3.4.3 Understanding (behaviour/skills)

**Summary**

**Adults are often confident in their knowledge and understanding about online safety, however, this is not always reflected in their skill sets and behaviours online.**

**Key findings from the report showed that:**

- **Adult users have high levels of awareness about how to report content online but the proportion of adults who report content is lower. For example, only 60% of those who have seen hateful content online reported it.**
- **Two-thirds of adult internet users make security checks on websites before entering personal data.**
- **Most UK adults are confident in their ability to identify false news and advertising but perform poorly when tested on this. One in ten users do not consider the reliability and truthfulness of the content they read online while only around half of adults can correctly identify advertisements on Google.**
- **There has been an increase in awareness about privacy and data, and users are less accepting of companies using their data. However, users lack the skills to effectively manage their data and privacy.**

#### Online safety

The literature suggests that issues around hateful or inappropriate content, for example, are not acted upon by users. The Ofcom 2019 report on adults' media use and attitudes found that despite the high awareness of reporting functions the proportion of adults reporting inappropriate content is low, with only 17% of those who have seen hateful content online reporting the content to the website or app[147]. However, Ofcom suggests that while part of this can be explained by complacency, where people are not overly concerned about seeing such content, some cite the lack of confidence in platforms as a reason for not acting. This can also be seen in relation to issues such as those around terms and conditions. Ofcom found that

[147] Adults: Media Use and Attitudes report 2019, Ofcom, 2020

around 70% of adult internet users usually accept the terms and conditions online without reading them.[148]

**Privacy and data**

Despite their confidence in managing personal data online, only two thirds of internet users aged 16 to 75+ make at least one 'appropriate' check on a website before entering personal details online[149]. These included checking if the website they are accessing is secure though the padlock symbol or https; if the website is from a familiar company; if there is a guarantee personal details will not be shared; or if the website has been recommended by friends and family. Overall, 30% conduct just one check, or do not conduct any checks at all.

Although this can be partly explained by a lack of knowledge on how registration form data can be used, the proportion of those who claim to understand that data can be derived from online registration forms is just under 60%[150]. This means that many adults could potentially be providing a plethora of personal information to untrustworthy websites. While it could be argued that this is partially due to preference (Ofcom finds an increasing preference for companies to collect and analyse data if beneficial for users), attitudes are changing. Users are becoming less accepting of personal information being used, even if they can opt-out and if companies are clear about how the information will be used. This suggests that some of this provision of information is due to a lack of knowledge about the risks rather than preference.

**Critical thinking, misinformation, disinformation and technology for deception**

Limited understanding can also be seen in relation to evaluating online content, misinformation, disinformation and similar issues. While most UK adults are confident in their ability to identify fake news[151], many adults still lack the essential skills needed to identify advertisements[152]. In particular, Ofcom's annual Media Literacy Tracker found that one in ten users do not consider the reliability and truthfulness of the content they read online,[153] despite a general understanding that content creators, such as social media influencers, can be influenced by commercial incentives.

Likewise, the Tracker[154] finds that most adults are unable to correctly identify situations in which they are being shown paid advertising content, a consistent finding in recent years. In this annual survey, only around half of adults are able to identify advertisements on Google, despite around 80% of users being confident in being able to identify advertisements. This finding is supported by a survey conducted by Channel 4 as part of their Fake News Week, where they found that only 4% of participants in their quiz were able to distinguish between fake and real news, with nearly half of respondents believing at least one fake news story to be true.[155]

Similarly, a report by the Online Civic Culture Centre[156] found that 43% of news sharers admitted to sharing inaccurate or 'fake news'. This sharing of fake news often goes unchallenged. The

148 Ibid
149 Ibid
150 Ibid
151 Flash Eurobarometer 646 Report: Fake news and disinformation online, 2018
152 Adults: Media Use and Attitudes report 2019, Ofcom, 2020
153 Ibid
154 Ibid
155 Channel 4, 2017
156 New O3C Survey Report: News Sharing on UK Social Media: Misinformation, Disinformation & Correction, Online Civic Culture Centre, 2019

study also found that 30% have been corrected by other users for sharing fake news; however, only 8.5% of UK social media users have challenged another user for sharing fake news.

Ofcom[157] also finds that most adults also lack the knowledge and skills to critically appraise online media and news. They found that 20% of adults often fail to check the accuracy of news articles, and the majority (70%) only conduct one type of check. This is an important aspect of media literacy, which has gained increasing attention amongst the public and government alike[158] [159].

However, Ofcom's Media Literacy Tracker has found there has been some progress in critical awareness in recent years and adults are now[160] more likely to check for the reliability of online news compared to 2017 (30% compared to 23%). In addition, they are now more likely to 'make checks' on online content, with 67% making checks in 2017 compared to 72% in 2019. These were conducted mainly through checking: multiple websites, the name of the author, and the link of the original publication. Ofcom notes this change reflects increasing disillusionment with media and technology companies, with more people showing increased awareness of the collection and use of personal information. It suggests that this is largely driven by high profile events such as Cambridge Analytica's use of Facebook data, which has resonated within users. More adults are now being careful about sharing personal information when accessing public Wi-Fi.[161]

In wave 5 of Ofcom's "Adult's Media Lives" qualitative study (2019), many adults mentioned increased awareness as a result of workplace training in GDPR. This increase in scepticism suggests higher levels of media literacy[162] However , Ofcom suggests that there remains a huge disparity between adult knowledge of personal data collection and use of that knowledge.

This lack of media literacy skills in terms of critical thinking is also seen in a study from the Netherlands where users tended to be most confident in their operational skills (access) and were least confident in their 'information navigational skills' and creative skills .[163]

### 3.4.4 Creating

**Summary**

**There is evidence that the majority of adult internet users (59%) carry out creative activities online. The most popular of these activities are:**

- **Editing photos online (35%);**
- **Following online tutorials (31%); and**
- **Creating and sharing videos (29%).**

There is evidence of adult internet users carrying out creative activities. In Ofcom's 2019 media use and attitudes report, 59%[164] of adults report doing one of the creative activities identified by Ofcom, and 27% of adults have uploaded content to the internet. They found the three most

[157] Adults: Media Use and Attitudes report 2019, Ofcom, 2020
[158] National Literacy Trust, 2018
[159] Picton, 2019
[160] Adults: Media Use and Attitudes report 2019, Ofcom, 2020
[161] Ofcom, 2018
[162] Nic Newman, 2018
[163] Development and validation of the Internet Skills Scale (ISS), van Deursen, Helsper & Eynon, 2016
[164] Adults Media Use and Attitudes Report Chart Pack, Ofcom, 2020

popular activities included: editing photos online (35%); following online tutorials (31%); and creating and sharing videos (29%). Other activities included: live streaming; creating a personalised online photobook calendar or birthday card; making a meme or gif; building/modifying a website or app; making a blog/vlog; creating an online scrapbook of ideas; and making online music. While this suggests some level of media literacy there is limited evidence around the 'creating' aspect of media literacy for adults.

### 3.4.5 Parents

**Summary**

- **Parents can be influential in the development of their child's media literacy level and practices. Yet often parents overestimate their abilities and lack the knowledge and skill set to be safe online. The majority of parents (73-88% across the nations of the UK) feel confident that they have enough knowledge to keep their children safe online.**
- **Parents are becoming increasingly concerned about harms that impact on children such as the risks associated with online gaming.**
- **50% of parents are concerned about "companies collecting information about what their child is doing online".**
- **Parents are more aware of promotional activity to sell products online (73%) than their children (54%).**
- **As with other groups there is a disconnect between knowledge and behaviour amongst parents. For example, parents who stated that they were concerned about privacy were also more likely to post online about their children.**

The level of media literacy amongst parents is important to consider as they could be very influential in educating their children about online harms and information. Children are in the process of developing and parents should therefore guide them during this critical stage of development[165] as they often mirror and learn from the digital activities of their parents[166].

While information can be extrapolated on the media literacy of most parents from the information available on adults in general, there is some specific focus in UK literature on parents.

The literature suggests parents often lack media literacy around access. A report in 2016 suggests that parents envy their children's ability to use digital technology with confidence,[167] and Ofcom's 2019 Media Lives report found that 13% of adults in the UK still do not use the internet (unchanged since 2014),[168] At the time of the Byron review in 2008[169] nearly half of parents (47%) admitted that they lacked technical online skills compared to their children. They were unable to locate online information on how to protect their children from internet harms and did not know whom to report harmful or inappropriate online content to. This is likely to

[165] Byron, 2008
[166] Young Children (0-8) and Digital Technology: A qualitative study across Europe, Chaudron, Giola and Gemo, 2018
[167] Digital Families: Promoting Digital Capability in the Community Research Findings, Samsung, 2016
[168] Adults' Media Lives 2019: A report for Ofcom, Knowledge Agency, 2020
[169] Byron, 2008

reflect the digital divide between parents who grew up without widespread use of the internet, and children who have grown up in a 'digital age'.

However, in the 2019 recent Media Lives report[170] Ofcom suggests there has been a constant evolution in user behaviour, with nearly all respondents (18 out of 19) becoming regular internet users, suggesting some improvements. It also found that the majority of parents (88% of parents in Scotland, 89% in Wales, 75% in England, and 73% in Northern Ireland) feel confident that they know enough to keep their children safe online. However, it is reported that that this level of confidence has been declining over time as parents are becoming increasingly concerned about harmful online content (e.g. self-harm) as well the harms of online gaming (e.g. in-game spending and game related bullying)[171] and are more likely to have rules in place about their child's mobile phone and online activities.

