

# Children's Register of Risks

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# 1. Introduction to the Children's Register of Risks

#### Summary

The **Children's Register of Risks** (Children's Register) relates to Ofcom's duty to assess the risk of harm to children from content that is harmful to them. We expect services to refer to it when they carry out their own children's risk assessments. The Children's Register is structured around the types of content harmful to children, defined in the Online Safety Act 2023 (the Act). The Act explains that 'harm' means physical or psychological harm. Harm can also be cumulative or indirect (see sub-section 'Harm' in this section).<sup>1</sup> For each type of harmful content, we present evidence to understand the risk of harm to children.

We have taken an evidence-based approach to inform our Children's Register, drawing from extensive Ofcom-commissioned research alongside around 550 quality-assured sources that together represent children's own voices, as well as parents, carers, practitioners and other experts.

Based on the evidence contained in the Children's Register, we have identified risk factors for harm. Some of these risk factors are included in our Children's Risk Profiles. Service providers must consult the Children's Risk Profiles to help them assess which risks their services may face. In their risk assessment, they will be expected to assess the likelihood and impact of those risks by using our Children's Risk Assessment Guidance for Service Providers.

The functionalities and characteristics we describe as risky are not inherently harmful and can have important benefits. For example, recommender systems benefit internet users by helping them find content which is interesting and relevant to them. The role of the online safety legislation is not to restrict or prohibit the use of such functionalities or characteristics, but rather to get services to put in place safeguards which allow users to enjoy the benefits they bring, while managing the risks appropriately. Our Protection of Children Codes are designed to target some of these risk factors, setting out the steps that services could take to comply with their child safety duties and to mitigate risks to children.

# About the Children's Register of Risks

1.1 The Children's Register of Risks (Children's Register) is structured as follows:

<sup>&</sup>lt;sup>1</sup> Section 234(2) of the Online Safety Act 2023 (the Act). [accessed 2 April 2025]. Subsequent references to this source throughout.

**The Introduction to the Children's Register of Risks** sets out Ofcom's duties and approach in conducting a sector-wide risk assessment to improve Ofcom's and services' understanding of risk to children, introducing Ofcom's register of risks for content harmful to children (Children's Register of Risks). Evidence and methodology are discussed, alongside an overview of children's behaviors online.

**The harms-specific sections of the Children's Register** collate the evidence on the presence and impact of content harmful to children, **for each kind** of primary priority content (PPC), priority content (PC) and non-designated content (NDC). We then identify the characteristics of user-to-user services that may lead to increased risks of harm to individuals. This includes their functionalities and recommender systems, user base, business models and commercial profiles.

The sections focused on cross-harm considerations set out our analysis of risk to children on search services, alongside some other service and user characteristics affecting risk to children across the various kinds of harmful content, including:

- i) How a service's governance, systems and processes may lead to an increased risk of harm to children. We have identified two general scenarios where risk can arise in these areas: (a) inadequate governance and/or other systems and processes currently in place within regulated services; and/or (b) an absence of such governance and other systems and processes.
- ii) How a service's business model or commercial profile may lead to increased risk of harm.
- iii) How features and functionalities affecting frequency of use increase risk of harm.
- iv) The wider context for understanding risk factors, including discussion of how recommender systems, user base size and composition, media literacy and generative artificial intelligence (GenAI) relate to risk of harm to children.
- v) The relative risk to children in different age groups, setting out recommended age groups for considering the varying risk of harm.

#### Structure of this introduction section

- 1.2 The information presented in the rest of this section is to help interested parties understand how we conducted our sector-wide risk assessment analysis, and the considerations involved in assessing the risks of harm to children.
- 1.3 This introductory section is structured as follows:
  - a) Aims and scope, including definition of harm and kinds of content considered;
  - b) Relationship with illegal harms;
  - c) Summary of findings;
  - d) An overview of children's behaviours;
  - e) Methodology, including risk factors, considered;
  - f) Evidence, including considerations regarding our evidence base; and
  - g) How the harms-specific sections of the Children's Register are structured.

# Aims and scope

- 1.4 The Act requires Ofcom to carry out sector-wide risk assessments to identify and assess the risk of harm presented by user-to-user and search services, and to identify characteristics relevant to such risks of harm.<sup>2</sup>
- 1.5 Ofcom must publish the findings of its risk assessments in a 'Register of Risks' and then prepare 'Risk Profiles'. This Children's Register of Risks (Children's Register) sets out the findings of Ofcom's risk assessment, considering service characteristics as risk factors. This Children's Register is for services to consider when carrying out their own risk assessments. The Children's Register feeds into the Children's Risk Profiles which consider these risk factors, identifying the characteristics of a service (including functionalities, user base and business model) that our risk assessment suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of the Children's Risk Assessment Guidance for Service Providers (Children's Risk Assessment Guidance), as services must take account of them when doing their own risk assessment is also set out in the Children's Risk Assessment Guidance.
- 1.6 Ofcom must keep both the Children's Register of Risks and the Children's Risk Profiles up to date. We will monitor harms and regulated services trends and will revise our Children's Register as appropriate. We may expand the scope of our risk assessment if necessary in the future: for example, as new technologies develop, or risks to online safety emerge due to rapid innovation within the sector. This may include technologies such as immersive online virtual worlds, augmented realities and GenAI.<sup>3</sup>

#### 'Harm'

- 1.7 In the Children's Register, we consider harm according to how it is defined in the Act: harm means physical or psychological harm.<sup>4</sup>
- 1.8 As set out in the Act, harm can occur from isolated incidents of exposure, or from cumulative exposure. Cumulative harm arises in the following circumstances:
- 1.9 When harmful content (PPC, PC or NDC) is repeatedly encountered by a child;
- 1.10 When a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC.<sup>5</sup>

<sup>&</sup>lt;sup>2</sup> Section 98 of the Act.

<sup>&</sup>lt;sup>3</sup> We are aware of the debate around the potential risks that GenAl may pose. Given the pace of developments in GenAl, and because the evidence base in this area is still developing, we have considered this technology based on the evidence available. Our Children's Register considers some of these risks. More detail can be found in Section 16: Wider context to understanding risk factors.

<sup>&</sup>lt;sup>4</sup> Section 234(2) of the Act.

<sup>&</sup>lt;sup>5</sup> See Section 234(4) of the Act, which states: "References to harm presented by content, and any other references to harm in relation to content, include references to cumulative harm arising or that may arise in the following circumstances –

1.11 Harm can include circumstances of indirect harm, in which a group or individual are harmed, or the likelihood of harm is increased, as a consequence of another child seeing harmful content, which then affects their behaviours towards others.<sup>6</sup>

#### Kinds of content harmful to children considered

- 1.12 The Children's Register considers the risk to children from specific kinds of content that is harmful to children. The kinds of content harmful to children we consider are:<sup>7</sup>
  - a) Primary priority content (PPC),
  - b) Priority content (PC) and
  - c) Non-designated content (NDC).

#### Primary priority and priority content

- 1.13 To make our assessment as accessible as possible, we have grouped some of the kinds of content together within those categories. This helps us to show, in our analysis, risks that are similar in nature across the different kinds of content, and where we have overlapping evidence. The groups are set out in the Table 1.1. However, where we have grouped different kinds of content, we sometimes refer to individual content types, for example, where the particular observation or evidence is relevant only to the specific kind of content.
- 1.14 For brevity, we summarise each kind of content in the section header and use these shorthand references throughout the sections. For example, 'Content which encourages, promotes or provides instructions for an eating disorder or behaviours associated with an eating disorder' will be referred to as 'eating disorder content'. These shorthand references should be understood in this context to refer to the relevant statutory definition of kinds of content, not a broader category of content relating to that topic (e.g., we refer to the statutory definition of eating disorder content, not any content relating to an eating disorder). Further detail on what Ofcom considers to be, or not to be, harmful content, can be found in the Guidance on Content Harmful to Children.

# Table 1.1: Grouping of kinds of content harmful to children, and shorthand terminology that we use throughout the Children's Register of Risks

Section number	Section title (shorthand)	Kind of harmful content, as defined in the Act
Primary priority content that is harmful to children (PPC)		
2	Pornographic content	Pornographic content.

<sup>(</sup>a) where content, or content of a particular kind, is repeatedly encountered by an individual (including, but not limited to, where content, or a kind of content, is sent to an individual by one user or by different users or encountered as a result of algorithms used by, or functionalities of, a service);

<sup>(</sup>b) where content of a particular kind is encountered by an individual in combination with content of a different kind (including, but not limited to, where a kind of content is sent to an individual by one user or by different users or encountered as a result of algorithms used by, or functionalities of, a service)."

<sup>&</sup>lt;sup>6</sup> As set out in section 234(5) of the Act.

<sup>&</sup>lt;sup>7</sup> Section 60(2) of the Act.

Section number	Section title (shorthand)	Kind of harmful content, as defined in the Act
3	Suicide and self-harm content	Content which encourages, promotes or provides instructions for suicide.
5		Content which encourages, promotes or provides instructions for an act of deliberate self-injury.
4	Eating disorder content	Content which encourages, promotes or provides instructions for an eating disorder or behaviours associated with an eating disorder.
	Priority content	that is harmful to children (PC)
E	Abuse and bate content	Content which is abusive and which targets any of the following characteristics: (a) race, (b) religion, (c) sex, (d) sexual orientation (e) disability, or (f) gender reassignment.
3	Abuse and hate content	Content which incites hatred against people: (a) of a particular race, religion, sex or sexual orientation, (b) who have a disability, or (c) who have the characteristic of gender reassignment.
6	Bullying content	Bullying content.
		Content which encourages, promotes or provides instructions for an act of serious violence against a person.
7	Violent content	Content which: (a) depicts real or realistic serious violence against a person, (b) depicts the real or realistic serious injury of a person in graphic detail.
		Content which – (a) depicts real or realistic serious violence against an animal, (b) depicts the real or realistic serious injury of an animal in graphic detail, (c) realistically depicts serious violence against a fictional creature or the serious injury of a fictional creature in graphic detail.
8	Harmful substances content	Content which encourages a person to ingest, inject, inhale or in any other way self-administer: (a) a physically harmful substance, (b) a substance in such a quantity as to be physically harmful.
9	Dangerous stunts and challenges content	Content which encourages, promotes or provides instructions for a challenge or stunt highly likely to result in serious injury to the person who does it or to someone else.

#### Non-designated content

- 1.15 The inclusion of the category of 'non-designated content that is harmful to children' in the definition of content harmful to children ensures that service providers consider kinds of harmful content, beyond what is specified as PPC and PC by the Act, when assessing risk of harm to children on their service.
- 1.16 The Act defines NDC as content "of a kind which presents a material risk of significant harm to an appreciable number of children in the United Kingdom".<sup>8</sup>
- 1.17 The Act specifies some exclusions for NDC. Content is not to be regarded as NDC that is harmful to children if the risk of harm flows from:
  - a) the content's potential financial impact,
  - b) the safety or quality of goods featured in the content, or
  - c) the way in which a service featured in the content may be performed (e.g., in the case of the performance of a service by a person not qualified to perform it).<sup>9</sup>
- 1.18 We have identified two kinds of NDC in our risk assessment. These are set out in Table 1.2. As above, we use shorthand references throughout the sections to refer to these kinds of content for brevity. These shorthand references should be understood in this context to refer to that kind of NDC, not a broader category of content relating to that topic (e.g., when we use the shorthand term 'body stigma content' we mean 'content that shames or otherwise stigmatises body shapes or physical features', rather than referring to any content relating to the topic of body stigma).

# Table 1.2: Kinds of NDC identified in our risk assessment, and shorthand terminology that we use throughout the Children's Register of Risks

Section number	Section title (shorthand)	Kind of harmful content, as defined in our risk assessment
10	Body stigma content	Content that shames or otherwise stigmatises body types or physical features.
11	Depression content	Content that promotes depression, hopelessness and despair.

# **Relationship with illegal harms**

- 1.19 This risk assessment takes a similar approach to our <u>Illegal Harms Register of Risks</u> (Illegal Harms Register), although in some areas we have adapted our approach based on the specific need to assess content harmful to children.
- 1.20 We focus on presenting risk to children online and children's experiences of online harm. This may include discussion of content or behaviour that is illegal. There are certain kinds of illegal content listed in the Act that are similar to, or overlap with, kinds of content which

<sup>&</sup>lt;sup>8</sup> As set out in section 60(2)(c) of the Act. Section 60(2)(c) makes clear that this does not include content which is a kind of PPC or PC.

<sup>&</sup>lt;sup>9</sup> Section 60(3) of the Act.

are harmful to children, such as content encouraging suicide and self-harm, content that is abusive and content which incites hatred.<sup>10</sup>

1.21 There are also kinds of harmful content, which the evidence suggests risk exposing children to other illegal harms. For example, children engaging with communities sharing content promoting eating disorders, suicide and self-injury content are at an increased risk of grooming, and child sexual abuse and exploitation (see Section 4: Eating disorder content and Section 3: Suicide and self-harm content). When any reference to illegal content or behaviour is referenced as part of our assessment of risk to children online, we cross-reference to the relevant section of our <u>Illegal Harms Register</u> which discusses the harm in detail.

# Summary of findings

# Children in the UK have encountered potentially harmful content online

1.22 The harms-specific sections of the Children's Register include evidence about children across a range of ages encountering harmful content. Ofcom research shows that six in ten (59%) teenage children aged 13-17 reported encountering potentially harmful content online over a four-week period.<sup>11</sup> Similarly Internet Matters research found that 67% of children aged 9-16 have experienced harm online, and that children report finding many of these experiences more upsetting or frightening than in previous years.<sup>12</sup> Furthermore, 31% of 8-12-year-olds that go online have seen something that they found worrying or nasty.<sup>13</sup> Some children have encountered several kinds of harmful content – especially those spending the most time online.<sup>14</sup> Pornographic content is particularly pervasive in the online lives of children, with 73% of 16-21-year-olds who had seen pornography reporting having seen pornographic content by the age of 15. Just over a quarter (27%) had encountered it by the age of 11, with 10% encountering it by the age of nine.<sup>15</sup>

<sup>&</sup>lt;sup>10</sup> These are: content encouraging suicide and self-harm (see sub-section 13 of the December 2024 <u>Illegal</u> <u>Content Judgements Guidance</u> (ICJG)), content that is abusive, and content which incites hatred (see subsection 3 of the <u>ICJG</u>). [accessed 4 February 2025].

<sup>&</sup>lt;sup>11</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout. Note: Fieldwork was conducted in January 2025, so 'in the last/previous four weeks' refers to responses in this time period. 'Harmful content' as described here covers the PPC and PC Net Codes from the <u>Online Experiences Tracker – Wave 7</u>. Please see details of the included harms codes in the <u>Technical Report</u>. [accessed 24 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>12</sup> Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>. [accessed 31 March 2025].

<sup>&</sup>lt;sup>13</sup> Ofcom, 2024. <u>Children and Parents: Media Use and Attitudes Tracker</u>. [accessed 12 February 2025]. Subsequent referenced to this source throughout.

<sup>&</sup>lt;sup>14</sup> Internet Matters' 2023 report found that over a fifth of children spending the longest time online (the top quartile) reported experiencing five or more potential harms online. Harms included seeing violent content, being contacted by someone they did not know and receiving abusive or upsetting messages. The index is based on responses to a detailed survey by 1,000 children aged 9-15 and their parents, conducted during Summer 2022. Source: Internet Matters, 2023. <u>Children's Wellbeing in a Digital World 2023</u>. [accessed 15 March 2025].

<sup>&</sup>lt;sup>15</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>. [accessed 28 March 2025]. Note: Sixty-four per cent of the sample (aged 16-21) said they had seen pornography.

1.23 Other types of harmful content are widely available, and in some cases encountered often. Ofcom research found that children aged 8-17 described encountering content depicting or encouraging violence as 'unavoidable'<sup>16</sup> and other research documents the prevalence of violent content reaching children.<sup>17</sup> In other Ofcom research, 7% of 13-17-year-olds reported seeing or experiencing 'persistent bullying online', 5% recalled seeing content encouraging or assisting serious self-harm, and 4% recalled seeing content encouraging or assisting suicide within the four-weeks prior to the research.<sup>18</sup> In separate qualitative research, those who had encountered content promoting suicide, self-harm or eating disorders had a high level of familiarity with such content and characterised it as being prolific on social media.<sup>19</sup>

# The impacts of viewing harmful content are wide-ranging and can be severe

- 1.24 Across all content types, children's emotional wellbeing is being affected. For example, among children who had seen content promoting eating disorders, suicide and self-harm, children report feelings of anxiety, shame and fear on encountering this content.<sup>20</sup> Other impacts are more specific to kinds of harmful content. For example, content that is abusive or incites hatred can discourage children from expressing themselves online,<sup>21</sup> so that marginalised groups risk being excluded from online spaces.
- 1.25 Content can also encourage children to adopt attitudes and behaviours that cause harm to their peers and communities. For example, evidence links violent content to specific behaviours related to violence, such as leading children to perceive it as normal to carry knives.<sup>22</sup> Other kinds of content may be increasing the risk of indirect harm to women and

<sup>&</sup>lt;sup>16</sup> Ofcom and Family Kids and Youth, 2024. <u>Understanding Pathways to Online Violent Content Among</u> <u>Children</u>. [accessed 13 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>17</sup> Survey studies report between 22% and 55% of children encountering violent content. Internet Matters found that one in five (22%) of children aged 9-16 have encountered violent content. Source: Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>. [accessed 31 March 2025]; A study by the Youth Endowment Fund found that children's experience of violent content online was more common, with over half of children aged 13-17 (55%) having seen real-life acts of violence on social media in the past 12 months. Source: Youth Endowment Fund, 2022. <u>Children, Violence and Vulnerability 2022</u>. [accessed 28 March 2025]. <sup>18</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>19</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> <u>promoting eating disorders, self-harm and suicide</u>. [accessed 4 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>20</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>21</sup> Note: Research was with 15-25-year-old girls and women across 22 countries, excluding the UK. Source: Plan International, 2020. <u>Free to be online? Girls' and young women's experiences of online harassment</u> [accessed 28 March 2025]; Note: Research was with 13-18-year-olds in the UK. Source: UK Safer Internet Centre (UKSIC), 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>22</sup> Note: The study was with 13 'vulnerable' children, which here means children who, when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres, and several had had interactions with the police. The study, which also interviewed professionals such as police officers, reported, "Seeing a lot of this kind of content can affect young people's perceptions or assessments. One young person was asked by a police liaison officer, 'Out of 100 kids, how many on average do you think carry a knife?' The young person responded, '100 out of 100'. In reality, the police liaison officer told us, 'It's one out of 100. It has become the

girls in particular. Over half of 11-14-year-old boys (52%) are aware of and have engaged with influencers tied to the 'manosphere'.<sup>23</sup> This may be contributing to a rise in misogyny among children: 70% of teachers reported a rise in sexist language in the classroom in the 12-month period to February 2024,<sup>24</sup> while the number of girls aged 13-21 who have received 'sexist comments' online has almost tripled in ten years (from 20% in 2013 to 57% in 2023).<sup>25</sup> Pornographic content has been linked to increased risks of developing harmful sexual behaviours that cause indirect physical and psychological harm towards future sexual partners, disproportionately affecting women and girls.<sup>26</sup> Girls also report negative online experiences including bullying, hateful comments, and receiving sexual messages from people they do not know online. These experiences are alongside a reported feeling of social pressure to be visible online by sharing and engaging with content despite having to navigate unwanted comments or male attention when they do so.<sup>27</sup>

- 1.26 At worst, harmful content can contribute to loss of life. The Coroner's report for 14-year-old Molly Russell concluded that watching high volumes of content promoting suicide and self-harm had contributed to her death by suicide.<sup>28</sup> The inquest into the death by suicide of 14-year-old Mia Janin found that she had been experiencing bullying online.<sup>29</sup> There are also several examples from around the world of children losing their lives after attempting challenges circulating online.<sup>30</sup> While all children are at risk, harmful content disproportionately affects certain groups.
- 1.27 As noted in Section 16: Wider contexts to understanding risk factors, children's wellbeing and risk of harm online are shaped by a range of factors. These include characteristics such as age, gender and sexuality, mental health and wellbeing, which may inform the kinds of content or contact children encounter online. Children's individual circumstances also inform protective factors such as parental oversight, high levels of media literacy and strong peer networks which may mitigate some of the impacts of encountering harmful content, contact and conduct.<sup>31</sup> Research by academics based at the London School of Economics reported that children's digital lives are shaped by a range of factors including household socio-economic status and parental educational background, and that socio-economic

norm for him, I think he's got the idea from social media'." Source: Revealing Reality, 2023. <u>Anti-social Media.</u> [accessed 25 March 2025].

<sup>&</sup>lt;sup>23</sup> 'Manosphere' is a term used to describe the network of online communities responsible for creating and promoting negative, often misogynistic content. Source: Vodafone, 2024. <u>The Rise of the Aggro-rithm</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>24</sup> Vodafone, 2024. <u>The Rise of the Aggro-rithm</u>.

<sup>&</sup>lt;sup>25</sup> Girlguiding, 2023. <u>Girls' Attitudes Survey 2023: Girls' lives over 15 years.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>26</sup> For example, evidence suggests that children intentionally seeking out pornography are less likely to seek consent in some situations. Source: British Board of Film Classification (BBFC) and Revealing Reality, 2020. <u>Young people, Pornography & Age-verification</u>. [accessed 28 March 2025]. Subsequent references to this source throughout. See Section 2 (Pornographic content) for more information.

<sup>&</sup>lt;sup>27</sup> Internet Matters, 2024. <u>"So standard it's not noteworthy": Teenage girls' experiences of harm online,</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>28</sup> The Coroner concluded that it was likely that the material viewed by Molly – who was already experiencing a depressive illness, and was vulnerable due to her age – affected her mental health in a negative way and contributed to her death in a more than minimal way. Source: Courts and Tribunals Judiciary, 2022. <u>Molly Russell: Prevention of future deaths report</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>29</sup> Courts and Tribunals Judiciary, 2024. <u>Mia Janin: Prevention of future deaths report</u>. [accessed 8 January 2025].

<sup>&</sup>lt;sup>30</sup> See 'Impacts' sub-section in Section 9: Dangerous stunts and challenges content.

<sup>&</sup>lt;sup>31</sup> More detail on media literacy can be found in Section 16: Wider context to understanding risk factors.

status can impact access to devices and parental support.<sup>32</sup> This sub-section summarises what we know about the impact of children's age, gender, sexuality and other factors such as mental health on experiences of harmful content and conduct.

- 1.28 Characteristics such as a child's gender, race and sexuality affect the risk of harm from different kinds of harmful content. One in five children have seen hateful content online: 21% of 13-17-year-olds reported that over the four-week period prior to the research, they had seen or experienced 'hateful, offensive or discriminatory content that targets a group or person based on specific characteristics like race, religion, disability, sexuality or gender identity'.<sup>33</sup> Boys are more likely to encounter several kinds of violent content,<sup>34</sup> and to attempt dangerous stunts and challenges.<sup>35</sup> Race intersects with gender and sexuality to increase the risk of harm. Stonewall reported that Black, Asian and minority ethnic LGBT people are twice as likely as white LGBT people to be targeted by online abuse (20% vs 9%).<sup>36</sup> Thirty-seven per cent of girls who identified themselves as from an ethnic minority and had experienced online harassment said they were targeted because of their ethnicity.<sup>37</sup>
- 1.29 Some groups are more likely to experience harmful outcomes from certain kinds of harmful content, with evidence suggesting that neurodiverse children may be more likely to be adversely affected by content depicting violence, for example.<sup>38</sup>
- 1.30 Children in most need of mental health support are most likely to encounter content encouraging suicide, self-harm and behaviours associated with eating disorders. Children with a mental health condition are around four times as likely to have seen content encouraging or assisting serious self-harm, twice as likely to have seen content encouraging or assisting suicide, and over twice as likely to have seen content relating to eating

 <sup>&</sup>lt;sup>32</sup> Livingstone, S. and Zhang, D., 2019. <u>Inequalities in the home influence children's digital opportunities –</u> <u>Parenting for a Digital Future</u>. [accessed 16 December 2024]. For the full report see Livingstone, S. and Zhang, D., 2019. <u>Inequalities in how parents support their children's development with digital technologies</u>. <u>Parenting for a Digital Future</u>: Survey Report 4. [accessed 16 December 2024].

<sup>&</sup>lt;sup>33</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>34</sup> Our research into violent content found that fighting content was more common among boys. Source: Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>. A study in West Yorkshire reported that only about 3% of girls had seen 'murder' content, compared to nearly 30% of boys. Figures are estimates read from the chart on p.26. Source: Social Finance, 2022. <u>Social media, psychological harm and</u> <u>violence among young people</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>35</sup> Thirteen- to seventeen-year-old boys are at risk of engaging with content showing dangerous stunts and challenges. This study takes a broad approach to 'dangerous stunts and challenges' including skateboarding tricks, parkour and free running. However, the study indicates that teenage boys are less risk-averse in their attitude to stunts and challenges, and so likely to be more at risk of harm from content promoting them. Source: Ecorys (commissioned by the DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>. [accessed 28 March 2025]. Subsequent references to this source throughout. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>36</sup> Note: Data is from a YouGov questionnaire of over 5,000 people in the UK. While this study was not based on children specifically, similar dynamics are likely to be represented across the LGBT population. Source: Stonewall, 2017. <u>LGBT in Britain - Hate Crime and Discrimination</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>37</sup> Plan International, 2020. <u>State of the World's Girls 2020: Free to Be Online?</u> [accessed 28 March 2025].

disorders in a four-week period, than those without any limiting or impacting conditions.<sup>39</sup> Though there is no conclusive evidence of the correlation between social media use and mental health, children at different developmental stages may be impacted by how services are designed.<sup>40</sup> Researchers note a decline in adolescent mental health and have begun to explore the connection between service design and mental health. For example, there is some evidence that certain design features within social media can amplify developmental changes that increase adolescents' vulnerability to mental health issues.<sup>41</sup> This includes changes to behaviour, like sharing risky content and self-presentation, and changes to cognition, such as social comparison and experiences of social exclusion. According to this longitudinal research, for girls aged 11, 12 and 13, there was a correlation between increased social media use and decreased life satisfaction, and the same effect was found for boys aged 14 and 15.<sup>42</sup> As noted earlier it is challenging to determine causation between social media and lower life satisfaction, as lower life satisfaction could result in children being more likely to use social media.

# Certain service types or characteristics play a particularly prominent role in harm to children online

- 1.31 Children encounter harmful content across a wide range of service types, in particular **social media services** and **video-sharing services**.<sup>43</sup> Some service types are associated with encountering specific kinds of harmful content, such as pornographic content on pornography services or suicide and self-harm content on dedicated discussion forums. However, social media services and services with video-sharing functionalities emerge as high risk for encountering different kinds of harmful content.
- 1.32 Certain service characteristics play an important role in children's experiences of harm online. While central to the functioning of many services, **content recommender systems**<sup>44</sup>

<sup>&</sup>lt;sup>39</sup> Among 13-17-year-olds with a mental health condition, 14% had seen content encouraging or assisting serious self-harm, 9% recalled seeing content encouraging or assisting suicide, and 20% had seen content relating to eating disorders, over a four-week period. This is higher than for children with no limiting or impacting condition (3% for self-harm content, 4% for content promoting suicide, and 12% for content relating to eating disorders). Source: Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. [accessed 16 April 2025].

<sup>&</sup>lt;sup>40</sup> In November 2024, DSIT announced a feasibility study on methods and data to understand the impact of smartphones and social media on children. More information can be found here: <u>Cambridge leads</u> governmental project to understand impact of smartphones and social media on young people. [accessed 3 March 2025].

<sup>&</sup>lt;sup>41</sup> Orben, A., Meier, M., Dalgleish, T. and Blakemore, S.-J., 2024. <u>Mechanisms linking social media use to</u> <u>adolescent mental health vulnerability</u>, *Nature Reviews Psychology*, 3, pp.407-423. [accessed 17 December 2024].

<sup>&</sup>lt;sup>42</sup> Orben, A. and Blakemore. S.-J., 2023. <u>How social media affects teen mental health: a missing link</u>, *Nature*, 614, pp.410-412. [accessed 17 December 2024].

<sup>&</sup>lt;sup>43</sup> Social media services connect users and enable them to build communities around common interests or connections. Video-sharing services allow users to upload and share videos with the public. A user-to-user service may comprise more than one service type. Our evidence indicates this can be particularly true of social media services and video-sharing services, both of which may comprise various services. See 'Service types' sub-section for more information.

<sup>&</sup>lt;sup>44</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of

emerge as a key route for children to encounter many categories of harmful content. For example, in Ofcom research, children reported being presented with content promoting suicide or self-harm, often without having searched for it.<sup>45</sup> Children describe feeling frustrated when they perceive that any engagement, including reporting and signalling negative engagement, could lead to similar content being recommended.<sup>46</sup> Recommender systems can also risk presenting children with harmful combinations of content. Evidence suggests that children engaging with eating disorder content (a mental health issue) are also likely to be recommended other mental health-related content.<sup>47</sup> Other research has found that young people can be algorithmically recommended large volumes of content, including content relating to suicide and self-harm, and content that risks exacerbating feelings of depression, hopelessness and misery.<sup>48</sup> Children also report being recommended increasingly shocking pornographic content, or pornographic content with themes of violence by online services where they had encountered or watched pornographic content, causing them significant distress.<sup>49</sup> More detail can be found in the harms-specific sections of the Children's Register and in Section 16: Wider context to understanding risk factors, where we set out how recommender systems pose broader risks of harm to children.

1.33 Group messaging is another functionality leading children to encounter harmful content. Children are often members of many group chats across different services. Some can be large, including people they do not know personally.<sup>50</sup> Harmful content is often shared in group chat contexts. For example, our research revealed dedicated group chats, set up to share content depicting violent fights in specific schools and communities.<sup>51</sup> Pornographic content, or links to such content, is also shared in group chats, showing how functionalities can combine to create pathways to harm (in this case, hyperlinking and group messaging).<sup>52</sup>

signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

 <sup>&</sup>lt;sup>45</sup> Ofcom, 2023. <u>Online content: Experiences of children encountering online content relating to eating disorders, self-harm and suicide</u>. [accessed 25 March 2025]. Subsequent references to this source throughout.
 <sup>46</sup> Ofcom, 2023. <u>Online content: Experiences of children encountering online content relating to eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>47</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the USA, UK, Canada and Australia, at the minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and 'liked' them, to observe the impact on recommender systems. Source: Center for Countering Digital Hate, 2022. <u>Deadly by Design</u>. [accessed 25 March 2025].

<sup>&</sup>lt;sup>48</sup> Note: In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of</u> <u>harmful content, including suicide and self-harm material, on Instagram, TikTok and Pinterest</u>. [accessed 27 March 2025].

<sup>&</sup>lt;sup>49</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>.

<sup>&</sup>lt;sup>50</sup> Ofcom, 2023. <u>Children's Media Lives 2023</u>. [accessed 11 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>51</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>52</sup> Ofcom, 2023. <u>Children's Media Lives 2023</u>; Ecorys (commissioned by DCMS), 2022. <u>Qualitative research</u> project to investigate the impact of online harms on children.

Children report feeling pressure to stay in group chats, regardless of their content, to avoid feeling excluded from their peer group.

# Generative AI technologies present emerging risks to children online

- 1.34 Online harms, and the risk factors which cause them, are changing all the time, as technology develops, and society evolves. Children are early adopters of new technologies, including GenAI. GenAI is increasingly being used to power features in a range of online services within the scope of the online safety regime, including social media sites, search engines and gaming services. Content created by GenAI may be in the scope of the Act in the same way as any other kind of user-generated content or search content, and certain services that include certain types of GenAI tools (such as chatbots) are likely to be within scope of the Act.<sup>53</sup>
- 1.35 As well as bringing important benefits, GenAl could lead to harm to children.<sup>54</sup> This includes illegal harms, such as the creation of child sexual abuse material,<sup>55</sup> fraud,<sup>56</sup> and synthetic terrorist content;<sup>57</sup> these issues are explored in the I<u>llegal Harms Register</u>. There is also evidence indicating that GenAl can facilitate the creation of content harmful to children, including legal pornography;<sup>58</sup> content promoting suicide, self-harm and eating disorders; and bullying content. Given the rapid development of GenAl technology, it can be challenging to fully evidence and quantify the risk of harm to children, and some evidence relates to harms outside the scope of the Act, such as mis- and disinformation.<sup>59</sup> New evidence about the risks posed by GenAl is likely to emerge in the future.
- 1.36 More information on the broader risks posed by GenAI can be found in Section 16: Wider context to understanding risk factors.

### **Overview of children's behaviour**

1.37 This sub-section summarises evidence on the online behaviours of children in the UK. This is intended to provide a high-level understanding of where children are online, what they are doing, and some behaviours relevant to understanding risk of harm. Laying this foundation enables a more nuanced analysis of risk of harm from specific kinds of harmful content, as defined within the Act, to be explored within the sections on specific harms.

<sup>&</sup>lt;sup>53</sup> Ofcom 2024. <u>Open letter to UK online service providers regarding Generative AI and chatbots</u>. [accessed 3 March 2025].

<sup>&</sup>lt;sup>54</sup> Ofcom, 2024. <u>Red Teaming for GenAl Harms</u>. [accessed 13 February 2025].

<sup>&</sup>lt;sup>55</sup> Internet Watch Foundation, 2024. <u>Artificial Intelligence (AI) and the production of child sexual abuse</u> <u>imagery (2024 AI report update).</u> [accessed 25 March 2025].

<sup>&</sup>lt;sup>56</sup> UK Finance, 2024. <u>The impact of AI in financial services: opportunities, risks and policy considerations.</u> [accessed 17 December 2024]. Note: this source does not focus on children, but on the potential opportunities and risks more generally.

<sup>&</sup>lt;sup>57</sup> Tech Against Terrorism, 2023. <u>Terrorist use of Generative AI.</u> [accessed 17 December 2024].

<sup>&</sup>lt;sup>58</sup> The creation of sexually explicit deepfake images of an adult without their consent is illegal and covered by the Intimate image abuse chapter of the <u>Illegal Harms Register (Chapter 6)</u>. Deepfakes which depict children engaged in, or appearing to be engaged in sexual activity, constitutes child sexual abuse material (CSAM), which is an illegal offence and covered by the CSAM section of the <u>Illegal Harms Register (Chapter 2B)</u>.

<sup>&</sup>lt;sup>59</sup> For further discussion of the role of GenAl in facilitating the spread of mis- and disinformation, see Ofcom, 2024. <u>Deepfake Defences: Mitigating the Harms of Deceptive Deepfakes.</u> [accessed 13 February 2025].

#### Children's online behaviours and risk of harm

- 1.38 Children in the UK start going online from an early age. Our research finds that 85% of children aged three to five go online, and nearly all (91%) watch videos, with more than a third (37%) an increase since 2023 (29%) using social media apps or services.<sup>60</sup> By their teenage years, mobile phone ownership and the use of online services is nearly universal; 97% of 13-15-year-olds own a mobile phone, 97% watch videos online and send messages or make calls, 95% use social media apps or sites, and 80% play games online.<sup>61</sup>
- 1.39 **Time spent online increases as children get older.** When asked about how much time children spend on their mobile phones, research from Childwise found that children and young people aged 7-18 spend an average of 3.4 hours a day online (approximately 204 minutes). Time spent on mobile phones increases as children get older: from 2.3 hours a day for seven- to eight-year-olds, to a peak of over four hours for 13-14-year-olds (4.3 hours), before dropping back marginally among 15-16- and 17-18-year-olds (3.8 and 3.5 hours on average respectively).<sup>62</sup>
- 1.40 **Children may do different things online depending on their age.** Research demonstrated that time may be spent differently online depending on children's ages. For example, generally children between the ages of 10 and 17 spend around six hours a day on entertainment media, and older children are likely to be using some of this time for engaging with educational media.<sup>63</sup> In a survey among children aged 7-11, the Children's Commissioner for Wales reported that over half of children said they enjoyed spending time online, but only 35% of children responded saying they always felt safe when online and this decreased to 20.5% among 12-18 year olds.<sup>64</sup>
- 1.41 UK children are using a range of established and emergent technologies.
   YouTube/YouTube Kids is the most popular site among children, with nearly nine in ten 3-17-year-olds<sup>65</sup> (88%)<sup>66</sup> having ever used it. This is followed by WhatsApp (59%), TikTok (54%), Snapchat (46%), Instagram (40%) and Facebook (39%).