Ofcom also finds that less than half of the parents whose child uses a smartphone are aware of the ability to change the settings on a phone or tablet to prevent in-app purchases, although this is increasing over time. A recent US study also shows that there is still a digital divide[172]. Nevertheless, more parents have been talking to their children about online safety, with 85% of parents of children aged 5 to 15 who go online having talked to their children about this.[173]

Furthermore, a 2019 study found that parents were confident in their ability to distinguish between real and fake news (understanding).[174] However, awareness is only the first step in understanding harms, and there is a current lack of evidence on knowledge beyond this. In addition, although most parents with children who are social media users know of a minimum age requirement, few were able to correctly identify the ages for this.[175] For example, nearly half of parents stated they were aware that WhatsApp had a minimum age requirement, but only 5% correctly identified that it was now 16.

Research by Picton[176] also found that parents have not been able to identify fake news, with one in ten parents believing fake news stories 'a few times'.[177] This is likely an underestimate of the frequency with which parents believe fake news, as this only considers the incidents where they have subsequently become aware that the news story was fake.

In relation to privacy and data, the 2019 Ofcom report suggests parents have shown some signs of awareness, with 50% of parents concerned about "companies collecting information about what their child is doing online"[178]; 42% of parents worried about their child's reputation online; and 41% worried about online pressures for their children to spend money online. These statistics have also increased compared to the previous year's study, suggesting increased understanding.[179] However research[180] suggests parents who were more concerned about privacy also were more likely to widely and more frequently post online about their children. This could either be that the benefits of social connection were deemed to outweigh privacy or that

[170] Adults' Media Lives 2019: A report for Ofcom, Knowledge Agency, 2020
[171] Ibid
[172] The Common Sense Census: Media Use by Tween and Teens, Common Sense Media, 2019
[173] Children and parents: Media Use and Attitudes report 2019, Ofcom ,2020
[174] Picton, 2019
[175] Children and parents: Media Use and Attitudes Report 2019, Ofcom, 2020
[176] Picton, 2019
[177] Picton, 2019
[178] Ofcom, 2019
[179] Ofcom, 2019
[180] What do parents think, and do, about their children's online privacy? Parenting for a Digital Future: Survey Report 3, LSE, 2018

they struggle to manage this. The report finds that 5% later regretted sharing these images/videos of their children online, perhaps suggesting the latter.

Similarly to other groups, there also appears to be a disconnect between knowledge, skills, and behaviour. While parents' access skills have increased slightly, there are still limitations. There is a need for parents to acquire basic media literacy skills to support their children;[181] however, the direct focus on parents compared to general adults has been rarely separated since the Byron review in 2008, and so recent data on this is limited.

### 3.4.6 Conclusion

**Adults: Summary**

- **Globally adults have low levels of media literacy. While UK adults have higher than average media literacy levels in comparison to other European countries, there are significant gaps in their understanding and skill sets.**
- **Adults' knowledge and awareness of media literacy is often basic and does not translate well into applied behaviours and skills in the online environment.**

Overall, the research suggests while the level of media literacy across adults in the UK has areas for improvement, it is above average by European standards. However, the European 'average' may not be a good benchmark for a sufficient level of media literacy, as evident by the gaps in understanding amongst adults. Many adults remain unaware of the type of harms they can face online and lack the skills and knowledge to counteract these, such as critical thinking. This is evident in academic research which suggests that adults lack some basic media literacy competencies.[182] One area in which the UK is objectively ahead of EU nations is that it is the only member, or ex-member, state with provision of a qualification in media literacy in schools; however, take up to date has been low (7.3% of GCSE students in 2017[183]).

Similar to that of children, adults' media literacy in terms of knowledge often does not translate fully into their behaviours and skills. Furthermore, this knowledge appears to be basic. Much of the literature 'audits' the proportion of people who lack basic knowledge (e.g. the proportion of people who do not know about targeted advertising), rather than the quality of these skills. For example, how much actually know about targeted advertising, how it works, and the full scale of harms it poses. Where quality is assessed, this highlights significant areas for development. Therefore, even if the UK performs better than certain countries in the European Union, this does not equate to high levels of media literacy.

## 3.5 Variations, Barriers and Enablers

The purpose of this section is to explore the variations in media literacy levels between user groups, and the main barriers and enablers to developing greater media literacy. There is limited academic literature on the barriers and enablers to the development of media literacy

[181] Competition vs Collaboration: A Study of Promoting Children's Parental and Teacher's Collaborative Roles in Twenty First Century Digital and Media Literacy Education, Ibrahim, 2018
[182] Media Literacy Education for All Ages, Rasi et al, 2019
[183] Cambridge Assessment, Uptake of GCSE subjects 2017, December 2018

specifically in relation to online harm. It therefore focuses on barriers and enablers in relation to media literacy generally.

Some literature has tried to study individual groups within 'adults' and 'children' across all aspects of media literacy. This has mainly focused on more vulnerable groups such as older adults and those from more disadvantaged socio-economic groups. This has been completed to a lesser extent for those from an ethnic minority background, those with disabilities, and other protected characteristics under the Equality Act 2010.

### 3.5.1 Variations

**Summary**

**There are variations in media literacy levels amongst different user groups. Users who are from disadvantaged socio-economic backgrounds, new users, older people, younger children, and people with disabilities tend to have relatively lower levels of media literacy competencies compared to other user groups. Age and socio-economic status were the factors that indicated the biggest differences.**

**Key findings showed that:**

- **Only 6% of adults from higher socio-economic groups don't use the internet compared to 23% from lower socio-economic groups.**
- **Age is a significant determinant for media literacy, with adults aged 65 and over found to be less media literate.**
- **Evidence on gender differences is mixed and there is a lack of studies examining media literacy rates between the sexes.**
- **People with disabilities can face compound barriers to their access and use of digital media, such as: discrimination, technological barriers, systemic poverty and inequalities in education.**
- **Low confidence and limited experience online are the primary barriers to having a good understanding of the online environment. For example new users are less likely to be aware of the need to critically think about content they come across online.**

#### Socio-economic background

According to Ofcom's 2019 'Media Use and Attitudes' report, age and socio-economic status are the key variables that influence user access and confidence. Evidence shows that those from more disadvantaged socio-economic backgrounds fall behind the average adult in terms of media literacy levels, with lower levels of access as well as lower abilities to create and understand online content. Their confidence in media use also reflects this.[184]

[184] Papaioannou, 2011

This is supported by other academic literature which found a strong negative association between socio-economic class and access to online media, with research in 2016[185]noting that only 6% of adults from the AB[186]category[187] did not use the internet compared to 23% for the more disadvantaged of socio-economic groups, with approximately a quarter of those in DE[188] households not using the internet. This is supported by several other studies[189] [190] [191] [192].

Hallaq[193] also found a strong correlation between higher socio-economic groups and greater access to newer technologies. However, there is limited literature exploring the drivers of this trend. Yates et al[194] attribute it to potential long-term gaps in economic, social, and cultural capital[195], driven by the fact that the ability to make the fullest use of the internet is predominantly limited to the wealthiest citizens and unavailable in areas with no or limited broadband coverage. A 2016 report on promoting digital capability also suggests that part of this can be explained by cost, as lower income families are often faced with slower connections and sometimes only a single household device.[196] This is supported by research for the Office for National Statistics (ONS) which states that the percentage of households with an internet connection increases with income.[197]

Ofcom[198] found that the more socio-economically disadvantaged the user, the lower the knowledge and skill level they possessed to protect themselves from online harms and critically appraise information online (understanding). For example, those from more disadvantaged socio-economic backgrounds were less likely to understand how search engine results are produced, compared to those from more advantaged socio-economic backgrounds. Also, while 87% those from socio-economic class group AB are aware of at least one method of online data collection, and 57% can correctly identify advertisements on Google, the equivalent statistics are 73% and 37% respectively for those from the most disadvantaged socio-economic group, DE[199]. The DE group also appears to possess lower levels of skills in understanding and appraising the information they read from online media outlets. Furthermore, those from more disadvantaged backgrounds also were less likely to adopt security measures such as the selection of strong passwords, antivirus or antispyware programs and VPNs. While this is not in itself a measure of media literacy, this understanding of cyber security risks gives some indication of broader awareness around online safety measures. The use of security measures requires resources as well as awareness, which the AB class will have greater access to ,but measures such as uptake of anti-virus software could nevertheless be used as a proxy for wider online safety awareness. Differences in confidence levels can also be observed between

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185 Hallaq, 2016

186 That is, households where the Census Household Reference Person's occupation is classified as higher & intermediate managerial, administrative, professional occupation (NRS social grade)

187 Using the National Readership Survey "social grade" classification: AB = "upper- or middle-middle class".

188 That is, households where the Census Household Reference Person's occupation is classified as a semi-skilled or unskilled manual occupations, lowest grade occupation, or unemployed (NRS social grade).

189 Buckingham, 2005

190 Taylor and Packham, 2016

191 Tripp and Herr-Stephenson, 2009

192 Inequalities in how parents support their children's development with digital technologies. Parenting for a Digital Future: Survey Report 4, Livingstone and Zhang, 2019

193 Hallaq, 2016

194 Yates et al, 2015

195 "Cultural capital" is defined in this paper as the level of education and cultural consumption, social capital as networks and connections.

196 Digital Families: Promoting Digital Capability in the Community Research Findings, Samsung, 2016

197 Exploring the UK's Digital Divide: The scale of digital exclusion in the UK, Serafino, 2019

198 Hallaq, 2016

199 In the National Readership survey "social grade" classification, D denotes "working class" and E "not working".

parents with different education levels. For example, 66% of parents with secondary school level education were confident, compared to 79% for those with university degrees in distinguishing fake news. Similarly, some studies suggest that those with higher education levels (often a prediction for socio-economic class) are more confident than others in terms of navigating information online.[200]

Lower levels of access and understanding have also been observed in children from more disadvantaged socio-economic backgrounds.[201] [202] For example, boys from disadvantaged backgrounds were found to be the least likely group to be able to recognise fake news.[203] This is supported by a difference in parents' confidence in their children's ability to identify fake news between those from more advantaged (52%) and disadvantaged socio-economic groups (39%)[204].