<sup>64</sup> Children were asked how safe they felt online along with other 'locations' including physical ones, such as in the neighbourhood, on the bus, therefore children were not asked only about online activities. 'Feeling safe online' was lower than feeling safe in school, at home or in clubs, for example. Source: Children's Commissioner for Wales (Stones, L.), 2023. <u>Ambitions for Wales: The survey results and analysis of the</u> <u>experiences and hopes of children, young people, parents and carers and professionals in Wales, and their</u> <u>priorities for the Commissioner</u>. [accessed 25 March 2025].

<sup>&</sup>lt;sup>60</sup> Ofcom, 2024. <u>Children and Parents: Media Use and Attitudes Tracker</u>.

<sup>&</sup>lt;sup>61</sup> Ofcom, 2024. <u>Children and Parents: Media Use and Attitudes Tracker</u>. QP3F, QP4/QC3, QP5/QC4, QP13/QC13.

<sup>&</sup>lt;sup>62</sup> <u>Childwise Monitor report 2024</u>. Base: all aged 7-18. Also cited in: Ofcom, 2023. <u>Children and Parents: Media</u> <u>Use and Attitudes</u>. Quantifying the time children spend online is challenging and so the studies cited here should be treated as indicative but absolute figures should be treated with caution. [accessed 5 February 2025].

<sup>&</sup>lt;sup>63</sup> Common Sense Media, 2015. <u>The Common Sense Census: Media Use by Tweens and Teens.</u> Common Sense Media also published data in 2021 which showed that 8-12-year-olds spent five hours a day on 'entertainment screen use', and 13-18-year-olds spent eight hours a day, which is more than the report stated in 2015. However, this increase could be due to the Covid-19 pandemic and it should also be noted that the research cited is US specific. [accessed 12 February 2025].

<sup>&</sup>lt;sup>65</sup> Ofcom, 2024. <u>Children's Online Behaviours and Attitudes Survey</u>. [accessed 12 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>66</sup> Within this study, a platform is a term for an app or site used for watching or uploading videos, viewing or producing live-streamed content, social media, and video calling or messaging.

- a) Social media services are particularly common. Almost all (96%) children aged 13-17 use social media.<sup>67</sup>
- b) The majority continue to use search engines. Despite evidence suggesting that an increasing number of children search for information on social media services,<sup>68</sup> 95% of online children aged 8-17 say they have ever used a search engine<sup>69</sup> and indicative evidence suggests 87% of online children aged 8-12 use Google Search.<sup>70</sup>
- c) Children are fast adopters of new technologies like GenAl. In an Ofcom survey conducted in June 2024, 54% of online 8-15-year-olds in Great Britain said they had used a GenAl tool in the past year. Teenagers aged 13-15 were more likely to have used GenAl in the past year than children aged 8-12 (66% vs 46%).<sup>71</sup> The risks posed by GenAl are discussed in detail in the 'Generative Al' sub-section of Section 16: Wider context to understanding risk factors.
- 1.42 Being online is seen as an important part of growing up, and both children and parents recognise its benefits. Online children aged 13-17, and parents of this age group, identify that going online can help with schoolwork/homework (78% of children, 79% of parents), building or maintaining friendships (65% of children, 65% of parents), and finding useful information about personal issues (59% of children, 50% of parents).<sup>72</sup>
- 1.43 However, the risk of harm to children in the current landscape is significant.
  - a) Most UK children encounter harmful content online. Fifty-nine per cent of children aged 13-17 report encountering harmful content online, over a four-week period.<sup>73</sup>
  - b) Children see user-to-user services as harsh environments. Over a third (35%) of children aged 8-17 think that people are mean or unkind to each other on social media and messaging apps all or most of the time.<sup>74</sup>
  - c) The more time they spend online, the more likely children are to encounter harmful content. Internet Matters found that over a fifth (22%) of the children who spent the most time on social media (the top quartile) reported experiencing five or more potential harms online. This was reported by 2% of the lowest quartile. Harms included

<sup>&</sup>lt;sup>67</sup> Ofcom, 2024. Children and Parents: Media Use and Attitudes Tracker. QP20/QC20.

<sup>&</sup>lt;sup>68</sup> Ofcom's News Consumption Survey found that three in ten (30%) children aged 12-15 used TikTok as a news source in 2024, up from 22% in 2021. Source: Ofcom, 2024. <u>News consumption in the UK</u>. [accessed 12 February 2025].

<sup>&</sup>lt;sup>69</sup> To clarify to respondents what we meant by 'search engine', we asked children aged 8-17 whether they used sites or apps like Google, Bing or Yahoo to look for things online. Source: Ofcom, 2024. <u>Children and Parents:</u> <u>Media Use and Attitudes</u>. [accessed 12 February 2025]. Subsequent referenced to this source throughout.

<sup>&</sup>lt;sup>70</sup> Ofcom Ipsos Children's Online Passive Measurement 2023, age: 8-12, UK. Base: 162. Reach based on 17 children visiting a service at least once over a three-week measurement period in January-February 2023, combined with results from 145 children who were measured for four weeks during April-July 2023. The data is not weighted. Due to low base size, data should be treated as indicative only and not representative. Published in: Ofcom, 2023. <u>Online Nation report</u>. [accessed 12 February 2025].

<sup>&</sup>lt;sup>71</sup> Ofcom, 2024. <u>Generative Artificial Intelligence (8-15 year-olds) poll</u>. Q1. Respondents were asked about their use of 16 GenAI tools: ChatGPT, ChatGPT Plugin, My AI on Snapchat, Google Gemini, Microsoft CoPilot, DALL-E, Midjourney, Character.AI, Scribe, AlphaCode, Quillbot, Synthesia, Claude from Anthropic, Perplexity, Stability's AI tools and Grok on X. [accessed 12 February 2025].

<sup>&</sup>lt;sup>72</sup> Ofcom, 2024. <u>Children's Online Knowledge and Understanding Survey</u> and <u>Parents Survey</u>. [accessed 25 March 2025].

<sup>&</sup>lt;sup>73</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. Note: Fieldwork was conducted in June-July 2023, so 'in the previous four weeks' refers to responses in this time period. 'Harmful content' as described here covers the primary priority content (PPC) and priority content (PC) Net Codes from the Online Experiences Tracker Wave 7. Please see details of the included harms codes in the <u>Technical Report</u>.

<sup>&</sup>lt;sup>74</sup> Ofcom, 2024. <u>Children's Online Behaviours and Attitudes Survey</u>.

seeing violent content, being contacted by someone they did not know, and receiving abusive or upsetting messages.<sup>75</sup>

d) Most parents (when prompted) say they are concerned about their children being exposed to inappropriate content or having potentially harmful experiences online. Around seven in ten parents of online 3-17-year-olds were concerned about their child seeing content online that would encourage them to harm themselves (68%), seeing age-inappropriate content (76%) or adult sexual content (74%), or being bullied online (69%). Six in ten were worried about the possibility of their child being influenced by extreme views online, whether political, social or religious (61%).<sup>76</sup>

# 1.44 Children are having adult or age-inappropriate experiences online. Many have adult profiles or can access adult content.

- a) Ofcom research estimates that one in five (20%) 8-17-year-olds (and 18% of 8-15-year-olds) with at least one profile on an online service (e.g., social media) have a user/profile age of at least 18, meaning they are at greater risk of seeing adult content. It also estimates that 34% of children aged 8-15 with a profile on at least one online service (e.g. social media) have a user/profile age of at least 16.<sup>77</sup>
- b) Our work on risk factors highlights that children with a user/profile age of 16+ or 18+ may be exposed to new features or functionalities on their social media profile, such as direct messaging from strangers, or having the ability to see adult content, thereby potentially exposing them to harm online.<sup>78</sup>
- c) Children are also savvy in using workarounds to access content such as pornographic content.<sup>79</sup>

#### 1.45 Other common online behaviours may put children at greater risk of harm.

- a) Our research into risk factors that may lead children to harm online<sup>80</sup> found that certain design features and functionalities of services appeared to exacerbate the risk of harm. These included features which encouraged and enabled children to build large networks of people, often with people they did not know, and those which exposed children to content and connections which they had not selected or proactively sought. Few children were engaging with safety features that might have decreased their risk of harm, either because they did not believe they would work, or for fear of restricting access to the functions they wanted to use.
- b) Many children play online games which may bring them into contact with strangers, including adults. Three quarters (75%) of children aged 8-17 game online;<sup>81</sup> 25% play with people they do not know outside the game. Additionally, 24% chat to people

<sup>&</sup>lt;sup>75</sup> The 2023 index is based on responses to a detailed survey of 1,000 children aged 9-15 and their parents, conducted during summer 2022. Source: Internet Matters, 2023. <u>Children's Wellbeing in a Digital World: Year</u> <u>Two Index Report 2023.</u> [accessed 28 March 2025].

 <sup>&</sup>lt;sup>76</sup> Ofcom, 2024. <u>Children and Parents media literacy: Parents Survey</u>. Parents were prompted with a list of potential concerns and asked to rate their level of concern in each case. [accessed 12 February 2025].
 <sup>77</sup> Ofcom, 2025. <u>Children's Online 'User Ages' – Wave 4.</u> [accessed 31 March 2025].

<sup>&</sup>lt;sup>78</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 12 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>79</sup> Twenty-three per cent of children (aged 11-17) reported knowing how to use a potential 'workaround' (e.g., a virtual private network, file torrenting, the use of Tor). Source: BBFC and Revealing Reality, 2020. <u>Young people, Pornography & Age-verification</u>.

<sup>&</sup>lt;sup>80</sup> Ofcom, 2022. Research into risk factors that may lead children to harm online.

<sup>&</sup>lt;sup>81</sup> Ofcom, 2024. <u>Children's Online Behaviours and Attitudes Survey.</u>

through the game who they do not know outside of it.<sup>82</sup> When prompted, 62% of parents whose 3-17-year-old played games online expressed concern about their child talking to strangers while gaming (either within the game or via a chat function) and 54% were concerned that their child might be bullied.<sup>83</sup>

- c) Almost all children watch videos online, including livestreamed content, which is harder to moderate for harmful content. Ninety-six per cent of 3-17-year-olds watch videos on video-sharing sites and apps, and 66% of 3-17-year-olds watch livestreamed content.<sup>84</sup>
- d) Our research provided participants with a list of options of how they encounter harmful content including, for example, in a group chat, search function or in the comments. Participants aged 13-17 reported that they were most likely to be exposed to potential online harm when they scroll through their feed or view content via a 'For You' page, with 30% of internet users aged 13-17 encountering their most recent potential harm this way.<sup>85</sup>

#### 1.46 Children want more to be done to protect them from harmful content online.

- a) Many children want quicker and easier resolutions to problems online. When asked about whether they would like sites/apps to take immediate action when solving a breach of rules or safety measures on video-sharing services, our research found that 64% of 13-17-year-olds wanted the issue to be resolved immediately.<sup>86</sup>
- b) Many want more information and to be empowered to keep themselves and others safe. The UK Safer Internet Centre found that 62% of 8-17-year-olds wanted to act and support others, 43% said they wanted to report something or someone online more easily, and 58% said they felt they could help their friends know more about being safe online. More than a third agreed that having more support from the industry about online safety education would make life online more enjoyable and safer for all.<sup>87</sup>

# Methodology

#### Understanding service characteristics as risk factors

1.47 The Act requires Ofcom to take into account how the characteristics of a service may give rise to risk. The Act defines 'characteristics' broadly as including a service's **functionalities**, **user base, business model, governance, and other systems and processes.** We consider these characteristics both individually and, where relevant, in combination. The list of characteristics in the Act is not exhaustive, so it is open to Ofcom to identify other relevant characteristics. We consider that our evidence justified including three additional service characteristics that can give rise to risk: service type, recommender systems and commercial profiles. These characteristics form the basis of the analysis within the sections of this Children's Register and the Children's Risk Profiles.

<sup>&</sup>lt;sup>82</sup> Ofcom, 2024. Children's Online Behaviours and Attitudes Survey.

<sup>&</sup>lt;sup>83</sup> Ofcom, 2024. Children's Media Literacy Tracker: Parents Survey.

<sup>&</sup>lt;sup>84</sup> Ofcom, 2024. Children's Online Behaviours and Attitudes Survey.

<sup>&</sup>lt;sup>85</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>86</sup> Ofcom, 2023. <u>Video Sharing Platforms (VSP) Tracker</u>. [accessed 11 February 2025].

<sup>&</sup>lt;sup>87</sup> Report showing that young people are keen for parents to be educated about online safety; more than a third of carers are not clear on where to go for support. Source: UKSIC, 2023. <u>Young people keen to educate</u> parents on online safety – as more than a third of carers are not clear on where to go for support. [accessed 28 March 2025].

- 1.48 Most of the characteristics referenced in the Act are not specifically defined. We recognise that given the diversity and range of services in scope of the Act, services are likely to understand some of these concepts differently. We set out the definitions we have used in our Children's Register in the next sub-section. Where possible, we have also used these terms consistently across the other regulatory products.
- 1.49 In the Children's Register, we review evidence associating the specific characteristics of a service with content harmful to children. Where we find evidence of a relationship between a characteristic of a service and harm, we consider the characteristic to be a '**risk factor**'. As such, risk factors are the specific characteristics of a service which we have identified as being associated with a risk of one or more kinds of harms to children.<sup>88</sup>
- 1.50 The Children's Register does not attempt to weigh up the positives and negatives of userto-user and search services, or the providers which run them. It is only concerned with identifying and assessing, in relation to the identified risk factors, the risk of harm to children from content that is harmful to them.
- 1.51 However, service characteristics can also bring benefits to users, including children. We acknowledge that some of the risk factors, which the evidence has demonstrated are linked to a particular kind of harm, could also be beneficial to children in some areas. This can be in terms of the communication that they facilitate, or in some cases fulfilling other objectives, such as protecting user privacy. For example, while livestreaming can be a risk factor for several kinds of harm to children (as it can allow the real-time sharing of harmful content such as suicide and self-harm content), it also allows for real-time updates in news, and can provide children with up-to-date tutorial videos and advice or encourage creativity in streaming content. These considerations are a key part of the analysis underpinning our Protection of Children Codes measures.

#### Service characteristics considered

1.52 In the following paragraphs, we will define the characteristics considered in the harmsspecific sections of this Children's Register.

#### Characteristics set out in the Act

1.53 Functionalities is an umbrella term for the front-end features of a service that are visible to users. The Act defines functionalities for user-to-user services as features that enable interaction between users. Functionalities for search services are defined as features that enable users to search websites or databases, as well as features that make suggestions relating to users' search requests.<sup>89</sup> We consider how these features and functionalities lead to higher risks of harm to children.

<sup>&</sup>lt;sup>88</sup> As set out in the Act: PPC (promoting suicide, self-harm or eating disorders and pornographic content), PC (abusive, hateful or bullying content, content depicting or encouraging violence or the ingestion of harmful substances), NDC (content harmful to children but not including PPC or PC).

<sup>&</sup>lt;sup>89</sup> A non-exhaustive list of functionalities is provided in section 233 of the Act. For user-to-user: (a) creating a user profile, including an anonymous or pseudonymous profile; (b) searching within the service for user-generated content or other users of the service; (c) forwarding content to, or sharing content with, other users of the service; (d) sharing content on other internet services; (e) sending direct messages to or speaking to other users of the service, or interacting with them in another way (e.g., by playing a game); (f) expressing a view on content, including, for example, by (i) applying a 'like' or 'dislike' button or other button of that

- 1.54 **User base** refers to the users of a service, considering both the size of a service's user base and the user base demographics. This includes discussion of risk to children of different ages or in different age groups. It includes consideration of both registered and nonregistered users of a service.<sup>90</sup> As part of this we consider whether children use the service, how user demographics influence which groups of child users may experience harm and how the size of a user base affects risk (e.g., a higher number of child users).
- 1.55 **Business models**, in a broad sense, refers to the ways in which a business operates to achieve its goals. For the purposes of the analysis in this Children's Register, we adopt a narrow definition that includes revenue model and growth strategy, considering how the way in which the service achieves the goals of its business model and growth strategy can lead to higher risks of harm to children.<sup>91</sup>
  - a) **Revenue model** refers to how the service generates income or revenue (e.g., through advertising or subscriptions).
  - b) **Growth strategy** refers to how the service plans to expand its business (e.g., through increasing revenue and number of users).
- 1.56 **Governance, systems and processes** are typically put in place to prevent and/or reduce risk. We review how inadequate or absent governance, systems and processes in a service can lead to risk. 'Governance' refers to structures that ensure adequate oversight, accountability and transparency of decisions that affect user safety. 'Systems and processes' refer to actions taken by a service to mitigate risk of harm to children, such as content moderation systems.

#### **Additional characteristics**

1.57 There is some evidence to suggest that certain **service types** with common features and functionalities are more likely to lead children to encounter harmful content. In general, this refers to the nature of the service, <sup>92</sup> and includes, for example, social media services and messaging services. We have therefore identified some service types as presenting

nature, (ii) applying an emoji or symbol of any kind, (iii) engaging in yes/no voting, or (iv) rating or scoring content in any way (including giving a star or numerical ratings); (g) sharing current or historic location information with other users of the service, recording a user's movements, or identifying which other users of the service are nearby; (h) following or subscribing to particular kinds of content or particular users of the service; (i) creating lists, collections, archives or directories of content or users of the service; (j) tagging or labelling content present on the service; (k) uploading content relating to goods or services; (l) applying or changing settings on the service which affect the presentation of user-generated content on the service; (m) accessing other internet services through content present on the service (for example through hyperlinks). For search: (a) a feature that enables users to search websites or databases; (b) a feature that makes suggestions relating to users' search requests (predictive search functionality).

<sup>&</sup>lt;sup>90</sup> The Act makes clear that "it does not matter whether a person is registered to use a service" for them to be considered a 'user' (section 227 of the Act). The Act is only concerned with the number of 'UK users' of the service, so where the user is an individual, they count as a user only where they are in the UK; similarly, where the user is an entity, they count only when they have been formed or incorporated in the UK (section 227(1) of the Act).

<sup>&</sup>lt;sup>91</sup> 'Business model' can be defined more widely to describe the way in which a service creates value to its users (value proposition), how it delivers this value to users, and how it captures value for itself. However, we adopt a narrow definition in the risk assessment to avoid overlap with the other risk characteristics. This does not affect the overall risk assessment, as risk factors that would have been identified under the broader definition are captured elsewhere.

<sup>&</sup>lt;sup>92</sup> Certain service types have been selected because our evidence suggests that they play a role in children encountering harmful content.

increased risk. However, we recognise that some services have a wide range of features and functionalities and can have more than one service type apply to them. For example, many services can be categorised as both video-sharing and social media services. Nevertheless, evidence demonstrates that there are insights to be gained from assessing the risk of different service types: for example, the role of discussion forums in disseminating content promoting suicide, self-harm and eating disorders.<sup>93</sup>

- 1.58 We have also identified **recommender systems** as a relevant characteristic, because of the key role they play in determining what content users see and engage with, thereby contributing significantly to a user's experience of a service. Recommender systems are information retrieval systems that determine the relative ranking of suggestions made to users on a user-to-user service. These can be used in many ways, which can influence how a user might experience risk of harm on a service. Most commonly, this includes content recommender systems designed to curate content feeds, and network recommender systems that are used to recommend other users to follow/befriend.
- 1.59 We also consider the relevance of the **size** and **capacity** of services, as factors which can influence the risk of harm to children. When discussing the size of a service, we usually refer to the size of a service's overall user base.<sup>94</sup> While precise and robust evidence on the age of users is often not available, the size of the service will imply the number of children likely to be on the service. Size of service will often correlate with capacity, which refers to the financial resources and technical expertise available to a service. However, in some cases we may refer to capacity specifically and separately from size, where it has particular risk implications.
- 1.60 We have also included commercial profiles, as our evidence showed that services with certain **commercial profiles** are likely to have weaker risk management, and therefore fewer considerations of how to protect children from harm on their service. Commercial profiles include the size of the service in terms of capacity (i.e., revenue and/or number of employees), the stage of service maturity<sup>95</sup> and the rate of growth in relation to users or revenue. Services can be high or low capacity, or at an early or more developed stage in their maturity.
- 1.61 These characteristics, and the associated risk factors, are broad and complex in scope. To make our assessment as accessible as possible, we sometimes group risk factors that are similar in nature, or which increase the risks of harm in a similar way. For example, functionalities such as direct messaging and video calling have been grouped under 'user communication' because they allow users to communicate with one another in a similar way. However, they are still considered to be separate risk factors and we have assessed them accordingly.

<sup>&</sup>lt;sup>93</sup> Some evidence suggests that harmful self-harm and suicide content may be shared within online communities that form in dedicated sub-groups within more general discussion services. These are sometimes reported to be self-regulating, with little perceived outside moderation, and so are perceived to be easier to find in order to access the harmful content. Source: Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content promoting eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>94</sup> In this volume we consider size and capacity in general terms and do not adopt any specific definitions or thresholds based on service size or capacity. Elsewhere, in our risk assessment guidance and codes, we define a large service as one that has at least 7 million monthly UK users.

<sup>&</sup>lt;sup>95</sup> 'Maturity' refers to the stage the service or company is at in the typical business lifecycle. The stages can be split into four: i) introductory or start-up stage, ii) growth stage, iii) maturity stage and iv) decline. The maturity stage is characterised by high revenues, cashflow and profitability.

1.62 Further information on this, including the full list of risk factors that we consider to be essential for service providers to consider in their children's risk assessments is included in the Children's Risk Profiles. More information and definitions of terms used throughout this Children's Register can be found in Section 18: Glossary.

#### Additional distinctions in service characteristics

- 1.63 Due to the nature of risk, we also distinguish two ways in which goods or services may be promoted on a service. This distinction was made because in some cases services are paid to promote content as 'advertisements' which represent a source of revenue. In contrast, while users can promote goods and services by posting them for sale, in many cases the service is not paid to advertise them. The risks associated with how a service generates revenue differ according to which functionalities are offered to users and how they might be used.
- 1.64 Posting goods and services for sale refers to the ability for users to upload and share content that is dedicated to offering goods and services for sale on open channels of communication. Users may promote goods and services in this way, but this is distinct from 'classified' advertising because users do not pay for the content to be shared, so it is not designed to generate direct advertising revenue for the service, as classified advertising does. We cover this under 'functionalities'.<sup>96</sup>

### Approach for identifying NDC

1.65 In this sub-section we set out our interpretation of key terms in the Act's definition of NDC. We also provide a framework for identifying NDC, based on this definition. This framework is not a statutory requirement but demonstrates how Ofcom has approached identifying NDC. We consider that it will help stakeholders to understand and engage with our proposals relating to specific kinds of NDC. We also expect the framework to assist service providers when fulfilling their duties (see also Children's Risk Assessment Guidance).<sup>97</sup>

#### Key terms

- 1.66 We set out here how we use some key terms, based on relevant definitions in the Act, explanatory notes and our own interpretation. These are the definitions that we have used when considering NDC in the Children's Register.
- 1.67 'Significant harm' is not defined in the Act. We interpret 'significant harm' to mean harm (as described in the 'Harm' sub-section) that causes lasting or severe impacts on children's wellbeing, attitudes or behaviour, or attitudes or behaviours likely to cause harm to others. Transient impacts (such as short-term emotional reactions) are less likely to be significant, although the cumulative effect of impacts should be considered in assessing the significance of harm.
- 1.68 'Material risk' is not defined in the Act. We interpret 'material risk' to mean the likelihood of harm occurring, such that kinds of content where the likelihood of significant harm is very low should not be caught by the definition. This can be assessed through examining the relationship between a specific kind of content and significant harm.

<sup>&</sup>lt;sup>96</sup> This also sometimes considered under the umbrella of 'organic advertising'.

<sup>&</sup>lt;sup>97</sup> See sections 11(2) and 28(2) of the Act.

1.69 'Appreciable number of children' is explained in the Act's explanatory notes, which state that content "need not adversely affect a very large number of children" to be classified as harmful content. However, content which may adversely affect "only one child or very few children" should not be defined as content harmful to children.<sup>98</sup>

#### Framework for identifying NDC

#### Step 1: Identifying a kind of content that is potentially harmful

- 1.70 We first review available evidence to detect kinds of content that might be linked to physical or psychological harm to children. This generally involves speaking with children, practitioners or experts to understand what kinds of content they report as causing harm to children. As set out in the 'Harm' sub-section above, harm may be physical or psychological. It may also be cumulative (from repeated encounters or harmful combinations of content), or indirect.
- 1.71 We then seek to define a provisional kind of harmful content, based on this research. As part of this, we ensure the content under consideration is distinct from other kinds of PPC or PC. Once we define a specific kind of content that we consider likely to be harmful to children, we use Steps 2 and 3 to assess whether it would meet the statutory definition of NDC. Scoping a kind of content to assess is an iterative process. Where a kind of content does not meet the definition of NDC (e.g., the kind of content is too broad and there is insufficient evidence of harm), we generally re-scope it based on evidence and run through the steps again.

#### Step 2: Is there 'material risk of significant harm'?

- 1.72 To understand the risk of significant harm occurring, evidence is required to indicate a relationship between significant harm and a specific kind of content. Based on that relationship, we make an assessment as to the 'material risk' or likelihood of harm occurring to children who encounter that content.
- 1.73 We consider that harm is likely to be significant when it negatively impacts a child's attitudes or behaviour in terms of psychological impact or contributes to more severe emotional and physical outcomes. Some of these harms manifest as threatening the physical safety and even the life of a child. Harm is less likely to be significant if it is transient and has relatively minor consequences, such as shock or confusion. However, repeated shock or confusion may cumulatively contribute to a more significant harm.<sup>99</sup> Significant harm may also be 'indirect', affecting peers, families and communities. The significance of impacts can also manifest years after encountering harmful content.
- 1.74 Assessing risk of significant harm occurring can be challenging, given the difficulties in establishing causal relationships between any specific kinds of content and harm.<sup>100</sup>

<sup>&</sup>lt;sup>98</sup> The Explanatory Notes for the Act explain: "a material risk of significant harm to an appreciable number of children in the United Kingdom" means that content need not adversely affect a very large number of children to be classified as harmful to children, but content which may adversely affect only one child or very few children will not be caught by the definition of "content that is harmful to children". Source: UK Parliament, 2023. Explanatory Notes, Online Safety Act 2023</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>99</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>100</sup> Establishing a causal relationship between online behaviour and harm is challenging. Survey studies often provide limited information on which content, experiences or behaviours are causing negative outcomes. Experimental research provides evidence on causality, but presents significant ethical and practical challenges when investigating the impact of harmful content on children.

However, a range of sources can be used to understand this relationship. We look primarily to qualitative or observational evidence: research with children, particularly those with lived experience of the harm in question, or observations from researchers, practitioners or other experts can demonstrate the impacts of specific kinds of content. While we acknowledge that evidence of correlation has limitations (e.g., there may be underlying factors at play), we consider that this content can, alongside other qualitative or observational sources, contribute to our understanding of the relationship between a specific kind of content and significant harm.

1.75 Based on this relationship, we then assess whether there is a 'material risk' or likelihood of harm occurring from encountering that kind of content. When considering whether a risk of significant harm is 'material', we are concerned with the likelihood of that significant harm occurring. In our view, this is not intended to be a high threshold, but might exclude content from the definition of NDC where the identified risk of significant harm is very unlikely to manifest. In practice, we have found that the evidence identifying risk of significant harm (e.g., real-world examples of when encounters with that kind of content have led to significant harm) is also likely to be relevant to the consideration of whether that risk is material.

#### Step 3: Are an 'appreciable number of children' at risk?

- 1.76 Step 3 considers whether an appreciable number of children in the UK at material risk of the significant harm identified at Step 2. The Act does not set, and we have not imposed, a numerical threshold for 'appreciable'. In assessing this step, we consider the reach of content and the proportion of children with demographic characteristics that present risk of significant harm.
- 1.77 Where possible, we use survey data to understand the proportion of children encountering a kind of harmful content,<sup>101</sup> as well as other evidence indicating the availability of that kind of content. This may include evidence relating to the level of engagement a kind of content attracts or avatar studies<sup>102</sup> demonstrating the presence of the kind of content on children's recommended feeds.
- 1.78 Finally, we consider whether there are any vulnerabilities that present material risk of significant harm from a kind of content, and the proportion of the UK child population with that vulnerability. For example, children with mental health conditions make up a sizeable proportion of children overall.<sup>103</sup> If a kind of content presented a material risk of significant harm to children with mental health conditions, we would consider that an 'appreciable' number of children likely be at material risk of significant harm from this kind of content.
- 1.79 If all three steps are met, we consider that kind of content to meet the statutory definition of NDC and would include it in our risk assessment.

<sup>&</sup>lt;sup>101</sup> For example, Ofcom's Online Experiences Tracker provides detail on the number of children aged 13-17 who report encountering different categories of content over a four-week period. See Ofcom, 2025. <u>Online Experiences Tracker</u>.

<sup>&</sup>lt;sup>102</sup> Avatar studies are a research methodology involving accounts or profiles set up on online services by researchers, modelled on the behaviours and interests of real users. This method, similar to the 'mystery shopping' market research approach.

<sup>&</sup>lt;sup>103</sup> Recent statistics from the NHS suggest that that one in five children (20%) aged 8-16 had a probable mental health disorder in the UK in 2023. Source: NHS England, 2023. <u>Mental Health of Children and Young People in</u> England, 2023 – wave 4 follow-up to the 2017 survey. [accessed 28 March 2025].

### **Evidence**

- 1.80 In compiling the Children's Register, we have identified and analysed a repository of quality-assured evidence from around 550 individual sources. We have considered the responses to our 2023 Protection of Children Call for Evidence and our May 2024 Consultation on Protecting Children from Harms Online, as well as responses to other relevant Ofcom consultations, research, information from service providers, academic papers in a range of disciplines, government bodies, third-party sources, charities and other non-governmental organisations. We have also extensively engaged with children and have incorporated children's voices into our analysis.
- 1.81 Given the wide range of third-party evidence that we are relying on in this Children's Register, we have taken steps to ensure that our evidence sources are robust and reliable. In particular, we have considered the evidence in reference to the following criteria: method, robustness, ethics, independence and narrative.<sup>104 105</sup> We have also engaged with several external expert stakeholders with specific expertise, to ensure that we represent harms accurately, particularly where the evidence may be more limited.
- 1.82 As outlined above, we have identified a list of specific service characteristics relevant to the risks of different kinds of content harmful to children. We have then assessed any relevant evidence of whether, and how, particular types of content harmful to children are affected by the presence or absence of those characteristics, either individually or in combination.

#### **Evidence** base

- 1.83 There are a number of areas in which we have exercised our regulatory judgement about how to make best use of the available evidence base. We set out some general considerations below.
  - a) Child-specific evidence. Wherever possible, we have sought evidence specifically relating to the experience of children online. However, evidence specific to children is limited in relation to some topics. There are ethical and legal limitations to conducting research into content harmful to children; it is challenging to conduct research that risks exposing children to harmful content in the process. As a result, we include some evidence relating to the experiences of adults, preferably young adults reflecting back on their experiences as a child. Where this has been included, it is because useful inferences can be made about how harm occurs. For example, evidence demonstrating how certain functionalities, available to child and adult users alike, might facilitate encounters with harmful content, is likely to be useful.

<sup>&</sup>lt;sup>104</sup> 'Method' examined the strengths and weaknesses of the methodology for that particular topic, such as whether appropriate data collection methods were used. 'Robustness' considered both the size and coverage of the sample, and quality of analysis – for example, how missing data values were accounted for. 'Ethics' referred to how well ethical considerations were addressed in the study, such as how personal data was handled. 'Independence' examined the origins of the research and whether any stakeholder interests might have influenced findings. 'Narrative' referred to the commentary within the report and whether the conclusions were sufficiently backed by the research, and whether there was a clear distinction between the findings and the interpretation.

<sup>&</sup>lt;sup>105</sup> Some of the evidence used in this Children's Register was published in a response to the development of the Act and other relevant legislation. These sources may have had aims or ambitions associated with the development of legislation. Moreover, some of the evidence used in this risk assessment comes from experts in their field, who may have developed their expertise while in the former employment of online services.

- b) Qualitative evidence. We have relied heavily on qualitative information in our analysis, where quantitative analysis with children on such topics would be challenging or inappropriate. This includes analysing the risk represented by specific case studies. We have also included research conducted with relevant adults (parents, carers, teachers, practitioners) to better understand children's experience of online harms, without incurring some of the risks associated with conducting research with children. In some cases, we have been able to support our understanding of these harms by engaging with expert stakeholders.
- c) **UK evidence.** Most of the evidence reflects the experiences of children in the UK. However, in some areas, we have used research from other parts of the world where we felt it helped us understand online experiences, either by complementing any UK evidence available, or providing additional insights in cases where there was no UK evidence. Where evidence is not from the UK, this is clearly identified in the body of the text.
- d) Variety of sources. Due to the fast pace of technological change and the speed at which risks of harm can manifest online, some of the evidence used within the risk assessment has come from non-traditional research sources; this timely evidence may not have the traditional levels of methodological and sampling rigour and peer review that more traditional research sources have. This includes the use of videos and podcasts, as well as the use of investigative journalism. We have exercised our judgement about when and how best to take this evidence into account. Where evidence is limited, we have used our judgement and expertise about specific harms to draw conclusions about the relevance of the evidence in helping services to identify potential risks. We set out some specific considerations for conducting our risk assessment in the remainder of this list.
- e) Evidence relating to illegal content. Certain kinds of content harmful to children may also be illegal content. Evidence rarely draws distinctions between legal and illegal kinds of content. While analysis of illegal content sits primarily within the <u>Illegal Harms</u> <u>Register</u>, we have referred to evidence within this Children's Register that may relate to, or include, illegal content where we consider that it is nonetheless relevant to children's experiences of harmful content and can help services to identify potential risks associated with such content.
- f) Evidence on kinds of harmful content. The amount of available evidence for specific kinds of content harmful to children is varied. We have found it to be limited for some kinds of content harmful to children, such as content encouraging the ingestion of harmful substances, and dangerous stunts and challenges. Again, we do not necessarily take this as an indication that this content does not cause harm online, or the level or severity of the harm, but as a reflection of the lack of reliable evidence at this time. Some of the evidence we draw on is about content or conduct that is broader than the types of content harmful to children defined in the Act. This has been included where we consider that this evidence is nevertheless relevant to understanding the risk to children from harmful content.
- g) Evidence relating to specific services. Some of the research-based evidence we refer to relates to specific services. We have included this evidence because it provides insights about particular risks that we consider having more general application. Its inclusion should not be seen as a judgement about the online safety practices of those specific services.
- h) **Evidence relating to specific service types.** We do not have specific evidence relating to all types of user-to-user or search services. There is more research available including on risks of harm to individuals about large social media services, gaming services and

services that publish public information, which can be analysed. At present, we hold less evidence about risk on search services – there is less publicly available information about how they operate, and about the presence of content harmful to children that can cause harm to children on these services.<sup>106</sup> Where appropriate, we have made reasonable inferences about the risks that may arise on other services where we do not have specific evidence about that service type.

i) Evidence on specific characteristics. In particular, there are limitations in the evidence linking the characteristics which the Act requires us to assess against the kinds of content harmful to children.<sup>107</sup> For example, the evidence relating to different business models and their risk of harm to children is fairly limited. We therefore consider all kinds of harmful content together when assessing risk from business models, except where there is evidence. It is also important to assert that where there is limited or no evidence connecting a service characteristic (e.g., a functionality, feature or governance structure) to a kind of harmful content as defined in the Act, this is not necessarily an indication that this characteristic does not cause harm, but it may reflect the lack of reliable evidence at this time.

#### Addressing limitations in the evidence base

1.84 We will continue to develop our research and engagement programme to explore methods that help us to identify and understand online harm to children. Our evidence base will include more primary research with children and those who support them, transparency reports from services, behavioural assessments of services design, and further evidence provided to us by our stakeholders.