Anderson et al.[205] argue that in schools there can be low expectations associated with socio-economic status which can lead to students becoming academically marginalised. This results in constraints to opportunities and educational experiences in relation to digital media literacy with a focus on functional IT skills rather than creative activities. A study by Kahne et al[206] found that in California schools and colleges higher-achieving students, white students, and those in classrooms with a higher average socio-economic status, tend to receive more digital media literacy opportunities.

However, Tripp and Herr-Stephenson[207] conclude that the opportunity to engage in digital media literacy activities alone is not enough. In order to improve media literacy, media education must include media production assignments and media analysis activities that are linked to young people's existing knowledge and interests in media and technology.

**Age**

Age has been seen as a significant determinant for media literacy, with adults aged 65 and above appearing less media literate compared to the average adult in Ofcom's annual Media Literacy Tracker[208]. However, Rasi et al[209] explain there has been no comprehensive research on the media literacy of people aged over 65. Existing research has focussed primarily on 'access' and their use of the internet and media with limited information on their critical thinking around digital technologies.

The proportion of adults who do not use the internet increases with age, with almost half of those aged 75 not using the internet.[210] Choudrie et al[211] attribute this to a combination of insufficient skills and the speed of technology development. Furthermore, research published by ONS shows that older adults (aged 65 and above) have persistently constituted a large portion

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[200] Development and validation of the Internet Skills Scale ISS, van Deursen, Helsper & ,2014
[201] David Buckingham, 2015
[202] Sonia Livingstone, 2010
[203] National Literacy Trust, 2018
[204] Picton, 2019
[205] Anderson et al, 2012
[206] Kahne, J., Lee, NJ. and Feezell, JT (2012) Digital Media Literacy Education and Online Civic and Political Participation. International Journal of Communication, p. 1–24
[207] Tripp and Herr-Stephenson, 2009
[208] Adults: Media Use and Attitudes report 2019, Ofcom, 2020
[209] Media Literacy Education for All ages, Rasi et al, 2019
[210] Ofcom, 2020
[211] Choudrie. et al, 2013, as cited in Taylor and Packham, 2016

of adult non-users of the internet (more than half of non-users were those over the age of 75).[212] Similar to socio-economic status, this has been well documented under the issue of digital exclusion.

The 2019 Ofcom report on Media Use and Attitudes found the percentage of people aged 16 to 64 who are aware of at least one method in which companies collect personal data online remains consistently around 80%[213] . However, this falls to 72% and 63% for 65 to 74 years old and 75+ respectively.[214] The level of confidence in managing the privacy of personal information also appears to differ by age, with adults aged 16-24 or 25-34 being the most confident (83% and 84% respectively) and adults aged 55+ the least confident (60%).

A study by Microsoft suggests that younger users are more confident than older users in media literacy skills: 43% of teens and 21% of adults found it easy to find information they needed on handling online risks.[215] This is supported by Rasi et al[216] who cite various papers showing older people often struggle with analysing and evaluating online content. They reference Guess, Nagler, and Tucker's paper on American older people, which found that older people struggled to determine the 'trustworthiness' of online media.[217] They also highlight the lack of information literacy skills around health information, where health is cited as a main concern for older people in several different papers.

Rasi et al, using OECD survey results, explain that media literacy skills deteriorate if not used, and problem-solving skills in technology rich environments peak at age 25.[218] Age appears to be a key determinant in variation in media literacy levels amongst adults. Livingstone and Helsper[219] explain that age can be an enabler in the cases of children for media literacy intervention as children aged 13 above can start to think in more abstract ways. This has the potential to increase their capacity to understand and absorb media literacy education. Another study also suggests that teenagers may be better equipped than adults to find help with online issues.[220]

However, a European study also finds that while younger people tended to trust online news more, this statistic was mainly driven by older people claiming that they 'don't know' about their trust levels for online news and are more likely to trust more traditional forms of news than younger people.[221] This suggests a more complex view of media literacy; rather than lacking critical thinking skills, adults of older age may simply find it hard to apply their skills and knowledge to digital technology.

Furthermore, the OECD Skills Outlook[222] places the UK as below average in terms of 'older people with low cognitive and digital skills' in OECD country standards. Rasi et al[223] explain that there is no comprehensive research on media literacy levels amongst people over the age of

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212 Exploring the UK's digital divide, Serafino, 2019
213 Adults: Media Use and Attitudes report 2019, Ofcom, 2020
214 Adults: Media Use and Attitudes report 2019, Ofcom, 2020
215 Civility, Safety & Interaction Online, Microsoft, 2019
216 Media Literacy Education for All Ages, Rasi et al, 2019
217 Less than you think: prevalence and predictors of fake news dissemination on Facebook, Guess et al, 2019
218 Media Literacy Education for All Ages, Rasi et al, 2019
219 Does advertising literacy mediate the effects of advertising on children? A critical examination of two linked research literatures in relation to obesity and food choice, 2006
220 Civility, Safety & Interaction Online, Microsoft, 2019
221 Flash Eurobarometer 464 Report: Fake news and disinformation online, TNS political & social, 2018
222 OECD Skills Outlook 2019: Thriving in a Digital World – How does the United Kingdom Compare?, OECD, 2019
223 Media Literacy Education for All Ages, Rasi et al, 2019

65, with most research focusing on digital exclusion rather than their understanding and ability to create.

**Gender**

Evidence on the differences in media literacy skills between sexes is mixed.[224] [225] While many studies look at the gender differences in statistics when analysing media literacy, there is no comprehensive study on media literacy and the differences between the sexes in the public domain around the UK.

The recent EU Kids Go Online Project found little difference between genders, although in some countries boys were more able to navigate information online and girls were better in social skills online in some countries[226]. On the other hand, other studies suggest that girls were better equipped around computer and information literacy[227] [228]. However, a report by the United Nations University[229] found that women are less likely to have advanced digital skills in 'access' in the reporting countries[230]. This report considered information skills, communication skills, problem solving, and software skills. This gender gap in 'access' to digital skills is also found by the OECD.[231]

Ofcom's 2018 report[232] on Adults' Media Use and Attitudes also provides some insight. For example, it found that females were more likely to share opinions online using their real name, with 35% of females using real names compared to 31% of males. This suggests that males could potentially be more aware of privacy issues. Males were also more confident in knowing how to manage access to their personal data online, with 40% of males saying they were confident compared to 32% of females.

This report also finds that males tend to think that news being "balanced, impartial, and unbiased" is important, with 70% of males stating news that is balanced is important, compared to 62% of females. Similarly, news that "provides an expert opinion" was more likely to be seen as important for males (39%) compared to females (25%).

There also appears to be a disparity in terms of gender for children. While both males and females seem to lack the skills to critically evaluate information online, girls are more vulnerable to risks on mental wellbeing when processing media (discussed above) and boys are less likely to appraise information provided by search engines.[233] Boys also appear to be more confident in using the internet than girls.[234] [235] This disparity in confidence also appears to be prevalent amongst adults.

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[224] Development and validation of the Internet Skills Scale ISS, van Deursen, Helsper & ,2014

[225] Inequalities in how parents support their children's development with digital technologies, Livingstone and Zhang, 2019

[226] EU Kids Online 2020 Survey Results from 19 Countries, Smahel et al, 2020

[227] Introduction to Gender Differences in Computer and Information Literacy, Gebhardt et al, 2019

[228] Gender differences in computer and information literacy: An exploration of the performances of girls and boys in ICILS 2013, Punter et al, 2016

[229] Taking stock: Data and evidence on gender equality in digital access, skills and leadership, United Nations University, 2019

[230] Information gathered from national statistical offices of 78 countries

[231] Bridging the digital gender divide – include, upskill, innovate, OEC, 2018

[232] Adults' Media Use and Attitudes Report, Ofcom, 2020

[233] Ofcom, 2019

[234] Sonia Livingstone, 2005

[235] Sonia Livingstone, 2010

**People with Disabilities**

People with disabilities often face compounded barriers to their access and use of digital media[236] [237] [238] [239]. These include:

- negative attitudes and expectations in relation to inclusion;
- technological barriers; and
- structural barriers, (e.g. poverty, lack of inclusive education/training).

Blanck[240] highlights the combined impact of attitudinal discrimination and technological barriers, as well as structural barriers such as poverty, lack of inclusive education, and inadequate job training[241] This study refers to a range of assistive technology (such as screen readers) that can support access, as well as the need for policy change and a more universal design to bring access in line with the human rights-based approach of the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD).

**Experience with digital technology**

The academic literature suggests that experience of technology often determines digital literacy skills more than age. For adults, barriers to understanding are primarily related to confidence and length of experience.[242] Newer users (those who first went online less than five years ago) tend to be less likely to possess critical awareness of media and online services. They are less likely to:

- be aware that search results may contain inaccurate or biased information (38% compared to 60% for established users);
- verify factual information online (55% compared to 73%); and
- be able to correctly identify online advertising (37% compared to 51%).

Rasi et al[243] state that there is an increasing gap between users who use the internet for only basic tasks, and those who use the internet more diversely. This is supported by Livingstone and Helsper's[244] study which found evidence of mutual association between media use and literacy for adults. However, this study found no evidence that media use improved media literacy among children[245]. Livingstone et al.'s[246] study on Internet Literacy Among Children and Young People, suggested that people with higher self-assessed experience with the internet had greater confidence in the material that they were able to find, having exercised some critical understanding skills:

> *'Instead of beginners being more trusting of online contents, it seems that the more expert (i.e. the more skilled in finding their way to material they feel is reliable, checking*

[236] Newman et al., 2017
[237] Taylor and Packham, 2016
[238] Usoro et al., 2016
[239] Blanck, 2014
[240] Ibid
[241] Ibid
[242] Ofcom, 2019
[243] Media Literacy Education for All Ages, Rasi et al, 2019
[244] Livingstone and Helsper, 2010
[245] Ibid
[246] Livingstone et al, 2005

*information across several sites) are more trusting of online contents.'* (Livingstone et al., 2005, p.3)

This study advocated developing skills in critical understanding to enable greater access to online opportunities. This is supported by Rasi et al[247] which notes that the more children use the internet, the more 'digital skills' they gain, although not all types of use lead to benefits.