# How the harms-specific sections of the Children's Register are structured

#### Harm-specific sections of the Children's Register

- 1.85 This sub-section of the Children's Register presents a detailed analysis of the types of harm that might arise in relation to the eight different kinds of content harmful to children outlined in Table 1.1 and the two types of NDC content outlined in Table 1.2, and their associated risk factors, on user-to-user services.
- 1.86 In each section, we have considered evidence from a variety of sources, including information provided by service providers, academic literature, third-party research, civil society in general and Ofcom's own research. Further detail on the evidence and methodology used in compiling the Children's Register is set out above in sub-section 'Evidence base'.
- 1.87 Each harm-specific section is structured as follows:
  - a) Introduction to the type of harmful content covered, including key considerations.
  - b) How the harm manifests online. This includes a summary of how the online environment enables harm to occur, and any common pathways to harm. This will help

<sup>&</sup>lt;sup>106</sup> Due to limitations in evidence, we consider all kinds of harmful content together when assessing risk of harm on search services. For user-to-user services, we consider each kind of harmful content separately. <sup>107</sup> For example, our evidence base assessing governance, systems and processes and content harmful to children is under-researched in some areas. We have therefore used different types of research and supporting evidence, such as from the banking sector, in this analysis.

a service understand the context for the harms and the particular risks a service should be aware of. It includes:

- i) **Presence.** We present evidence and analysis relating to the presence of harmful content and the risk of children encountering it.
- ii) **Impacts.** We present evidence and analysis relating to the effects of encountering harmful content, including physical, psychological and behavioural impacts.
- c) **Evidence of risk factors.** This enables services to develop a better understanding of how specific characteristics relate to, and affect, the risks of harm. The evidence which underlies our analysis is presented for each characteristic:
  - i) **User base.** We consider evidence about user base size, and any demographic groups at disproportionate risk of harm for each kind of harmful content (i.e., groups more likely to encounter harmful content, or experiencing disproportionate or distinctive impacts as a result of encountering it).
  - ii) **Service types.** We consider evidence about the types of services that may present a higher risk to children of encountering harmful content.
  - **iii)** Functionalities and recommender systems. We consider evidence about the types of functionalities and recommender systems within a service that may present a higher risk to children of encountering harmful content.
  - iv) **Business models and commercial profiles**. We consider evidence about the types of business models and commercial profiles within a service that may present a higher risk to children of encountering harmful content.
- 1.88 Sections 10 and 11 (Depression content and Body stigma content) also have an additional sub-section titled '**Identifying the type of harmful content as a kind of NDC**' which outlines how we have assessed these types of content to meet the definition of NDC set out in the Act.

#### **User-to-user services**

- 1.89 A user-to-user service is an internet service by means of which content that is generated directly on the service by a user of the service, or uploaded to or shared on the service by a user of the service, may be encountered by another user, or other users, of the service.
- 1.90 We refer to user-to-user service types that we expect to be recognisable to both users and businesses, to illustrate how harms can manifest online and how the characteristics of a service can affect the risks of harm to individuals.
- 1.91 The user-to-user service types below should not be taken to be a definitive view of the services (or parts of services) that may be in scope of the Act. It is for services to assess themselves and seek their own independent advice to enable them to understand and comply with the Act.

#### Service types

- 1.92 The service types that we have considered in the harm-specific sections appear in this subsection. This is not an exhaustive list, nor a classification which sets expectations about a service's risk assessment.
- 1.93 A user-to-user service may have more than one service type apply to it, with some services potentially including several different service types from those set out below. For example, our evidence indicates that several services have a wide range of features and

functionalities, such that they are considered both social media services and video-sharing services.

- a) **Social media services:** Social media services connect users and enable them to build communities around common interests or connections.
- b) Video-sharing services: Video-sharing services allow users to upload and share videos with the public.
- c) **Pornography services:** Services whose principal purpose is the hosting or dissemination of pornographic content, and who host user-generated pornographic content.<sup>108</sup>
- d) **Discussion forums and chat room services:** Discussion forums and chat rooms generally allow users to send or post messages that can be read by the public or by an open group of people.
- e) Marketplaces and listings services: Marketplaces and listings services allow users to buy and sell their goods or services.
- f) **Dating services:** Dating services enable users to find and communicate with romantic or sexual partners.
- g) **Gaming services:** Gaming services allow users to interact within partially or fully simulated virtual environments.
- Messaging services: Messaging services are typically centred around the sending and receiving of messages that can only be viewed or read by a specific recipient or group of people.
- i) **File-storage and file-sharing services:** File-storage and file-sharing services are services whose primary functionalities involve enabling users to store digital content and share access to that content through links.
- j) **Information-sharing services:** Information-sharing services are primarily focused on providing user-generated informational resources to other users.

#### **Search services**

1.94 The evidence base for risk of harm to children on search services is different to that for userto-user services. Risk to children on search services is therefore discussed in a separate section. Introductory and contextual information, such as the types of search services considered, is set out in the 'Introduction' sub-section of Section 12: Search services.

<sup>&</sup>lt;sup>108</sup> Pornography services with user-generated pornographic content are subject to the risk assessment duties and the children's safety duties. Pornography that is published or displayed by the provider of the service is subject to different duties set out in Part 5 of the Act and Ofcom has published separate <u>guidance for providers</u> <u>subject to these duties</u>.

# 2. Pornographic content

Warning: this section contains references to content that may be upsetting or distressing, including discussions of sexual violence.

#### Summary: Risk of harm from pornographic content

Pornographic content is pervasive in the online lives of children and many encounter this at a young age. Of those who have encountered it, the average age at which they first see pornography is 13 and nearly a fifth (17%) of children aged 13-17 said they had encountered this content online recently. The impact can vary between individuals, but evidence indicates that attitudinal, psychological and behavioural impacts exist. For example, the normalisation of violent sexual behaviours can affect children's attitude to sex and relationships.

#### Risk factors: User base

Of the two-thirds of children and young people who said they had ever seen online pornography, the average age of encountering it was 13, although around one in four had seen pornography by the age of 11 and one in ten by the age of 9. Older children (aged 14-17) are more likely to see it regularly. Across all ages, boys are more likely to encounter pornography than girls.

#### Risk factors: Service types

Children encounter pornographic content primarily on **pornography services** and **social media services**. To a lesser degree, they encounter it on messaging services as well as discussion forums and chat room services. Due to their role in enabling children to encounter pornographic content, these service types are included in the Children's Risk Profiles.<sup>109</sup>

#### Risk factors: Functionalities and recommender systems

Several functionalities increase the risk of children encountering pornography. Certain combinations of functionalities, such as hyperlinks and messaging, present a heightened risk.

Pornographic content primarily exists as **posted images and videos** and may also exist in **audio format**. These can be encountered either unintentionally or intentionally, while **searching for user-generated content**. Children can also receive pornographic content via **direct messaging** and **group messaging**. Content is shared from other accounts, including peers, bot accounts,<sup>110</sup> someone known to the child or someone unknown. **User connections** are therefore also relevant, with some

<sup>&</sup>lt;sup>109</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

<sup>&</sup>lt;sup>110</sup> 'Bots' is an umbrella term that refers to a software application or automated tool that has been programmed by a person to carry out a specific or predefined task without any human intervention.

children choosing to follow pornographic content actors or seeing pornographic content posted or forwarded by other users in their network. Due to their role in enabling children to encounter pornographic content, Ofcom has included posting images and videos, user-generated content searching, direct messaging, group messaging and user connections in the Children's Risk Profiles.

**Content recommender systems**<sup>111</sup> can serve pornographic content to children if it is available on the service, and sometimes this can even happen without children actively searching for it or seeking it out. Children are also at risk of being recommended increasingly shocking pornographic content, such as pornographic content depicting themes of violence.

Other functionalities are relevant to children's encounters with pornographic content. For example, often messages contain **hyperlinks** which could lead to pornographic content or some form of paid-for subscription. Hyperlinks are not just limited to messages but are posted in comments to other posts where children have access.

Due to their role in enabling children to encounter pornographic content, content recommender systems and hyperlinks are included in the Children's Risk Profiles.

#### Risk factors: Business models and commercial profile

Service providers' business models risk enabling children to encounter pornography. **Advertising-based services** can increase the risk of children being recommended pornographic content or being served adverts or 'pop-ups' for pornography, which risk directing children to harmful content.

### Introduction

- 2.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by pornographic content on user-to-user services (risks of harm). Pornographic content is a category of primary priority content that is harmful to children (PPC) and is content of such a nature that it is reasonable to assume that it was produced solely or principally for the purpose of sexual arousal.<sup>112</sup>
- 2.2 For the purposes of the Online Safety Act 2023 (the Act), pornographic content specifically excludes any content which:
  - a) consists only of text, or
  - b) consists only of text accompanied by:
    - i) identifying content which consists only of text;
    - ii) other identifying content which is not itself pornographic content;

<sup>&</sup>lt;sup>111</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>112</sup> Sections 61(2) and 236(1) of the Online Safety Act 2023 (the Act).

- iii) a GIF which is not itself pornographic content;
- iv) an emoji or other symbol; or
- v) any combination of content mentioned at (i) to (iv) above.
- 2.3 We set out here the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is in Section 1: Introduction to the Children's Register of Risks. 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.
- 2.4 In the Guidance on Content Harmful to Children, we provide guidance on identifying pornographic content, including examples of what Ofcom considers, or considers not to be, pornographic content. Examples of pornographic content include explicit photographs; images or videos of real sexual activity; content depicting full frontal nudity or genitals, breasts or buttocks; or fetish material where it is reasonable to assume that the content was produced 'solely or principally' for the purpose of sexual arousal. See Section 2 of our Guidance on Content Harmful to Children for more detail.
- 2.5 Some content which depicts sexual acts is illegal. For example, material that would meet the threshold for 'extreme pornography', which can include content depicting sexual assault, rape and serious injury, is illegal. Images or videos which involve penetrative or non-penetrative sexual acts with children is child sexual abuse material (CSAM) and is illegal. Further analysis of this type of harm can be found in the <u>Illegal Harms Register of Risks</u> (Illegal Harms Register).
- 2.6 This section will assess children's experience of legal pornographic content in the round. Pornographic content may contain specific themes such as violence but not meet the threshold for illegality.<sup>113</sup> This section will assess any specific impacts to individuals or society associated with these types of pornographic content. Within the literature, some of these types of content are described as 'extreme'. To avoid confusing this with illegal extreme pornography, we will refer to this content by the problematic themes raised, such as 'content that contains themes of violence'.
- 2.7 Pornographic content can also be published or displayed by, or on behalf of, the provider of an online service, rather than uploaded by users. Such pornographic content is subject to different duties set out in Part 5 of the Act and is not within the scope of this statement (which focuses on duties for user-to-user and search services). Ofcom has published guidance for providers of pornographic content to support services to comply with their duties under Part 5 of the Act.<sup>114</sup> However, from a user perspective, it may not always be easy to distinguish between content that is generated by a user versus content that is published or displayed by the provider of the service. The evidence we refer to in this section also does not generally make this distinction. This section therefore looks at the risk to children from pornographic content, considering user-generated content alongside content published or displayed by providers of the service.
- 2.8 In light of the above, some of the evidence in this section may relate to content that is broader than the definition of pornographic content in the Act or set out in the Guidance on

<sup>114</sup> Ofcom, 2023. <u>December 2023 Consultation on Guidance for service providers publishing pornographic</u> <u>content</u>. [accessed 22 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>113</sup> Upton, J., Hazell, A., Abbott, R. and Pilling, K., 2020. <u>The relationship between pornography use and harmful</u> <u>sexual attitudes and behaviours</u>. [accessed 22 January 2025].

Content Harmful to Children. Where such evidence has been included, it is because we think it is relevant to understanding the risk of harm from pornographic content.

2.9 There are ethical difficulties in conducting research on children's experience of pornography. This section relies heavily on qualitative data, and the research also often relies on self-reported data. It may be possible that the proportion of children encountering and specifically seeking out pornographic content is higher than reported, as some children may be unwilling to disclose their activities in response to more intrusive questions. This should be taken into consideration when reviewing the evidence below.<sup>115</sup>

### How pornographic content manifests online

- 2.10 This sub-section looks at how pornography manifests online and how children may be at risk of harm.
- 2.11 Pornographic content can manifest online through posting images, videos or audio content on user-to-user services. Once posted to these services it can be viewed – either intentionally or unintentionally – by other users. Users can also download this content to their own devices or share it on other services. Pornographic content can also be broadcast in real time, through livestreaming.
- 2.12 Children provide a range of reasons for seeking out pornography. These include curiosity, sexual education or increasing their knowledge (including getting ideas for their own activities or developing sexual skills and confidence), for masturbation or sexual arousal, to relieve boredom or for a laugh, to break rules or oppose censorship, or to be disgusted.<sup>116</sup> Children can encounter pornography for other reasons: peer pressure has also been cited by children (aged 11-16) as a reason for watching pornography.<sup>117</sup> Another study found that 7% of 14-17-year-olds who had been in a relationship reported being pressured to watch pornography by a partner.<sup>118</sup>
- 2.13 Children's pathways to pornographic content vary. Pornographic sites, social media and messaging services are a prominent means of access, according to a study with 13-21-year-olds.<sup>119</sup> The metaverse has also been identified as presenting risk of exposure, reported in a study by Internet Matters with parents and children aged 9-16.<sup>120</sup> Children and young adults aged 13-19 years old who participated in focus groups agreed that children are likely to see pornography between the ages of 11 and 12, and that this is determined by the age at which children first have their own device (smartphone, laptop or tablet).<sup>121</sup>

<sup>&</sup>lt;sup>115</sup> Martellozzo, E., Monaghan, A., Adler, J. R., Davidson, J., Levya, R. and Hovarth, M. A. H., 2017. <u>'I wasn't sure it was normal to watch it'</u>. [accessed 20 June 2023]. Subsequent references to this source throughout.
<sup>116</sup> Hudson, N., David, M., Haux, T., Kersting, F., MacNaboe, L., McDonough, T., Phillips, N. and Woolfe, E., 2022. <u>Content and activity that is harmful to children within scope of the Online Safety Bill, a rapid evidence assessment</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>117</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>118</sup> Stanley, N., Barter, C., Wood, M., Aghtaie, N., Larkins, C., Lanau, A. and Overlien, C., 2016. <u>Pornography,</u> <u>Sexual Coercion and Abuse and Sexting in Young People's Intimate Relationships: A European Study</u>, *Journal of Interpersonal Violence*, 33 (19). [accessed 28 March 2025].

<sup>&</sup>lt;sup>119</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and</u> pornography. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>120</sup> Internet Matters (Vibert, S. and Bissoondath, A.), 2023. <u>A Whole New World? Towards a Child-Friendly</u> <u>Metaverse</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>121</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

- 2.14 Ofcom's Barriers to Proving Age on Adult Sites survey showed that 39% of adults who had accessed pornographic content online (and intended to again) reported having used a virtual private network (VPN) to access this content.<sup>122</sup> The same survey also reported that 58% of 16-17s who had previously accessed online pornographic content (and intended to again) said they used a VPN to go online (generally), with 4% saying they always use one. This suggests that some children in this age group may use a workaround, like a VPN, to access pornographic content online.<sup>123</sup> Another study with 11-17-year-olds found that 23% of the children surveyed said they knew how to use a potential workaround like a VPN. Younger children aged 11-13 were less likely to know how to use any workaround functions (14%) than 16-17-year-olds (33%).<sup>124</sup>
- 2.15 In recent years, new generative artificial intelligence (GenAI) models have been developed and deployed which allow users to create increasingly realistic synthetic content in response to a user prompt. Certain GenAI tools and services may be regulated services under the Act. For example, where a site or app includes a GenAI tool that enables users to share images or videos generated by the tool with other users, it will be a user-to-user service. GenAI models may also be able to produce pornography. The sharing of some types of AI pornography on a regulated online service might be legal, for example, where a site allows users to share consensual, synthetic pornography which does not depict real-life individuals. The sharing of such legal AI-generated pornography is regulated in the same way as the sharing of human-generated pornography, and we expect regulated services to meet the relevant child safety duties to ensure that children cannot normally encounter such content.
- 2.16 The sharing of other types of AI pornographic content may be CSAM, or intimate image abuse (IIA), which are criminal offences: for example, a site which allows users to share AI images or videos that depict children engaging in or appearing to engage in sexual activity or allows users to post non-consensual 'undressed' or 'nudified' images of real women. We discuss AI CSAM and AI IIA in our <u>Illegal Harms Register</u> and <u>Illegal Content Judgements</u> <u>Guidance</u> and expect regulated services to meet the relevant illegal harms duties where that content can be accessed on their services. Sites and apps that include GenAI tools that can only generate but not share pornographic material are also regulated under the Act, and required to use highly effective age assurance to ensure children cannot normally access pornographic materials. We discuss this separately in our Part 5 guidance.<sup>125</sup>
- 2.17 There is evidence that indicates children may be at risk of accessing legal AI pornography online. DeepTrace found that 96% of deepfake videos online were pornographic and often viewed on specific AI pornography websites or mainstream adult sites that could be accessed by children.<sup>126</sup> Some users visit AI 'porn generator' sites to access legal

<sup>&</sup>lt;sup>122</sup> Note: The sample consisted of adults who had previously accessed pornographic content online and plan on accessing again in the future. Source: Ofcom, 2025. <u>Barriers to proving age on adult sites</u>. [accessed 24 April 2025].

<sup>&</sup>lt;sup>123</sup> Ofcom research found that 30% of 16-17s (among a nationally representative sample) said they used a VPN to go online for work, education or other reasons. Source: Ofcom, 2024. <u>Technology Tracker</u>. [accessed 24 February 2025].

<sup>&</sup>lt;sup>124</sup> British Board of Film Classification (BBFC) and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>125</sup> Ofcom, 2023. <u>December 2023 Consultation on Guidance for service providers publishing pornographic</u> <u>content</u>.

<sup>&</sup>lt;sup>126</sup> Note: Data was collected between 1 and 31 June 2019. Source: DeepTrace, 2019. <u>The state of deepfakes – Landscape, threats and impact</u>. [accessed 28 March 2025].
pornographic images of artificial, fantasy people and hentai characters, and such users may include children. Stakeholders also informed us that legal AI pornography may create escalation pathways to viewing violent and abusive sexual acts, which may lead to a user viewing illegal content such as CSAM and extreme pornographic content. More detail on the potential risks posed to children by GenAI is set out in Section 16: Wider context to understanding risk factors.

### Presence

- 2.18 The majority of UK children have encountered pornography by their mid-teens. Research finds that nearly half (48%) of 11-16-year-olds have seen online pornography.<sup>127</sup> Of those aged 16-21 who have seen pornography, the majority (73%) had seen it by the age of 15.<sup>128</sup> Ofcom research shows that nearly a fifth (17%) of children aged 13-17 said they had encountered this content online recently.<sup>129</sup> In 2019, 63% of children aged 16-17 reported having seen sexually explicit videos or images on a social media platform.<sup>130</sup>
- 2.19 A significant proportion encounter pornography at younger ages. Nearly a quarter of respondents aged 16-21 who had seen pornography reported having encountered it for the first time by age 11 (27%), and one in ten as young as age nine (10%).<sup>131</sup> Further variations in age and gender will be discussed in the 'Risk factors: User base' sub-section.
- 2.20 Some exposure can be intentional. A study with 11-16-year-olds found that of those who were still seeing online pornography, 47% had actively sought out and found it. When including all children from the study, this equated to 21%.<sup>132</sup> Another study with 11-17-year-olds found that 23% said they sought out pornographic content online intentionally.<sup>133</sup>
- 2.21 Other encounters are reported as unintentional; children describe several ways in which such encounters occur. Of the 11-16-year-olds who reported having seen pornography, 32% said that the first time they saw it, it had "just popped up", and 22% said that it had been unexpectedly shown to them by someone else, without having asked for it.<sup>134</sup> In another study, 36% of 9-19-year-olds who use the internet at least once a week reported coming across a pornographic site when searching for something else.<sup>135</sup> Other reasons included

<sup>&</sup>lt;sup>127</sup> Martellozzo, E., Monaghan, A., Davidson, J. and Adler, J., 2020. <u>Researching the Affects that Online</u> <u>Pornography has on U.K. Adolescents Aged 11 to 16</u>, *SAGE Open*, 10 (1). [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>128</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>129</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout. Note: A child is defined as anyone under the age of 18 and the term 'recently' refers to the four-week period prior to the research, which was conducted in January 2025.

<sup>&</sup>lt;sup>130</sup> Thurman, N. and Obster, F., 2021. <u>The regulation of internet pornography: What a survey of under-18s tells</u> <u>us about the necessity for and potential efficacy of emerging legislative approaches</u>, *Policy & Internet*, 13 (3), pp.415-432. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>131</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>132</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>133</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>134</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>135</sup> Livingstone, S. and Bober, M., 2005. <u>UK children go online: final report of key project findings</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

content being encountered through gaming, misleadingly named websites, and advertising on illegal streaming sites.  $^{\rm 136}$ 

2.22 Certain types of content are particularly prevalent, and due to their nature present increased risk of harm to children. For example, pornographic content with themes of violence is particularly present in online spaces and can be encountered by children. A survey found that nearly eight in ten (79%) 18-21-year-olds who had seen online pornography reported having viewed 'violent' pornography including at least one of the following before they were 18: a degrading act, physically aggressive sex or content depicting sexual coercion.<sup>137</sup> This type of content is particularly linked to harmful sexual behaviours and attitudes, presenting disproportionate risk of harm to girls. This will be explored in detail in the 'Impacts' and 'User base' sub-sections.

# Impacts

- 2.23 Pornographic content has impacts both for the children who encounter it and for wider society, which can in turn affect children. Impacts may include harmful attitudes to sex and relationships or harmful sexual behaviours, as well as psychological outcomes such as low self-esteem and addiction. In this sub-section, we consider the broad impacts of pornographic content on children, as well as the impacts on them of pornographic content depicting themes of violence.
- 2.24 Exposure to pornographic content can have emotional impacts on children. Children have reported experiencing a range of emotions on first viewing pornographic content. A survey with 11-16-year-olds found that on first viewing pornography, children often reported having felt curious (41%), shocked (27%) and/or confused (24%).<sup>138</sup> Some children reported being so upset that they actively avoided being involved in interactions where this could happen again. In one case, a child decided to take an alternative route to school, avoiding the school bus where they had been shown pornography on a mobile phone by a group of peers.<sup>139</sup>
- 2.25 Evidence also indicates that watching pornographic content can affect children's selfesteem, specifically in relation to body image. A study found that of the young adults (18-21-year-olds) who reported having previously watched online pornography, those who reported first watching it at age 11 or younger were significantly more likely to score lower on self-esteem than those who reported having first watched it at age 12 or older.<sup>140</sup> In addition, a majority of 16-21-year-olds agree with the statement that "viewing online pornography affects children and young people's body image". In qualitative responses in the same study, female respondents expressed the belief that pornography plays a role in

<sup>&</sup>lt;sup>136</sup> Livingstone, S., Davidson, J., Bryce, J. and Batool, S., 2017. <u>Children's online activities, risks and safety</u>. [accessed 22 June 2023].

<sup>&</sup>lt;sup>137</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>138</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>139</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on</u>

<sup>&</sup>lt;u>children</u>. [accessed 23 June 2023]. Subsequent references to this source throughout. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>140</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

fuelling body insecurity and anxiety, while male respondents felt that pornographic content informed unrealistic and unobtainable body ideals.<sup>141</sup>

- 2.26 Considering pornographic content with themes of violence specifically, evidence suggests that this type of content presents heightened or distinctive risks. Emotional impacts on children are likely to be particularly severe. In interviews, boys and girls (16-18-year-olds) reported feeling upset or disturbed, particularly after watching this type of pornographic content.<sup>142</sup> In another study, boys reported distress when they had seen pornographic content recommended by a service which was more shocking or more violent than they had anticipated. The children described feeling guilty and ashamed, and concerned that the content would cause long-lasting damage.<sup>143</sup>
- 2.27 Evidence indicates that watching pornographic content can also affect children's attitudes towards sexual and romantic relationships. Young people (16-18-year-olds) report that watching pornography can create unrealistic expectations of sex.<sup>144</sup>
- 2.28 Pornographic content has been linked to the normalisation of sexual aggression and harmful sexual behaviours, often towards girls.<sup>145</sup> Harmful sexual behaviour is defined as a spectrum of sexual behaviours exhibited by children, which are sexually harmful to others. This ranges from inappropriate, to problematic, abusive and violent behaviours, and often differs based on developmental stage.<sup>146</sup> It is understood that there are several drivers of harmful sexual behaviour;<sup>147</sup> equally, it is important to take into account wider individual, social and developmental factors when categorising harmful sexual behaviour. Evidence suggests that exposure to pornography may be one of several risk factors for harmful sexual behaviour among children. While this section covers pornography broadly, violent content is discussed in more detail in Section 7: Violent content.
- 2.29 There is evidence suggesting that children's viewing of pornography has been associated with child-on-child sexual abuse. Research by the Office of the Children's Commissioner for England into samples of case files of child-on-child sexual abuse found that 50% of cases contained at least one term referring to an act of sexual violence commonly portrayed in pornography.<sup>148</sup>
- 2.30 There are several longitudinal studies that discuss the relationship between harmful sexual behaviour and pornographic content. Evidence from the Office of the Children's Commissioner for England indicates that an expectation that sex involves physical

<sup>&</sup>lt;sup>141</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>142</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>143</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>144</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>145</sup> "A lot of online pornography can be unrealistic and some of it is rape content, so young people may think this is okay and realistic. When in reality it is not acceptable, it teaches incorrect and disgusting behaviours" (Girl, aged 18, survey, first saw pornography at age 12). Source: Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>. [accessed 5 March 2025]. Subsequent references to this source throughout.

 <sup>&</sup>lt;sup>146</sup> Hackett, S., 2014. <u>Children and young people with harmful sexual behaviours</u>. [accessed 26 March 2024].
 <sup>147</sup> Office of the Children's Commissioner for England, 2023. <u>Evidence on pornography's influence on harmful sexual behaviour among children</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>148</sup> Office of the Children's Commissioner for England, 2023. <u>Evidence on pornography's influence on harmful</u> <u>sexual behaviour among children</u>.

aggression is common among 16-21-year-olds. Moreover, respondents were more likely to state that girls enjoy physically aggressive sex acts (42%) than to state that boys do (37%). Sexual aggression may be correlated with the frequency and nature of pornographic content viewed. The 16-21-year-olds in the study who were frequently exposed to pornography (self-assessed at twice or more per week) were significantly more likely to have been involved in a physically aggressive or degrading sex act, before or since turning 18, either as the recipient or actor.<sup>149</sup>

- 2.31 There is also evidence to suggest that watching pornographic content affects children's attitudes to consent. Interviews with 16-18-year-olds revealed that pornographic content had made their partners less likely to speak about sexual consent, as it is implied (rather than explicitly discussed) in pornographic content.<sup>150</sup> Evidence suggests that those intentionally seeking pornography may be less likely to seek explicit sexual consent in some situations: a survey of 11-17-year-olds within the same report also found that, of those who reported that most of the pornography they had seen was intentional, 29% said that sexual consent wasn't needed when "you knew the person really fancies you". In contrast, of those who said that the pornography they had seen was mostly accidental, only 5% believed the same.<sup>151</sup>
- 2.32 Pornographic content with themes of violence can also affect children's attitudes towards sex and relationships in specific ways. An adult participant in an Ofcom study described how watching increasingly shocking or violent pornographic content from the age of 12 resulted in him struggling to form a solid romantic relationship, and led him to believe that everybody found pleasure in violence and pain during sex.<sup>152</sup> Viewing pornographic content, in particular with themes of violence, can therefore be linked to increased risks of developing harmful sexual behaviours that could cause indirect physical and psychological harm towards future sexual partners. Available evidence suggests that these indirect harms are disproportionately likely to affect women and girls. This is discussed in detail in the 'User base: Gender' sub-section. However, harmful sexual behaviours are also likely to disproportionally affect other groups, such as LGBTQ+<sup>153</sup> children.

<sup>&</sup>lt;sup>149</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>150</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>151</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>152</sup> Ahmed (31-35 years old, London) started watching pornography when he was 12 years old. He started by mainly looking at images online, this progressed into watching what he described as "fairly normal pornographic content." By 17, Ahmed said he grew bored of the content he was watching. He started watching violent, hardcore porn, and continued to do so for ten years. Ahmed reflected on the experience and believed that watching pornographic content in that way long term had shaped his view on relationships. He claimed he misunderstood the meaning of relationships, seeing them only as a pursuit of pleasure and sex, which explained his inability to form a solid romantic relationship. He also said the pornographic content he watched led him to believe that everybody found pleasure in violence and pain during sex. Although Ahmed continued engaging with increasingly violent pornographic content into adulthood, the gateway into hardcore pornographic content arose in his youth and shaped the content he sought to consume in the following years. Source: Ofcom and Revealing Reality, 2022. <u>How People are Harmed Online: Testing a model from a user perspective</u>. [accessed 25 February 2025].

<sup>&</sup>lt;sup>153</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual, and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGB, which reflect the acronyms used in each source.

2.33 Watching high volumes of pornography carries the risk of children developing an addiction to watching pornographic content. In interviews, some boys reported feeling concerned about becoming addicted to pornography,<sup>154</sup> while a survey by Dignify reported that 10% of 14-18-year-olds who said they had viewed pornography on multiple occasions reported that they were addicted to it.<sup>155</sup>

# **Evidence of risk factors on user-to-user services**

2.34 We consider that the following risk factors are likely to increase the risks of harm to children relating to pornographic content. This is also summarised in the summary box at the start of the section.

# **Risk factors: User base**

#### User base size

2.35 There is no evidence to indicate that user base size is a specific risk factor for children encountering pornographic content. However, we expect the number of users on a service could play a role in a similar manner to that presented in the 'Context to understand risk dynamics' sub-section of Section 16: Wider context to understanding risk factors.

#### **User demographics**

- 2.36 The following sub-section outlines important evidence on user base demographic factors and risks of harm, which can include protected characteristics. Service providers should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 2.37 The data suggests that user base characteristics including age, gender, sexuality and gender identity could lead to an increased risk of harm to children from pornographic content. This increased risk of harm may be an increased risk of encountering pornographic content, increased risk of encountering specific types of pornographic content, encountering it through specific pathways, or disproportionate impacts from encountering this content.

#### Age

2.38 The most recent evidence suggests that although some children are exposed to pornographic content at an early age, the risk of such exposure increases with age. In a survey with 16-21-year-olds who had seen online pornography, 10% reported having first seen online pornographic content by age nine, 27% by age 11 and 50% by age 13.<sup>156</sup> Ofcom research shows that nearly a fifth (17%) of children aged 13-17 said they had encountered this content online recently.<sup>157</sup> Other slightly older studies also show similar findings, that exposure increases with age.<sup>158</sup> In another study, 65% of 15-16-year-olds reported having

 <sup>155</sup> As cited in The Guardian. Source: Grant, H. and Milmo, D., 2023. <u>A fifth of teenagers watch pornography</u> <u>frequently and some are addicted, UK study finds</u>. The Guardian, 10 March. [accessed 28 March 2025].
 <sup>156</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and</u> <u>pornography</u>.

<sup>&</sup>lt;sup>154</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on</u> <u>children</u>.

<sup>&</sup>lt;sup>157</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>158</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

seen online pornography in the past 12 months, compared to 46% of 13-14-year-olds and 28% of 11-12-year-olds.<sup>159</sup>

2.39 The evidence also suggests that younger children are more at risk of unintentional exposure, and of experiencing negative emotional impacts from viewing pornographic content. Younger children (aged 11-13) were more likely to say they had viewed the content unintentionally (62%, vs 53% for 14-15-year-olds and 46% of 16-17-year-olds) and were more likely to describe "feeling grossed-out and confused", especially those who had seen it when they were aged ten or under<sup>160</sup> and found the content "shocking and disturbing".<sup>161</sup>

#### Gender

- 2.40 Evidence suggests that boys are more likely to seek out pornography intentionally, with girls at higher risk of unintentional encounters. Girls are more likely than boys to experience harmful emotional outcomes, as well as be impacted by harmful sexual behaviours associated with their male sexual partners watching pornographic content.
- 2.41 Boys are twice as likely than girls to encounter pornographic content. Ofcom research found that 21% of boys aged 13-17 say they have encountered sexual or pornographic content in the past four weeks, compared to 11% of girls in the same age group.<sup>162</sup>
- 2.42 Boys are disproportionately likely to seek out and regularly watch pornographic content. In a study with 11-18-year-olds, boys were found to be significantly more likely than girls to have intentionally viewed pornographic content at least once in the two weeks before the survey (34% vs 17%). Twenty-one per cent of boys had intentionally viewed pornography every day, or more often, in the two weeks before the survey, compared to just 7% of girls.<sup>163</sup> Another survey with 11-16-year-olds found that 56% of boys reported having seen pornographic content, compared to 40% of girls, and were more likely to report having ever actively searched for it (59% vs 25% of those who answered the question).<sup>164</sup>
- 2.43 Girls may also be at higher risk of unintentional exposure to pornographic content, particularly through being sent unwanted images. Seventy-three per cent of female respondents aged 13-21 reported in a survey that they had received unwanted sexual photos.<sup>165</sup> While some of this content may be pornographic content, receiving unwanted sexual content may amount to IIA or cyberflashing (see our <u>Illegal Harms Register</u>).
- 2.44 Boys were more at risk of pornographic content affecting their attitudes and behaviours around sex, and they were more likely than girls to agree that pornographic content is realistic (53% vs 39%).<sup>166</sup> Another study among 16-17-year-olds found that boys were more

<sup>&</sup>lt;sup>159</sup> Martellozzo et al., 2020. <u>Researching the Affects that Online Pornography has on U.K. Adolescents Aged 11</u> to 16. SAGE Open, 10 (1).

<sup>&</sup>lt;sup>160</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>161</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>162</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>163</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>164</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>165</sup> Girlguiding, 2023. <u>Girls' Attitude Survey 2023</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>166</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

likely than girls to agree that "sex in porn is very similar to what sex is like in real life" (20% vs 4%).<sup>167</sup>

2.45 This belief that pornography is realistic, especially when combined with the presence of pornographic content containing themes of violence (see 'Presence' sub-section), presents the risk that children watching pornographic content develop harmful attitudes around gendered norms and towards behaviours during sex. A study involving interviews with 16-18-year-olds found some participants saw sex as orientated towards male pleasure as a result of watching pornographic content.<sup>168</sup> In another study, 16-21-year-olds expressed concern about the implications of pornography in distorting their understanding of the difference between sexual pleasure and harm, particularly for women.<sup>169</sup> These attitudes present a risk of physical and psychological harm to girls in particular, by normalising offline violence against women and attitudes towards consent (see 'Impacts' sub-section). Young women (aged 16-21) reflected on the pressure pornography creates to perform acts which boys may have seen in pornography, including aggressive, degrading and pain-inducing sex acts.<sup>170</sup>

#### **Sexual orientation**

2.46 LGBTQ+<sup>171</sup> children may be at increased risk of pornographic content affecting their attitude to sex and relationships. In a study with 11-18-year-olds, across all children who had seen pornography, 41% said they had learnt about sex from watching it. This was higher for LGBTQ+ children (61% of those who had seen it learnt about sex from it) than those identifying as heterosexual (41%).<sup>172</sup> LGBTQ+ children may have seen less representation in the media of diverse sexual relationships, and lack relevant sex education, so use pornographic content as a source of information for their own sexual relationships.<sup>173</sup>

# **Risk factors: Service types**

2.47 Children can encounter pornographic content on any service which allows the sharing of images or videos and can be accessed or used by children. However, research suggests that pornographic content is particularly encountered on social media services and pornography services. In addition, audio pornography is increasingly available on other services. The National Centre on Sexual Exploitation included an audio streaming service in a 2023 publication, referencing the dissemination of audio pornography ('recordings of sex

<sup>&</sup>lt;sup>167</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>168</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>169</sup> For example, a younger individual who is not fully developed could find pornography that reinforces abusing women, and they might begin to think that is what women find pleasurable. Source: Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>170</sup> "It makes boys think they can do everything they see in porn in real life. Some things like anal are everywhere in porn but most girls don't want to do that. Boys just think it's normal and expect us all to do it and it puts pressure on us." Source: Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>.

<sup>&</sup>lt;sup>171</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGBT, which reflect the acronyms used in each source.

<sup>&</sup>lt;sup>172</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>173</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children.</u>

sounds').<sup>174</sup> Other examples of audio pornography include certain types of autonomous sensory meridian response (ASMR) content which is widely available on many pornography websites.<sup>175</sup>

#### Service type

#### Social media services

- 2.48 Social media services are a common source of pornographic content. While some social media services state they ban pornographic content on their platform, <sup>176</sup> evidence suggests that this kind of content is still present on social media. Sixty-three per cent of 16-17-year-olds reported having been exposed at least once to sexually explicit pornographic videos or pictures via social media services. <sup>177</sup> A report by the Office of the Children's Commissioner for England found that 6-8% of children aged 13-17 had been exposed to pornography on social media services which prohibited such content. <sup>178</sup>
- 2.49 Social media services may have functionalities that can direct children to pornographic content on other service types, such as hyperlinks, content recommender systems, bots, advertising, or posted content containing information that leads children to seek pornographic content elsewhere.<sup>179</sup> Risks associated with specific functionalities will be explored in the 'Risk factors: Functionalities and recommender systems' sub-section.