Research on experience of technology is mainly related to 'access'. There is limited information on the understanding domain around the determinants of media literacy levels and the extent to which determinants predict media literacy. One paper suggests that those in full-time employment and university students have the highest levels of media literacy skills across all types, including navigating online information,[248] although being an older adult appears to have more influence on media literacy than employment type (e.g. unemployment, part-time). There is currently limited academic research on the specific effects of different characteristics on media literacy.

### 3.5.2 Enablers and barriers to media literacy

**Summary**

**There are a number of factors which can act as barriers to improving media literacy levels, such as:**

- **A lack of skills, confidence, or experience using technology, particularly amongst older people.**
- **Lack of economic capital (e.g. the cost of physical hardware to access the internet), and social and cultural capital.**
- **Inequalities in the education system.**

**Some people with disabilities can also face additional barriers such as:**

- **A lack of inclusion online which can create a negative expectation of online engagement**
- **Technological barriers.**
- **Structural barriers, (e.g. poverty, lack of inclusive education/training).**

**Parental concerns about online harms affecting children can become a barrier to improving children's' media literacy levels by restricting their access to technology.**

**Studies have explored several ways through which these barriers can be reduced or overcome:**

[247] Media Literacy Education for All Ages, Rasi et al, 2019
[248] Development and validation of the Internet Skills Scale ISS, van Deursen, Helsper & ,2014

**Summary**

- **Online safety initiatives need to better facilitate communications between parents and children to bridge divides around issues such as restricting access to technology.**
- **Research shows that creative approaches to ICT training reduces barriers to internet use.**
- **Users who have limited experience accessing technology should be provided with opportunities to create and analyse media content.**
- **Providers should utilise existing resources to deliver media literacy initiatives such as through adult education, social networks, and classroom and informal learning.**

### Formal and informal learning, and digital inclusion

The level of opportunity to experience digital content is a determinant of media literacy; as a result digital exclusion is seen as a barrier. Barriers in relation to developing greater media literacy primarily relate to access and are linked to age (i.e. lack of ICT skills and confidence in using digital media) and socio-economic status (i.e. long-term gaps in economic, social, and cultural capital leading to lack of e.g. access to broadband, devices, skills, and opportunities). There is evidence of the successful use of creative and alternative approaches to ICT training to address these barriers[249].

The findings from Taylor and Packham's[250] research into digital inclusion projects in Wales showed that barriers to internet use can be reduced through the application of creative and alternative approaches to ICT training that provide instruction, training, and support relevant and personal to the individual. For example, embedding technical skill development within the process of wider workshops, where technology is seen as only a minor part of the experience.

### Cognitive skills

The OECD's Skills Outlook report[251] suggests that a good level of general cognitive skills increases the chance that people protect their privacy and security online. They explain that users need cognitive skills to be able to fully understand and analyse online information.

### Barriers due to variation

People with disabilities often face compound barriers to improving their media literacy, consisting of attitudinal discrimination, technological barriers, and structural barriers. While there are a range of assistive technologies to support access for people with disabilities, there is a need for change to policy and practice, including greater use of universal design.

Low expectations associated with socio-economic status can lead to students becoming academically marginalised, curtailing their opportunities in relation to media literacy and perpetuating the cycle. In order to improve media literacy amongst this group there is therefore a need to provide opportunities to create and analyse media content. Such activities should be linked to the student's existing knowledge and interests in media and technology.

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[249] Taylor and Packham, 2016
[250] Ibid
[251] OECD Skills Outlook 2019, OECD, 2019

Overall, there is little comprehensive research considering variations in media literacy levels between different user groups other than children and adults. For example, Rasi et al[252] explain that barriers include ethnicity and poor proficiency in English, but little research has been done surrounding this. There have been some attempts to explore this, for example an online safety foster care survey, but little else has been done around media literacy levels for children in care or their carers in particular.[253] More research in this area would be welcome.

One study[254] considered the role of "self-efficacy" (belief in personal capacity to accomplish tasks and effect changes) in recognising misinformation. This suggested that ability did not vary according to age, gender or socio-economic class directly, but rather information literacy levels.

**Environment**

EAVI's study[255] shows a positive correlation between levels of media literacy and environmental factors; 'individual competence' is only significant once a certain level of institutional environmental support is present. Furthermore, Rasi et al[256] explain other enablers include adult education opportunities, social networks to support, and work involving use of digital technology.

**Parental concern**

Parental concern about online risks can pose another potential barrier to children's media literacy by restricting access to digital media and media literacy. To address this, the design of online safety initiatives should facilitate better communication between parent and child within their online activity. Such initiatives also need to be tailored to the risk profiles of different demographics and the purposes for which they use digital media. Moreno et al.[257] highlight the potential benefits of involving older adolescents in promoting online safety, particularly in relation to privacy and age-appropriate use of digital media by younger teens. On the other hand, reinforcement of what is taught in school for children, and parental support through informal learning, is an opportunity for an enabler. However, this requires adequate media literacy among parents[258].

Boyd and Hargittai[259] found that while parental concern may be correlated with actual experience of online safety risks, it also varies significantly by race and ethnicity, income, metropolitan status, and political ideology. It also found that initiatives involving the use of social media and blogging in the classroom show that meaningful engagement in the construction of social networks can support educational objectives as well as helping to develop the child's online safety skills. This is supported by Burns et al.[260] who conclude that, "policy responses should move beyond just access and safety and explore innovative ways of ensuring safe and supportive online communities accessible for all young people" (Burns et al, 2009, p.90).

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[252] Media Literacy Education for All Ages, Rasi et al, 2019

[253] Online Safety Foster Carer Survey 2016, Guardian Saints, 2017

[254] Recognising misinformation and verify before sharing: reasoned action and information literacy perspective, Khan and Indris, 2019

[255] Study on Assessment Criteria for Media Literacy Levels: A Comprehensive view of the concept of media literacy and an understanding of how media literacy levels in Europe should be assessed, EAVI Paolo Celot, 2010

[256] Media Literacy Education for All Ages, Rasi et al, 2019

[257] Moren et al, 2014

[258] Competition vs Collaboration: A Study of Promoting Children's Parental and Teacher's Collaborative Roles in Twenty First Century Digital and Media Literacy Education, Ibrahim, 2014

[259] Boyd and Hargittai (2013)

[260] Burns et al, 2009

## 3.6 Conclusions

Ofcom defines media literacy as the "ability to **access**, **understand** and **create** communications in a variety of contexts"[261] which includes the ability to "question, analyse, appreciate and evaluate that information".

Evidence suggests that the level of media literacy in the UK is limited for adults and children; however, it is not homogenous across these groups. Media literacy is even more limited for people from more vulnerable groups such as older people and those from disadvantaged backgrounds. There is a lack of skills and knowledge in all aspects of media literacy including critical thinking, which is often cited as a critical aspect of media literacy by academics[262] and regulators alike. There is a difference between confidence in skill sets and actual skills which reflects overconfidence stemming from insufficient awareness of the risks and harms from internet use,[263] and lack of critical thinking[264].

Children are well able to access and navigate technology compared to parents, reflecting the 'digital divide'. A smaller proportion of adults use the internet for uploading content, however, this could suggest a lack of interest rather than a lack of skills, and so this gap may be overstated[265].

People with lower levels of media literacy seem to be aware that they had more room for improvement, with most having low confidence in their skills. However, there appears to be a consistent gap across all users in knowledge and understanding about certain issues, such as how data is collected and used, how media is funded, and misinformation.

Research on media literacy competencies are mainly focused on 'low-order' thinking skills, rather than 'higher order' thinking skills.[266] This means that the literature often just identifies gaps in areas of media literacy rather than assessing the quality of media literacy skills.

There are some questions and tests that delve further into the quality of media literacy levels, for example moving on from questions that simply check for awareness, such as whether participants are aware of at least one source companies gather personal information, to questions that check for quality, such as questions which check if participants are able to name all ways in which companies gain information. In these instances we see that participants increasingly found it more difficult to answer.

Literature suggests one possible explanation is that internet users simply memorise internet safety guidance and education rather than learning critical thinking skills[267]. This suggests that levels of media literacy in the UK remains limited to 'low-order' skills such as awareness.

It is important to note there are gaps in the evidence base. While this literature review analyses a large body of research, it has not been able to determine the media literacy levels for each particular skill type (e.g. 'creating') or issue type, and certain issue types/skills have been scrutinised in more depth than others.

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[261] Ofcom, 2004
[262] Edward Arke, 2009
[263] Ofcom, 2008
[264] Evelien Schilder, 2016
[265] Aldridge, 2008
[266] Evelien Schilder, 2016
[267] Ibid

Research around media literacy levels in the UK does not comprehensively fit the issue types and skills identified in the EAO report.[268] No standard benchmark has been set for media literacy competencies to compare these UK studies against. The European Commission's science and knowledge service has made progress with its Digital Competence Framework for Citizens (DIGCOMP), but the focus appears to also be on the skills for employability view, and studies have not yet fully compared or utilised this framework for media literacy assessment[269].

Academics including Wallis and Buckingham[270] suggest that the UK's definition of media literacy is too broad. The definition was intended to be inclusive but has led to organisations adapting the definition and confining their research around media literacy to best align with their corresponding organisation's remit, which may be only one aspect of media literacy. This has led to narrow definitions and research. Therefore, they suggest that the definition should be designed to align with academic research which has a more developed definition with corresponding indicators. Alternative definitions have been produced by European bodies and UNESCO.