#### Pornography services

- 2.50 Children often encounter pornographic content on pornography services. A survey with 16-18-year-olds showed that 47% of the sample who had seen pornography had seen it on a pornographic service.<sup>180</sup>
- 2.51 Several functionalities of pornography services pose a particular risk. The functionality of searching for content is particularly used to access pornographic content (see 'User-generated content searching' in the 'Risk factors: Functionalities and recommender systems' sub-section). Content recommender systems similarly can direct children towards

<sup>&</sup>lt;sup>174</sup> National Center on Sexual Exploitation, 2023. <u>Dirty Dozen List 2023</u>. [accessed 22 January 2025].

<sup>&</sup>lt;sup>175</sup> ASMR is a sensory phenomenon in which individuals experience a tingling, static-like sensation across the scalp, back of the neck and at times further areas in response to specific triggering audio and visual stimuli. Source: Barratt, E. L. and Davis, N. J., 2015. <u>Autonomous Sensory Meridian Response (ASMR): a flow-like mental state</u>, *PeerJ*, 3. [accessed 3 March 2025].

<sup>&</sup>lt;sup>176</sup> Not all services use the term 'pornographic content' in their terms of service. However, if not using this exact terminology, many state that they ban forms of sexually explicit content.

<sup>&</sup>lt;sup>177</sup> Thurman, N. and Obster, F., 2021. <u>The regulation of internet pornography: What a survey of under-18s tells</u> <u>us about the necessity for and potential efficacy of emerging legislative approaches</u>, *Policy & Internet*, 13 (3), pp.415-432.

<sup>&</sup>lt;sup>178</sup> Office of the Children's Commissioner for England, 2022. <u>Digital childhoods: a survey of children and parents</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>179</sup> Ethan (ten years old) ended up coming across pornographic content after searching for a term (the name of a lesser-known pornographic site) after seeing a video on a social media platform about it. The post read, "don't ever search [name of pornographic site] up", which enticed Ethan to see what it was. "I saw this [video], and it said, 'Don't ever search this up'. I searched it up [using a search engine] as I thought it was just going to be a little scary thing or whatever... They were right [I shouldn't have searched the term]." Source: Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 22 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>180</sup> Thurman, N. and Obster, F., 2021. <u>The regulation of internet pornography: What a survey of under-18s tells</u> <u>us about the necessity for and potential efficacy of emerging legislative approaches</u>, *Policy & Internet*, 13 (3), pp.415-432.

pornographic content, including pornographic content with themes of violence (see 'Impacts' and 'Recommender systems' sub-sections).

- 2.52 Emerging evidence also suggests there has been a recent increase in the availability of Algenerated sexually explicit content online. Service types include, but are not limited to: a dedicated AI porn generator which allows users to generate and share content with one another; a social media service that allows users to share content, which may include AI pornography, with one another; and a user-to-user service which embeds a GenAI tool into its service, which – while not explicitly designed to generate pornography – may still be able to produce pornography which can be shared with other users. Some users may visit regulated services that allow users to share pornographic content which may include socalled 'AI porn generator' sites to create (legal) pornographic images of artificial, fantasy people and hentai characters. These services may also be used to create illegal content.
- 2.53 GenAl pornographic content may create escalation pathways to progressively extreme or illegal sexual themes, including violent and abusive sex acts. This may ultimately lead to a user viewing illegal content such as CSAM and extreme pornographic content.<sup>181</sup> More detail on the wider risks posed to children by GenAl technologies is set out in Section 16: Wider context to understanding risk factors.

#### Discussion forums and chat rooms, and messaging services

2.54 Our evidence suggests that children can encounter pornography on discussion forums and chat rooms, as well as messaging services. This can be in the form of shared links to pornographic content, as well as the sharing of content itself. Children report being sent unsolicited images or links on messaging services and chat rooms.<sup>182</sup> Functionalities that are typically central to messaging services are direct messaging (see 'Direct messaging' subsection) and group messaging (see 'Group messaging' sub-section).

# Risk factors: Functionalities and recommender systems

#### User identification

#### Fake and anonymous user profiles

2.55 The evidence suggests that children may be exposed to pornographic content through fake or anonymous profiles. In a study commissioned by the Department for Digital, Culture, Media & Sport (DCMS), children reported receiving messages from bot accounts including pornographic images. This can be combined with fraud attempts, such as profiles requesting money with the promise of sending further pornographic content.<sup>183</sup>

#### **User networking**

#### User connections

2.56 Children report being sent pornographic content by other users, with whom they may be connected, but do not know personally. In our Children's Media Lives report, a child (aged

<sup>&</sup>lt;sup>181</sup> Office of the Children's Commissioner for England, 2023. <u>Evidence on pornography's influence on harmful</u> <u>sexual behaviour among children</u>. [accessed 22 January 2025].

<sup>&</sup>lt;sup>182</sup> Hovarth, M. A. H., Alys, L., Massey, K., Pina, A., Scally, M. and Adler, J. R., 2014. <u>Basically... Porn is</u> <u>Everywhere: A Rapid Evidence Assessment on the Effect that Access and Exposure to Pornography has on</u> <u>Children and Young People</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>183</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

14) described being sent sexually explicit content from a user she did not know, who had been added through a feature on a social media service which allowed users to add new connections with a single click, including users not previously known to them. She once received sexually explicit content during one of these interactions which started on one social media service and moved to another, using this same feature.<sup>184</sup> Another study reported a child (aged 14) accepting friend requests from people he did not know, before receiving "short porn videos with invitations to click through for more".<sup>185</sup>

- 2.57 In some cases, being sent pornographic content by other users can occur in the context of illegal harms, such as grooming or cyberflashing (see the <u>Illegal Harms Register</u>). In another study, a child (aged 14) similarly described being sent short pornographic content videos, and invitations to click through, by people he did not know and who had added him on a user-to-user service. Sometimes the sharing of pornographic content was combined with attempts to groom children for the purpose of sexual abuse. This includes trying to incite or coerce children to send self-generated indecent imagery, which constitutes CSAM and is illegal content.<sup>186</sup> More information on grooming and illegal harm can be found in the 'Child sexual exploitation and abuse (CSEA)' section of the <u>Illegal Harms Register</u>.
- 2.58 Evidence suggests that some children may encounter pornographic content by following dedicated accounts for accessing such content. These dedicated accounts can take different forms. Some respondents in one study, for example, reported having followed accounts that posted anonymous, homemade, point-of-view (POV) pornography.<sup>187</sup> Some accounts advertise pornographic services. Subscribing to these accounts can lead children to encounter pornographic content, even without signing up to or paying for dedicated services. A study by Revealing Reality reported that some children (aged 11-18) followed accounts on social media that had added 'Premium' to their name, which children said would indicate they were advertising pornographic services. Individuals could then transfer money to the person who owned the 'Premium' account, and could gain access to videos and photos of the account owner performing sexual acts. Many accounts posted links and 'teaser' trailers for video subscription services, so that any child connected to these accounts would encounter pornographic content. One example included a boy aged 16 who at the time of the interview had received a lot of follow requests from 'Premium' accounts, some of which he followed to see posted photos advertising their services. These were also often sexually explicit, but he did not pay for the services.<sup>188</sup>

<sup>&</sup>lt;sup>184</sup> Ofcom, 2023. Children's Media Lives 2023. [accessed 22 January 2025].

<sup>&</sup>lt;sup>185</sup> Note: The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>186</sup> Ali (aged 14) said, "They send photos, the under areas and upper areas and some of them send a male and a female having intercourse. And inappropriate things like 'Come and meet me,' or something. When I get it I just block them straight away." Note: The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socio-economic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>187</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>188</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

#### User groups

2.59 Pornographic content can also be shared in user groups. In a study by Revealing Reality, a child (aged 16), referred to a community of social media users, within which pornographic content was sometimes posted and shared, and where photos and videos were available without any restrictions beyond a warning that the media 'may contain graphic imagery'.<sup>189</sup>

#### User tagging

2.60 Child users may be directly tagged in posts that include pornographic content. For example, a child reported that "on [a social media service] people's accounts get hacked and then the hackers post pornographic videos and tag my friends in them, and it pops up on my news feed" (Male, aged 11-12).<sup>190</sup>

#### **User communications**

#### **Direct messaging**

- 2.61 Several studies have reported on children's exposure to pornographic content through direct messaging. Interviews and a survey with children aged 11-18 revealed that specific social media services allow pornographic content to be posted and sent between individual users via direct messaging.<sup>191</sup> This content can be shared by peers, or by other users unknown to the child. Another study similarly reported on children being unknowingly sent links to pornography through messages from peers, showing how direct messaging and hyperlinks combine to present a risk of children encountering pornographic content.<sup>192</sup>
- 2.62 Functionalities that enable users to easily connect to children, combined with direct messaging functionalities, present a particular risk of children being exposed to pornographic content. In a project with 12-18-year-olds using avatars created for the research, all ten avatars were directly messaged by accounts after accepting a connection request from them. Some of these accounts promoted paid-for content to the avatar accounts, the male accounts in particular.<sup>193</sup>
- 2.63 The risks discussed above also apply to exposure to bots that message pornographic content to child users online. One boy (aged 17) reported that pornographic content is "literally everywhere. All over social media. You get loads of sex-bots all the time literally messaging you on every public page. It's just everywhere."<sup>194</sup> The use of 'bots' in distributing pornographic content to children via direct messaging is reported in another study using avatars to understand potential risks facing child profiles. An avatar account based on a 16-year-old regularly received messages from 'bot' pornographic content accounts.<sup>195</sup>

<sup>&</sup>lt;sup>189</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>190</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>191</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>192</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>193</sup> Note: The research involved setting up a series of avatars, which were profiles set up on social media apps that mimicked the online profiles of real children who took part in the interviews for this project. The age of the real child was used to register the profile and displayed in the bio of the user account. Source: 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>194</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>195</sup> 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>.

#### Group messaging

- 2.64 Ofcom research finds that children tend to be in multiple, large group chats, often including people they do not know personally.<sup>196 197</sup> Children report being sent links to pornography from peers and strangers through group chats.<sup>198</sup> Group chats may therefore present increased risk to children as they enable pornographic content to be shared more widely.<sup>199</sup> A child (aged 11) described being in a group chat with other people in her year group across her local area, many of whom she had not met face-to-face. In the chat, she once saw a leaked video of a boy she knew performing a sexual act, but she chose not to leave the group as she wanted to carry on seeing some of the other content and conversations in it.<sup>200</sup> A young person (aged 18) described being in a group chat on a messaging service for his local football team which he joined when he was 17. He mentioned that pornographic videos were shared on these chats.<sup>201</sup>
- 2.65 Being added to group chats can also direct children to links to pornographic content. In the avatar study described above, all four boy avatars and two girl avatars were added to group chats by people they did not know, in which there were multiple other strangers with links to paid-for pornographic content services or pornographic dating services.<sup>202</sup>

#### **Commenting on content**

2.66 Children (aged 9-18) reported seeing links to pornography shared in comments by fake 'bot' accounts.<sup>203</sup> A child (aged 13), in an Ofcom study on online harms to children, explained that a particular video on a social media service, posted by one of her favourite content creators, had more comments than usual, which captured her interest and encouraged her to find out what everyone was talking about. Reading through the comments, she was then directed off-platform and exposed to pornography on another social media service.<sup>204</sup>

#### **Posting content**

- <sup>2.67</sup> The ability to post pornographic content, particularly images and videos, increases the risk that children will encounter it. Evidence suggests that pornographic content is posted and subsequently encountered in several contexts: for example, within user groups or communities (see 'User groups' and 'User tagging' sub-sections).<sup>205</sup>
- 2.68 The functionalities of 'User connections' and 'Posting content', if combined, can lead children to encounter pornographic content. Children report encountering pornographic content posted by their connections – often leading to unintentional encounters. Interviews with 13 vulnerable children (aged 14-17) revealed that all the children in the study were

<sup>&</sup>lt;sup>196</sup> Ofcom, 2024. <u>Children's Media Lives 2024</u>. [accessed 25 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>197</sup> Group messaging is user-to-user service functionality allowing users to send and receive messages through a closed channel of communication to more than one recipient at a time.

<sup>&</sup>lt;sup>198</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>199</sup> Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>200</sup> Ofcom, 2024. <u>Children's Media Lives 2024</u>.

<sup>&</sup>lt;sup>201</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>202</sup> 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>.

<sup>&</sup>lt;sup>203</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>204</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>205</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

seeing violent and sexual content posted by their connections via ephemeral 'Stories' functions.<sup>206</sup>

2.69 As explored in the 'User connections' sub-section, children may also encounter pornographic content by following dedicated accounts. Once children are connected to these accounts, they can be exposed to content posted by pornographic content creators, as well as accounts advertising pornographic services or montages of pornographic content.<sup>207</sup>

#### **Reposting and forwarding content**

2.70 Some pornographic content is encountered as content reshared by other users. This can lead to accidental encounters with pornographic content by children. In a study with 11-16-year-olds, one child spoke about how coming across reshared pornographic content made her feel. "Often when on [social media], someone would have re-blogged a post, or a post leading to recommendations of pornographic gifs. Normally, these take me by surprise and make me feel quite uncomfortable" (Female, aged 13-15).<sup>208</sup>

#### **Content exploring**

#### **Content tagging**

2.71 Research conducted using avatars representing 12-18-year-olds found that when scrolling for content, hashtags are a common way of coming across sexual content, and profiles associated with sexual content, on social media.<sup>209</sup> In a study with 11-16-year-olds, a girl aged 13-14 described how on "popular hashtags on [social media site], which younger children can access, there are some explicit pictures. Makes me feel irritated that people can come across these when they don't want to..."<sup>210</sup>

#### Hyperlinking

2.72 Hyperlinks, especially in combination with other functionalities, present a risk of children encountering pornographic content. Several studies report children being sent hyperlinks by direct messaging. A study with 16-18-year-olds reported participants receiving links to videos on pornographic sites from friends, without knowing what the content would include.211 In the avatar study described earlier, an avatar representing a 14-year-old received three separate direct messages linking to websites that offered paid-for pornographic content within a single day. Within two days, all four boy avatars had received messages with links to paid-for porn.212 Hyperlinks can also be shared in messages from

<sup>&</sup>lt;sup>206</sup> The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socio-economic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>207</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>208</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>209</sup> Note: The research involved setting up a series of avatars, which were profiles set up on social media apps that mimicked the online profiles of real children who took part in the interviews for this project. The age of the real child was used to register the profile and displayed in the bio of the user account. Source: 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>.

<sup>&</sup>lt;sup>210</sup> Martellozzo et al., 2017. <u>'I wasn't sure it was normal to watch it'</u>.

<sup>&</sup>lt;sup>211</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>212</sup> 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>.

'bot' accounts<sup>213</sup> and within comment sections on posted content (see the 'Commenting on content' sub-section).<sup>214</sup> See also the 'Direct messaging' sub-section.

#### User-generated content searching

- 2.73 Children may also be at risk of being exposed to pornography through the ability to search for content on user-to-user services. In one study, 36% of 9-19-year-olds who used the internet at least once a week reported coming across a pornographic site when searching for something else.<sup>215</sup>
- 2.74 Evidence also shows children are actively searching for pornographic content on dedicated sites. A study with 11-17-year-olds revealed that of the respondents who had accessed pornography intentionally, 43% used a pornographic site to do so. Interviews with 16-18-year-olds from the same study revealed some respondents would actively search for a preferred category or particular pornographic actor, while others browsed the homepage.<sup>216</sup>

#### **Recommender systems**

#### Content recommender systems

- 2.75 Services which deploy content recommender systems<sup>217</sup> could be at higher risk of suggesting pornography content to children. A detailed explanation of how recommender systems work and how they can pose a risk to children is set out in Section 16: Wider context to understanding risk factors.
- 2.76 Avatar studies<sup>218</sup> suggest that child accounts can be served 'sexual content'<sup>219</sup> by recommender systems. While not exactly aligning to our definitions of pornographic content, these studies suggest that sexual content may include some pornographic content that is available on sites which prohibit it. This content can also be recommended to child accounts if it has not been age gated (e.g., through age ratings). These studies found that despite being registered to a social media site as the age of a child, and being targeted with child focused, age-appropriate advertising, boy and girl avatars were served sexual content without seeking it. For example, one avatar, representing a child aged 14, was recommended sexual content alongside adverts for Roblox<sup>220</sup> and a school revision study app. Another avatar, representing a child aged 15, was served sexual content alongside

<sup>&</sup>lt;sup>213</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>214</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>215</sup> Livingstone, S. and Bober, M., 2005. <u>UK children go online: final report of key project findings</u>.

<sup>&</sup>lt;sup>216</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>217</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>218</sup> The avatar research methodology involves accounts or profiles set up on online services by researchers, modelled on the behaviours and interests of real users. This method, similar to the 'mystery shopping' market research approach, is often used to understand the experience of a service by a particular group of people. See Section 18: Glossary for more definitions.

<sup>&</sup>lt;sup>219</sup> 'Sexual content' may include some pornographic content, as well as sexualised images or videos.

<sup>&</sup>lt;sup>220</sup> Roblox is an online gaming service marketed mainly to children. The service allows users to program and play games with other users.

adverts for T-levels<sup>221</sup> and a Home Office campaign for recognising and reporting child abuse online.<sup>222</sup>

- 2.77 Other research reports children being recommended pornographic content on their content feeds. In a study by Revealing Reality, an 18-year-old girl described how, when she was 16/17, she had seen lots of 'trick' videos on her newsfeed where the video would start out as non-pornographic content and then turn into pornographic content.<sup>223</sup> The study also reported a young adult (aged 18), who saw bondage and sex-machine pornography in the 'Explore' page of her social media account, which she described as 'strange'.<sup>224</sup> Although this respondent was an adult, the study demonstrates that pornographic content is available and being recommended on services that prohibit it.
- 2.78 Content recommender systems can lead to children engaging with pornographic content at risk of being recommended an increasing volume of harmful content. There is evidence to suggest that following a child's first engagement, some children are recommended increasingly shocking pornographic content, such as that depicting violent themes like incest, suffocation and strangulation. Research with participants aged between 9 and 18 highlighted one participant who explained that after accessing a video on a pornography website, the site recommended further, more 'extreme' content to them, which caused them significant distress, beyond what they would have experienced if they had just seen the video they had intended to.<sup>225</sup> Some children report that having accidentally encountered this type of pornographic content, they went on to seek it out intentionally, having become curious about it.<sup>226</sup> When harmful content is repeatedly encountered by a child, this may lead the child to experience 'cumulative harm'.<sup>227</sup>
- 2.79 Content recommender systems play a key role in driving content discovery and personalisation in the pornography industry and may introduce consumers to more violent material. By viewing such material, users may experience high levels of sexual dysfunction and a growing appetite for viewing CSAM. Content recommender systems are designed to offer a personalised user experience, often being able to recognise the changing preferences of pornography users over time. As such, users can be vulnerable to recommender systems suggesting/presenting increasingly arousing forms of sexual material that is personalised to a user's preferences. As per the definition of recommender systems as an AI algorithmic system, there is a growing body of clinical evidence that suggests "AI algorithms can drive consumers in either of two directions. On the one hand, they teach

 <sup>&</sup>lt;sup>221</sup> T-Levels are two-year courses which are taken after GCSEs and are broadly equivalent to three A-levels.
 <sup>222</sup> In the study, researchers created child accounts based on children they had interviewed. The researchers themselves used these accounts to measure how the design of the sites/apps they explored put children at risk. Source: 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>.
 <sup>223</sup> BBFC and Revealing Reality, 2020. Young people, Pornography and Age-verification.

<sup>&</sup>lt;sup>224</sup> It is worth noting that some of these reports of pornography on social media services dated from eight years ago and many hadn't seen pornography on these services in recent years. Source: BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>225</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>226</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>227</sup> Cumulative harm can occur when harmful content – that is, PPC, priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

viewers' brains, unconsciously, to crave stronger, more violent imagery. On the other hand, they drive consumers towards a focus on sexual activities with younger people. Thus, we have escalation to violent behaviour and/or towards the consumption of CSAM. People with PPU [problematic pornography use] have developed brain changes that increase cravings for more stimulating, perhaps high-risk material and a diminished capacity to inhibit their use of it."<sup>228</sup>

## **Risk factors: Business model and commercial profile**

#### **Revenue models**

#### Advertising-based model

- 2.80 One report suggested that some services are incentivised to enable the posting by users of pornographic videos or images, with low levels of moderation, and to recommend such content to users, including children, due to their advertising revenue model.<sup>229</sup> Services relying on advertising revenue models generate revenue in proportion to their user base and user engagement, and this reduces their incentives to detect and moderate pornographic content, if it is engaging. High engagement attracts advertisers, which in turn increases revenue. This suggests that the advertising revenue model may increase the risk that children encounter pornographic content on these services. Further analysis on the risk posed by service providers' business models can be found in Section 14: Business models and commercial profiles.
- 2.81 Advertising revenue models can also present a risk to children due to users' and adult entertainment services' ability to promote pornographic content on services that rely on such revenue models. A study with 11-18-year-olds found that adverts or 'pop-ups' for pornographic content appeared on film streaming, sports streaming and gaming services. In the Revealing Reality study, an 18-year-old girl reported that she first saw pornography accidentally in a pop-up on a video streaming site, when she was 14.<sup>230</sup> Although these adverts are likely to be 'paid-for' advertising rather than user-generated content, there is a risk that they will direct children to pornographic user-generated content on the service. In the example cited above, the participant who first saw pornography accidentally in a pop-up on a video streaming site, at age 14, explained that she had not searched for it at the time, but after talking to her cousin about pornography when she was 15, she looked it up herself.<sup>231</sup>

<sup>&</sup>lt;sup>228</sup> Note: This paper references multiple academic and clinical studies from which the authors' conclusions are drawn. Source: Sharpe, M. and Mead, D., 2021. <u>Problematic Pornography Use: Legal and Health Policy</u> <u>Considerations</u>, *Sex and Addiction*, 8, pp.556-567. [accessed 22 January 2025].

<sup>&</sup>lt;sup>229</sup> The report by campaign organisation Centre to End All Sexual Exploitation (CEASE) argues porn sites are "incentivised to make access as easy as possible (including for children) to keep the process of uploading video content friction-free and to minimise moderation", referencing Fully Human (Hanson, E.), 2021. <u>Pornography</u> <u>and human futures</u>. [accessed 28 March 2025]. Source: CEASE, 2021. <u>Expose Big Porn</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>230</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

<sup>&</sup>lt;sup>231</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography and Age-verification</u>.

# 3. Suicide and self harm content

Warning: this section contains references to content that may be upsetting or distressing, including detailed discussion and descriptions of suicide and self-harm and examples of suicide and self-harm content.

#### Summary: Risk of harm from suicide and self-harm content

A wide range of suicide and self-harm content exists online. In this section, we consider content which encourages, promotes, or provides instructions for suicide or an act of deliberate self-injury, and which is harmful to children ('suicide and self-harm content').

Evidence suggests that harmful suicide and self-harm content can manifest online in various forms, ranging from recovery content that could benefit some users but be harmful to others depending on the context and individual, and more explicit content that actively promotes or glorifies these behaviours.

The negative physical and psychological impacts of this type of content are well documented. In the most severe cases, exposure to this content may contribute to long-term mental health concerns, eating disorders, physical harm and death. Other negative emotional impacts can include children feeling upset, confused or frustrated following exposure to this type of content.

#### Risk factors: User base

User demographics can play a significant role in the risk of harm from content that promotes, encourages or provides instruction for suicide and self-harm. Specifically, those with **existing mental health challenges** may be more likely to engage with this content; there is evidence that it may exacerbate symptoms and be likely to increase self-harm behaviours or suicidal thoughts.

**Age** is also a risk factor. Research indicates that the risk of encountering this content online increases with children's age. Children and young adults are also more likely to experience a contagion effect: to imitate behaviours they see, and to be impulsive. This makes these age groups more vulnerable to harm from viewing suicide and self-harm content.

Children who have had certain **previous life experience of trauma**, such as bullying, are also at increased risk from encountering this content.

#### Risk factors: Service types

Due to their role in enabling children to encounter suicide and self-harm content, the following service types have been included in the Children's Risk Profiles:<sup>232</sup>

<sup>&</sup>lt;sup>232</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

social media services, video-sharing services, discussion forums and chat room services.

**Social media** and **video-sharing services** are frequently referenced as places where children encounter this content online. Content can be recommended to children on their feeds, and children actively searching for this content can find and access it.

Some **discussion forums and chat room services** are described as having little moderation, thus enabling harmful suicide and self-harm content to become more prevalent, including for children.

Other service types also play a role. On **information-sharing services**, detailed information on suicide methods can be found by children. Evidence also shows that **messaging services** are used to share harmful suicide and self-harm content including, for example, the distribution of graphic images of self-harm injuries, as well as links to websites providing instructions on how to self-harm.

#### Risk factors: Functionalities and recommender systems

**Content recommender systems**<sup>233</sup> may increase the risk of children encountering harmful content, often without actively searching for it. Children risk being recommended suicide and self-harm content alongside content that may share similar characteristics or attributes, such as general discussion, safety advice and emotional support relating to suicide and self-harm. If a child is recommended large volumes of suicide and self-harm content, this could have a cumulative negative effect on their wellbeing. Content recommender systems have therefore been included in the Children's Risk Profiles.

The evidence we have assembled has multiple examples of children encountering graphic images of self-harm that have been **posted** by others. Although the ability to post images allows children to express themselves and communicate with others, some of the images shared may be upsetting or triggering to some children, including potentially to the child who is sharing them. This content can be shared in the context of **user groups**. **User generated content searching** allows children to search **contents tags** (such as hashtags and keywords), which can enable harmful suicide and self-harm content to proliferate online and evade the content moderation techniques applied to suicide and self-harm content. Due to their role in disseminating suicide and self-harm content, **content tagging, posting images and videos, reposting or forwarding content, user groups** and **user-generated content searching** have been included in the Children's Risk Profiles.

<sup>&</sup>lt;sup>233</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and is outside the user's normal engagement pattern. The risks associated with content recommender systems are discussed in detail in Section 16: Wider contexts to understanding risk factors.

Other functionalities can contribute to the building of communities in which suicide and self-harm content is shared. Accounts with many **user connections** that share suicide and self-harm content risk validating the poster's self-harming actions and may increase the risk of posting more extreme content. **Commenting on content** enables the sharing of personal experiences related to suicide and self-harm, which may be harmful and contribute to cumulative harm. Suicide and self-harm content can also be shared via **livestreaming**, a format that attracts further engagement through commenting and group messaging functionalities. These three functionalities have also been included in the Children's Risk profiles.

Other functionalities play a role in children encountering suicide and self-harm content. For example, functionalities which allow content to be edited can also increase the likelihood of children unexpectedly encountering suicide or self-harm content online. The evidence describes examples of **visual media being edited and combined** by those posting the content, so that users encountering it may not initially realise that a video/image will contain harmful content. Both **direct** and **group messaging** can also facilitate the sharing of harmful suicide and self-harm content, such as through links to other websites, or sharing graphic self-harm-related images and/or instructions. The group messaging functionality is included in the Children's Risk Profiles.

#### Risk factors: Business models

Advertising-based business models are a risk factor for children encountering selfharm and suicide content. If children have previously engaged with this content, some services will send push notifications and emails to encourage children to continue engaging with the service provider, suggesting related content similar to that which has been viewed before.

# Introduction

- 3.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by: (a) content which encourages, promotes or provides instructions for suicide; or (b) content which encourages, promotes or provides instructions for an act of deliberate self-injury on user-to-user services (risks of harm). These kinds of content have been designated as primary priority content that is harmful to children (PPC).
- 3.2 While the wording in the Online Safety Act 2023 (the Act) refers to 'self-injury', evidence throughout the section generally refers to 'self-harm'. Some organisations have also flagged potential complexities and sensitivities regarding the use of the term 'deliberate' self-injury.<sup>234</sup> We therefore use the terms 'suicide content' or 'self-harm content' to refer to the content described above, throughout this section.
- 3.3 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the

<sup>&</sup>lt;sup>234</sup> "Deliberate self-harm: we don't use the word 'deliberate' anymore. It makes it sound as though the individual is to blame, that their self-harm was a calmly planned action rather than the result of emotional anguish or intense distress." Source: Royal College of Psychiatrists, 2020. <u>Self-harm</u>. [accessed 28 March 2025].

Children's Register of Risks. 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.

- 3.4 This section considers suicide content and self-harm content together. This reflects the evidence base, which often explores these content types together. It is also often difficult to distinguish between content that focuses solely on suicide, and content which focuses on self-harm without suicidal intent. There are similarities in how these types of harmful content manifest online, and in the risks they pose to children; in this section, we will reflect any important distinctions between suicide and self-harm content.
- 3.5 In our Guidance on Content Harmful to Children we provide guidance on identifying suicide and self-harm content, including examples of what Ofcom considers to be, or not to be, suicide and self-harm content (Sections 3 and 4 of the guidance). Examples of self-harm content include descriptions and depictions of self-harm methods, in which the method is promoted or encouraged; images and depictions of self-harm wounds; as well as challenges or dares instructing self-harm. Examples of suicide and self-harm content include descriptions and depictions of suicide or self-harm methods, instructions for suicide or selfharm methods, and content which discusses or alludes to self-harm in a normalised or romantic manner, and therefore promotes it. However, there are important nuances that services should consider in understanding suicide and self-harm content, particularly relating to content that appears to be recovery focused but may contain characteristics or appear in contexts that can be harmful to children.
- 3.6 Service providers should be aware that suicide and self-harm content varies and is not always intended to cause harm. Users who share harmful suicide or self-harm content may be experiencing mental health problems themselves and use online spaces to express their feelings and seek support by connecting with others who may be having similar experiences. However, where content encourages, promotes, or provides instruction for suicide or an act of self-harm, even when it is done as an act of self-expression or is otherwise not intended to cause harm, this content is categorised as content harmful to children in the Act. This content is considered PPC, and services need to ensure that children are prevented from accessing this content, while preserving the wider rights of adults to express themselves freely and access information.
- 3.7 Due to limitations in the evidence base available, some of the evidence described in this section relates to content that is broader than the definitions of suicide and self-harm content in the Act. Where such evidence has been included, it is to help service providers better understand suicide and self-harm content from the available evidence.
- 3.8 As part of this, the evidence we refer to may also include content that could amount to the offences of encouraging or assisting suicide or serious self-harm and be considered illegal content. For further information on what content may amount to such an offence, please refer to the <u>Illegal Content Judgements Guidance</u> (ICJG). We have considered the risks of harm to individuals presented by content on user-to-user services which may amount to these offences in the Encouraging or assisting suicide (or attempted suicide) and Encouraging or assisting serious self-harm sections in the <u>Illegal Harms Register of Risks</u> (Illegal Harms Register).

- 3.9 There are ethical and legal limitations to conducting research into this type of content, particularly among children. Research has often relied on qualitative information,<sup>235</sup> including individuals' self-reported experiences, for insights into risk factors.<sup>236</sup>
- 3.10 To build our evidence base on suicide and self-harm content, we commissioned research into children's experiences of encountering suicide, self-harm and eating disorder content as part of our preparation for regulation (see footnote for sample details).<sup>237</sup> The findings from this research are noted where relevant throughout, but we have also considered the wider landscape of the evidence available.

# How suicide and self-harm content manifests online

- 3.11 This sub-section looks at how suicide and self-harm content manifests online and how children may be at risk of harm.
- 3.12 Suicide and self-harm content varies widely and can take many different forms online. It may also have varying impacts on individuals depending on the context and a child's individual circumstances and mental state at the time of viewing the content. See the Guidance on Content Harmful to Children (Sections 3 and 4) for more detail.
- 3.13 Our research found that children and young adults aged 13-21 who had encountered content associated with suicide and self-harm had "high levels of familiarity with such content, categorising it as prolific on social media".<sup>238</sup> The content encountered by children included: awareness-raising content, people sharing stories or photos of their self-harm wounds, self-harm or suicide instructions, and graphic suicide or self-harm content embedded within unrelated video clips.<sup>239</sup>
- 3.14 Different types of content relating to suicide and self-harm can be found in the same spaces online. Although not specifically focused on children, one study found that general discussion, safety advice and emotional support can share similar spaces as graphic and potentially distressing content and can sometimes be attached to the same hashtags (see the 'Risk factors: Functionalities and recommender systems' sub-section for more information on this study and the use of hashtags more generally).<sup>240</sup>

<sup>&</sup>lt;sup>235</sup> This includes an Ofcom qualitative research project which we refer to throughout the section, which looked at children of encountering suicide, self-harm and eating disorder content online.

<sup>&</sup>lt;sup>236</sup> As noted in the <u>Illegal Harms Register</u> for "encouraging or assisting suicide (or attempted suicide) or serious self-harm offences".

<sup>&</sup>lt;sup>237</sup> This study involved speaking with 31 children and young people (aged 13-21) about their experiences of encountering this content online. The sample included some who had lived experience of eating disorders, self-harm or suicidal ideation, anxiety and depression (14 participants). Those aged 18-21 were reflecting back to their experiences as children. The study also included interviews with ten stakeholders who worked with children and young people aged 13-18 in a safeguarding capacity. Source: Ofcom, 2024. <u>Online Content:</u> <u>Qualitative Research, Experiences of children encountering online content promoting eating disorders, selfharm and suicide</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>238</sup> Adults in the sample were reflecting back to their experiences as children.

<sup>&</sup>lt;sup>239</sup> Adults in the sample were asked to reflect back to childhood. Source: Ofcom, 2024. <u>Online Content:</u> <u>Qualitative Research, Experiences of children encountering online content promoting eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>240</sup> Lavis, A. and Winter, R., 2020. <u>#Online harms or benefits? An ethnographic analysis of the positives and</u> <u>negatives of peer-support around self-harm on social media</u>, *Journal of Child Psychology and Psychiatry*, 61 (8). [accessed 28 March 2025].

3.15 These environments present several pathways to encountering suicide and self-harm content. Users may encounter the content by accident (e.g., when harmful content shares hashtags with the non-harmful content they are searching for), or by actively seeking this type of content. Other pathways may include users being exposed to harmful content despite having tried to disengage from suicide or self-harm content as a result of having previously encountered it (e.g., via content recommender systems).<sup>241</sup>

## Presence

- 3.16 Our Online Experiences Tracker found in 2024/5 that 6% of UK internet users aged 13-17 recalled seeing or experiencing content encouraging or assisting serious self-harm, and that 5% recalled seeing content encouraging or assisting suicide in the four-week period prior to the research. These rates are similar to the average across all other adult age groups,<sup>242</sup> but are lower than among those aged 18-24, of whom 10% recalled seeing self-harm content and 8% recalled seeing suicide content.<sup>243</sup> Instagram's Bad Experiences and Encounters Framework 2021 research report found that child users of Instagram were more likely to report "see[ing] someone harm themselves, or threaten to do so, on Instagram", especially those aged 13-15 (8.4%).<sup>244</sup> In 2023, a survey of children aged 9-16 conducted by Internet Matters found that just over 1 in 20 (6%) of the children surveyed self-reported encountering content promoting self-harm.<sup>245</sup>
- 3.17 Causality between suicide rates and use of social media is difficult to establish and there is not yet consensus among researchers. Some research suggests that recent increases in suicide rates, particularly among children and young adults, are linked to increases in social media use.<sup>246</sup> Other research suggests that negative experiences on social media are associated with increased risk of suicide and self-harm but that social media use is not by itself a risk factor.<sup>247</sup>
- 3.18 In the UK, suicide rates are consistently highest among individuals aged 40-54, but the most concerning upward trends since 2010 have been observed in children and young adults.<sup>248</sup> Of particular concern is the steep upward trend in the number of children aged 10-14 dying by suicide. Twenty-five 10-14 year olds died by suicide in England and Wales in 2023, following a steady upward trend over the years since 2010 (when just two individuals in this

<sup>&</sup>lt;sup>241</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>242</sup> We found that 4% of those aged over 18 recalled seeing or experiencing content encouraging or assisting serious self-harm and 3% seeing or experiencing content encouraging or assisting suicide. Source: Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>243</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>.

<sup>&</sup>lt;sup>244</sup> Instagram, 2021. <u>Bad Experiences and Encounters Framework (BEEF) Survey</u>. [accessed 6 November 2024].