Similarly, Rasi et al cite Hobbs, explaining that while various attempts to measure media literacy have been made, a comprehensive measurement for all areas of media literacy has not yet been achieved[271]. EAVI suggests the development of more systematic research to validate and refine tools which have already been developed to measure media literacy competencies[272] [273]. EAVI suggests more research, with an increased number of media literacy areas analysed, and more in-depth investigation. This also includes the need for more international comparative studies and longitudinal studies.

Media literacy academics feel that media literacy assessment literature is an undeveloped field with a lack of universal definitions and methodologies[274]. While this does give us insight, this literature review does not provide the full picture. Many studies show incomplete and over-simplified measures of media literacy, and use self-reporting of literacy and skills[275]. As a result, this literature review's focus has been dictated by the availability of existing literature. Literature often focuses on older children with notably less evidence around those with media literacy vulnerabilities such as: children in care, people from lower socio-economic backgrounds, people with disabilities, minority ethnic people.

There are variations in media literacy levels amongst different user groups. Literature mentions certain characteristics such as age, sex, socio-economic status, and education level, as **barriers** in media literacy competency. Users who are from disadvantaged socio-economic backgrounds, new users, females, older people, younger children, and people with disabilities tend to have relatively lower levels of media literacy competencies.

Where barriers have been identified, this report has also highlighted enablers. EAVI mentioned that 'use' (access), 'critical understanding' (understanding) and communicative abilities (create) are positively correlated to each other[276]. Moreover, EAVI explains that comparative research of

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[268] Mapping of media literacy practices and action in EU-28: EAO report, European Audiovisual Observatory, 2017

[269] DigComp 2.1 The Digital Competence Framework for Citizens with eight proficiency levels and examples of use, Carretero et al, 2017

[270] Media Literacy: The UK's undead cultural policy, Richard Wallis, David Buckingham, 2016

[271] Media Literacy Education for All Ages, Rasi et al, 2019

[272] Media Literacy European Policy Recommendations, Paolo Celot, 2014

[273] Testing and Refining Criteria to Assess Media Literacy Levels in Europe Final Report, EAVI, 2011

[274] Evelien Schilder, 2016

[275] Development and validation of the Internet Skills Scale (ISS), van Deursen et al, 2013

[276] Testing and Refining Criteria to Assess Media Literacy Levels in Europe Final Report, EAVI, Danish Technological Institute, 2011

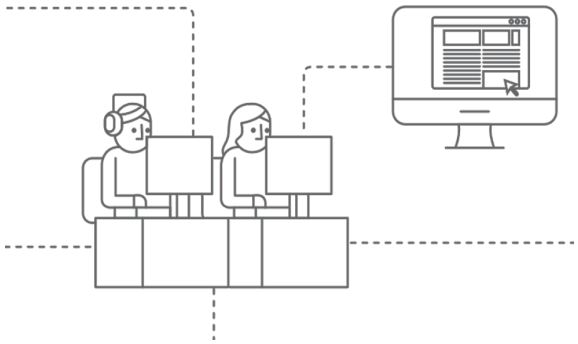
media literacy across countries has revealed external determinants of media literacy levels which include factors such as the inclusion on the national curriculum, policy of assessing media literacy, and media literacy research[277].

[277] Study on the Current Trends and Approaches to Media Literacy in Europe, EAVI, 2017

# 4. MEDIA LITERACY INITIATIVES – ASSESSMENT OF EVALUATION EVIDENCE

## 4.1 Overview

The purpose of this section is to present an analysis of current research on the best way to improve digital media literacy, in order to inform understanding of which existing initiatives are working well, and any areas for improvement. This section includes a review of academic literature and 'grey' literature (where publishing is not the primary activity, e.g. conference abstracts, reports etc), and our own analyses of a number of evaluations of media literacy initiatives, focusing but not limited to the UK. It is structured under the following headings:



- Literature review on evaluation
- Evaluation framework and review of evidence:
  - Data description
  - Fitness for Purpose
  - Significance
  - Impact on Media Literacy
  - Best practice
- Conclusions

## 4.2 Literature Review on Evaluation

The evaluation literature frequently notes the need for more evidence and data-based evaluations of educational initiatives surrounding media literacy, in order to understand what works best to enable more effective future projects[278].

Jeong[279] reviewed 51 quantitative media literacy interventions, conducting a meta-analysis which found that, as a whole, media literacy interventions have had **positive effects** on **outcomes** such as knowledge, critical thinking, behavioural belief, attitudes, self-efficacy, and behaviour. This research also found that interventions appear to have greater effects on knowledge outcomes than attitudes and behavioural outcomes, although this could be as a result of interventions focusing on knowledge. They also find that studies range from those targeting a specific element of media literacy, to some studies that were more holistic, but there appeared to be no studies examining whether these skills/behaviours/knowledge/beliefs work together.

In addition to this, Jeong notes that literature around media literacy interventions often focus on formal education via classrooms and therefore focus on children/adolescents, although some studies have included university students and adults. Lee[280] calls for research on digital media literacy education focusing away from classrooms and children. They also find that there is a lack of research on "effective strategies for educating adults in general and non-digital natives in particular about safe social media use, including protecting one's privacy, recognising false

[278] Adina Farrukh, 2014
[279] Media Literacy Interventions: A Meta-Analytic Review, Jeong, Cho & Hwang, 2012
[280] Fake news, phishing and fraud: a call for research on digital media literacy education beyond the classroom, Nicol M.Lee, 2018

information, and avoiding scams". For online resources, Lee[281] notes that more research needs to be done to understand which messages are most effective and the best way to deliver them.

On the other hand, Bulger and Davison[282] explain that in general there is "a lack of comprehensive evaluation data of media literacy efforts". There is research that suggests media literacy interventions have little to no impact, and in some cases even "produce harmful conditions of overconfidence". They also explain that method of evaluation of media literacy interventions should depend on the goals of the intervention.

A recent review of media literacy interventions was carried out by Potter and Thai[283] who identified 88 published studies on the evaluation of media literacy programmes and analysed their validity. In this study, they find that a quarter of the evaluations did not provide a definition of media literacy and more than half set out their own definition. Less than 10% presented a definition of media literacy that Potter and Thai consider the most robust – one with a foundation that cites the multiple meanings of media literacy and shows critical analysis of these definitions.

Furthermore, this study found that none of the evaluations used a test to evaluate media literacies that fully encompassed the elements of media literacy in their definition. There was often a disconnect between what the author intended to measure and what was actually measured.

Many were measuring "beliefs about participants' levels of skills" instead of actual measures of the skills themselves. As a result, they deemed the **logical validity** of the literature around media literacy interventions as '**poor'** – their assessment is that the intervention literature has a low level of scholarly quality. In their paper they discuss how this was not only due to a mismatch of definition and measurements (59 studies mentioned 'skills' as a part of their definition of media literacy, but less than half of these studies actually measured a skill) but also because these studies are mainly based on a participant's self-reported behaviour. They therefore suggest that this area of the literature needs to grow in 'value', with studies designed for greater credibility and robustness to increase their applicability, and so that future studies can build upon them by carrying out further work to similar standards.

Furthermore, Potter and Thai describe how comparison with benchmarks is often used to determine whether an intervention was successful. However, none of the studies in their analysis appeared to use any benchmark as a criterion for success, focusing mainly on statistical significance. They mention how the difficulty, complexity, and cost of evaluation increases if the initiatives aim to target skills as performance indicators, and this is likely to be the reason for the mismatch in indicators for these studies and the definitions in media literacy.

Potter and Thai have three main recommendations. Firstly, that interventions need to clarify what skill in particular they plan to target. Secondly, to set what the levels of performance should be and what observable indicators would measure this. Finally, to disaggregate 'skills' (which may not always be directly measurable) into sequences of measurable tasks so as to be able to evaluate the performance of trainees. It is worth noting however, that this study only considers initiatives which explicitly claim they target 'media literacy'. As seen in this literature

[281] Ibid

[282] The Promises, Challenges and Futures of Media Literacy, Bulger and Davison, Journal of Media Literacy Education, 2018

[283] Reviewing Media Literacy Intervention Studies for Validity, Potter and Thai, 2019

review, media literacy often encompasses a whole range of ‘literacies’ and/or are often labelled differently.

Currently, while there is a lot of investment into media literacy interventions, this is not producing the most effective outcome due to a lack of cohesive, strategic, and long-term approach.

## 4.3 Evaluation Framework

We assessed which of the media literacy interventions that we had identified in our mapping exercise included evaluation of their impacts. Our scope was generous, with evaluation studies ranging from simple output/engagement statistics and testimonials, to evaluations conducted independently using control groups and mixed methods. Due to time, budget, and relevancy, we have not pursued the analysis of every evaluation that provided simple statistics but have ensured that we critically analysed the more comprehensive evaluation studies. Also, the initiatives in our framework included only more recent (post 2004) or active initiatives.