<sup>&</sup>lt;sup>245</sup> Internet Matters, 2023. <u>Digital tracker survey</u>. [accessed 15 January 2024].

<sup>&</sup>lt;sup>246</sup> Memon, A. M., Sharma, S. G., Mohite, S. S., and Jain, S., 2018. <u>The role of online social networking on</u> <u>deliberate self-harm and suicidality in adolescents: A systematized review of literature</u>, *Indian Journal of Psychiatry*, 60 (4). [accessed 28 March 2025].

 <sup>&</sup>lt;sup>247</sup> Nesi, J., Burke, T. A., Bettis, A. H., Kudinova, A. Y., Thompson, E. C., MacPherson, H. A., Fox, K. A., Lawrence, H. R., Thomas, S. A., Wolff, J. C. Altemus, M. K., Soriano, S. and Liu, R.T., 2021. <u>Social media use and self-injurious thoughts and behaviors: A systematic review and meta-analysis</u>, *Clinical Psychology Review*, 87, p.102038. [accessed 16 December 2024].

<sup>&</sup>lt;sup>248</sup> Office for National Statistics, 2023. <u>Suicides in England and Wales: 2023 registrations</u>. Subsequent references to this source throughout. [accessed 28 March 2025]. Note: Data for Scotland and Northern Ireland is not available.

age group died by suicide).<sup>249</sup> Over the same time period, the suicide rate among 15-19 year olds increased by 65% (nearly two-thirds) from 3.1 per 100,000 (110 suicides) to 5.4 per 100,000 (194 suicides).<sup>250</sup>

- 3.19 There is a similar trend in rates of self-harm, with rates among younger individuals increasing more rapidly. A Nuffield Trust report found that hospital admission rates in England of patients aged 10-14 following non-suicidal self-injury increased from 124 admissions per 100,000 in the financial year 2012/13 to 307 admissions per 100,000 in 2021/22 (an increase of 148%).<sup>251</sup> Non-suicidal self-injury admissions of patients aged 15-19 increased by 37%, rising from 469 per 100,000 in 2012/13 to 642 per 100,000 in 2021/22.<sup>252</sup>
- 3.20 Young people with certain vulnerabilities such as autism or a physical illness may be at increased risk of encountering harmful self-harm and suicide content. A study exploring life online for vulnerable people noted several groups of children aged 11-17 who recalled encountering this content more often than those with no self-reported vulnerabilities.<sup>253</sup> This is explored in more detail in the 'User demographics' sub-section.

# Impacts

- 3.21 The effects of encountering suicide and self-harm content are extensive and severe. They include harm to children's wellbeing, the exacerbation of children's mental health conditions (including self-harm behaviours and suicidal ideation), and in extreme cases, death.
- 3.22 The impact of encountering this content varies according to the circumstances of the child and the context in which it is viewed, as well as the volume of content encountered. Evidence suggests that children encountering this content are likely to experience negative emotions, including upset, distress, intense anxiety, fear, and shame or guilt about their own self-harm behaviours.<sup>254</sup> A study with children aged 9-16 found that of the 6% of children who self-reported encountering content promoting self-harm, three in five (61%) said it had had a negative effect on them. Another study with children aged 12-15 found that 40% (almost half) of those who came across content promoting self-harm reported high levels of annoyance, upset or frustration.<sup>255</sup> Research conducted by Internet Matters in 2024 found that of all PPC types surveyed, on average children aged 13-17 rated viewing

<sup>&</sup>lt;sup>249</sup> Only incident counts are reported as sample size is not sufficient to produce robust population-rate statistics.

<sup>&</sup>lt;sup>250</sup> Office for National Statistics, 2023. <u>Suicides in England and Wales: 2023 registrations</u>.

<sup>&</sup>lt;sup>251</sup> Note while the figures for 2022 to 2023 are much lower, the Nuffield Trust attributes this to "[...] the change in NHS England's reporting methodology, which reclassified Same Day Emergency Care (SDEC) cases, leading to fewer admissions being recorded under the Admitted Patient Care data set." Source: Nuffield Trust, 2024. <u>Hospital admissions as a result of self-harm in children and young people</u>. [accessed 26 March 2025].
<sup>252</sup> Figures rounded to the nearest whole number.

<sup>&</sup>lt;sup>253</sup> Note: Figures cited have been taken from the narrative of the report. 'Vulnerable children' in this report refers to children with anger issues; autism; learning, speech, hearing, vision or mental health difficulties; care experiences; those with a physical illness; eating disorder; being a carer; having English as a second language; or worrying about life at home. Source: Internet Matters and Youthworks (Katz, A. and El Asam, A.), 2021. Refuge and Risk: Life Online for Vulnerable Young People. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>254</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>255</sup> Jigsaw Research, Ofcom and Information Commissioner's Office, 2020. <u>Internet users' experience of</u> <u>potential online harms: summary of survey research</u>. [accessed 28 March 2025].

pro-suicide content as having the greatest impact upon them.<sup>256</sup> The evidence demonstrates how encountering this content can contribute to adverse mental health outcomes in children, specifically increasing the risk of self-harm behaviours and suicidal ideation. Adolescence is already a time of higher vulnerability for developing mental health disorders. There are various debates on cause and effect regarding whether these thoughts are already present before encountering content,<sup>257</sup> or whether exposure to the content triggers the thoughts.<sup>258</sup>

- 3.23 A study by Samaritans and Swansea University found that children aged over 16 and adults with a history of self-harm were more likely to report that they were ten years old or younger when they first viewed self-harm or suicide content online, whereas those with no history of self-harm were more likely to report being aged over 25 at the time of first encountering this content.<sup>259</sup>
- 3.24 Our research with 13-21-year-olds found that some participants with lived experience reported having symptoms already, and then being drawn to this content, while others reported a developing or worsening of their symptoms only after encountering this content online.<sup>260</sup> Children and young people who had seen the content, as well as those with lived experience, expressed concern that encountering this type of content could be triggering, exacerbating existing mental health challenges and instigating new ones in vulnerable people. They also expressed frustration with recommender systems as a way of encountering this content. This was due to the perception that a content recommender system would register any brief interaction or negative comment on this content as an engagement or interest in it, resulting in further recommended content.<sup>261</sup>
- 3.25 Suicide and self-harm content can exacerbate mental health conditions and associated harmful behaviours by encouraging imitation of self-harm actions. Evidence suggests that

<sup>&</sup>lt;sup>256</sup> Internet Matters, 2024. <u>Protecting children from harms online: Response to Ofcom consultation.</u> [accessed 14 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>257</sup> One point of view from the evidence is that often, self-harm precedes self-harm-related internet use (rather than internet use leading to self-harm), or that offline experiences contribute to young people going online to seek this content (e.g., an argument with a parent about self-harm behaviour led one participant to seek out online communities to speak with others who would understand their point of view). Source: Lavis, A. and Winter, R., 2020. <u>#Online harms or benefits? An ethnographic analysis of the positives and negatives of peersupport around self-harm on social media</u>, *Journal of Child Psychology and Psychiatry*, 61 (8). However, as seen later in the 'Recommender systems' sub-section, there is evidence of children then being recommended further related content following their initial engagement.

<sup>&</sup>lt;sup>258</sup> While there is limited evidence focusing solely on children, a recent review looked at evidence from multiple studies, some of which included participants aged under 18. This review looked at findings from 15 studies on the potential impacts of viewing self-harm related images online, and found both harmful and protective effects. All 15 studies presented harmful effects, including being 'triggered' by the images, which may lead to normalising or escalating self-harm through sharing tips and ideas, and being encouraged to share images or compete with others. Source: Susi, K., Glover-Ford, F., Stewart, A., Bevis, R. K. and Hawton, K., 2023. <u>Research Review: Viewing self-harm images on the internet and social media platforms: systematic review of the impact and associated psychological mechanisms</u>, *Journal of Child Psychology and Psychiatry*, 64 (8). [accessed 28 March 2025].

 <sup>&</sup>lt;sup>259</sup> Samaritans, 2022. <u>How social media users experience self-harm and suicide content</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>260</sup> Lived experience includes participants with lived experience of eating disorders, self-harm, suicidal ideation, anxiety and depression. At the time of being interviewed, all young people with lived experience had been in recovery for a period of at least six months.

<sup>&</sup>lt;sup>261</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

children may be at higher risk of the 'contagion effect'. Research by 5Rights Foundation and Revealing Reality with 12-18-year-olds found that children and young adults at this age seek affirmation and attention by copying popular trends and imitating the behaviours of others.<sup>262</sup> Combined with the impulsiveness that often accompanies self-harm behaviour in adolescent years (aged 11-25),<sup>263</sup> these tendencies pose a particular risk of harm from suicide or self-harm content.

- 3.26 Children and young people with lived experience also said that they would often learn about new ways to harm themselves encountering content online.<sup>264</sup> Samaritans identifies this as 'contagion effect': content that presents self-harm and suicide behaviours (such as viral suicide and self-harm 'challenges') encouraging users to engage in harmful behaviour) may inspire other users to undertake similar acts. Samaritans identifies children and young adults up to the age of 24 as being the most susceptible to this. Certain factors affect this risk of imitation; the 'contagion effect' may be more likely when the viewer identifies similarities between themself and the original uploader of the content.<sup>265</sup> Similarly, children and young adults felt that children could be particularly affected.<sup>266</sup>
- 3.27 The evidence suggests that online communities specifically formed around experiences of mental health concerns present a significant risk of exacerbating these concerns, including self-harm and suicidal ideation. These communities may discuss recovery, without intending to cause harm. However, those engaging with these communities are often the most vulnerable, and these online spaces can often unwittingly, and potentially due to poor moderation encourage, normalise and exacerbate harmful behaviours.
- 3.28 Engaging with these communities can lead individuals to continue, or increase, their selfharm behaviours, and they may share graphic suicide and self-harm content as part of this. For example, in one study in which researchers interviewed young women over the age of 18 who used, or had used, social media to engage with self-harm content, one participant noted feeling a need to continue to post increasingly graphic images in order to maintain support from online connections.<sup>267</sup><sup>268</sup> Another study looked at self-harm images on a popular social media site, and found that images that depicted more severe wounds received more comments.<sup>269</sup>
- 3.29 Other evidence reports how these online communities can feel competitive. In Ofcom research among 7-17-year-olds, a 16-year-old participant recalled her initial excitement when she engaged with an online community focused on mental health. She described how

<sup>&</sup>lt;sup>262</sup> This was a qualitative study with 21 children and young people aged 12-18 across the UK. Source: 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>263</sup> Lockwood, J., Daley, D., Townsend, E., and Sayal, K., 2016. <u>Impulsivity and self-harm in adolescence: a</u> <u>systematic review</u>, *European Child & Adolescent Psychiatry*, 26. [accessed 28 March 2025].

<sup>&</sup>lt;sup>264</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>265</sup> Samaritans, 2022. <u>Towards a suicide-safer internet</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>266</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

 <sup>&</sup>lt;sup>267</sup> Lavis, A. and Winter, R., 2020. <u>#Online harms or benefits? An ethnographic analysis of the positives and negatives of peer-support around self-harm on social media</u>, *Journal of Child Psychology and Psychiatry*, 61 (8).
 <sup>268</sup> The participants interviewed were young adults aged over 18. However, the evidence has been included as children may also be able to access these same online communities.

<sup>&</sup>lt;sup>269</sup> Brown, R. C., Fischer, T., Goldwich, A. D., Keller, F., Young, R. and Plener, P. L., 2018. <u>#cutting: Non-suicidal</u> <u>self-harm (NSSI) on Instagram</u>. [accessed 28 March 2025].

this validated her experiences and reassured her that others were experiencing similar challenges. However, she later felt that these spaces were prolonging her mental health conditions, as certain spaces were "competitive", with people trying to "outdo each other" in terms of how much they were struggling.<sup>270</sup>

- 3.30 This competitiveness can be experienced directly in relation to self-harm behaviours. A study of 16-24-year-olds from Wales with histories of self-harm behaviour found that among those who had previously uploaded self-harm pictures online, some appeared to have been encouraged by the wider online self-harm community to cause more severe harm to themselves; for example, being told that their injuries were not deep enough.<sup>271</sup> Others reported comparing their self-harm acts to others online. One participant said she would look at herself in the mirror and say, "that's not nearly good enough" (in relation to the severity of her self-harming).<sup>272</sup> There is a coded lexicon which is used online to describe and depict depth of self-harm injuries, which can lead to users encouraging or challenging themselves or others to carry out more severe injuries.<sup>273</sup> More recent research demonstrates the continued usage of this lexicon. In August 2022, researchers analysed content with known self-harm related hashtags posted to X and found a growing community of accounts mutually promoting and encouraging self-harm on the service.<sup>274</sup>
- 3.31 In extreme cases, suicide and self-harm content has been linked to children taking their own lives. For example, the Coroner's inquest report on Molly Russell, who took her own life aged 14 in 2017, attributed the impact of online content to her death, stating, "Molly Rose Russell died from an act of self-harm whilst suffering from depression and the negative effects of on-line content".<sup>275</sup> In particular, the cumulative impact and risk of harm amounting from sustained exposure to suicide and self-harm content propagated by recommender algorithms was noted in the Coroner's report.
- 3.32 Evidence suggests that suicide content contributes to cases of child suicide in the UK. A report which looked at deaths by suicide of children and young adults aged 10-19 in the UK (based on national mortality data between 2014 and 2016) found that almost a quarter (24%) of these children and young adults were known to have had "suicide-related online experiences" (including actions such as searching the internet for information on suicide methods, visiting websites that may have encouraged suicide, and communicating suicidal ideas online).<sup>276</sup> This included just over one in ten (13%) who had searched the internet for

<sup>273</sup> We have deliberately omitted examples or descriptions of these codewords here to protect readers.
 <sup>274</sup> Note: This study is publicly available online, but we have chosen to remove the hyperlink to this study due to it containing highly distressing images. Source: Network Contagion Research Institute, 2022. Online Communities of Adolescents and Young Adults Celebrating, Glorifying, and Encouraging Self-Harm and Suicide are Growing Rapidly on Twitter. [accessed 10 October 2024]. Subsequent references to this source throughout.
 <sup>275</sup> Coroner's Service, 2022. <u>Regulation 28 Report to Prevent Future Deaths following the death of Molly</u>

Russell. [accessed 26 March 2025]. Subsequent references to this source throughout.

 <sup>&</sup>lt;sup>270</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 5 February 2025].
 <sup>271</sup> Jacob, N., Evans, R., and Scourfield, J., 2017. <u>The influence of online images on self-harm: A qualitative</u> study of young people aged 16-24, *Journal of Adolescence*, 60 (1). [accessed 13 October 2023]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>272</sup> Jacob et al., 2017. <u>The influence of online images on self-harm: A qualitative study of young people aged</u> <u>16-24</u>, *Journal of Adolescence*, 60 (1).

<sup>&</sup>lt;sup>276</sup> Note that the authors flag that this may be an under-estimate as suicide-related internet use is not always documented and causal links cannot always be identified. Source: Rodway, C., Tham, S. G., Richards, N., Ibrahim, S., Turnbull, P., Kapur, N. and Appleby, L., 2022. <u>Online harms? Suicide-related online experience: a</u> <u>UK-wide case series study of young people who die by suicide</u>, *Psychological Medicine*, 54, pp.4434-4445. [accessed 28 March 2025]. Subsequent references to this source throughout.

information on suicide methods. Of those, just under a third (31%) died by a method they had previously searched on the internet. Similarly, a study analysing the case data of 1,513 individuals presenting to one of two Bristol hospitals following self-harm between 2013 and 2015 found that over one quarter (26%) of children reported experiencing "suicide related internet use"<sup>277</sup> prior to admission, compared to fewer than one in ten (8.4%) of adults.<sup>278</sup> Other evidence suggests that young people may be particularly vulnerable to imitating suicides that they see in the media.<sup>279</sup> This suggests that the presence online of details of suicide methods can, at the very least, act as a source of information for subsequent method choice.<sup>280</sup>

3.33 In other well-known and tragic cases of children taking their own lives in the UK, Ofcom received evidence from bereaved parents about the risks and harm caused by suicide content online.<sup>281</sup>

# **Evidence of risk factors on user-to-user services**

3.34 We consider that the risk factors below are likely to increase the risk of harm to children relating to suicide and self-harm content. This is also summarised in the summary box at the start of this section.

## **Risk factors: Service types**

3.35 Research indicates that the following service types can increase the risk of suicide and selfharm content manifesting online: social media and video-sharing services, messaging services, gaming services, discussion forums and chat rooms, information-sharing services and generative artificial intelligence (GenAI) chatbots.

#### Service type

#### Social media and video-sharing services

- 3.36 The evidence suggests that social media and video-sharing services are a space where children encounter harmful suicide and self-harm-related content.<sup>282</sup>
- 3.37 Several studies demonstrate the availability of this content to children on social media services as well as video-sharing services. Research by 5Rights Foundation and Revealing

<sup>&</sup>lt;sup>277</sup> In this study, suicide-related internet use (SRIU) is composed of the following recorded activities, percentages are of those that engaged in any SRIU activity: obtaining information on suicide methods (68.9%), visited pro-suicide websites (32.9%), communicated suicidality online (15.9%), other SRIU including purchasing means of suicide online (9.2%). Percentages do not add up to 100% because many individuals engaged in more than one activity. During psychosocial assessment by the liaison psychiatry team, 1,198 adults and 315 child patients were asked about their internet use.

<sup>&</sup>lt;sup>278</sup> Note: The children were aged 8-18. Source: Padmanathan, P., Biddle, L., Carroll, R., Derges, J., Potokar, J. and Gunnell, D., 2018. <u>Suicide and Self-Harm Related Internet Use</u>, *Crisis*, 39 (6), pp.469-478. [accessed 28 March 2025].

<sup>&</sup>lt;sup>279</sup> A comprehensive review of 108 studies found strong evidence that publication of real and fictional suicides in media can cause suicide levels to increase. This is known as the 'Werther effect' or 'copycat suicides'. Additionally, the review identified that younger people were found to be particularly vulnerable to suicide imitation. Source: Domaradzki, J., 2021, <u>The Werther Effect, the Papageno Effect or No Effect? A Literature</u> <u>Review?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>280</sup> Rodway et al., 2022. <u>Online harms? Suicide-related online experience: a UK-wide case series study of young people who die by suicide</u>. *Psychological Medicine*, 54, pp.4434-4445.

<sup>281 [%]</sup> 

<sup>&</sup>lt;sup>282</sup> The term 'social media' in some evidence may include services that are notified video-sharing platforms.

Reality involved the use of avatar accounts (proxy children's profiles created on social media to mimic the age, interests and behaviours of real children). The report included screenshots of deliberate self-harm, and posts demonstrating suicidal ideation that the 13-year-old avatar account received as a result of searching for 'suicide' on a video-sharing service.<sup>283</sup>

- 3.38 Similarly, another study reported several types of suicide and self-harm content being accessible to child accounts (set at age 13), including user-generated content discussing desires or plans to attempt suicide, methods for hiding suicide attempts, and videos about self-harm.<sup>284</sup> Refer to the sub-section 'Recommender systems' within this section for more detail on how children's engagement with certain kinds of content can increase the risk of children encountering suicide and self-harm content.
- 3.39 Other functionalities common on social media and video-sharing services contribute to the risk of harm. Evidence suggests that video content can often be combined and edited to produce content promoting suicide and self-harm (refer to the sub-section 'Editing visual media and combining content' within this section for more detail). It is likely that such content is being shared on video-sharing services.
- 3.40 The forming of communities on social media services can also present a risk; an evidence review found that social media services have been noted as spaces where some users discuss suicidal ideation and plans.<sup>285</sup> Self-harm communities are reported to gather around particular keywords and tags of content. See the sub-section 'Content tagging' within this section for more detail.

#### **Messaging services**

3.41 Messaging services may be used to distribute suicide and self-harm content, and this can include the sharing of graphic content. Young people with lived experience of a mental health difficulty reflected that for children, the sharing of harmful content (such as graphic self-harm content) typically occurs on messaging services within closed groups.<sup>286</sup>

#### **Gaming services**

3.42 Children can encounter self-harm or suicide content through messages on gaming services. In a helpline insight briefing for the National Society for the Prevention of Cruelty to

<sup>&</sup>lt;sup>283</sup> Note: The research involved setting up a series of avatars, which were profiles set up on social media apps that mimicked the online profiles of real children who took part in the interviews for this project. The age of the real child was used to register the profile and displayed in the bio of the user account. Source: 5Rights Foundation, 2021. <u>Pathways: How digital design puts children at risk</u>.

<sup>&</sup>lt;sup>284</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows (13 years old). These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. Source: Center for Countering Digital Hate (CCDH), 2022. <u>Deadly By Design: TikTok pushes harmful content promoting eating disorders and self-harm into users' feeds</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.
<sup>285</sup> NatCen and City, University of London, 2022. <u>Content and activity that is harmful to children within scope of the Online Safety Bill – A Rapid Evidence Assessment</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>286</sup> The young people aged 18 and over who participated in the research were reflecting back on their experiences during childhood. Source: Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content promoting eating disorders, self-harm and suicide.</u>

Children (NSPCC), an example was provided of a 14-year-old child contacting the helpline about receiving self-harm messages in an online game.<sup>287</sup>

#### Discussion forums and chat room services

- 3.43 Discussion forums and chatroom services present a particular risk for suicide and self-harm content. These spaces can be used to share graphic images or detailed information on methods, or act as spaces where self-harm or suicidal behaviours are intentionally encouraged. Therefore, some of the content within such forums may also be illegal.<sup>288</sup>
- 3.44 Some evidence suggests that harmful self-harm and suicide content may be shared within online communities in dedicated sub-groups within more general discussion services. These are often perceived to have little outside moderation, and therefore it is perceived to be easier to find or encounter harmful content on them.<sup>289</sup> See the sub-section 'User groups' within this section.
- 3.45 Discussion forums have been linked to incidences of death by suicide. One suicide forum site has been linked to at least 50 UK deaths (with the youngest individual being aged 17).<sup>290</sup> Specific inquests also highlight the risk posed by discussion forums. In the Regulation 28 Report to Prevent Future Deaths following the inquest into the death of Bronwen Morgan, who took her own life, the Coroner set out that Ms Morgan (referred to in the report as 'BM') "had registered with, and was engaging in discussion forums" which "encompassed her discussing and seeking advice from fellow users in respect of, methods of self-harm/suicide including the purchasing and use of the substance... used by BM which led to her death".<sup>291</sup> Although Ms Morgan was an adult, this case demonstrates the risk to children from this service type should they try and seek harmful information about specific methods for suicide and deliberate self-harm.<sup>292</sup>
- 3.46 Suicide and self-harm content can also be encountered in forums discussing seemingly unrelated topics. For example, the NPSCC reported a case in which a 17-year-old child was being sent messages and images by a stranger in a gaming group on a discussion forum. The stranger disclosed that they "liked" to self-harm, and then sent unsolicited, graphic images of self-harm injuries. The parent explained that their child had been having trouble sleeping since encountering the content.<sup>293</sup>

<sup>&</sup>lt;sup>287</sup> This case study describes how the person in the game was unknown to the child, and began leaving messages in the game chat threatening that they were going to self-harm. The child explained that the messages were making them feel uncomfortable and she had asked the person to stop, but the person continued. She felt as though they were trivialising self-harm in the communication, which she found triggering, as she had struggled with self-harm in the past. Source: NSPCC Learning, 2022. <u>Children's experiences of legal but harmful content online</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>288</sup> Ofcom, 2024. ICJG. [accessed 5 February 2025].

<sup>&</sup>lt;sup>289</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>290</sup> Crawford, A. and Smith, T., 2023. <u>'Failure to act' on suicide website linked to 50 UK deaths</u>, BBC, 24 October. [accessed 28 March 2025].

<sup>&</sup>lt;sup>291</sup> Coroner's Office, 2023. <u>Regulation 28 Report to Prevent Future Deaths following the death of Bronwen</u> <u>Morgan</u> [accessed 5 December 2023]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>292</sup> Coroner's Office, 2023. <u>Regulation 28 Report to Prevent Future Deaths following the death of Bronwen</u> <u>Morgan.</u>

<sup>&</sup>lt;sup>293</sup> NSPCC Learning, 2022. <u>Children's experiences of legal but harmful content online</u>.

#### Information-sharing services

3.47 Evidence suggests that children may access detailed information on self-harm and suicide methods via information-sharing services. In response to our 2023 Protection of Children Call for Evidence (2023 CFE), PAPYRUS (a national charity dedicated to the prevention of young suicide) stated that an online encyclopaedia site contained detailed information on suicide methods, easily accessible by children. They said that this included suicide instructions that were based on the height and weight of users, also mentioning "pain rating".<sup>294 295</sup>

#### Generative artificial intelligence chatbots

1.1 There is emerging – albeit currently limited – evidence to indicate that GenAI chatbots can engage in self-harm and suicide dialogue, even where unsolicited.<sup>296,297</sup> GenAI chatbots have recently been linked to two deaths, and in both cases it has been suggested that the individuals involved had developed harmful dependencies on a chatbot.<sup>298,299</sup> In one case, a 14-year-old boy died by suicide after having conversations about suicide with a chatbot emulating the personality of a popular character from a television series. The legal case documents cite evidence that "on at least one occasion, when [the boy] expressed suicidality to [the chatbot], [it] continued to bring it up".<sup>300</sup>

## **Risk factors: User base**

#### User base size

1.2 Services with both large and small user bases pose risks in relation to suicide and self-harm content. For example, the larger a service's user base, the greater the number of people who are likely to encounter content, particularly where it is amplified through recommender systems, meaning that content can receive substantial amounts of engagement.<sup>301</sup> This, in turn, heightens the risk of the 'contagion effect' (as referred to in the 'Impacts' sub-section within this section). Meanwhile, services with a small user base may be more likely to foster the sharing of more niche or specialised content, which could include suicide or self-harm content.

<sup>&</sup>lt;sup>294</sup> <u>PAPYRUS</u> response to 2023 CFE. [accessed 5 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>295</sup> Samaritans states that "a death by suicide should never be portrayed as quick, easy, effective or painless, or include comments that suggest suicide as a 'solution'". Source: Samaritans, 2022. <u>Guidance for reporting on</u> <u>self-harm and suicide content online</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>296</sup> A study based on user testing of two AI chatbots found cases of the chatbots making references to selfharm with minimal or no prompting. Source: Voicebox, 2023. <u>Coded companions: Young People's</u> <u>Relationships With AI Chatbots</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>297</sup> De Freitas, J., Uguralp, A. K., Uguralp, Z. and Puntoni, S., 2023. <u>Chatbots and Mental Health: Insights into the</u> <u>Safety of Generative AI</u>. [accessed 18 December 2024].

<sup>&</sup>lt;sup>298</sup> Xiang, C., 2023. <u>'He Would Still Be Here': Man Dies by Suicide After Talking with AI Chatbot, Widow Says</u>, Vice, 30 March. [accessed 18 December 2024].

<sup>&</sup>lt;sup>299</sup> Rissman, K., 2024. <u>Teenager took his own life after falling in love with AI chatbot. Now his devastated mom</u> <u>is suing the creators</u>. The Independent, 24 October. [accessed 7 November 2024].

<sup>&</sup>lt;sup>300</sup> Garcia, M. L., 2024. <u>Complaint: Garcia v. Character Technologies, Inc. et al.</u>, United States District Court, Middle District of Florida. [accessed 7 November 2024].

<sup>&</sup>lt;sup>301</sup> Of the participants interviewed, the most common pathway for children initially encountering this content was on recommended feeds on social media. Source: Ofcom, 2024. <u>Online Content: Qualitative Research,</u> <u>Experiences of children encountering online content promoting eating disorders, self-harm and suicide</u>.

#### User demographics and circumstances

- 3.48 The following sub-section outlines key evidence of user base demographic factors and risks of harm to children, which can include protected characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 3.49 Data suggests that user base characteristics including **age**, **gender**, **mental health** and **disability** could lead to an increased risk of harm to individuals. Socio-economic factors and **user circumstances**, including personal circumstances and experiences such as being bullied, have been identified as risk factors for encountering this content.
- 3.50 Children with marginalised identities and those experiencing mental health difficulties are at elevated risk of victimisation by sextortion and self-harm coercion networks, who pose a severe risk to children through a systematic approach of online exploitation and abuse.<sup>302</sup> Members of these networks target vulnerable children who are more socially isolated and less likely to seek help. This is achieved by contacting child users of online groups and communities centred on subjects that indicate mental health difficulties or marginalised identity. The online groups and communities whose users are targeted by these networks include those centred on the sharing of suicide and self-harm content, and other PPC, primary content and non-designated content.<sup>303 304</sup> After identifying vulnerable users, members of these networks seek "fame" by coercing victims into self-harm, sexual acts, harm to animals, and random violence.<sup>305</sup> The central and most harmful activities of these networks therefore amount to illegal harms, including child sexual abuse offences and intentionally encouraging suicide and serious self-harm, which are discussed in detail in the <u>Illegal Harms Register</u>.

#### Age

- 3.51 Research indicated that the risk of encountering harmful suicide and self-harm related content increases with age. It is highest for those in their early teens and those approaching adulthood. Evidence also indicates that children are likely to be affected differently by this content at different ages.
- 3.52 The likelihood of encountering this content (particularly self-harm content) increases as children get older. A survey study conducted in 2010 across 25 European countries (including the UK) found that, in the previous 12-month period, self-harm content had been encountered by 4% of 11-12-year-olds, 7% of 13-14-year-olds, and 10% of 15-16-year-olds.

<sup>&</sup>lt;sup>302</sup> Note: This source is an insights piece from the academic research initiative, The Global Network on Terror and Extremism. While there is limited information provided on the methodology, the authors reviewed court records, public chat logs and social media accounts linked to members of the sextortion networks 09A and 764. Source: Global Network on Extremism and Technology, 2024. <u>764: The Intersection of</u> <u>Terrorism, Violent Extremism, and Child Sexual Exploitation</u>. [accessed 5 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>303</sup> Crawford, A. and Smith. T., 2025. <u>Abuse terror warning as 'Satanist' teenager jailed</u>, BBC, 16 January. [accessed 17 January 2025].

<sup>&</sup>lt;sup>304</sup> Global Network on Extremism and Technology, 2024. <u>764: The Intersection of Terrorism, Violent Extremism,</u> <u>and Child Sexual Exploitation</u>.

<sup>&</sup>lt;sup>305</sup> Global Network on Extremism and Technology, 2024. <u>764: The Intersection of Terrorism, Violent Extremism,</u> <u>and Child Sexual Exploitation</u>. [accessed 5 February 2025].

Content showing suicide methods had been seen by 3% of 11-12-year-olds, 5% of 13-14-year-olds and 6% of 15-16-year-olds.  $^{\rm 306\ 307}$ 

- 3.53 Actual reported suicide rates among young people in England suggest that older children are particularly vulnerable to harm from encountering suicide or self-harm content. In 2014-2015, the highest number of suicides among individuals under 20 occurred in the 18-19 age group. Among the children who had died by suicide, the number of suicides was highest among those aged 17.<sup>308</sup>
- 3.54 Certain ages present a particular risk of mental health conditions due to physiological and psychological changes. Developmental stages and associated risk are explored in Section 17: Recommended age groups. Evidence linking specific developmental stages with risk of harm from suicide and self-harm content is set out in this sub-section about user age.
- 3.55 In the inquest into the death of Molly Russell, child psychiatrist Dr Navin Venugopal explained that children, especially girls, around the age of 14 are at an increased risk of harm from encountering suicide and self-harm content. This is linked to increased risk of anxiety and depression, following changes in hormones from puberty and increased sensitivity to stress hormones "specifically in the pre-frontal cortex to oestrogen... along with development of identity, being more aware of the body's changes, interests, etc."<sup>309</sup>
- 3.56 A report by Barnardo's identified the age of 17-19 as a key developmental stage when young people use social media to measure self-worth while also facing social pressures.<sup>310</sup> Practitioners raised concerns for this age group regarding non-sexual grooming, such as around the promotion of self-harm or suicide.

#### Gender

3.57 Girls have an increased likelihood of encountering content promoting self-harm and suicide online. Our Online Experiences Tracker found that 7% of girls aged 13-17 recalled seeing or experiencing content encouraging or assisting serious self-harm in a four-week period, compared to 4% of boys aged 13-17, and that girls were also more likely than boys to encounter content encouraging or assisting suicide (6% vs 4%, although this difference is not statistically significant).<sup>311</sup>

<sup>&</sup>lt;sup>306</sup> Livingstone, E., Haddon, L., Görzig, A. and Ólafsson, K., 2011. <u>Risks and safety on the internet: the</u> <u>perspective of European children: full findings and policy implications from the EU Kids Online survey of 9–16-</u> <u>year-olds and their parents in 25 countries</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>307</sup> Although this research was conducted in 2010, it had a large base size of 25,142 children. There is also limited further evidence to highlight prevalence of encountering this content across different age groups of children.

<sup>&</sup>lt;sup>308</sup> Rodway, C., Tham, S. G., Ibrahim, S., Turnbull, P., Windfuhr, K., Shaw, J., Kapur, N., and Appleby, L., 2016. <u>Suicide in children and young people in England: a consecutive case series</u>, *Lancet*, 3 (8). [accessed 28 March 2025].

<sup>&</sup>lt;sup>309</sup> Coroner's Office, 2022. Transcript of the inquest into Molly Russell's death. Please see the published inquest report for more findings. Source: Coroner's Service, 2022. <u>Regulation 28 Report to Prevent Future</u> <u>Deaths following the death of Molly Russell</u>.

<sup>&</sup>lt;sup>310</sup> Barnardo's, 2019. <u>Left to their own devices: Young people, social media and mental health</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>311</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>.

3.58 A research paper on adolescent digital experiences, which included a review of the existing evidence, also suggested that much of the evidence in this area indicates that girls are more likely than boys to encounter self-harm online content.<sup>312</sup>

#### Mental health

- 3.59 Mental health difficulties present a significant risk factor for serious harm from encountering suicide and self-harm content. Indeed, evidence suggests that those with mental health difficulties are more likely to encounter and engage with this content.
- 3.60 Children with existing mental health conditions are significantly more likely to encounter suicide or self-harm content. Our Online Experiences Tracker data found that, of children aged 13-17 with a self-reported mental health condition, 14% had seen online content promoting self-harm and 9% recalled seeing online content promoting suicide in the fourweek period prior to the research. For children with no self-reported limiting or impacting condition, 3% reported seeing online self-harm content and 4% suicide content online.<sup>313</sup>
- 3.61 Our research also found that participants with lived experience of mental health difficulties were more likely to actively seek out and engage with harmful suicide, self-harm and eating disorder content, as well as generating and sharing their own content online. By contrast, those without lived experience of a mental health difficulty tended to report encountering this type of harmful content passively, for example, in recommended content feeds.<sup>314</sup>
- 3.62 Other cases demonstrate the heightened risk that young people with mental health conditions will carry out harmful, sometimes tragic, acts after encountering suicide and self-harm content. In an Ofcom study with 7-17-year-olds, a 17-year-old female participant with a history of adverse mental health (including self-harm) reported deleting her account on a social media service after realising that the content she was seeing on her feed was further harming her and was reinforcing her self-harm behaviour.<sup>315</sup>
- 3.63 In its response to our 2023 CFE, the Molly Rose Foundation<sup>316</sup> reported the cumulative impacts that suicide and self-harm content can have on those already struggling with their mental health.<sup>317</sup> In response to Molly Russell's death, the Coroner in the Prevention of Future Deaths report stated, "It is likely that the above material [online content] viewed by Molly, already suffering with a depressive illness and vulnerable due to her age, affected her mental health in a negative way and contributed to her death in more than a minimal way." <sup>318</sup>

<sup>&</sup>lt;sup>312</sup> Stoilova, M., Edwards, C., Kostyrka-Allchorne, K., Livingstone, S. and Sonuga-Barke, E., 2021. <u>The impact of digital experiences on adolescents with mental health vulnerabilities: a multimethod pilot study</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>313</sup> Note: The term 'limiting and impacting condition' include conditions that affect or limit daily activity or work, such as poor hearing, vision or mobility; this also includes mental health conditions. Source: Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>.

<sup>&</sup>lt;sup>314</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>315</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>316</sup> A suicide prevention charity set up in memory of teenager Molly Russell.

<sup>&</sup>lt;sup>317</sup> <u>Molly Rose Foundation</u> response to 2023 CFE.

<sup>&</sup>lt;sup>318</sup> Coroner's Service, 2022. <u>Regulation 28 Report to Prevent Future Deaths following the death of Molly</u> <u>Russell</u>.