For this analysis, we developed a systematic framework for assessing the evaluation, setting out the criteria against which each evaluation methodology would be evaluated, as well as the research questions. This will provide evidence of the impact of existing initiatives and identify areas for improvement and areas of achievement. The sections will be as follows:

- Data description
- Fitness for Purpose
- Significance
- Impact on Media Literacy
- Best Practice

**Table 1: Evaluation Framework**

| Evaluation Questions | Assessment Criteria | Key Performance Indicators |
|---|---|---|
| A. **Is the evaluation fit for purpose?** | 1. Is it completed by an independent/reliable source?<br>2. Is the methodology robust? | • Independent<br>• Peer reviewed<br>• Reputable source<br>• Year of publication<br>• Approach aligned with **Magenta Book** principles (question focus, bias, statistical methods, consideration of additionality etc.) |
| B. **Was the initiative significant?** | 1. Was the initiative significant in terms of scale, impact, or public awareness/perception? | • Size of target audience<br>• Total cost/budget<br>• Success of the initiative (outputs/outcomes **compared to the objectives**)<br>• Level of public awareness of the initiative<br>• Level of engagement by target audience |
| C. **Did the initiative improve user's media literacy?** | 1. Did the initiative increase users;<br>– Creativity<br>– Critical thinking<br>– Intercultural dialogue<br>– Media use<br>– Participation and interaction | Increase in beneficiaries':<br>• Creating, building and generating their own media content<br>• Understanding of how media messages are constructed and represent people, social issues, and ideas in particular ways<br>• Making more informed choices about media engagement<br>• Ability to evaluate the credibility and reliability of media<br>• Ability to recognise/manage online security/safety risks<br>• Challenging radicalisation and hate speech.<br>• Ability to search, find, navigate, and use media safely and critically<br>• Interaction, engagement, and participation in civic society through the media and promoting democratic participation and fundamental rights |

## 4.4 Findings

**Summary**

**We reviewed the effectiveness of 20 evaluations which accompany media literacy initiatives in the UK. Only 1 evaluation met the best practice standards for monitoring and evaluation that Government sets out. Overall the academic literature demonstrates that there is limited robust evidence about the effectiveness of initiatives in improving media literacy levels. Studies suggest that in order for initiatives to be more effective, there needs to be emphasis on:**

**Summary**

- **multi-session initiatives;**
- **parent involvement in initiatives targeted at children;**
- **opportunities to use creative skills during learning;**
- **flexible approaches which cater to the differing needs of users; – an approach that caters to the needs of all user groups;**
- **skills based approaches which go beyond just raising awareness–**
- **providing support for teachers to upskill them with knowledge about internet safety, and specific teaching methods; and**
- **robust evaluation of the intervention to ensure it is stimulating improvements in knowledge and skills about internet safety.**

### 4.4.1 Data Description

Through surveys, desk-based research, and stakeholder consultations, we found around 20 evaluation studies in the public domain. This is relatively few compared to the number of media literacy and online harm initiatives found, as suggested by the literature review. Through our survey, however, many providers indicated that they were in the process of producing an evaluation study, indicating that there is likely to be much more information not in the public domain. Many providers also indicated that they have data on the levels of engagement, for example page views, number of downloads, and number of participants.

Each study varied in the information provided, methodology, presentation, and purpose. For several evaluation studies, information was provided in simple infographics with little explanation of the interpretation and methodology behind the statistics. In some cases, the evaluation of the initiative was within a section of a wider report, which was not dedicated towards evaluation (e.g. annual progress reports), leading to very little information being shared on the evaluation. On the other hand, more than half of the studies provided a dedicated and comprehensive report, detailing the methodology and findings, with 13 providing some form of methodology. Five studies were also being carried out by independent evaluators. In many cases however, the methodology behind the evaluation was not provided.

### 4.4.2 Fitness for Purpose

Only one of the evaluation studies met the standards outlined in the Magenta book, HM Treasury's guidance document for analysts and policy makers.

Therefore, when using this benchmark, we cannot confidently state that more than one study was fit for purpose. The one study that does meet the requirements has a robust methodology, using a control group, large sample size, mixed methods approach, relevant questions, robust statistical methods, and consideration of additionality was present. It was also carried out by a reputable and independent evaluator and considered long-term effects rather than just immediate effects.

Nevertheless, it outlined some data issues with the study, such as a "poor sampling frame"[284] which meant "it was not possible to select a representative and stratified sample of the schools as originally intended" and is relatively dated.

Another study also included a control group for comparison purposes, and used a mixed method approach, including a 'test' (to check for skills). It also considered the sustainability of its effects on media literacy, with a tracker and a survey immediately after the initiative, and for a longer period after this. However, the control group sample was very small relative to the treatment group and the evaluation was not independent.

Therefore, while it was somewhat fit for purpose, with some elements of a robust evaluation, we could not confidently define it as such. Many more evaluations also used a mixed methods approach (albeit without control groups), with some using quantitative and qualitative surveys, supported by in-depth interviews and focus groups. However, these often still focused on the immediate impact of initiatives rather than the sustained effects. This has also been seen in evaluation studies from academic literature outside the initiatives in our mapping framework. Eagle[285] analyses UK and Canadian initiatives on media literacy involving commercial content from a theoretical perspective, rather than by assessment of their impact. She finds that the figures provided do not give insight into long-term attitude or behavioural changes.

In contrast, some evaluations only focused on outputs (rather than outcomes), even when excluding campaign-based initiatives, which would have focused more on engagement levels. Little information was provided on whether the evaluations were from a reliable source and nearly all methodologies were not robust.

Many evaluations were not independent (also found by Livingstone[286]), and their methodologies often did not align with the Magenta book – although certain evaluations mention these issues as a limitation in their study. Many relied on before and after evaluations, which the Magenta Book constitutes as a 'constrained' study. They often cited lack of resources, such as time, availability of data, and funding, as the main reason for these limitations.

Similar to Potter and Thai,[287] we also found that there was some discrepancy in what the initiatives claim to improve and what was actually measured; often it was the participant's attitudes towards the initiative, or their own self-evaluation of their skills. This focused on whether the user *thought* the initiative improved their knowledge/skills/behaviour/attitudes and whether they would recommend the initiative to others, rather than an actual measurement of whether the initiative improved their media literacy. This can be partly explained by the fact that some evaluations had only limited objectives, for instance getting feedback on the materials used and satisfaction with the materials.

Furthermore, due to the limitation of the before and after approach, evaluation on whether the effects on media literacy were sustained was often neglected, using measures that were one-off assessments immediately after the initiative. This has also been found in academic literature[288] [289]. A few studies have explicitly mentioned this limitation, and one explains that they hope to

[284] Evaluation of CEOP ThinkUKnow internet safety programme and exploration of young people's internet safety knowledge, Davidson et al, 2009
[285] Eagle 2007
[286] Children's online activities, risk and safety: a literature review by the UKCCIS Evidence Group, Livingstone, 2017
[287] Reviewing Media Literacy Intervention Studies for Validity, Potter and Thai, 2019
[288] Children's online activities, risk and safety: a literature review by UKCCIS Evidence Group, Livingstone, 2017
[289] The Promises, Challenges and Future of Media Literacy, Bulger and Davison, 2018

address this issue going forward. This can also be seen in several other studies, where they highlight their future plans on refining their evaluation approach.

Eagle[290] explains that as many media literacy initiatives are funded by industry on a voluntary basis, there is no requirement for providers to set specific and measurable objectives or make measurement data available.

### 4.4.3 Significance

'Significance' has been evaluated in terms of scale, impact, or public awareness/perception, using a framework set out by the European Audiovisual Observatory[291]. The evaluation studies provided very limited information on the size of their target audience, especially the number of people reached relative to target, and the total cost/budget of the initiatives. One evaluation study did measure this and found that their target for participants reached was exceeded.

Evidence on levels of engagement, awareness, and achievement of outcomes against objectives often suggested that these interventions were indeed significant. Information from our survey suggests that more information on scale in terms of the budget is available, but not in the public domain, and this information has not been included in evaluation studies. Internal information from our survey suggests that the budget for these initiatives appears to cluster around the thousands and tens of thousands of pounds.

Unsurprisingly, initiatives whose aim was to raise awareness and knowledge (rather than skills) focused on, and provided, a high level of information on their engagement levels in their evaluation studies.

For these initiatives, the level of significance is high, with one initiative (Safer Internet Day) reaching more than one million downloads of its resources. It also found that 40% of UK children aged 8 to 17 were aware of the campaign in 2019,[292] and that 97% of the participants found that the initiative "encouraged conversations about the safe use of the internet between teachers and pupils". Even for networking platform delivery methods such as workshops, there was a high level of engagement, with one initiative claiming to have more than a thousand completing its programme. While we cannot be conclusive on the overall significance of media literacy initiatives due to lack of information, a few initiatives did appear to reach many people across the UK, suggesting that they could be significant.

### 4.4.4 Impact on Media Literacy

Most studies provided no impact information. Evaluation studies that did provide information on impact all suggest that these interventions have had a positive impact on media literacy, in terms of awareness, knowledge, skills, behaviour, and/or attitudes. This supports the meta-analysis conducted by Jeong[293] and Kahne[294].

The figures quoted by the evaluation studies often tend to be high. Examples from a variety of studies include: "71% more likely to make use of privacy settings on social media" and "the… project taught me a way to tell the difference between real and fake news" agreed by 89% of pupils.

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[290] Commercial Media Literacy: What Does It Do, to Whom: And Does It Matter? Lynne Eagle, 2007
[291] Mapping of media literacy practices and actions in EU-28, European Audiovisual Observatory, Strasbourg, 2016
[292] Safer Internet Day Impact Report 2019, UK Safe Internet Centre, 2019
[293] Media Literacy Interventions: A Meta-Analytic Review, Jeong, Cho & Hwang, 2012
[294] Digital Media Literacy Education and Online Civic and Political Participation, Kahne et al, 2012

However, as mentioned above, many evaluations focused on participants' beliefs rather than observed skill, leading to a mismatch between the aim of the initiative and what is actually measured, similar to that found by Potter and Thai[295]. For example, one initiative measured the increase in confidence of participants in dealing with misinformation, even though the aim of the initiative was to "develop young people's *ability* to critically analyse the information they consume". As seen in the media literacy level section, although there is some link between confidence and actual skills, there is often a disparity between the two, especially when it comes to 'understanding' and 'creating'. Several studies did attempt to measure impact on skills through observational performances such as quizzes. This was a popular choice by initiatives that targeted misinformation and/or disinformation. Participants would have news articles presented to them including 'fake' news and 'real' news. The participants would have to determine which was 'fake', and the initiative did find an improvement in skills.