#### Disabilities

- 3.64 Children with 'offline' indicators of increased vulnerability,<sup>319</sup> including those who require professional support with a mental or physical health need, are more likely to experience online harms. According to a survey conducted by Internet Matters, this disparity is especially pronounced in rates of exposure to self-harm and pro-suicide content.<sup>320</sup> Just under 3 in 20 (13%) children with indicators of increased vulnerability are exposed to self-harm content, which is more than twice the rate of exposure for children without those indicators (6%). Similarly, 10% of children with indicators of increased vulnerability report exposure to pro-suicide content, 2.5 times the rate of exposure than that of children without indicators of vulnerability (4%).
- 3.65 There is also some evidence to suggest that children with autism are more likely to encounter this type of content. A study exploring vulnerable people's life online found that young people with autism were more likely to see content promoting self-harm (31% vs 9% of young people with no listed vulnerabilities).<sup>321</sup> Evidence suggests adults diagnosed with Asperger's syndrome, a form of autism, are at an increased risk of suicidal thoughts and behaviours compared to the general UK population.<sup>322</sup>
- 3.66 The study by Internet Matters also reported that 16% of children who are experiencing long-term physical illness reported seeing self-harm content "often" and roughly the same proportion (17%) reported seeing content about suicide.<sup>323</sup> It also reported that 37% of those with speech difficulties had said they had seen content about suicide at least "once or twice".<sup>324</sup>

#### Socio-economic factors and user circumstances

3.67 There is also some evidence to suggest that children in vulnerable circumstances are more likely to encounter suicide or self-harm content. A study among 11-17-year-olds reported that children who had experienced being in care were more likely to see content promoting

<sup>&</sup>lt;sup>319</sup> Internet Matters define 'vulnerable' children as those "who receive special education needs (SEN) support and/or, who have an education, health and care plan (EHCP), indicating a significant level of SEND, and/or, who have a mental or physical health need which requires professional support". Note: The abbreviation 'SEND' refers 'special educational needs and disabilities. Source: Internet Matters, 2024. <u>Protecting children</u> from harms online: Response to Ofcom consultation.

<sup>&</sup>lt;sup>320</sup> Internet Matters, 2024. Protecting children from harms online: Response to Ofcom consultation

<sup>&</sup>lt;sup>321</sup> Note: Figures cited have been taken from the narrative of the report. See Table 1 for the full list of different vulnerabilities in the survey. Source: Internet Matters and Youthworks (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk: Life Online for Vulnerable Young People</u>.

<sup>&</sup>lt;sup>322</sup> This analysis of clinical survey data was with adults in England with newly diagnosed with Asperger's syndrome between 2004 and 2013. The study found that 66% of respondents with Asperger's syndrome self-reported suicide ideation and 35% self-reported plans or attempts at suicide. It concluded that adults with Asperger's syndrome were significantly more likely to report lifetime experience of suicidal ideation than individuals from a general UK population sample. Source: Cassidy, S., Bradley, P., Robinson, J., Allison, C., McHugh, M. and Baron-Cohen, S., 2014. <u>Suicidal ideation and suicide plans or attempts in adults with Asperger's syndrome attending a specialist diagnostic clinic: a clinical cohort study</u>, *Lancet Psychiatry*, 1 (2), pp.142-147. [accessed 11 February 2025].

<sup>&</sup>lt;sup>323</sup> Note: Figures cited have been taken from the narrative of the report. Source: Internet Matters and Youthworks (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk: Life Online for Vulnerable Young People</u>. <sup>324</sup> Note: Figures cited have been taken from the narrative of the report. Source: Internet Matters and Youthworks (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk: Life Online for Vulnerable Young People</u>.

self-harm (more than 3 in 20 (16%) children in care reporting seeing self-harm content vs almost one in ten (9%) young people with no listed vulnerabilities).<sup>325</sup>

- 3.68 Children who have had certain adverse experiences may also be at greater risk from this type of content. Those with previous trauma (bullying or difficult personal relationships) may be at greater risk of encountering or engaging with suicide and self-harm content or behaviours.
- 3.69 Victims of cyberbullying have been found to be at greater risk of both self-harm and suicidal behaviour than non-victims.<sup>326</sup> A UNICEF report suggests that bullying is associated with self-harm, and viewing online content related to suicide and self-harm.<sup>327</sup> Another US study found that those who were bullied were significantly more likely to say they had engaged in digital self-harm.<sup>328</sup>
- 3.70 A lack of close personal relationships may also be a risk factor for encountering this type of content. A UNICEF report found that having friends may act as a protective factor for some young people. For others, closeness to family members was a substantial protective factor, whereas living without parents could be a risk factor. However, UNICEF warns that the evidence on protective factors was limited and requires further research.<sup>329</sup>

# **Risk factors: Functionalities and recommender systems**

#### **User identification**

#### Fake user profiles

- 3.71 Fake user profiles used by those posting content can increase the risk of children encountering harmful suicide and self-harm content.
- 3.72 There are case examples in which false identities have been used to encourage others to take their own lives. For example, a study of 11-to-25-year-olds in West Yorkshire reported an account by a participant who had turned to an online community intended to offer support, and began speaking to someone who claimed to be the mother of someone who had died by suicide. This individual then tried to encourage the participant to take their own life, using the method that their child had allegedly used.<sup>330</sup> We note that encouraging or assisting the suicide or attempted suicide of another person (with the intent to encourage or assist suicide or an attempt of suicide) is likely to be an illegal offence. See the

 <sup>&</sup>lt;sup>325</sup> Note: Figures cited have been taken from the narrative of the report. Source: Internet Matters and Youthworks (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk: Life Online for Vulnerable Young People</u>.
 <sup>326</sup> Research has suggested that all adolescents involved in cyberbullying are psychologically vulnerable, adding that cyberbullying victims are perhaps the most vulnerable group, and arguably the most in need of support for various psychological problems. Source: Görzig, A., 2016. <u>Adolescents' viewing of suicide-related web-content and psychological problems</u>: differentiating the roles of cyberbullying involvement, *Cyberpsychology, Behaviour and Social Networking*, 19 (8). [accessed 28 March 2025].

<sup>&</sup>lt;sup>327</sup> UNICEF, 2021. <u>Investigating Risks and Opportunities for Children in a Digital World: A rapid review of the</u> <u>evidence on children's internet use and outcomes.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>328</sup> A US study focused on adolescent's experiences of digital self-harm (aged 12-17) found a link between digital self-harm and bullying. Source: Patchin, J. W. and Hinduja, S., 2017. <u>Digital Self-Harm Among</u> <u>Adolescents</u>, *Journal of Adolescent Health*, 61 (6). [accessed 28 March 2025].

<sup>&</sup>lt;sup>329</sup> UNICEF, 2021. <u>Investigating Risks and Opportunities for Children in a Digital World: A rapid review of the</u> <u>evidence on children's internet use and outcomes</u>.

<sup>&</sup>lt;sup>330</sup> Social Finance, n.d. <u>Social media, psychological harm and violence among young people</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<u>ICJG</u> (see Section 13: Encouraging or assisting suicide). This example demonstrates that false identities can be used to create personas that child users would be likely to relate to and be influenced by.

#### User networking

#### User connections

- 3.73 Some users who engage with content (including posting) focused on self-harm can have large numbers of user connections (such as followers).
- 3.74 The evidence notes that such users may see the large number of user connections as validation of their self-harming actions, making it more difficult for them to disengage with the harmful content, hindering their recovery and encouraging further sharing of content of this nature.<sup>331</sup>
- 3.75 Our research found that children and young adults encountered content relating to suicide (although less frequently than content promoting self-harm or eating disorders) through following certain celebrities or influencers whose communities of followers would discuss and actively engage with the issue.<sup>332</sup>
- 3.76 An increase in user connections may also increase the risk of a user posting harmful content. A participant in a UK study<sup>333</sup> said that the content they had posted transitioned to self-harm images as they gained more followers.<sup>334</sup>

#### User groups

- 3.77 The ability to create user groups can increase the risk of harmful suicide and self-harm content being shared among children. In its response to our 2023 CFE, PAPYRUS stated that there are several known user groups on social media services where members talk about ending their lives. They claim that, while some members within these spaces will encourage users to seek support, others will encourage the user to end their lives.<sup>335</sup>
- 3.78 Our research identified examples of content being shared and forwarded among children within user groups on social media services. Examples included images of self-harm wounds being shared within user groups, and discussion of self-harm methods.<sup>336</sup>
- 3.79 Some evidence suggests that harmful self-harm and suicide content may be shared within dedicated sub-groups, especially on discussion forum services. These are sometimes reported to be 'self-regulating' with little perceived outside moderation.<sup>337</sup> Therefore, finding or encountering harmful content on them may be perceived as being easier.

 <sup>&</sup>lt;sup>331</sup> Royal College of Psychiatrists, 2014. <u>Managing self-harm in young people</u>. [accessed 28 March 2025].
 <sup>332</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>333</sup> This study was done among adults reflecting on previous experiences.

<sup>&</sup>lt;sup>334</sup> Biddle, L., Derges, J., Goldsmith, C., Donovan, J. L. and Gunnell, D., 2018. <u>Using the internet for suicide-</u> related purposes: Contrasting findings from young people in the community and self-harm patients admitted to hospital, *PLoS ONE*, 13 (5), p.12 [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>335</sup> <u>PAPYRUS</u> response to 2023 <u>CFE.</u>

<sup>&</sup>lt;sup>336</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>337</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.
# **User communication**

# Livestreaming

- 3.80 Livestreaming can increase the risk of children being exposed to suicide and self-harm content. For example, one participant in a research study among 11-25-year-olds in West Yorkshire explained that they had seen a livestream of a man taking his own life on a social media service.<sup>338</sup>
- 3.81 There have been cases of livestreaming functionalities being used to show users selfharming or ending their life in real time. In 2017, a 12-year-old girl used a livestreaming app to record her suicide, which had millions of views on two mainstream social media services.<sup>339</sup> Social Work Today cites another case in which a 14-year-old completed suicide after a reported two-hour livestream in which she prepared to end her life.<sup>340</sup> Another study from Bangladesh into livestreaming and suicide found that most victims in the case series were adolescents and young people.<sup>341</sup>
- 3.82 Livestreams are often paired with user groups, allowing users to communicate with one another or leave comments on content, which can be used to encourage the suicide or selfharm depicted on the livestream. While some users may use these messages or comments to express sympathy or coordinate help, others can encourage suicide or serious self-harm. This adds the risk that children could be exposed to comments and messages encouraging suicide and self-harm, as well as the livestream itself.
- 3.83 Livestreaming can intersect with group messaging and commenting functionalities to increase the risks of harm. Users can often message one another as a group within the livestream or leave comments.

#### **Group messaging**

- 3.84 Group messaging contexts, where users can contact one another, provide an environment in which harmful behaviour can be potentially encouraged in a group setting, including where self-harm may be encouraged and harmful content shared. Our qualitative research with children aged 13-18 identified examples of content being shared and forwarded among children via group messaging. One participant explained how she and her friends would frequently send each other pictures of their self-harm wounds. The participant explained that, as part of this, she and her peers would discuss different self-harm methods within group messaging functions. <sup>342</sup>
- 3.85 We also spoke with children and young people aged 13-21 with lived experience of eating disorders, self-harm, suicidal ideation, anxiety and depression, who had encountered this type of content. We found that young people with lived experience were more likely to belong to groups or communities online related to self-harm, suicide or eating disorders.

<sup>341</sup> Islam M. D. R., Qusar M. S. and Islam M. D. S., 2021. <u>Suicide after Facebook posts – An unnoticed departure of life in Bangladesh</u>, *Emerging Trends in Drugs, Addictions, and Health*, 1. [accessed 28 March 2025].
 <sup>342</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content promoting eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>338</sup> Social Finance, n.d. <u>Social media, psychological harm and violence among young people</u>.

<sup>&</sup>lt;sup>339</sup> Mortimer, C., 2017. <u>Girl kills herself in live online video and police cannot stop footage being viewed by</u> <u>millions</u>. The Independent, 12 January. [accessed 17 January 2024].

<sup>&</sup>lt;sup>340</sup> Getz, L., 2017. <u>Livestreamed Suicide on Social media – The Trauma of Viewership</u>. *Social Work Today*, (17) 2, p.14. [accessed 28 March 2025].

Those reported to us included groups on messaging services, as well as groups formed on social media services. This aspect of their online behaviour distinguished this from the core group of participants, who tended to report more passive and unintentional pathways to encountering harmful content, such as through recommended content.<sup>343</sup>

#### **Encrypted messaging**

3.86 Encrypted messaging services may be used to share harmful self-harm and suicide content with child users. Our research found that sharing content (such as pictures of self-harm wounds) between 'real-life friends' would sometimes occur on closed groups within encrypted messaging services.<sup>344</sup>

### **Commenting on content**

- 3.87 Comment functionalities can increase the risk of children being exposed to harmful conversations regarding suicide and self-harm.
- 3.88 Children can engage with the suicide or self-harm content they encounter by offering to help, or expressing their concern, via commenting on the content. Ofcom research found that children and young people often felt drawn to comment on content, and often this was related to 'vent posts'<sup>345</sup> or due to concern for the poster. Those with lived experience explained that they would often engage in discussion in the comments, with many sharing their own stories in response to the original post.<sup>346</sup>
- 3.89 Our research also found that when posts featured individuals with self-harm scars, in cases where the post was not explicitly about self-harm, the commenting function can be used to post a negative response relating to self-harm that could be harmful to the poster and other child users. Participants expressed concern that images or videos with people who happened to have self-harm scars could lead to discussion in the comments where individuals "take it a bit too far" opening up wider discussion about self-harm.<sup>347</sup>
- 3.90 Commenting on content risks exposing children to further harmful content and interactions, contributing to a cumulative harm. Some children and young people aged 13-21 with lived experience have described feeling stuck in a "rabbit hole" once they have commented, either by being drawn deeper into conversation or because further (sometimes more extreme) content is then generated.<sup>348</sup>
- 3.91 A study by the Molly Rose Foundation found examples of unmoderated comments on a popular social media site on posts related to suicide and self-harm. While many comments were supportive and empathetic, there were incidences of comments expressing suicidal ideation, and tips for sharing and concealing self-harm behaviours. Large volumes of

<sup>&</sup>lt;sup>343</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>344</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

 <sup>&</sup>lt;sup>345</sup> 'Vent posts' refers to content that is typically posed by a user to express personal problems or challenges.
 <sup>346</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>347</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>348</sup> Participants with lived experience included children and young people with lived experience of eating disorders, self-harm, suicidal ideation, anxiety and depression. Adults within the sample reflected back on their experiences during childhood. Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content promoting eating disorders, self-harm and suicide</u>.

comments risk the normalisation of self-harm as an acceptable coping strategy.<sup>349</sup> Researchers analysing the activity of accounts in self-harm communities found that comments on images of self-injury were often complimentary, idealising severe wounds as positive achievements, which risks reinforcing the act of self-harm and instigating competition that escalates the severity of self-injury. One post depicting open self-inflicted wounds received 2,000 likes, 165 retweets and 80 comments. User comments on the image included problematic reinforcement, for example, "that's so pretty", "how beautiful" and "what did you use?"<sup>350</sup>

#### **Posting content**

- 3.92 The ability to post content, in particular images, is an important functionality mentioned in the research and literature on suicide and self-harm. Large numbers of children can be exposed to graphic images of self-harm. Posting content enables users to communicate and establish contact with others who are experiencing similar thoughts or behaviours. It can also provide users with a sense of community in feeling that they are not alone in their thinking.<sup>351</sup> The evidence shows that it is also being used to negatively influence users' thinking around suicide.
- 3.93 Graphic suicide and self-harm content can be posted on services, which other children may encounter online. A participant in our research recalled how, during childhood, they would post images to their 'stories' on social media services of their self-harm scars, including images containing graphic photos of wounds and blood, which others could see.<sup>352</sup> In the same study, a 15-year-old participant mentioned encountering content on social media that showed self-harm instructions and how to hide self-harm from parents and others.
- 3.94 Other studies demonstrate the impact of viewing posted content. A study with 16-24-yearolds in Wales reported how seeing this posted content could inspire viewers to recreate techniques shown in self-harm images, bring back memories of their own self-harming episodes, or increase a sense of competition.<sup>353</sup> Ofcom research found that some participants felt that posting one's own self-harm content provided a sense of release, similar to the release they received during the act of self-harm. However, this was also found to have significant negative emotional impact. Participants expressed feelings of guilt

<sup>&</sup>lt;sup>349</sup> Note: In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm materials, on Instagram, TikTok and Pinterest</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>350</sup> Note: This study is publicly available online, but we have chosen to remove the hyperlink to this study due to it containing highly distressing images. Source: Network Contagion Research Institute, 2022. Online Communities of Adolescents and Young Adults Celebrating, Glorifying, and Encouraging Self-Harm and Suicide are Growing Rapidly on Twitter.

<sup>&</sup>lt;sup>351</sup> Biddle et al., 2018. <u>Using the internet for suicide-related purposes: Contrasting findings from young people</u> in the community and self-harm patients admitted to hospital, *PLoS ONE*, 13 (5), p.12.

<sup>&</sup>lt;sup>352</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>353</sup> For example, a participant explained that they would compare their injuries to self-harm images encountered online while asking themselves "why can't I do it like that?". This then led to the young person seeking to copy techniques seen on the images to achieve a similar outcome. Source: Jacob et al., 2017. <u>The</u> <u>influence of online images on self-harm: A qualitative study of young people aged 16-24</u>, *Journal of Adolescence*, 60 (1).

and shame once the content had been posted. For some participants, these feelings of guilt were due to the potential for harming others by documenting or describing their own self-harm.<sup>354</sup>

#### Reposting or forwarding content, and reacting to content

- 3.95 The ability to repost or forward content, as well as react to content, are risk factors for encountering this content. This is because 'likes' and reposts can act as validation from other users on a service and reinforce negative thought patterns or behaviours (and possibly encourage the further posting of potentially harmful content).
- 3.96 A participant in a UK study<sup>355</sup> recalls "writing this huge post about how suicide wasn't really selfish and this one girl who had a lot of followers reposted it... and a lot of people liked it on hers and I was just like 'oh wow! People get it, people understand me'".<sup>356</sup>
- 3.97 The ability to repost or forward can allow suicide and self-harm content to be shared more widely and sometimes in a different context than it was originally shared in. As referenced in sub-section 'Content editing' within this section, certain features allowing a user to repost content alongside their own content may enable harmful content to be reposted.<sup>357</sup>
- Further examples of harmful content being reposted were identified in Ofcom research. A
  13-year-old participant recalled a girl reposting content expressing suicidal ideation from
  one video-sharing service to another due to the ability to forward it.<sup>358</sup>

# **Content exploring**

### User-generated content searching

- 3.99 Being able to search for user-generated content by entering terms into a search bar, or by searching through content tags or descriptors (such as hashtags) is a risk factor for children accessing harmful suicide and self-harm content. A study in Wales found that 16-24-year-olds with histories of self-harm behaviour said they preferred particular social networking sites that allowed simple searches of keywords and tags to find relevant content.<sup>359</sup>
- 3.100 Children and young people in our research mentioned that they would typically use the search bars within social media services to find content, either by entering a search term, a code word or a particular hashtag.<sup>360</sup>
- 3.101 Recommended search terms or search term auto-completions can also exacerbate risk in two ways. The first is by amplifying prior tendencies to view harmful suicide and self-harm-

<sup>&</sup>lt;sup>354</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>355</sup> This study was done among adults reflecting back on previous experiences.

<sup>&</sup>lt;sup>356</sup> Biddle et al., 2018. <u>Using the internet for suicide-related purposes: Contrasting findings from young people</u> in the community and self-harm patients admitted to hospital, *PLoS ONE*, 13 (5), p.12.

<sup>&</sup>lt;sup>357</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>358</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>359</sup> Note: this research was conducted in 2017, where searching functionalities within services may have differed from what may be possible today. Many services now allow simple searches, suggesting that this functionality is likely to present risk of harm across services more broadly. Source: Jacob et al., 2017. <u>The influence of online images on self-harm: A qualitative study of young people aged 16-24</u>, *Journal of Adolescence*, 60 (1).

<sup>&</sup>lt;sup>360</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

related content by reducing friction in the search process. The second is by introducing users to search terms or behaviours that may surface more harmful content that the user would not otherwise have seen. For example, after simulating a proclivity for viewing suicide and self-harm related content, the Molly Rose Foundation found that avatar accounts on a popular video-sharing service were recommended problematic recommended search terms.<sup>361</sup>

#### **Content tagging**

- 3.102 The ability to tag content,<sup>362</sup> such as through hashtags and keywords, can enable children to find suicide and self-harm content and communities. Adapted hashtags and keywords can be used to avoid content moderation.
- 3.103 The use of modified keywords to avoid content moderation of suicide or self-harm content, as they are not yet flagged by service providers, is a common practice. The modified keywords are often included in content descriptions, hashtags and account biographies.<sup>363</sup> A study highlighted how obvious hashtags had been blocked by certain services, often removing recovery-focused content as well. However, the researchers were still able to find the full spectrum of content (including graphic imagery) by searching for less obvious or less moderated hashtags.<sup>364</sup> Using hashtags linked to content viewed by Molly Russell prior to her death, the Molly Rose Foundation were able to find newly created hashtags linked to suicide and self-harm material. These hashtags allowed them to retrieve large quantities of publicly available suicide and self-harm related content on Instagram and TikTok.<sup>365</sup> Other

<sup>&</sup>lt;sup>361</sup> Note: In this study the researchers explored Instagram, TikTok, and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm related material. While this is a single study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm materials, on Instagram, TikTok and Pinterest</u>.

<sup>&</sup>lt;sup>362</sup> Content tagging is the process of adding keywords and phrases to user-generated content, often used to describe its subject, topic, or theme. Tags are normally applied by users themselves to help improve the discoverability of their content by other users. Hashtags are a popular form of tagging. Content tags are one of the key inputs that recommender systems use to learn about users' preferences for content. Tagging can be used to obscure and disguise harmful content, in an attempt to bypass content moderation systems and be disseminated by recommender systems (for example, by using codewords or popular and trending tags). Content tags that are known to be strongly associated with harmful content can be blacklisted by services as part of their content moderation practices. This process is known as keyword blocking, where certain terms known to be almost exclusively associated with the dissemination of illegal and harmful content are blacklisted in relevant databases.

<sup>&</sup>lt;sup>363</sup> ActiveFence, 2023. <u>Self-Harm Communities – The Distribution of Harmful Content</u>. [accessed 28 March 2025].

 <sup>&</sup>lt;sup>364</sup> Lavis, A. and Winter, R., 2020. <u>#Online harms or benefits? An ethnographic analysis of the positives and negatives of peer-support around self-harm on social media</u>, *Journal of Child Psychology and Psychiatry*, 61 (8).
 <sup>365</sup> Note: In this study the researchers explored Instagram, TikTok, and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm materials, on Instagram, TikTok and Pinterest</u>.

researchers have demonstrated that hashtags remain an effective way of surfacing harmful and potentially harmful suicide and self-harm related content on X<sup>366</sup> and Pinterest.<sup>367</sup>

- 3.104 Our research found that children mostly referred to using hashtags within services to search for online content related to self-harm and suicide. There were very few mentions of using general search engines to look for content, with children searching hashtag descriptors within services to bring up all the content tagged under the same label.<sup>368</sup>
- 3.105 Evidence suggests that general discussion, safety advice and emotional support can share similar spaces with graphic and potentially distressing content and can sometimes be attached to the same hashtags.<sup>369</sup> It is important not to lose sight of the beneficial resources that can appear under certain hashtags relating to suicide and self-harm. However, Ofcom research reported that hashtags were often used to label content inappropriately for example, hashtags that were intended to be positive or awareness-raising were linked to negative and harmful content.<sup>370</sup>

#### Hyperlinking

3.106 Hyperlinks can enable child users to be directed to suicide or self-harm content across different types of service. For example, a safeguarding practitioner in a research study in West Yorkshire described how they had been aware of young people receiving links to a website on how to self-harm via messaging services.<sup>371</sup>

# **Content editing**

### **Editing visual media**

- 3.107 Editing of video clips and images, both within or outside the online service, can enable children to encounter harmful suicide and self-harm content, primarily when used to conceal the true content of a video.
- 3.108 Research from the Molly Rose Foundation identified a range of ways in which users were editing content to bypass content moderation when posting problematic content. These included overlaying audio onto video or text-based content and using watermarks in video content to share links to other accounts that featured suicide and self-harm content.<sup>372</sup>

<sup>&</sup>lt;sup>366</sup> Note: This study is publicly available online, but we have chosen to remove the hyperlink to this study due to it containing highly distressing images. Source: Network Contagion Research Institute, 2022. Online Communities of Adolescents and Young Adults Celebrating, Glorifying, and Encouraging Self-Harm and Suicide are Growing Rapidly on Twitter.

<sup>&</sup>lt;sup>367</sup> Samurai Labs provided a <u>link to research</u> that identified potentially harmful content on Pinterest that was discoverable using coded language hashtags and search terms. Source: <u>Samurai Labs</u> response to May 2024 Protection of Children Consultation.

<sup>&</sup>lt;sup>368</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

 <sup>&</sup>lt;sup>369</sup> Lavis, A. and Winter, R., 2020. <u>#Online harms or benefits? An ethnographic analysis of the positives and negatives of peer-support around self-harm on social media</u>, *The Journal of Child Psychology and Psychiatry*, 61 (8).

<sup>&</sup>lt;sup>370</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>371</sup> Social Finance, n.d. <u>Social media, psychological harm and violence among young people</u>.

<sup>&</sup>lt;sup>372</sup> Note: In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at

3.109 In our research, children and adults mentioned encountering self-harm content or graphic images of suicide when they were children; this content had been edited by the posters to disguise it as seemingly harmless.<sup>373</sup>

#### Combining visual media

- 3.110 There are also examples of users re-sharing graphic self-harm content by using a feature that enables two videos to play at the same time in a split screen. A 15-year-old participant in our research noted how they had used this feature on a video-sharing service to share content that reposted another user's video, where the original user was showing self-harm scars (which were bleeding in the video footage), alongside their own content setting out their views of the original content, stating how they found it triggering.<sup>374</sup>
- 3.111 Children and young people interviewed in Ofcom's research reported accidentally seeing content promoting suicide and self-harm that was embedded into a video that did not appear to contain harmful content, and which appeared to be related to a different topic.<sup>375</sup> A participant in another study with 11-25-year-olds in West Yorkshire explained how they had seen a video of a person ending their life the video was hidden inside a normal video on their recommended feed.<sup>376</sup>

# **Recommender systems**

### Content recommender systems

- 3.112 Services which deploy content recommender systems<sup>377</sup> are at higher risk for suggesting suicide and self-harm content to children. Detailed explanation on how recommender systems work and how they can pose a risk to children is set out in Section 16: Wider context to understanding risk factors.
- 3.113 The second pathway includes children who may not have actively engaged with this content before, but who encounter it through their recommended feeds. Ofcom research indicates that recommender systems can lead children who are not necessarily engaging with it, to suicide and self-harm content. Across all participant groups interviewed, initial encounters of suicide or self-harm content were often reported to be unintentional, with children being algorithmically recommended harmful content they had not sought out. Participants described how recommender systems could then suggest further harmful content, depending on young people's interaction with the content. Apart from the youngest

the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm materials, on Instagram, TikTok and Pinterest</u>.

<sup>&</sup>lt;sup>373</sup> The specific detail of the methods used to obscure harmful content has deliberately been omitted here. Source: Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online</u> <u>content promoting eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>374</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>375</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>376</sup> Social Finance, n.d. <u>Social media</u>, psychological harm and violence among young people.

<sup>&</sup>lt;sup>377</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and is outside the user's normal engagement pattern.

participants (aged around 13) who had less awareness of algorithms, there was a general perception (and frustration) among other children that any interaction (including hashtags they had liked, posts they had commented on, length of time they watched a video, and who they followed on their social media accounts) could lead to more related content, or content sharing similar hashtags, appearing on their recommended feeds.<sup>378</sup>

- 3.114 Children risk being recommended suicide and self-harm content alongside content that may share characteristics or attributes with it, such as general discussion, safety advice and emotional support relating to suicide and self-harm. These similarities make it more difficult for content classification systems to differentiate between content that is likely to be harmful, and content that is likely to be less harmful.<sup>379</sup>
- 3.115 Vulnerable children are more likely to be served harmful content by recommender systems. In a national survey of individuals aged 16 and over by Swansea University and Samaritans (where almost nine in ten (87%) of the sample<sup>380</sup> reported having self-harmed before), over eight in ten (83%) of the respondents reported coming across self-harm and suicide content through feeds of recommended content on social media, despite not having searched for it.<sup>381</sup> While this study looked mainly at adults, other evidence suggests that child users' experiences are likely to be similar.
- 3.116 When harmful content is repeatedly encountered by a child, this may lead the child to experience 'cumulative harm'.<sup>382</sup> The Coroner's report following the death of Molly Russell noted that recommender algorithms could result in periods of binge-consuming this type of content which was likely to have a negative effect on vulnerable individuals, the 'Impacts' sub-section contains more information about Molly Russell. While some of the content judged in isolation may not have been considered overtly harmful or graphic, cases such as that of Molly Russell demonstrate the potential cumulative impact and risk of harm amounting from sustained exposure to suicide or self-harm content propagated by recommender algorithms.<sup>383</sup>
- 3.117 Another study indicates that child profiles which signal interest in mental health, eating disorders or body image may lead to recommendations of harmful content. Researchers from the Center for Countering Digital Hate created four 'standard' new accounts with a female username on a video-sharing service for users aged 13 in the US, the UK, Australia and Canada. Four further accounts were created with a username that indicated a body

<sup>&</sup>lt;sup>378</sup> Ofcom, 2024. <u>Online Content: Qualitative Research, Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>379</sup> Based on our understanding of content moderation systems, there are technical challenges in accurately detecting suicide and self-harm content for the purposes of Trust and Safety labels to it. This is due to the lack of granularity in content classification systems. Source: Ofcom, 2023. <u>Content moderation in user-to-user</u> <u>online services</u>. [accessed 5 February 2025].

<sup>&</sup>lt;sup>380</sup> Sample included 5,294 individuals aged 16-84 years. Many of the participants in the study were women and girls aged under 25, and so do not represent any population as a whole. Source: Samaritans, 2022. <u>How social</u> <u>media users experience self-harm and suicide content.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>381</sup> Samaritans, 2022. <u>How social media users experience self-harm and suicide content.</u>

<sup>&</sup>lt;sup>382</sup> Cumulative harm can occur when harmful content – PPC, priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>383</sup> Coroner's Service, 2022. <u>Regulation 28 Report to Prevent Future Deaths following the death of Molly</u> <u>Russell</u>.

image-related concern. On all these accounts, the researchers expressed an interest in body image, mental health and eating disorders, by watching and liking relevant videos (so these findings may not reflect the average child user's experience). The first video showing suicide content appeared on one of the standard teen accounts in its recommended feed within 2.6 minutes of scrolling. Videos about self-harm and suicide videos appeared six times, with a frequency of one every 20 minutes. In comparison, on the 'vulnerable'<sup>384</sup> teen accounts, self-harm and suicide videos appeared 12 times more often than on standard accounts. Seventy-four videos about self-harm and suicide content were shown on the vulnerable teen accounts, appearing on average every 97 seconds.<sup>385</sup>

# **Risk factors: Business model and commercial profile**

### **Revenue models**

#### Advertising-based model

- 3.118 Our evidence indicates that the risk of harm to children related to business models originates primarily from the financial incentives that service providers can have to develop designs and features that are optimised for driving revenue rather than protecting children's safety (e.g., by optimising for engagement). This is a cross-cutting issue that influences the risk of children's exposure to all harms and is discussed in detail in Section 14: Business models and commercial profiles.
- 3.119 There is some evidence to suggest that advertising-based revenue models may be a risk factor for suicide and self-harm content. In its response to our 2023 CFE, the Molly Rose Foundation noted that email and push notifications can direct children to suicide and self-harm content. These are sent to users to encourage continued engagement with a service provider to drive up advertising revenue, increasing the risk by encouraging a user to revisit potentially harmful recommended content that the user may have previously engaged with.<sup>386</sup> Some evidence suggests that there are instances where this revenue model can suggest further suicide and self-harm content to the child. One example provided by the Molly Russell Foundation was an email sent to Molly Russell before she took her own life. The response states that this email contained images of self-harm (some of a graphic nature), suicide (including methods) and depression.<sup>387</sup>

<sup>&</sup>lt;sup>384</sup> 'Vulnerable' accounts are those that were created with a username that indicated a body image-related concern.

<sup>&</sup>lt;sup>385</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows (13 years old). These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. Source: CCDH, 2022. <u>Deadly</u> <u>By Design: TikTok pushes harmful content promoting eating disorders and self-harm into users' feeds.</u>

<sup>&</sup>lt;sup>386</sup> <u>Molly Rose Foundation</u> response to 2023 CFE.

<sup>&</sup>lt;sup>387</sup> <u>Molly Rose Foundation</u> response to 2023 CFE.

# 4. Eating disorder content

Warning: this section contains references to content that may be upsetting or distressing, including detailed discussion of eating disorders and eating disorder content.

### Summary: Risk of harm from eating disorder content

In this section, we consider content which encourages, promotes, or provides instructions for an eating disorder or behaviours associated with an eating disorder.

The physical and psychological harms that can arise from this type of content include, for example, disordered eating behaviours and associated physical health issues, as well as emotional distress, and lower confidence and self-esteem.

Eating disorder content is not always shared with malicious intent, as users who share such content may have experience of an eating disorder themselves, and use online spaces to express their feelings, talk about their experiences and seek support. However, even content that is 'recovery focused' can be harmful to children.

#### Risk factors: User base

Small and large **user base sizes** can pose risks to children for different reasons. With a larger user base, more children are at risk of encountering this content, while smaller user bases can foster the sharing of niche and/or extreme eating disorder content.

**User demographics** can play a significant role in the risk of physical or psychological harm that can arise from eating disorder content. Children with **mental health difficulties**, including but not limited to those with experience of an eating disorder, are both more likely to encounter, and are at greater risk of harm from, this type of content than other users.

While anyone, of any **age**, can develop an eating disorder, children in their mid-to-late teens are thought to be particularly vulnerable. There is evidence to suggest that both girls and boys are at risk of harm from eating disorder content, but the type of eating disorder content encountered may vary by **gender**.

The evidence suggests that an individual's **gender**, **sexual orientation**, **disability** and **socio-economic status** can also put them at disproportionate risk from eating disorder content.

#### Risk factors: Service types

**Video-sharing services** and **social media services** enable eating disorder content to be disseminated to a large audience. These are services where children can view and engage with such content, both through active searching and recommended content. **Discussion forums and chat room services** are other online spaces where eating disorder behaviours can be encouraged or promoted. These three service types have therefore been included in the Children's Risk Profiles.<sup>388</sup>

<sup>&</sup>lt;sup>388</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

User connections made on more open spaces can move to **messaging services**, where less moderation enables conversations to become more explicit and/or harmful.

#### Risk factors: Functionalities and recommender systems

**Content recommender systems**<sup>389</sup> may increase the risk of children encountering eating disorder content, often without their actively searching for it or seeking it out. It can be challenging to distinguish between eating disorder content and recovery content, and eating disorder content can be disguised as content which does not initially appear to be harmful. If a child does engage with eating disorder content, evidence suggests they can be recommended large volumes of eating disorder content which can have a cumulative effect on their wellbeing. Content recommender systems have therefore been included in the Children's Risk Profiles.

Eating disorder content can be posted by **user profiles** with large followings. **User groups** can create online spaces with users who have similar interests, and **group messaging** within such spaces can encourage disordered eating behaviours. Due to their role in facilitating communities sharing eating disorder content, these functionalities have been included in the Children's Risk Profiles.

Eating disorder content can be found through searching for key terms and code words, making **user-generated content searching** a risk factor for this harm. **Content tagging** is a risk factor, as it allows children to search specifically for **hashtags** linked to eating disorder content, making such content easy to find. Research also suggests that some eating disorder content uses the same hashtags as recovery-focused content, increasing the risk of users unintentionally seeing harmful content. These functionalities are also included in the Children's Risk Profiles.

The research suggests that online eating disorder communities are highly engaged and often competitive in nature. This includes users **posting content** and **reacting to content**. The evidence suggests that for these users, receiving high levels of engagement with their own eating disorder content can incentivise them to maintain their disorderly eating behaviours, with the risk of these behaviours becoming more extreme. **Commenting on content** also has the potential to amplify the risk of harm by allowing for further discussion of eating disorders and the promotion of disordered eating behaviours. These functionalities can also interact with recommender systems to further amplify eating disorder content. Posting images and videos as well as commenting on content are included in the Children's Risk Profiles.

Other functionalities can also contribute to harm caused by eating disorder content. Being able to post eating disorder content to large networks through **user connections** may increase the risk of children encountering the content. **Encrypted messaging** can exacerbate the potential harm, as group messaging exists on many encrypted messaging services where users can share harmful eating disorder content without detection or moderation.

<sup>&</sup>lt;sup>389</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

#### Risk factors: Business model and commercial profile

**Advertising-based models** could be a risk factor for this content. Research suggests that children with experience of an eating disorder may be targeted with adverts promoting weight loss programmes and apps, for example.

# Introduction

- 4.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by content which encourages, promotes or provides instructions for an eating disorder or behaviours associated with an eating disorder on user-to-user services (risk of harm).<sup>390</sup> This kind of content has been designated as primary priority content that is harmful to children (PPC).
- 4.2 We use the term 'eating disorder content' throughout this section to refer to such content.
- 4.3 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks. 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.
- 4.4 Eating disorders are serious and complex mental health conditions where disordered eating behaviour is used to cope with feelings and situations. Anyone of any age can develop an eating disorder, but the teenage years are thought to present particular vulnerabilities.<sup>391</sup>
- 4.5 In the Guidance on Content Harmful to Children, we provide guidance on identifying eating disorder content, including examples of what Ofcom considers to be, or considers not to be, eating disorder content. Examples of eating disorder content include content that promotes highly restrictive or disordered eating behaviours, tips and advice encouraging eating disorders such as how to conceal them, and content motivating children to persevere with disordered eating behaviours. However, there are important nuances that services should consider in understanding eating disorder content, particularly relating to content that appears to be recovery focused but may contain characteristics that can be harmful to children. See Section 5 of our Guidance on Content Harmful to Children for more detail and contextual considerations on identifying this content.
- 4.6 Some of the evidence described in this section relates to content which may be broader than the definition in the Online Safety Act 2023 (the Act) or the examples set out in the Guidance on Content Harmful to Children. Where such evidence has been included, it is because we think it is relevant to understanding the risk of harm from eating disorder content.
- 4.7 There are ethical and legal limitations in conducting research into this type of content with children, so the research has often relied on qualitative information. To build Ofcom's evidence base on these harms, we commissioned in-depth research into children's experiences of encountering suicide, self-harm and eating disorder content, as part of our

<sup>&</sup>lt;sup>390</sup> Section 61(5) of the Online Safety Act 2023 (the Act).

<sup>&</sup>lt;sup>391</sup> NHS, 2023. <u>Overview – Eating disorders</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

preparations for regulation (see footnote for sample details).<sup>392</sup> The findings from this research are noted, where relevant, throughout. However, we have also considered the wider landscape of the evidence available.

# How eating disorder content manifests online

- 4.8 This sub-section looks at how eating disorder content manifests online and how children may be at risk of harm.
- 4.9 Eating disorder content can take the format of short-form media, such as videos and images.<sup>393</sup> As explored in the sub-section 'Service type' within this section, this is primarily found on large services such as video-sharing and social media services.
- 4.10 Eating disorder content can also be found on smaller services such as websites and blogs. These can be dedicated services that promote eating disorders and can include chat forums which enable users to connect.<sup>394</sup>
- 4.11 The content is often glamourised, artistic and competitive in nature, promoting disordered eating and associated behaviours (most commonly relating to anorexia but also including disorders such as bulimia and binge-eating) as lifestyle choices.<sup>395</sup> Instructions for maintaining an eating disorder are commonplace, alongside motivational material in the form of images and quotes.<sup>396</sup>

<sup>394</sup> This source is among young adults aged 18-23. Source: Bardone-Cone, A. and Cass, K., 2007. <u>What Does</u> <u>Viewing a Pro-Anorexia Website Do? An Experimental Examination of Website Exposure and Moderating</u> <u>Effects</u>, *International Journal of Eating Disorders*, 40 (6). [accessed 7 July 2023]; EU Kids Online reported that in 2011, 10% of 11–16-year-olds had seen pro-anorexic sites. Source: LSE Research Online (Livingstone, S., Haddon, L., Gorzig, A. and Olafsson, K.), 2011. <u>EU Kids Online: final report</u>. [accessed 28 March 2025]; This source is a content analysis and does not specify child users. Source: Bond, E., 2012. <u>Virtually Anorexic –</u> <u>Where's the harm? A research study on the risks of pro-anorexia websites</u>. [accessed 25 July 2023]. Subsequent references to this source throughout; Ofcom, 2024. <u>One Click Away: a study on the prevalence of</u> <u>non-suicidal self injury, suicide, and eating disorder content accessible by search engines</u>. [accessed 10 February 2025].

<sup>&</sup>lt;sup>392</sup> This study involved speaking with 31 children and young people (between 13 and 21 years old) who had encountered this content online. This sample included some who had lived experience of eating disorders, self-harm or suicidal ideation, anxiety and depression (14 participants). The study also included interviews with ten stakeholders who work with children and young adults aged 13-18 in a safeguarding capacity. Source: Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> <u>relating to eating disorders, self-harm and suicide</u>. [accessed 18 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>393</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>395</sup> Syed-Abdul, S., Fernandez-Luque, L., Jian, W., Li, Y., Crain, S., Hsu, M., Wang, Y., Khandregzen, D., Chuluunbaatar, E., Nguyen, P. and Liou, D., 2013. <u>Misleading Health-Related Information Promoted Through</u> <u>Video-Based Social Media: Anorexia on YouTube</u>, *Journal of Medical Internet Research*, 15 (2). [accessed 28 March 2025Subsequent references to this source throughout; Branley, D. and Covey, J., 2017. <u>Pro-ana versus</u> <u>Pro-recovery: A Content Analytic Comparison of Social Media Users' Communication about Eating Disorders on</u> <u>Twitter and Tumblr</u>, *Frontiers in Psychology*, 8. [accessed 28 March 2025]. Subsequent references to this source throughout; Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering</u> <u>online content relating to eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>396</sup> Branley, D. and Covey, J., 2017. <u>Pro-ana versus Pro-recovery: A Content Analytic Comparison</u>, *Frontiers in Psychology*, 8; Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content relating to eating disorders, self-harm and suicide</u>.

- 4.12 There is evidence that some users actively encourage disordered eating behaviours in other users online, including children.<sup>397</sup> Some of these users may not be acting with malicious intent, as they themselves may be experiencing an eating disorder, and their harmful behaviour is a product of their belief that disordered eating is a lifestyle choice. However, there is evidence to suggest that some of these users are proactively targeting children with the intent of sexual exploitation and abuse. Refer to sub-section 'User communication: Direct messaging' within this section for more information.
- 4.13 The evidence suggests that children can find it difficult to distinguish between some lifestyle content and eating disorder content, particularly when they encounter it through fashion, music, or fitness influencers. Children and young adults aged 13-21 participating in Ofcom research described how the lines between this content were blurred, and younger children in particular (aged 13-15) were often confused about the intentions of those posting the content.<sup>398</sup> Refer to the Guidance on Content Harmful to Children for more information on eating disorder content, as well as Section 11: Body stigma content (Non-designated content).

# Presence

- 4.14 The evidence suggests that one in ten children encounter eating disorder content each month. For example, Ofcom's Online Experiences Tracker (OET) found that 10% of UK internet users aged 13-17 had experienced content relating to eating disorders in the fourweek period prior to the research.<sup>399</sup> EU Kids Online 2020 reported that 12% of 12-16-year-olds had seen content about 'ways to be very thin' (such as being anorexic or bulimic, or 'thinspiration'<sup>400</sup>) at least monthly in the past year, rising to 33% who said they had seen it a few times in the past year.<sup>401</sup>
- 4.15 Eating disorder content should be understood in the context of the growing number of children struggling with an eating disorder or disordered eating behaviours. It has been estimated that 1.25 million people in the UK have an eating disorder,<sup>402</sup> and the NHS has reported treating a record number of children and young people. Almost 10,000 children and young people started treatment between April and December 2021, up by almost two-thirds since before the pandemic.<sup>403</sup> There are known barriers to seeking and receiving treatment for an eating disorder, particularly for lesser-known or under-studied eating

<sup>&</sup>lt;sup>397</sup> These users are known as 'anorexia coaches', 'ana buddies' or a similar equivalent. 'Coaching' can include requesting pictures and videos for 'body checks', weekly weigh-ins and enforcing strict rules about what food to eat and avoid. It can also include 'punishment' for not complying in the form of verbal abuse, and sometimes requesting sexual images. Source: Sukunesan, S., 2021. <u>'Anorexia coach': sexual predators online</u> <u>are targeting teens wanting to lose weight. Platforms are looking the other way</u>. The Conversation, 25 July. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>398</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>399</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>400</sup> 'Thinspiration', or variations on this term (often using the suffix -spo), are often used to encourage eating disorder behaviours, or motivate users towards extreme thinness.

<sup>&</sup>lt;sup>401</sup> EU Kids Online (Smahel, D., Machackova, H., Mascheroni, G., Dedkova, L., Staksrud, E., Olafsson, K., Livingstone, S. and Hasebrink, U.), 2020. <u>EU Kids Online 2020</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>402</sup> Beat, 2023. <u>How many people in the UK have an eating disorder?</u> [accessed 15 December 2023].

<sup>&</sup>lt;sup>403</sup> This source does not give the age range for 'children and young people'. Source: NHS, 2022. <u>NHS treating</u> record number of young people for eating disorders. [accessed 28 March 2025].

disorders such as avoid/restrictive food intake disorder (ARFID) or binge-eating disorder, therefore it is likely that the number of people receiving treatment for an eating disorder is an under-representation of those experiencing an eating disorder.<sup>404</sup>

# Impacts

- 4.16 The evidence highlights a number of risks of harm to children from eating disorder content. These can include the exacerbation and glamourisation of disordered eating; a range of negative emotions such as guilt, shame and fear; and increased vulnerability to sexual exploitation. While individual encounters with eating disorder content can affect children, many of the impacts below arise from cumulative harm.<sup>405</sup>
- 4.17 Encountering eating disorder content has been linked to exacerbating eating disorder behaviours, particularly among children with experience of an eating disorder.<sup>406</sup> The potential impacts of developing an eating disorder are severe, including acute malnutrition, family dysfunction, relationship breakdown and death.<sup>407</sup> The eating disorder anorexia nervosa is thought to have the highest mortality rate of any psychiatric illness.<sup>408</sup>
- 4.18 Studies have indicated that, for children with experience of eating disorders, engagement with eating disorder content worsened their illness.<sup>409</sup> Research commissioned by the Department for Digital, Culture, Media & Sport (DCMS) reported that girls aged 9-18, and parents of children with eating or body-image disorders, partly attributed the development and exacerbation of their illness to the body-image or eating disorder content they had seen online.<sup>410</sup> This content can also encourage eating disorders by leading to competitive behaviours. The research commissioned by DCMS also reported girls trying to eat less or exercise more than what they had seen online.

<sup>&</sup>lt;sup>404</sup> Beat, 2017. Delaying for years, denied for months. [accessed 28 March 2025].

<sup>&</sup>lt;sup>405</sup> Cumulative harm can occur when harmful content – primary priority content (PPC), priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in the Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>406</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>. [accessed 28 March 2025]. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS). Subsequent references to this source throughout; Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of</u> <u>children encountering online content relating to eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>407</sup> Office of the Children's Commissioner for England, 2023. <u>Young people with eating disorders in England on</u> <u>the rise</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>408</sup> Eating Disorder Hope, 2023. <u>Anorexia Nervosa – Highest Mortality Rate of Any Mental Disorder: Why?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>409</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>410</sup> This research defines body-image content as "content that promotes or could give rise to unhealthy or negative body image and associated behaviours". The description of content includes content that promotes "skipping meals or consuming an extremely low daily calorie intake". It also refers to "body-image content being easy to find by using well-known hashtags, which took users through to posts promoting anorexia and other disordered eating". It is therefore likely that the definition of body-image content in this research is inclusive of some eating disorder content. Source: Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>.

- 4.19 Some eating disorder content can teach users how to sustain an eating disorder. In Ofcom research, 13-21-year-olds described encountering content that provided ideas about how to restrict their diet.<sup>411</sup> A US study of 12-22-year-olds with an eating disorder similarly found that many users of eating disorder websites learned about and used new techniques from these sites.<sup>412</sup>
- 4.20 The risk of harm of exacerbating disordered eating behaviours is not unique to children with experience of an eating disorder. A National Society for the Prevention of Cruelty to Children (NSPCC) briefing reported that exposure to eating disorder content had affected children without pre-existing eating disorders, with some children telling Childline they felt "envious of the physiques being portrayed in this content, to the point that they'd considered unhealthy eating habits".<sup>413</sup>
- 4.21 Eating disorder content can have psychological impacts on children, regardless of their experience with eating disorders. An Internet Matters survey found that, of the 6% of 9-16-year-olds who had come across 'content which promotes dangerous eating habits', 43% said it had a 'high affect' on them.<sup>414</sup> Ofcom research similarly found that children and young adults aged 13-21 reported feelings of anxiety, shame, guilt and fear as a result of encountering eating disorder content online.<sup>415</sup>
- 4.22 Psychological impacts can affect children's online behaviour. Research commissioned by DCMS reported that seeing body-image and eating disorder content damaged the selfconfidence and self-esteem of children and young adults aged 9-18 and made them feel self-conscious about posting online.<sup>416</sup>
- 4.23 Evidence suggests that the frequency with which children are encountering eating disorder content is making eating disorders seem normal.<sup>417</sup> Ofcom's research reported that some children and young adults aged 13-21 feel they have become desensitised to the gravity of the issue, due to the content they have seen. They explained how some influencers and celebrities have contributed to this desensitisation by popularising eating disorders and associating the issue with glamorous lifestyles.<sup>418</sup> Desensitisation presents a risk of harm, as

<sup>&</sup>lt;sup>411</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>412</sup> Note: Survey results were from 182 individuals: 76 patients who were diagnosed with an eating disorder at Stanford between 1997 and 2004, and 106 parents of these. Source: Wilson, J., Peebles, R., Hardy, K. and Litt, I., 2007. <u>Surfing for Thinness: A Pilot Study of Pro-Eating Disorder Web Site Usage in Adolescents With Eating</u> <u>Disorders</u>, *Pediatrics*, 118 (6). [accessed 28 March 2025].

<sup>&</sup>lt;sup>413</sup> NSPCC, 2022. <u>Children's experiences of legal but harmful content online</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

 <sup>&</sup>lt;sup>414</sup> Internet Matters, 2022. <u>Insights from Internet Matters tracker survey</u>. [accessed 28 March 2025].
 <sup>415</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>416</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>417</sup> Ofcom research found that the children and young people taking part in the research had experienced multiple and regular encounters with eating disorder content. Those with experience of an eating disorder were encountering more graphic content more frequently. Source: Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content relating to eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>418</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

it can contribute to children believing that encountering harmful content is a normal part of their everyday life.

- 4.24 The risk of harm from eating disorder content may have been amplified during the Covid-19 pandemic, the impact of which may still be being felt by children today. Research commissioned by DCMS reported that during the Covid-19 lockdowns children spent more time on social media and had limited opportunities to engage with broader representations of body image or lifestyle.<sup>419</sup> This may have contributed to concerns around increased rates of eating disorders among children and young people due to the impact of the pandemic.<sup>420</sup>
- 4.25 Eating disorder content can make children vulnerable to sexual exploitation. Evidence suggests that perpetrators of child sexual exploitation and abuse (CSEA) are targeting children with the intention of sexual exploitation through eating disorder content by posing as 'anorexia coaches'. For more information, refer to sub-section 'User communication: Direct messaging' within this section, and also to the CSEA section of our <u>Illegal Harms</u> <u>Register of Risks</u> (Illegal Harms Register).

# **Evidence of risk factors on user-to-user services**

4.26 We consider that the risk factors below may increase the risk of harm to children from eating disorder content. This is summarised in the summary box at the start of the section.

# **Risk factors: User base**

# User base size

- 4.27 Both large and small services pose risks in relation to eating disorder content, for different reasons.
- 4.28 Eating disorder content can appear on large services, such as social media and videosharing services with large user bases.<sup>421</sup> Here, the larger user base increases the likelihood of more child users encountering harmful content, particularly where the content receives substantial amounts of engagement and is amplified through recommender systems. Refer to sub-sections 'User communication: Commenting on content' and 'Recommender systems' within this section for more information.

<sup>&</sup>lt;sup>419</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>420</sup> Royal College of Paediatrics and Child Health issued warnings of increased cases of eating disorders among children, which they attributed to the impact of the pandemic. Source: Royal College of Paediatrics and Child Health, 2020. <u>Paediatricians warn parents to be alert to signs of eating disorders over holidays</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>421</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. The hashtags relating to eating disorders contained some healthy discussion of eating disorders, as well as harmful pro-eating disorder videos. Source: Center for Countering Digital Hate (CCDH), 2022. <u>Deadly by Design</u>. [accessed 10 February 2025]. Subsequent references to this source throughout; Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>; Ofcom, 2024. <u>Online Content</u>: <u>Qualitative Research Experiences of children encountering online content relating to eating disorders, self-harm and suicide</u>.

4.29 Eating disorder content also appears on smaller services, such as websites and blogs dedicated to promoting eating disorders. On such services, the smaller user base can foster the sharing of more extreme content. For example, as outlined above, these services can enable users to join 'group fasts', find instructions for maintaining an eating disorder and be paired with an online user who will encourage their disordered eating behaviours.<sup>422</sup>

# **User demographics**

- 4.30 The following sub-section outlines key evidence on user base demographic factors and risks of harm to children, which can include protected characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 4.31 While anyone, of any gender, ethnicity or background, can develop an eating disorder at any age, or be affected by eating disorder content, evidence suggests that user base characteristics including the **age, gender, sexual orientation and gender, ethnicity, disability, physical/mental health** and **socio-economic factors** of users could lead to an increased risk of harm to children.

# Age

- 4.32 Evidence suggests that children in their mid-to-late teens (13-17) are particularly at risk of harm from eating disorder content, both because they are more likely to develop an eating disorder at this age and are therefore particularly vulnerable to harm from eating disorder content and they are more likely to encounter eating disorder content online.
- 4.33 Teenagers are at higher risk than younger children of developing an eating disorder. The NHS guidance states that children aged 13-17 are the most affected by eating disorders.<sup>423</sup> Research by the Eating Disorders Genetics Initiative also concluded that eating disorders have a common onset during the transitional period from adolescence into young adulthood.<sup>424</sup>
- 4.34 There is also some evidence that the risk of children encountering eating disorder content increases with age, with children aged 14-16 particularly at risk of harm. EU Kids Online found that 12% of 12-16-year-olds had seen content about 'ways to be very thin' (such as being anorexic or bulimic, or 'thinspiration') at least monthly in the past year; this was slightly higher among children aged 15-16 (15%) than children aged 12-14 (9%).<sup>425</sup> Research commissioned by DCMS also reported that professionals working with children believe that

<sup>&</sup>lt;sup>422</sup> Note: This source is among young adults aged 18-23. Source: Bardone-Cone, A. and Cass, K. 2007. <u>What</u> <u>Does Viewing a Pro-Anorexia Website Do?</u>, *International Journal of Eating Disorders*, 40 (6). [accessed 18 March 2025]; Note: this source is a content analysis and does not specify child users. Source: Bond, E., 2012. <u>Virtually Anorexic – Where's the harm?</u>

<sup>&</sup>lt;sup>423</sup> Anorexia nervosa, bulimia and binge-eating disorder are the most common eating disorders. Anorexia typically starts in the mid-teens, bulimia is more common in those aged 15-25 and binge-eating disorder often starts when people are in their 20s or over. Source: NHS, 2023. <u>Overview – Eating disorders</u>.

<sup>&</sup>lt;sup>424</sup> King's College London and Beat (Davies, H., Kelly, J., Ayton, A., Hubel, C., Bryant-Waugh, R., Treasure, J. and Breen, G.), 2021. <u>When do eating disorders start? An investigation into two large UK samples</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>425</sup> The difference between children aged 15-16 and 12-14 has not been significance tested due to limited public availability of base sizes. Source: EU Kids Online (Smahel et al.), 2020. <u>EU Kids Online 2020</u>.

body image issues mainly emerge among 14-16-year-old girls, and this is exacerbated by the content they see online.<sup>426</sup>

#### Gender

- 4.35 Anyone, of any gender, can develop an eating disorder. However, there is some evidence to suggest that girls may be particularly at risk of harm from eating disorder content due to the higher proportion of girls with eating disorders.<sup>427</sup> NHS figures show that between 2020 and 2021, of the 11,700 hospital admissions for eating disorders in people aged under 25, 10,800 were women and girls.<sup>428</sup>
- 4.36 The higher proportion of girls struggling with eating disorders should not overshadow the increasing number of boys struggling with disordered eating, who may therefore be at heightened risk of harm from eating disorder content. Evidence suggests that between a quarter and a third of those affected by an eating disorder are male.<sup>429</sup> NHS figures also showed that hospital admissions for eating disorders for boys and young men aged under 25 between 2020 and 2021 had doubled since the previous year.<sup>430</sup> Eating disorders are heavily gendered and often associated with 'femininity', so men can be less likely to view themselves as having an eating disorder, and those around them (including health professionals) can be less likely to suspect one.<sup>431</sup> Men also face increased stigma relating to eating disorders, which can reduce their willingness to seek help and access treatment.<sup>432</sup> There is therefore thought to be an under-reporting of male eating disorders in reported health statistics.
- 4.37 There is evidence to indicate that girls are more likely than boys to see eating disorder content regularly. EU Kids Online found that 12% of 12-16-year-olds had seen content about 'ways to be very thin' (such as being anorexic or bulimic, or 'thinspiration') at least monthly in the past year, and this was slightly higher among girls (15%) than boys (9%).<sup>433</sup> Research commissioned by DCMS also found that teenage girls were considered to be at greater risk than boys of seeing and being influenced by body-image and eating disorder content.<sup>434</sup>
- 4.38 Overall, evidence exploring boys' exposure to, or harm from, eating disorder content is more limited. However, there is some evidence to suggest that some eating disorder

<sup>&</sup>lt;sup>426</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

 <sup>&</sup>lt;sup>427</sup> Anorexia is most common in young women and typically starts in the mid-teens. Source: NHS, 2023.
 <u>Overview – Anorexia</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>428</sup> Office of the Children's Commissioner for England, 2023. <u>Young people with eating disorders in England on</u> <u>the rise</u>.

<sup>&</sup>lt;sup>429</sup> Evidence suggests that males comprise approximately one in four presentations of bulimia nervosa and anorexia nervosa. Source: Gorrell, S. and Murray, S., 2019. <u>Eating Disorders in Males</u>. [accessed 28 March 2025]; Beat reports that 25% of those affected by an eating disorder are male. Source: Beat, 2023. <u>How many people in the UK have an eating disorder</u>? [accessed 28 March 2025]; The National Eating Disorders Association reports that one in three people struggling with an eating disorder is male. Source: National Eating Disorders Association, 2023. <u>Eating Disorders in Men and Boys</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>430</sup> Office of the Children's Commissioner for England, 2023. <u>Young people with eating disorders in England on</u> <u>the rise</u>.

<sup>&</sup>lt;sup>431</sup> Beat, 2023. <u>Do men get eating disorders?</u> [accessed 28 March 2025].

 <sup>&</sup>lt;sup>432</sup> Coopey, E. and Johnson, G., 2022. <u>"The male elephant in the room": a qualitative evidence synthesis</u>
 <u>exploring male experiences of eating disorders</u>, *Journal of Eating Disorders*, 10. [accessed 14 December 2025].
 <sup>433</sup> EU Kids Online (Smahel et al.), 2020. <u>EU Kids Online 2020</u>.

<sup>&</sup>lt;sup>434</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

content is engaged with more by boys and can have similar impacts in terms of encouraging disordered eating behaviours. Eating disorder content focusing on extreme fasting has been found to particularly appeal to male users (including children) and offer space to discuss weight loss and starvation practices separate from the majority of eating disorder content that is perceived by some to focus on the experience of women and girls.<sup>435</sup> This type of content tends to embody traditionally masculine tropes of strength, control and discipline, and has been linked to a male influencer, well-known for self-proclaimed misogynistic views.<sup>436</sup> This content could therefore risk acting as a pathway to misogynistic online spaces.

#### Sexual orientation and gender

- 4.39 While there is limited specific evidence of LGBTQIA+<sup>437</sup> children's experiences of eating disorder content, the evidence that is available indicates that LGBTQIA+ children are likely to be disproportionately at risk of disordered eating, which may put them at higher risk of harm from encountering eating disorder content. A literature review into eating disorders in the LGBT population concluded that LGBT youth engaged in disordered eating behaviours, such as purging, fasting, dieting with the intention of weight loss, and taking diet pills at higher rates than their heterosexual or cisgendered peers.<sup>438</sup> The study linked this to the impact of several stressors, including stigma, discrimination, internalised homophobia and concealment of identity.
- 4.40 LGB+ children may also be at increased risk of encountering eating disorder content. Ofcom's Online Experiences Tracker found that, among adult internet users, LGB+ users were more likely to have seen eating disorder content: 9% of UK internet users aged 18+ had seen or experienced content relating to eating disorders in the four-week period prior to the research and this tended to be higher among bisexual (22%) participants, those who noted 'other sexuality' (17%) and non-binary participants (30%).<sup>439</sup> Despite not being centred on children's experiences, we consider this data provides useful context.

#### Ethnicity

4.41 Children from minority ethnic backgrounds may be at a higher risk of developing an eating disorder due to specific factors such as racial discrimination and cultural pressures, as reported by Beat, a UK eating disorder charity.440 Research conducted by Beat suggests

<sup>&</sup>lt;sup>435</sup> Examples of restrictive eating content include extreme fasting content and 'One Meal a Day'. While such content may not always fall within scope of eating disorder content, some examples display harmful eating behaviours such as the depiction of a 16-day fast, which saw the user lose a large amount of weight and experience other side effects common to starvation, such as hair loss. This research was a content analysis and does not specify the presence of UK child users. Evidence accessed by Ofcom but not yet publicly available. Source: Lavis, A. and Aziz, J. 2023. 'Borderline' Restrictive Eating Content on Social Media: What is Harmful and to Whom? [accessed 6 October 2023]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>436</sup> Evidence accessed by Ofcom but not yet publicly available. Source: Lavis, A. and Aziz, J. 2023. 'Borderline' Restrictive Eating Content on Social Media.

<sup>&</sup>lt;sup>437</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGBT, which reflect the acronyms used in each source.

<sup>&</sup>lt;sup>438</sup> Parker, L. and Harriger, J., 2020. <u>Eating disorders and disordered eating behaviors in the LGBT population: a</u> review of the literature, Journal of Eating Disorders, 8. [accessed 28 March 2025].

<sup>&</sup>lt;sup>439</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>440</sup> <u>Beat</u> response to May 2024 Consultation on Protecting Children from Harms Online (May 2024 Consultation), p.2.

that stereotypes about who is typically affected by eating disorders can discourage people from minority ethnic backgrounds from seeking help, reducing their chances of recovery. Beat found that nearly four in ten (39%) believed eating disorders were more common among white people than other ethnicities. Additionally, Beat's research found that just over half (52%) of individuals from minority ethnic backgrounds feel confident seeking help from a health professional, compared to 64% of white British people.<sup>441</sup> While this data does not focus on children's experiences specifically, we consider it provides useful context.

- 4.42 Clinical research also highlights disparities in the diagnosis and treatment of eating disorders among minority ethnic groups. Barriers such as difficulties in recognising the need for treatment or receiving an accurate diagnosis and appropriate care contribute to these disparities.<sup>442</sup>
- 4.43 While there is no specific evidence to suggest that minority ethnic groups are at greater risk of encountering eating disorder-related content, individuals from these backgrounds who experience eating disorders may seek help online in the absence of offline support. This reliance may make them particularly vulnerable to content that promotes these disorders.

#### Disability

- 4.44 The evidence suggests that children with some disabilities are more likely to encounter eating disorder content. A study by Internet Matters found that 15% of 11-17-year-olds with speech difficulties, and 14% of autistic 11-17-year-olds, had 'often' seen eating disorder content, compared to 5% of children the same age without any vulnerabilities.<sup>443</sup>
- 4.45 Certain groups are more at risk of developing eating disorders, such as autistic children. Pathway for Eating disorders and Autism from Clinical Experience (PEACE) reported that an estimated 35% of people suffering from an eating disorder also have autism or 'high autistic features'.<sup>444</sup> While these are very different conditions, PEACE explains that the correlation may be due to similarities in the way individuals with these conditions process social and emotional information.<sup>445</sup> Research by Beat also reported that ARFID can often occur

<sup>&</sup>lt;sup>441</sup> Note: We have not had access to the methodology for this source. This research was commissioned by Beat, conducted by YouGov, and cited in a research briefing pack for the House of Commons Library as part of Eating Disorders Awareness Week 2019. Source: House of Commons Library, 2019. <u>Eating Disorders Awareness</u> <u>Week</u>. [accessed 22 November 2024].

<sup>&</sup>lt;sup>442</sup> Note: This is a US-based study using large-scale survey data from the Healthy Bodies Study, a populationlevel, web-based survey. It is representative of a sample (N = 1,747) of undergraduate and graduate students (aged 18 and above) with symptoms of an eating disorder. Source: Sonneville, K. R. and Lipson, S. K., 2018. <u>Disparities in eating disorder diagnosis and treatment according to weight status, race/ethnicity,</u> <u>socioeconomic background, and sex among college students</u>, *International Journal of Eating Disorders*, 51 (6) [accessed 22 November 2024].

<sup>&</sup>lt;sup>443</sup> Note: Figures cited have been taken from the charts of the report. Vulnerable groups specified in the research are: anger issues; autism; 'I worry about life at home'; learning difficulties; speech difficulties; hearing difficulties; vision difficulties; mental health difficulties; care experienced; eating disorder; physical illness; carer; 'English is not my first language'. Source: Internet Matters (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk: Life Online for Vulnerable Young People</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>444</sup> This source does not specify the age range of those included. Source: PEACE, 2023. <u>What is an eating</u> <u>disorder?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>445</sup> The source uses anorexia nervosa as an example and explains how people with autism and anorexia nervosa often have difficulty in identifying and describing their own emotions. Both conditions are also associated with difficulties in understanding non-verbal communication such as facial expression, body language and tone of voice, which can it sometimes result in confusion and anxiety in social situations. Source:

alongside autism.<sup>446</sup> There is limited evidence on autistic children's experiences of encountering eating disorder content online, but it is reasonable to assume that autistic children may also be at heightened risk of harm from this type of content. Refer to subsection 'Impacts' within this section for more information.

### Physical/mental health

- 4.46 Children with mental and physical health conditions may be at heightened risk of harm from eating disorder content in a number of ways.
- 4.47 A literature review suggests that individuals with eating disorders, particularly anorexia nervosa, may perceive value in their disorder, showing ambivalence toward recovery and often holding positive views of their illness.<sup>447</sup> Although this review focuses on adults, it provides valuable context for understanding the complexities of eating disorder experiences and why children may actively seek out such content and be especially vulnerable to its influence.<sup>448</sup>
- 4.48 Specifically, those with an eating disorder are more likely to report encountering eating disorder content online.<sup>449</sup> A study exploring life online for vulnerable children found that 31% of children aged 11-17 with an eating disorder had 'often' seen eating disorder content online, compared to 5% of those without any vulnerabilities.<sup>450</sup> Ofcom research also found that children and young adults aged 13-21 with experience of an eating disorder were more likely to see more graphic eating disorder content, and see it more frequently.<sup>451</sup>
- 4.49 Children with other mental health difficulties are also more likely to be exposed to and harmed by eating disorder content. Ofcom's research found that children and young adults aged 13-21 with experience of certain mental health conditions were more likely to seek, share and post their own content.<sup>452</sup> A study exploring life online for vulnerable children also found that 19% of those aged 11-17 with mental health difficulties 'often' saw eating disorder content, compared to 5% of those without any vulnerabilities.<sup>453</sup>

<sup>448</sup> <u>Beat</u> response to May 2024 Consultation, p.1.

PEACE, 2023. <u>Similarities in Social and Emotional Functioning in Anorexia and Autism</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>446</sup> Beat, 2023. <u>What is Avoidant/Restrictive Food Intake Disorder?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>447</sup> Note: This paper reviews both qualitative and quantitative research; however, it should be noted that the review focuses on adults, some sample details are unclear, and it includes non-UK samples. Source: Gregertsen, E., Mandy, W. and Serpell, L., 2017. <u>The Egosyntonic Nature of Anorexia: An Impediment to Recovery in Anorexia Nervosa Treatment</u>, *Frontiers in Psychology*, 8. [accessed 22 November 2024].

<sup>&</sup>lt;sup>449</sup> Social Finance, 2022. <u>Social media, psychological harm and violence among young people</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>450</sup> Note: Figures cited have been taken from the charts of the report. Vulnerable groups specified in the research are: anger issues; autism; 'I worry about life at home'; learning difficulties; speech difficulties; hearing difficulties; vision difficulties; mental health difficulties; care experienced; eating disorder; physical illness; carer; 'English is not my first language'. Source: Internet Matters (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk</u>.

<sup>&</sup>lt;sup>451</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>452</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>453</sup> Note: Figures cited have been taken from the charts of the report. Vulnerable groups specified in the research are: anger issues; autism; 'I worry about life at home'; learning difficulties; speech difficulties; hearing difficulties; vision difficulties; mental health difficulties; care experienced; eating disorder; physical illness; carer; 'English is not my first language'. Source: Internet Matters (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk</u>.

4.50 Poor physical health may also increase the risk of encountering eating disorder content. The same report, exploring life online for vulnerable children, noted that 18% of children aged 11-17 with a long-term physical illness had 'often' seen eating disorder content (compared to 5% of those without any vulnerabilities).<sup>454</sup>

#### Socio-economic factors

- 4.51 While not specifically related to online eating disorder content, evidence suggests that periods of financial strain may amplify disordered eating behaviours and put certain groups of children at increased risk of harm from eating disorder content. Research has shown that low-income groups living with food insecurity (such as having to miss meals due to the cost of food or being limited to certain low-cost foods) are at significantly higher risk of eating disorders, and periods of financial strain may put further pressure on this.<sup>455</sup> Those with experience of an eating disorder may be especially at risk. Beat explained how food insecurity can make eating disorder behaviours worse for people who are already vulnerable or contribute to a relapse for those in recovery.<sup>456</sup>
- 4.52 The evidence suggests that children with low socio-economic backgrounds are more likely to encounter eating disorder content online. The report, exploring life online for vulnerable children, noted that young carers (13%) and those who worry about life at home (15%) were more likely to 'often' see eating disorder content than children without any vulnerabilities (5%).<sup>457</sup>

# **Risk factors: Service types**

4.53 Research suggests that children are at an increased risk of encountering eating disorder content on the following service types: social media services, video-sharing services, messaging services, discussion forums and chat room services. A user-to-user service may contain more than one service type.

# Service type

#### Social media services and video-sharing services

4.54 The evidence suggests that children encounter eating disorder content on social media services and video-sharing services. These types of services can use content recommender systems to allow content (particularly images and videos) to be rapidly shared and

<sup>&</sup>lt;sup>454</sup> Note: Figures cited have been taken from the charts of the report. Vulnerable groups specified in the research are: anger issues; autism; 'I worry about life at home'; learning difficulties; speech difficulties; hearing difficulties; vision difficulties; mental health difficulties; care experienced; eating disorder; physical illness; carer; 'English is not my first language'. Source: Internet Matters (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk</u>.

<sup>&</sup>lt;sup>455</sup> NHS Confederation (Lowe, R. and Mahmood, H.), 2022. <u>Why preventing food insecurity will support the</u> <u>NHS and save lives</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>456</sup> Evidence taken from a direct quote from Beat's Director of External Affairs. Source: Smith, S., 2022. <u>How</u> <u>the cost of living crisis is fuelling a rise in eating disorders</u>. Dazed Digital, 20 October. [accessed 28 March 2025].