This increase in media literacy levels should be considered in the context that only one evaluation was consistent with the Magenta Book. Also, where evaluations were carried out independently, the significance of the initiative on media literacy was presented as a more mixed picture, compared to an otherwise favourable evaluation.

Therefore, while the evaluation studies seem to suggest a positive impact on media literacy levels, this is likely to be overstated when considering the methodologies used, and the lack of rigour. Nevertheless, various evaluation studies from academic literature do suggest a positive impact[296] [297] [298] [299].

### 4.4.5 Best Practice

This section includes best practice in media literacy interventions highlighted by academic research and the evaluation studies.

**Focus on skills**
Eagle[300] suggests that initiatives that focus simply on knowledge need to also focus on **skills**, and that awareness and knowledge do not necessarily mean "effective resistance". This is supported by Lee who explains that research shows that there is a mismatch between privacy concerns and social media users' disclosure behaviour, similar to what we also find in the media literacy levels literature review above. This is also suggested in our literature review where we often find that awareness often does not translate to effective skills/behaviour.

**Bespoke Approach**
Eagle also suggests that for initiatives targeting children, a **bespoke** approach is needed to take into consideration cognitive abilities. She mentions how children of different ages have different cognitive abilities, and therefore advises more bespoke initiatives. For example, while children aged 7 to 11 only need to be prompted to retrieve information, children under the age of 7 are unable to use prior information, even after prompts. She therefore explains that this example reflects the need to investigate how the characteristics of participants affect the effectiveness of initiatives. This is further supported by some qualitative evidence from another study, where a teacher mentioned that "the children's understanding in this area didn't really change". The study suggests that interventions should be designed and targeted according to ability; they cite

[295] Reviewing Media Literacy Intervention Studies for Validity, Potter and Thai, 2019
[296] The Promises, Challenges, and Future of Media Literacy, Bulger and Davison, 2018
[297] Digital Resilience: Stronger Citizens Online, ISD, 2018
[298] Educating for Democracy in a Partisan Age: Confronting the Challenges of Motivated Reasoning and Misinformation, Kahne and Bowyer, 2017
[299] Media Literacy Education Across All Ages, Ravi et al, 2019
[300] Eagle 2007

a participating teacher who mentions that “the theory was there in the resource, although I'm not sure if the children got it in practice – still voting with their hearts and not their heads. It was good for the more able students – but the less able just became more confused.” This can potentially apply to other user groups who face barriers in media literacy such as new users, and those from disadvantaged socio-economic backgrounds.

For example, one initiative in our evaluation framework opted for a very flexible approach, which appears to have exhibited best practice for providing access for certain groups of users with low skills and confidence. It found that one-to-one support was valued by people not confident in their digital skills, therefore providing good support under the ‘access’ strand of media literacy. For this, individual interactions between the teacher and the participants was important for building initial relations. This one-to-one support was necessary on an ongoing basis, especially with the least confident users. The evaluation says that one-to-one support does not suggest that other learners were not also present, but simply that those who needed more help, received more help.

In our literature review we found that users who were not as experienced with digital technology, those from disadvantaged socio-economic backgrounds, and those with protected characteristics often also had lower confidence. This more bespoke approach could therefore be particularly useful for these user groups.

In addition to this, the Good Things Foundation[301] note that timing was an important factor. They explain that for certain groups, drop-in sessions were ‘more successful’. They suggest that this suits the needs of more disadvantaged users such as low-income families with irregular working hours. On the other hand, they found that older people preferred more regular and consistent lessons, and some participants preferred this to flex around school timetables. This again suggests a need for a more bespoke service for media literacy interventions, especially for users who face barriers in media literacy. The evaluation study referred to, however, did not reveal much information around methodology and so the validity of this study remains ambiguous.

In terms of civic engagement and participation in society, Metcalf et al[302] stress that flexibility is an important enabler for their workshops, as they allow the workshop to be customised for different audiences and therefore to remain engaging. For example, they find that awareness of the issues people from disadvantaged groups find more important is essential. They explain that keeping the workshop content ‘personally relevant, experiential and practical’ was an enabling factor.

**User group targeting**

While a bespoke approach is needed, the initiatives also need to be actively targeting individual user types. Voluntary learning is often attended by those from more advantaged backgrounds and so to overcome this inequality, media literacy resources should specifically be targeted at those who lack them, even those who do not realise they may want or need them[303].

One initiative explained a need for some additional features for specific users, such as the information being available in other languages (other than English). This is clearly of benefit to vulnerable groups such as ethnic minorities and refugees.

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[301] Helping vulnerable people stay safe online, Jess Bricknell / Good Things Foundation, 2018

[302] Bridging the Digital Divide: Utilising technology to promote social connectedness and civic engagement amongst marginalised young people, Metcalf et al, 2008

[303] Media Literacy: Ambitions, policies, and measures, Sonia Livingstone, 2011

This initiative also suggests information catered towards SEND (children with special educational needs and disabilities), whether delivered to pupils themselves or via their carers or schoolteachers, so interventions can be reached further. This is another example of how media literacy initiatives need to be catered towards individuals, especially those more vulnerable.

Similarly, Rasi et al[304] call for more bespoke media literacy education, including for interventions that cover user groups from all ages. They also call for more avenues of media literacy initiatives. There are a large variety of resources available for adults through e.g. formal education, work-based training, informal learning through, for example YouTube videos. However, often those who seek these resources are those who already have a higher level of media literacy, therefore leaving behind the more vulnerable.

Furthermore, Jeong's[305] meta-analysis finds that the greater the extent to which interventions involved their target audience (e.g. by facilitating the creation of media messages or active discussion rather than just analysis of messages) using literature, they attribute this to greater mental effort as a result of active participation. Their findings can be summarised below:

- initiatives which were sustained with **multiple sessions** were more effective
- initiatives that target more **components** were less effective
- the effects of intervention did not change based on delivery method, target user group, setting, country etc

Rasi et al[306] explain that there is a need to develop media literacy education to suit the needs of people from all ages. They reference Hobbs who shows that a single 'one-size-fits-all' intervention will be ineffective as user type needs and use of media and digital technology varies across age groups. Referencing Ofcom, Rasi also explains how typical media literacy learning environments for adults consist of formal education, work-based learning and informal learning through online resources. However, Rasi mentions that these are usually accessed by those who already have a 'good' level of media literacy and are not 'empowering' those with less confidence.

Thus, they recommend that media literacy interventions be tailored across age groups (paying particular attention to older people) and immigrants whose first language is not English. In addition to this, they suggest that initiatives take into consideration the constantly changing needs and online behaviours over time. This is supported by Livingstone who suggests that media literacy is a 'moving target'. She explains that media is becoming rapidly more complex and so media literacy intervention from government (strategy wise) requires commitment in attention and resources[307].

Lee (2018) notes that there is limited research on effective educational strategies for adults and new users, especially around social media use, managing privacy, false information and deception. Lee suggests that there needs to be further research on how different characteristics of users (e.g. demographics, psychographics) may influence the effectiveness of initiatives.

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[304] Media Literacy Education for All Ages, Rasi et al, 2019

[305] Media Literacy Interventions: A Meta-Analytic Review, Jeong, Cho & Hwang, 2012

[306] Ibid

[307] Media Literacy – everyone's favourite solution to the problems of regulation, Livingstone, 2018, URL: https://blogs.lse.ac.uk/medialse/2018/05/08/media-literacy-everyones-favourite-solution-to-the-problems-of-regulation/ [accessed:19/02/2020]

**Frequency**
Regarding frequency, the multiple session approach has been supported by literature. Literature suggests that multiple sessions of media literacy interventions are effective, whether through follow-ups,[308] or just a sustained approach. This is supported by inoculation theory, the main theoretical basis behind media literacy. This is the idea that "by preemptively exposing people to a weakened version of a (counter)-argument, and by subsequently refuting that argument, attitudinal resistance can be conferred against future persuasion attempts" [309]. This is further supported by a popular study by Boozenbeek and Linden in their evaluation of their Fake News Game[310].

**Content**
In terms of content, Jeong explains that initiatives with more components could potentially contain too much information leading to information overload/loss and confusion among participants. In terms of delivery method, Jeong mentions that literature on who should deliver the intervention is mixed and inconclusive; experts may be more effective due to their knowledge. Evaluation studies also suggest that involving the participants to, for example, create, allows for more effective initiatives.

**Active audience participation**
In addition to this, literature suggests active audience participation as with any type of educational intervention such as allowing participants to voice their opinions, engage in activities such as debates or roleplays, allowing them to become the creators of media etc. Chung and Kirby[311] analyse an initiative on media literacy on commercial content awareness which focuses on the delivery through art and pupil engagement such as allowing participants to become the creator of media. This was conducted in an American middle school classroom, which involved pupils deconstructing media through dissecting and analysing the tools used in logos and their messages. The aim of the project was for pupils to gain knowledge and insight about media representations and how this affects the general public. The project encouraged this through a typical classroom lecture on the power of logos, a quiz involving logo guessing and then pupils were made to create 'subvertisements' (ironic spoofs of advertisements).

In the paper they explain that pupils seem to be 'motivated to learn' and 'relished' the opportunity to express their opinions. This shows that creative methods of education can raise student engagement in initiatives which may then contribute to their ability to absorb the information given to them and develop skills. It also appears to increase pupil participation in society. However, as shown by academics and our research, we cannot put too much weight on these findings.

However, this piece lacks the evaluation of skills and quantitative data and so the overall effectiveness and impact of skills from this initiative cannot be determined. An evaluation study in our framework also finds group discussions particularly useful as it allowed participants to support and contribute to the learning of other learners who were not as confident. This also allowed teachers to check on understanding.

Linden and Roozenbeek suggest that the inoculation approach, exhibiting then refuting counter arguments, is most effective when delivered with an 'active' approach rather than a 'passive'

[308] Media Literacy Interventions: What makes the Boom or Boomerang, Sarah Bryne, 2009
[309] The Fake News Game: Actively Inoculating Against the Risk of Misinformation, Boozenbeek & Linden, 2019
[310] Ibid
[311] Chung and Kirby, 2009

approach. This need for engagement is also supported by Livingstone and McDougal[312] who cite a study by Latymer and other academics[313].

**Training and support**

There is also evidence that teachers often need support with several of the initiatives in our evaluation studies (7 of the 20) acknowledging this. One initiative found that some teachers lack the experience and knowledge to deliver lesson plans provided by the initiative. This led to teachers teaching these materials 'literally'. The initiative explains this is at the expense of a more engaging, and open approach of media education. This is also supported by various literature and guidance documents such as an American initiative which was led by trained practitioners[314]. However, this is not to say that initiatives should be taught exclusively by professionals. Some studies suggest there are benefits of having someone the audience are familiar with to deliver training or support. Metcalf et al, who evaluated a workshop outside formal education, also explain that working collaboratively with established organisations to implement workshops can help build rapport when working with users faced with barriers to media literacy.

In addition to this, several organisations have published 'handbooks' for media literacy interventions. For example, UNESCO provides guidance for professionals, teachers, parents, and students in media education[315] which stresses:

1. the importance of trained staff to implement frameworks and documents;
2. the need for involvement of media industry;
3. involvement of parents;
4. involvement youth groups; and
5. research and evaluation.

In this resource, they often mention the need to teach information and media literacy together. The importance of information literacy as a part of media literacy is supported by a study which finds that information literacy (compared to e.g. digital literacy, advertising literacy) was the main indicator of identifying 'fake news'.[316]

### 4.4.6 Summary

We found that the quality/'robustness' of evaluation studies of the media literacy interventions in our mapping framework was limited, with only one study fitting our criteria as fit for purpose. The methodologies used in media literacy evaluations vary to a large extent.

Similarly, Farrukh et al[317] explain that despite the plethora of educational initiatives around online harms, more evidence based evaluation studies about which initiatives are most effective are needed. A report by FOSI[318] explains that although evaluation studies can be expensive in cost and time, "lower costs and speedy dissemination are questionable benefits when there is no evidence whatsoever that a program is helping".

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[312] Media and Information Literacy Policies in the UK, McDougall and Livingstone, 2014

[313] Gatekeeping Practice of Participants in a Digital Media Literacy Open Online Course (MOOC), Krist Roschke, 2018

[314] SNAPSHOT 2019: The State of Media Literacy Education in the U.S, NAMLE, 2019

[315] Media Education: A Kit for Teachers, Students, Parents, and Professionals, UNESCO, 2006

[316] Does Media Literacy Help Identification of Fake News? Information Helps, but Other Literacies don't, S. Mo Jones-Jang, Tara Mortensen, and Jingjing Liu, 2019

[317] Youth Internet Safety: Risks, Responses and Research Recommendations, 2014

[318] Increasing Youth Safety Behaviour and Responsible Behaviour Online, FOSI, 2011

## 4.5 Conclusions

There is an absence of a common evaluation framework in order to make effective comparisons between a diverse range of media literacy projects[319] [320] [321] [322] [323]. There is currently not enough evidence about the real learning outcomes from media literacy initiatives. EAVI recommends "incentives for the formulation and fixation of qualitative and quantitative empirical indicators that would facilitate the evaluation of progress of media literacy and to describe the factors that contribute to its development"[324].

There is an overall lack of comprehensive analyses of the impact of the many media literacy initiatives in the UK and abroad. Literature suggests that media literacy initiatives are more effective when they are spread over multiple sessions rather than one-off interventions,[325] and find ways to engage students through e.g. discussion opportunities or creative opportunities. This should then be reinforced by the involvement of parents for initiatives involving children. However, academics often note that this is difficult to implement outside formal education aimed at children.

There are gaps in the evaluation of initiatives for different user groups. This has implications for the adoption of effective educational strategies and the design of initiatives to support users with differing characteristics such as demographics, cognitive abilities, and psychographics.

Out of classroom learning is needed so that adults can be reached outside schools but there is some evidence of success in Massive Open Online Courses (MOOC),[326] and although inconclusive in terms of effectiveness, libraries have been important educators of media literacy[327].

However, Livingstone notes that the problem is that informal approaches require participants to volunteer their time which tends to exacerbate inequalities – the advantaged are more likely to take up new knowledge [328]. Also, there is a need for "media literacy to be incorporated in learning all along the course of one's life".[329] There are two main reasons for this: the constantly changing nature of media (therefore people from all generations should be provided with the opportunity to update their skills), and also the development of media literacy skills is a 'never-ending process'.

Good practice regarding media literacy intervention includes:

1. Frequency – a sustained approach works better than a one-off approach
2. Flexibility – an approach that caters to the needs of all user groups
3. Skills based – an approach that does not focus only on awareness
4. Active audience participation

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[319] Mapping of Media Literacy Practices in EU-28, European Audiovisual Observatory, 2016
[320] Youth Internet Safety: Risks, Responses and Research Recommendations, Farrukh et al, 2014
[321] The Promises, Challenges and Futures of Media Literacy, Bulger and Davison, 2018
[322] Increasing Youth Safety and Responsible Behaviour, FOSI, 2011
[323] Children's online activities, risks and safety A literature review by the UKCCIS Evidence Group, Livingstone, 2017
[324] Study on the Current Trends and Approaches to Media Literacy in Europe, EAVI, 2017
[325] Se-Hoon Jeong, 2012
[326] Gatekeeping Practices of Participants in a Digital Media Literacy Massive Open Online Course (MOOC), Roschke, 2018
[327] Research for cult committee – promoting media and information literacy in libraries, European Parliament, 2016
[328] Media Literacy: Ambition, policies and measures, Sonia Livingstone, 2011
[329] Media Literacy European Policy Recommendations, EAVI, 2014

5. Support for teachers around knowledge and teaching methods from media specialists etc
6. Robust evaluation of the intervention to ensure it changes knowledge, skills and attitudes

# 5. OVERALL SUMMARY OF FINDINGS

### 5.1.1 Policy

The evidence suggests that there are real and growing risks of going online and that all internet users should be empowered with digital media literacy knowledge and skills, to manage and address these risks. There is a strong rationale for government intervention in digital media literacy on the grounds of equity, efficiency, and effectiveness. Government is working on legislation and an online media literacy strategy to address these risks with companies. However, alongside this, more needs to be done to support users' safety online. The findings on levels of media literacy in the UK population set out below support this approach.

### 5.1.2 Levels of media literacy in the UK

Evidence suggests that the UK population has gaps in its media literacy levels, particularly with regard to skills and behaviour, but overall has a level of media literacy above average for Europe. However, there are differences across user groups and aspects of media literacy.

- Access – good foundations in basic digital skills needed to access online information etc especially amongst children
- Understanding (knowledge) – there is a good foundation of knowledge and awareness amongst adults, parents and children but this knowledge tends to be basic and sometimes context specific
- Understanding (skills and behaviour) – limited media literacy levels in skills and attitudes across all groups, and a consistent disconnect between knowledge and attitudes/behaviour across issue types (putting knowledge into practice)
- Variations – more vulnerable groups often have lower levels of media literacy and confidence
- Increase in scepticism of news over the years

The implications for the online media literacy strategy are that it must take into consideration:

- limited levels of skills media literacy, and the disconnect between understanding and actions
- the differing experiences of different segments of the population, as these often determine their media literacy levels (e.g. across age groups, socio-economic backgrounds etc).

### 5.1.3 Barriers

Barriers to developing greater media literacy are primarily linked to access and include:

- lack of skills/confidence/experience in the use of technology, particularly among older people
- lack of economic capital (e.g. the cost of physical hardware to access the internet), and social and cultural capital

People with disabilities also face:

- negative attitudes and expectations in relation to inclusion
- technological barriers
- structural barriers, (e.g. poverty, lack of inclusive education/training)

The digital divide and parental concern about online harm also have the potential to restrict children's access to technology and limit opportunities to engage in more creative activities.

### 5.1.4 Enablers

- Media literacy interventions appear to be useful, but this evidence needs to be taken with caution due to lack of robust methodology.
- Due to the voluntary nature of initiatives, there is a lack of coordination and direction in the evaluation of media literacy interventions – guidelines would be useful.
- Support needs vary by age, socio-economic status, and disability. However, there are many potential enablers to support these groups, by using and reinforcing resources already available to them, such as adult education, social networks, and classroom learning.
- There is also a need to address the spectrum of parental concerns in relation to online safety when developing policies intended to empower parents or when designing technologies with parents in mind. This should include consideration of how to better facilitate communication between parent and child online.

### 5.1.5 Implications for initiatives and their evaluation

- Focus on measuring activities and inputs – there is limited robust evidence on the impact of initiatives, although two recent reports (NewsWise and The Economist Educational Foundation) show progress in this area.
- Academic literature suggests that for initiatives to be more effective, there needs to be emphasis on:
  - multi-session initiatives;
  - parent involvement;
  - engagement (e.g. opportunities to discuss or use creative skills);
  - flexibility – an approach that caters to the needs of all user groups;
  - skills based – an approach that does not focus only on awareness;
  - support for teachers around knowledge and teaching methods from media specialists; and
  - robust evaluation of the intervention to ensure it changes knowledge, skills, and attitudes to ensure that future interventions are designed on a robust evidence base.
- There are gaps/underrepresentation in the evaluation literature on:
  - evaluation of initiatives on adults; and
  - initiatives outside a formal classroom – this excludes the most vulnerable (e.g. older people).

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