<sup>&</sup>lt;sup>457</sup> Note: Figures cited have been taken from the charts of the report. Vulnerable groups specified in the research are: anger issues; autism; 'I worry about life at home'; learning difficulties; speech difficulties; hearing difficulties; vision difficulties; mental health difficulties; care experienced; eating disorder; physical illness; carer; 'English is not my first language'. Source: Internet Matters (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk</u>.

recommended to large audiences, and potentially seen by a large number of children. Refer to sub-section 'Recommender systems' within this section for more information.

- 4.55 Children and young adults aged 13-21 in Ofcom's research said that eating disorder content was prolific on a range of social media services.<sup>458</sup> Research commissioned by DCMS with children and young adults aged 9-18 also reported that body-image and eating disorder content was often seen on social media.<sup>459</sup>
- 4.56 Ofcom research found that eating disorder content was present on video-sharing services.<sup>460</sup> Several studies found that video-sharing services were hosting and recommending eating disorder content, presenting the risk that children using the service could encounter this content. The Center for Countering Digital Hate (CCDH) used avatars to investigate recommender systems and found hashtags relating to eating disorders with over 13.2 billion views.<sup>461</sup> A study investigating anorexia-related misinformation disseminated through video-based social media found that, of all the anorexia-related videos on the platform studied as part of the research, 29.3% were rated as 'pro-anorexia'.<sup>462</sup> Refer to sub-section 'Risk factors: Functionalities and recommender systems' within this section for more information.

#### **Messaging services**

4.57 The evidence suggests that children may encounter eating disorder content on messaging services.<sup>463</sup> Content shared in more private contexts can be more extreme: for example, when shared in group chats (refer to sub-section 'User communication: Group messaging' within this section for more information). Eating disorder content can also be shared in the context of one-to-one exchanges, for example between 'anorexia coaches' and vulnerable children (refer to sub-section 'User communication: Direct messaging' within this section for more information), and in encrypted environments that make moderation more challenging.<sup>464</sup>

<sup>&</sup>lt;sup>458</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>459</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>460</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>461</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. The hashtags relating to eating disorders contained some healthy discussion of eating disorders, as well as harmful pro-eating disorder videos. Source: CCDH, 2022. <u>Deadly by Design</u>.

<sup>&</sup>lt;sup>462</sup> Three doctors reviewed 140 videos with approximately 11 hours of video content, classifying them as 'informative', 'pro-anorexia', or 'others'. 'Pro-anorexia' was defined as videos promoting anorexia as a fashion or a source of beauty, and which share tips and methods for becoming and remaining anorexic. Source: Syed-Abdul et al., 2013. <u>Misleading Health-Related Information Promoted Through Video-Based Social Media:</u> <u>Anorexia on YouTube</u>, *Journal of Medical Internet Research*, 15 (2).

<sup>&</sup>lt;sup>463</sup> Research from Ofcom and 5Rights Foundation has found that eating disorder content has been encountered by children on encrypted messaging services. Source: 5Rights Foundation, 2021. <u>Pathways: how</u> <u>digital design puts children at risk</u>. [accessed 28 March 2025]. Subsequent references to this source throughout; Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online</u> <u>content relating to eating disorders, self-harm and suicide</u>.

<sup>&</sup>lt;sup>464</sup> Marsh, S., 2019. <u>'Anorexia coaches' on Kik app prey on people with eating disorders</u>. The Guardian, 1 March. [accessed 28 March 2025].

#### Discussion forums and chat room services

- 4.58 Discussion forums and chat room services are spaces in which children can encounter eating disorder content. These spaces can allow users to share eating disorder content in dedicated communities which they may perceive as self-regulating. Ofcom's research found that eating disorder content was shared in online forums; children and young adults aged 13-21 described using one particular discussion forum because they perceived sub-forums to be self-regulating with little perceived outside moderation.<sup>465</sup>
- 4.59 Children can be led to discussion forums and chat rooms from other services, which can allow them to further explore and encounter more extreme eating disorder content. For example, pro-eating disorder websites and blogs can often contain discussion forums or chat rooms, which can enable users to communicate, join 'group fasts', find information about maintaining an eating disorder and be paired with an online user who will encourage their disordered eating behaviours.<sup>466</sup> An Ofcom study described the experience of a 16-year-old girl who was introduced by a friend to a pro-anorexia community online on a blogging website.<sup>467</sup>
- 4.60 This service type can pose particular risks because some online eating disorder forums contain eating disorder content that can be intentionally disguised as recovery focused. This risks both the harmful content evading moderation, and users seeking recovery content unintentionally being exposed to harmful content. [≫].<sup>468</sup>
- 4.61 Generative artificial intelligence (GenAI) models can generate eating disorder content, which may be created and shared with other users on a social media service or discussion forums, where it could be encountered by children.<sup>469</sup> Research from the CCDH compiled a set of prompts informed by research into eating disorder content and found that 41% of AI tools, 23% of AI chatbots and 32% of AI image generators generated eating disorder content in response to these prompts.<sup>470</sup> The research also reported that users of an eating disorder forum with over 500,000 members had shown signs of embracing AI tools to

<sup>&</sup>lt;sup>465</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>466</sup> This source studied young adults aged 18-23. Source: Bardone-Cone, A. and Cass, K. 2007. <u>What Does</u> <u>Viewing a Pro-Anorexia Website Do?</u>, *International Journal of Eating Disorders*, 40 (6). [accessed 28 March 2025]. This source is a content analysis and does not specify child users. Source: Bond, E. 2012. <u>Virtually</u> <u>Anorexic – Where's the harm?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>467</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 10 February 2025]. Subsequent references to this source throughout.

<sup>468 [%]</sup> 

<sup>&</sup>lt;sup>469</sup> For example, where a site or app includes a GenAI tool that enables users to share text, images or videos relating to eating disorder content with other users, it will be a user-to-user service. We would expect such site or app to meet the relevant user-to-user duties. Source: Ofcom, 2024. <u>Open Letter to UK online service</u> <u>providers regarding Generative AI and chatbots</u>. [accessed 17 January 2025].

<sup>&</sup>lt;sup>470</sup> Note: The research involved submitting a set of 20 prompts (informed by research on eating disorders and content from eating disorder forums) to six popular GenAI services, including chatbots and image generator, to elicit responses. While some AI chatbots initially blocked advice on disordered eating behaviours, the use of 'jailbreaks' (creative prompts designed to bypass platform safety features intended to prevent the generation of illegal or unethical content) was tested. These techniques were found to circumvent safety measures on all tested platforms. Therefore, the figures representing rates of harmful content generation do not reflect those for users who do not employ jailbreaking techniques. Source: CCDH, 2023. <u>AI and Eating Disorders: How generative AI is enabling users to generate harmful eating disorder content</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

produce eating disorder content and had posted such content on the service.<sup>471</sup> This research does not specify the presence of child users.

# **Risk factors: Functionalities and recommender systems**

# User identification

## User profiles

- 4.62 Eating disorder content can be encountered via influencer profiles that risk glamourising eating disorders. Ofcom research with 13-21-year-olds reported that children and young adults see influencers as role models and a trusted source, <sup>472</sup> creating a heightened risk of harm if eating disorder content is posted on these accounts. Participants also shared the view that some influencers and celebrities have popularised eating disorder content by associating disordered eating with glamorous lifestyles in their content. These profiles can have a significant number of subscribers or followers (refer to sub-section 'User networking: User connections' within this section for more information) and posting content from these profiles has been linked to increased risk both of encountering eating disorder content and normalising it (refer to sub-section 'User communication: Posting content' within this section for more information).
- 4.63 Creating multiple user profiles can enable children to engage with eating disorder content in less visible ways. Ofcom research found that 56% of children aged 8-17 who have their own profile on an online service have another profile on the same platform; the most common reason was to have an account that only parents/family can see (23%).<sup>473</sup> Evidence suggests that some of these additional profiles can be used to engage with eating disorder content. This was observed in a study on users' communication about eating disorders on social media.<sup>474</sup> Another study by 5Rights Foundation reported a 14-year-old child creating separate accounts to search for eating disorder content so their family and friends would not see it.<sup>475</sup>
- 4.64 Evidence suggests that children with experience of an eating disorder are, in some cases, choosing usernames with words related to eating disorders, such as 'anorexia'. The use of such usernames can make these children more likely to encounter eating disorder content because of how they interact with recommender systems. The CCDH used avatars to investigate recommender systems and found evidence to suggest that accounts established with a child's age, and a username which indicated a body image-related concern, receive more recommendations for eating disorder and self-harm content than similar accounts without this phrase in the name.<sup>476</sup> Refer to sub-section 'Recommender systems' within this section for more information.

<sup>&</sup>lt;sup>471</sup> CCDH, 2023. <u>AI and Eating Disorders</u>.

<sup>&</sup>lt;sup>472</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>473</sup> Online service refers to the apps/sites used for messaging/voice/video calling, social media, watching or posting content on video-sharing platforms, watching or posting livestream videos. Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>. [accessed 10 February 2025].

 <sup>&</sup>lt;sup>474</sup> The age and location of user accounts was not included in the research. Source: Branley, D. and Covey, J.
 2017. <u>Pro-ana versus Pro-recovery: A Content Analytic Comparison</u>, *Frontiers in Psychology*, 8.
 <sup>475</sup> 5Rights Foundation, 2021. <u>Pathways: how digital design puts children at risk</u>.

<sup>&</sup>lt;sup>476</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the

4.65 Similarly, user profile information which references a pro-eating disorder mindset can enable the creation of user networks with shared interests, due to recommender systems recommending accounts with similar profiles.<sup>477</sup> A study investigating pro-eating disorder user profiles aged 15-25 found that profiles that were more clearly pro-eating disorder tended to engage a network that was more concentrated with other pro-eating disorder users.<sup>478</sup> This risks creating an online 'echo chamber' where disordered eating behaviours are reinforced. Refer to sub-section 'Recommender systems' within this section for more information.

#### Anonymous user profiles

4.66 The evidence suggests that anonymous user profiles may give users the confidence to share sensitive information, and thereby increase the likelihood of eating disorder content being shared. A study of 126 pro-anorexia websites observed how the anonymity of users' profiles correlated with the sharing of painful experiences that often, but not exclusively, focused on experiences relating to eating disorders.<sup>479</sup> Anonymous profiles may allow the fostering of emotional connections, and risk strengthening the pro-anorexia identity of users of such communities.

### **User networking**

#### **User connections**

- 4.67 As described above, eating disorder content can be posted from influencer profiles that have a significant number of subscribers or followers (including children). User connections in this context can increase the risk of harm by increasing the number of children who may encounter the content. Refer to sub-section 'User communication: Posting content' within this section for more information.
- 4.68 Some users may join dedicated online communities for social connection and interaction.<sup>480</sup> Evidence suggests that children with experience of an eating disorder are sharing eating disorder content among their friends and online connections because they have created a network of users with a shared interest in the issue.<sup>481</sup> Ofcom research described the experience of a 16-year-old girl with an eating disorder being introduced to 'pro-eating disorder' communities online by a school friend who regularly engaged with pro-anorexia content on a blogging site. The girl believed that because she was friends with this person,

minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. Source: CCDH, 2022. <u>Deadly by Design</u>.

<sup>&</sup>lt;sup>477</sup> A study analysing social media users' communication about eating disorders found that accounts dedicated to pro-anorexia content had profile information that often included a list of goal weights, and were where many users chose to record their progress. Note: This research does not specify the age or location of users included in the analysis. Source: Branley, D. and Covey, J., 2017. <u>Pro-ana versus Pro-recovery: A Content</u> <u>Analytic Comparison</u>, *Frontiers in Psychology*, 8.

<sup>&</sup>lt;sup>478</sup> Arseniev-Koehler, A., Lee, H., McCormick, T. and Moreno, M., 2016. <u>#Proana: Pro-Eating Disorder</u> <u>Socialization on Twitter</u>, *Journal of Adolescent Health*, 58 (6). [accessed 28 March 2025].

<sup>&</sup>lt;sup>479</sup> This source is a content analysis and does not specify child users. Source: Bond, E., 2012. <u>Virtually Anorexic</u> <u>– Where's the harm?</u>

<sup>&</sup>lt;sup>480</sup> <u>Beat</u> response to May 2024 Consultation, p.1.

<sup>&</sup>lt;sup>481</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

she came across more of this type of online content than she would have done otherwise.  $^{\ensuremath{\mathsf{482}}}$ 

#### User groups

- 4.69 Eating disorder content can also be shared in user groups. User groups can bring together users with mutual interests, and as eating disorder communities may have a competitive element, can result in online spaces where harmful behaviours are encouraged. Ofcom research found an array of user groups distributing and discussing eating disorder content; these communities included open and closed groups on social media and discussion forum services, and groups on messaging services.<sup>483</sup> An NSPCC briefing on insights from Childline helplines also reported that children with experience of an eating disorder were actively seeking eating disorder content through such groups.<sup>484</sup>
- 4.70 User groups centred on eating disorder content risk harmful content and information being easily disseminated among group participants, including children. Ofcom research found that children and young adults aged 13-21 with experience of an eating disorder were more likely to belong to eating disorder groups or communities online.<sup>485</sup> The research also reported that, while it was not always clear from the children and young adults how code words relating to eating disorder content became known, there was a sense that these were often shared within online groups formed around the issue. Refer to sub-section 'Content exploring: Content tagging' within this section for more information.<sup>486</sup>

### **User communication**

#### **Direct messaging**

- 4.71 Direct messaging can be used by online users who actively encourage disordered eating behaviours in other users online, including children.<sup>487</sup> Evidence from an investigative journalism article suggested that the initial connection can be made via posts, or comments on posts, on social media services, with communication then moving to direct messaging so that it occurs in a closed online space.<sup>488</sup>
- 4.72 There is evidence to suggest that perpetrators of CSEA are deliberately targeting children with the intent of sexual exploitation. An exploratory study into the vulnerability of children to human trafficking reported on a number of criminal and investigative journalism cases (across the UK, the Netherlands and Germany) where CSEA perpetrators were posing as

<sup>&</sup>lt;sup>482</sup> Ofcom, 2022. <u>Risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>483</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>484</sup> NSPCC, 2022. <u>Children's experiences of legal but harmful content online</u>.

<sup>&</sup>lt;sup>485</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>486</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>487</sup> These users are known as 'anacoaches', 'pro-ana coaches' and 'ana buddies'. 'Coaching' can include requesting pictures and videos for 'body checks', weekly weigh-ins and enforcing strict rules about what food to eat and avoid. It can also include 'punishment' for not complying, in the form of verbal abuse, and sometimes requesting sexual images. Source: Sukunesan, S., 2021. <u>'Anorexia coach': sexual predators online</u> <u>are targeting teens wanting to lose weight</u>. The Conversation, 25 July.

<sup>&</sup>lt;sup>488</sup> Knox, M., 2019. <u>How anorexic kids as young as 13 are meeting 'ana buddies' online and helping each other</u> <u>starve</u>, The Sun, 29 April. [accessed 28 March 2025]. Subsequent references to this source throughout.

'anorexia coaches' to exploit sexual images and acts from young women and girls.<sup>489</sup> Direct messaging was used to build a relationship between the 'coach' and child or young adult, and the dependency and loyalty they felt towards their 'coach' was noted as contributing to the exploitation. Children with experience of an eating disorder who connect with 'anorexia coaches' are therefore at greater risk of harm of sexual abuse. Refer to the <u>Illegal Harms</u> <u>Register</u> (see Section 2: Child Sexual Exploitation and Abuse (CSEA)).

#### **Group messaging**

- 4.73 Group messaging can enable the sharing of eating disorder content with multiple users simultaneously. Ofcom research found that eating disorder content is often shared in group chats on both messaging services and social media services. Active participation in such chats was more common among children with experience of eating disorders than among those without.<sup>490</sup> This functionality can also bring about the dissemination of eating disorder content across services. The same Ofcom research found that group chat participants were using the groups to share eating disorder content they had encountered on other social media services.
- 4.74 The evidence suggests that eating disorder content shared in group chats can be more extreme. Ofcom research found that children and young adults aged 13-21 with experience of eating disorders had posted harmful eating disorder content in group chats.<sup>491</sup> A study from 5Rights Foundation also illustrated how children engaging with weight-loss content could then be added to messaging groups where extreme disordered eating behaviours were encouraged.<sup>492</sup>
- 4.75 The sense of community between users created via group messaging can be particularly harmful. A study of 126 pro-anorexia websites observed that many had different group messages for different topics. For example, group messages for new members, to discuss eating disorders, and for discussion of non-eating disorder topics such as family issues. Regular communication could build a strong sense of community between group chat participants. In turn, this could contribute to an intensified belief in the harmful ideals discussed, and the encouragement of harmful behaviours. For example, this study observed group messages being used to inspire 'group fasts', as users joined fasts initiated by other users in the chat to show solidarity with their community.<sup>493</sup>

<sup>&</sup>lt;sup>489</sup> Dettermeijer-Vermeulen, C., Esser, L. and Noteboom, F. 2016. <u>Vulnerability up Close: An exploratory study</u> <u>into the vulnerability of children to human trafficking</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>490</sup> Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>491</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>492</sup> The case study described the experience of a child who was concerned about their weight and started searching for weight-loss tips and diets on social media. After following 'thinspiration' accounts and posting about her weight loss, she soon connected with a community of users engaging with similar content and was added to several messaging groups. These groups encouraged extreme dieting and users requested verbal abuse to hold them to account on their disordered eating behaviours. Source: 5Rights Foundation, 2021. Pathways: how digital design puts children at risk.

<sup>&</sup>lt;sup>493</sup> The report describes an example where, following one user messaging to say they were starting a three-day fast to regain control after Christmas, within two hours many other users had joined in solidarity. This source is a content analysis and does not specify child users. Source: Bond, E., 2012. <u>Virtually Anorexic – Where's the harm?</u>

#### **Reacting to content**

4.76 The evidence suggests that eating disorder communities are highly engaged online, and the level of engagement which eating disorder content can attract (such as likes and comments) can act as an incentive for children to continue posting such content. As has been previously described, Ofcom research described the experience of a 16-year-old girl who was inspired to create her own pro-anorexia blog following engagement with similar content from other users online. She explained that she 'enjoyed the popularity' her content received, which led to her wanting to post on the blog more.<sup>494</sup>

#### **Commenting on content**

- 4.77 The ability to comment on eating disorder content has the potential to amplify the risk of harm of the content, both for those commenting and those who encounter the comments, by allowing discussion of eating disorders and the promotion of disordered eating behaviours and ideals. A content analysis of 'thinspiration' videos and their comments found that 'thinspiration' posts induced conversations about eating disorders. Comments, a couple of which had thousands of likes, showed how many girls viewed thinness as a measure of success; comments often involved young girls comparing themselves to weight measurements discussed in the post/the body type of the person in the image, and discussing how much weight they wanted to lose.<sup>495</sup>
- 4.78 Commenting on content can be used to encourage disordered eating behaviour, particularly among children with experience of an eating disorder. An investigative journalism piece reported on the trend of posting shaming comments on eating disorder content, which targeted the appearance of the user posting the content.<sup>496</sup> These comments were seemingly intended to be used as 'motivation' for the user posting the image to continue their disordered eating.
- 4.79 Commenting on eating disorder content can risk drawing children down a 'rabbit hole'<sup>497</sup> of engagement with further eating disorder content. Ofcom research described how children and young adults aged 13-21 felt they had been 'taken in' by worrying or extreme eating disorder content, which led them to engage with the comments on the post. Many of the children and young adults with experience of an eating disorder reported sharing their own stories and experiences in the comments, once drawn into a piece of content. Some described how this then 'drew them down a rabbit hole' of further conversations about eating disorders, or engagement with other harmful content.<sup>498</sup>
- 4.80 Commenting on content, combined with other functionalities, can lead to harmful outcomes. For example, commenting on content can lead children to being added to user groups. A study by 5Rights Foundation described the reflections of a 17-year-old girl who,

<sup>&</sup>lt;sup>494</sup> Ofcom, 2022. <u>Risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>495</sup> 'Thinspiration' was defined as 'visually promoting excessively thin female body types' and often included visuals of women and girls with their ribcage showing. The study focused on teenage girls aged 13-19. Source: Hung, M., 2022. <u>A Content Analysis on Fitspiration and Thinspiration Posts on TikTok</u>, *Cornell Undergraduate Research Journal*, 1 (1). [accessed 28 March 2025].

<sup>&</sup>lt;sup>496</sup> J. Cole Nutrition (Polanco, J.), 2020. <u>The Incitement of Diet Culture and Disordered Eating through TikTok</u>. [accessed 6 February 2024].

<sup>&</sup>lt;sup>497</sup> Where a user is continually fed or seeks particular content and so becomes more and more involved in or believing of such content. This could include harmful content such as misogyny or extremist views, and it becomes more and more difficult to extricate them from that content.

<sup>&</sup>lt;sup>498</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

when aged 14, had commented a few times on pictures, and was then added into several messaging groups that encouraged extreme dieting.<sup>499</sup> Engagement with eating disorder content via comments may also influence the type of content promoted through content recommender systems. Refer to sub-section 'Recommender systems' within this section for more information.

4.81 As already discussed, commenting on content can make children visible online to perpetrators of CSEA. Evidence from an investigative journalism article suggested that children with experience of an eating disorder are connecting with 'anorexia coaches' via comments left on posts on social media services. In this way, commenting on content can create a pathway for children to be put at even greater risk of harm.<sup>500</sup> Refer to sub-section 'User communication: Direct messaging' within this section for more information.

### **Posting content**

- 4.82 The functionality for users to post eating disorder content, in the form of videos, images or text, is a fundamental way to how children encounter eating disorder content.
- 4.83 The ability to post images enables content to be shared which depicts bodies that may be 'aspirational' to children with an eating disorder. The evidence reports that posted images commonly feature people with an eating disorder,<sup>501</sup> as well as other 'thinspiration' images of emaciated women.<sup>502</sup> Ofcom's research with children and young adults aged 13-21 reported how the graphic nature of these images posted online made them feel anxious, as well as fearful for the safety of those in the images.<sup>503</sup> These images can be posted by influencer accounts with large followings. Being able to post eating disorder content to large networks through user connections presents significant risk of harm to children (refer to sub-section 'User networking: User connections' within this section for more information). Influencers can also be incentivised by business models, focused on maximising engagement, to post shocking or extreme content such as graphic imagery of emaciated bodies. For further discussion of business models refer to Section 14: Business models and commercial profiles for more information.
- Eating disorder content can contain information on how to sustain disordered eating behaviours, and posting this content can make the information easily visible to children.
  Ofcom research with children and young adults aged 13-21 found that posts about eating disorder content tended to be associated with restrictive eating. The participants said that

<sup>&</sup>lt;sup>499</sup> 5Rights Foundation, 2021. <u>Pathways: how digital design puts children at risk</u>.

<sup>&</sup>lt;sup>500</sup> Knox, M., 2019. <u>How anorexic kids as young as 13 are meeting 'ana buddies' online and helping each other</u> <u>starve</u>, The Sun, 29 April.

<sup>&</sup>lt;sup>501</sup> Ofcom research with children and young adults aged 13-21 described eating disorder content that involved 'body checking'. 'Body checking' was described as images of individuals usually taken in front of a mirror and using camera angles and/or lighting to accentuate particular body features. Source: Ofcom, 2024. <u>Online</u> <u>Content: Qualitative Research Experiences of children encountering online content relating to eating disorders,</u> <u>self-harm and suicide</u>.

<sup>&</sup>lt;sup>502</sup> The research describes these images as images of extremely thin women displaying extremely protruding collarbones, hipbones and ribs, or thigh gaps. Source: Branley, D. and Covey, J. 2017. <u>Pro-ana versus Pro-recovery: A Content Analytic Comparison</u>, *Frontiers in Psychology*, 8.

<sup>&</sup>lt;sup>503</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

this typically included instructions on how to restrict calories, such as extremely low-calorie diets and excessive exercise to compensate for calorie intake.<sup>504</sup>

- 4.85 As has been discussed, eating disorder content can be competitive in nature, and posting eating disorder content can reinforce this. Research commissioned by DCMS described how girls had tried to eat less, or exercise more, than had been suggested in the online posts they had seen.<sup>505</sup> Evidence has also shown that eating disorder content can take the form of 'accountability posts', where users post their current weight, target weight and ultimate goal weight online, which can also contribute to the culture of competitiveness, as users aim for weights lower than those seen online.<sup>506</sup>
- 4.86 Posting eating disorder content can both make children visible to, and allow them to connect with, perpetrators of child sexual exploitation and abuse. Evidence from an investigative journalism article suggested that children with experience of an eating disorder can post content seeking an 'anorexia coach', and users acting as such 'coaches' post content to advertise themselves as such.<sup>507</sup> Therefore, posting of such content can create a pathway for children to become at more risk of harm. Refer to sub-section 'User communication: Direct messaging' within this section for more information.

# **Content exploring**

#### User-generated content searching<sup>508</sup>

- 4.87 User-generated content searching has the potential to make eating disorder content easily accessible to children. This is a particular risk for those with experience of eating disorders, who are both more likely to be searching for such content and more likely to be at higher risk of harm from it. Ofcom research found that some children and young adults aged 13-21 reported actively searching for eating disorder content on social media.<sup>509</sup> This searching involved clicking directly on hashtags, alongside typing key terms, hashtags and code words into the search bar.
- 4.88 Evidence suggests that children can search for code words as opposed to explicit terms to evade detection or censorship, and bypass keyword blocking.<sup>510</sup> Research by 5Rights Foundation used avatars to search for key terms on accounts registered with a child's age and found that searching for certain known and obvious terms associated with eating

<sup>506</sup> Juarascio, A., Shoaib, A. and Timko, C., 2010. <u>Pro-Eating Disorder Communities on Social Networking Sites: A</u> <u>Content Analysis</u>, *Eating Disorders: The Journal of Treatment and Prevention*, 18 (5). [accessed 28 March 2025].

<sup>&</sup>lt;sup>504</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>505</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>507</sup> Knox, M., 2019. <u>How anorexic kids as young as 13 are meeting 'ana buddies' online and helping each other</u> <u>starve</u>, The Sun, 29 April.

<sup>&</sup>lt;sup>508</sup> User-generated content searching refers to a user-to-user service functionality allowing users to search for user-generated content by means of a user-to-user service.

<sup>&</sup>lt;sup>509</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>510</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

disorder content returned no results containing eating disorder content, while searching for code words 'unlocked' the harmful content.<sup>511</sup>

4.89 Content searching is particularly risky in combination with recommender systems, as searching for content can influence the content that is promoted by these systems. This risks cumulative harm to children from exposure to high volumes of eating disorder content. Refer to sub-section 'Recommender systems' within this section for more information.

#### **Content tagging**

- 4.90 Content tagging is the process of adding keywords and phrases to user-generated content, often used to describe its subject, topic or theme. These are known to be strongly associated with harmful content and can be blacklisted by services as part of their content moderation practices. Refer to sub-section 'Recommender systems' in Section 16: Wider context to understanding risk factors for more information on how content tagging can present risk of harm.
- 4.91 Coded content tags can be used to obscure and disguise harmful content, in an attempt to bypass content moderation systems and be disseminated by recommender systems. The use of coded hashtags in this way can risk creating spaces where harmful content can proliferate for extended periods without detection by online services. Research commissioned by DCMS reported how children and young adults aged 9-18 described body-image and eating disorder content as easy to find by using well-known coded hashtags, which led users to posts promoting anorexia and other disordered eating.<sup>512</sup> Ofcom research reported how knowledge of the coded hashtags appeared to spread in eating disorder online communities.<sup>513</sup>
- 4.92 Pop culture references can be used to disguise eating disorder content, and thus enable continued circulation of the content. Research from the CCDH used avatars registered with child ages to investigate recommender systems. It observed the use of a hashtag abbreviating K-pop and weight-loss to promote eating disorder videos. The research also found that a celebrity's name had been co-opted into multiple hashtags to evade moderation.<sup>514</sup>
- 4.93 Hashtags are also being used in relation to harmful eating disorder challenges. An Italian study among children and adolescents with eating disorders during the Covid-19 pandemic highlighted examples of such challenges, including users being encouraged to demonstrate

<sup>&</sup>lt;sup>511</sup> The research involved setting up a series of avatars, which were profiles set up on social media apps that mimicked the online profiles of real children who took part in the interviews for this project. The age of the real child was used to register the profile and displayed in the bio of the user account. Source: 5Rights Foundation, 2021. <u>Pathways: how digital design puts children at risk</u>.

<sup>&</sup>lt;sup>512</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>.

<sup>&</sup>lt;sup>513</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>514</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. The hashtags relating to eating disorders contained some healthy discussion of eating disorders, as well as harmful pro-eating disorder videos. Source: CCDH, 2022. <u>Deadly by Design.</u>

certain body parts were smaller than common everyday objects.<sup>515</sup> Using hashtags to promote such challenges could increase the reach of a challenge, encourage engagement with it and risk trivialising the harmful behaviour. Refer to Section 9: Dangerous stunts and challenges content for further discussion.

- 4.94 Eating disorder content can use the same hashtags as content promoting recovery, and the use of tagging to disguise the true nature of eating disorder content may increase the risk that more users will unintentionally encounter this content. An examination of prorecovery communities online found that many videos tagged as pro-recovery contained eating disorder content.<sup>516</sup> Ofcom's research also described the experience of a child who saw eating disorder content tagged as content promoting recovery.<sup>517</sup>
- 4.95 Hashtags can also be used to frame potentially borderline content as eating disorder content. This risks creating an unintentional pathway from borderline content to eating disorder content. Ofcom research among children and young adults aged 13-21 described how hashtags that were not exclusively related to eating disorders could be used to tag content which they thought crossed the line into more harmful content. They also noted that these hashtags were used by fitness and lifestyle influencers.<sup>518</sup> A content analysis into borderline restrictive eating content also found that hashtags associated with eating disorders were being used on fasting-related content.<sup>519</sup>

#### Hyperlinking

4.96 Hyperlinks can be used in blogs promoting eating disorders to recommend webpages. A study of 126 pro-anorexia websites showed how users shared lists of other users they recommended following, with relevant pages hyperlinked.<sup>520</sup> The use of hyperlinks in this way may make it easier for accounts containing eating disorder content to become more visible.

# **Content editing**

#### **Editing visual media**

4.97 Eating disorder content can be creatively edited to drive engagement with the content.<sup>521</sup> A study of 126 pro-anorexia websites observed artistically styled videos hosted on video-sharing services where 'thinspiration' images had been clipped together into montages, alongside black and white images from films, celebrities, drawings and doodles.<sup>522</sup>

 <sup>&</sup>lt;sup>515</sup> Pruccoli, J., De Rosa, M., Chiasso, L., Perrone, A. and Parmeggiani, A., 2022. <u>The use of TikTok among children and adolescents with Eating Disorders</u>, *Italian Journal of Pediatrics*, 48. [accessed 28 March 2025].
 <sup>516</sup> Greene, A., Norling, H., Brownstone, L., Maloul, E., Roe, C. and Moody, S., 2023. <u>Visions of recovery: a cross-diagnostic examination of eating disorder pro-recovery communities on TikTok</u>, *Journal of Eating Disorders*, 11. [accessed 28 March 2025].

<sup>&</sup>lt;sup>517</sup> Ofcom, 2023. <u>Children's Media Lives</u>. [accessed 10 February 2025].

<sup>&</sup>lt;sup>518</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>519</sup> Evidence accessed by Ofcom but not yet publicly available. Source: Lavis, A. and Aziz, J. 2023. 'Borderline' Restrictive Eating Content on Social Media.

<sup>&</sup>lt;sup>520</sup> This source is a content analysis and does not specify child users. Source: Bond, E., 2012. <u>Virtually Anorexic</u> <u>– Where's the harm?</u>

<sup>&</sup>lt;sup>521</sup> While users can often create edited images and videos using third-party services, this content can then be shared on user-to-user services as user-generated content. Some user-to-user services also have dedicated editing functionalities that can be used to create such content.

<sup>&</sup>lt;sup>522</sup> This source is a content analysis and does not specify child users. Source: Bond, E., 2012. <u>Virtually Anorexic</u> <u>– Where's the harm?</u>

4.98 Barnardo's, the UK's largest national children's charity, found in a survey that 87% of children and young people felt the internet and social media created some pressure to look a certain way, with 35% reporting significant pressure. Additionally, 68% said online content had made them feel bad about their appearance.<sup>523</sup> The growing use of filters and image editing apps can influence body and beauty ideals, increasing pressure to look a certain way, which may contribute to body dissatisfaction.<sup>524</sup> While this is a separate matter to the risks of eating disorder content specifically, this trend provides useful context to understanding factors that may contribute to children experiencing harm online from eating disorder content. For further discussion on body stigma content specifically, refer to Section 11: Body stigma content (Non-designated content).

# **Recommender systems**

#### Content recommender systems

- 4.99 Services which deploy content recommender systems<sup>525</sup> are at higher risk for recommending and suggesting eating disorder content to children. Refer to Section 16: Wider context to understanding risk factors for more information on how recommender systems work and how they can pose a risk to children.
- 4.100 Children's engagement with certain topics such as body image, exercise, food, mental health, celebrity and lifestyle influencer content can lead to recommender systems promoting eating disorder content, so children encounter eating disorder content without actively searching for it. Indeed, Ofcom research among children and young adults aged 13-21 reported that participants said their initial encounters with eating disorder content were often unintentional, with children being algorithmically recommended harmful content they had not sought out.<sup>526</sup> To illustrate this, other Ofcom research described how a child who followed K-pop, healthy eating and beauty content was, over time, recommended dieting and restricted eating content.<sup>527</sup> Refer to Section 11: Body stigma content (Nondesignated content) for more information.
- 4.101 Some content recommended alongside eating disorder content may increase the risk of harm from eating disorder content. For example, the CCDH research used avatars to investigate recommender systems and found evidence to suggest that new child accounts which engaged with eating disorder content were recommended mental health content every 39 seconds.<sup>528</sup> Although the content relating to mental health may not be harmful in

<sup>&</sup>lt;sup>523</sup> Barnardo's Your Voice Matters is an annual survey of children and young people across the UK. The 2022 survey gathered 316 responses from individuals aged 11-25 and held focus groups with 30 participants, with fieldwork conducted between October and December 2022. Source: Barnardo's, 2022. <u>Your Voice Matters</u> 2022. [accessed 17 January 2025].

<sup>&</sup>lt;sup>524</sup> House of Commons Women and Equalities Committee, 2021. <u>Changing the perfect picture: an inquiry into</u> <u>body image</u>. As cited in <u>Barnardo's</u> response to May 2024 Consultation, pp.21-22. [accessed 18 March 2025]. <sup>525</sup> Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern. <sup>526</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>527</sup> The child felt that this fed into her negative eating behaviours. Source: Ofcom, 2022. <u>Risk factors that may</u> <u>lead children to harm online</u>.

<sup>&</sup>lt;sup>528</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the

its own right, children encountering eating disorder content *alongside* content relating to mental health may be particularly affected by this combination, and by the volume of mental health-related content on their feeds.<sup>529</sup> This is an example of 'cumulative harm' arising from a damaging combination of eating disorder content and content relating to mental health.

- 4.102 The evidence suggests that continued exposure to eating disorder content is common where children have engaged with eating disorder content. This is another example of 'cumulative harm', with children being served high volumes of harmful content. The CCDH research used avatars to investigate recommender systems and found evidence to suggest that new child accounts which engaged with eating disorder content were recommended eating disorder content within eight minutes of scrolling the 'For You' feed.<sup>530</sup> A child seeking out eating disorder content is likely to be particularly vulnerable to harm from this kind of content, yet current service design means that these more vulnerable children are more likely to be served high volumes of eating disorder content.
- 4.103 A report by the CCDH examined the algorithm of a large video-sharing service and its recommendations to teenage girls in the UK. In the study, a test account representing a 13-year-old with no prior viewing history watched an eating disorder-related video. Following this, one in four recommendations were for eating disorder-related videos deemed harmful, and over half (58%) were for content related to eating disorders or weight loss.<sup>531</sup> These findings raise concerns about the potential impact of services' recommender systems on vulnerable users and align with existing research on the risks associated with recommender systems, particularly in relation to promoting eating disorder content.
- 4.104 Recommender systems can exacerbate the risk of harm by recommending large volumes of eating disorder content to those who engage with it. Recommender systems are commonly

minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. Source: CCDH, 2022. <u>Deadly by Design.</u>

<sup>&</sup>lt;sup>529</sup> To illustrate this, research relating to suicide and self-harm content suggested that recommending this type of content alongside 'depressive' content can exacerbate poor mental health in children. In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm-related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm material, on Instagram, TikTok and Pinterest. [accessed 28 March 2025 <sup>530</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. Source: CCDH, 2022. Deadly by Design.

<sup>&</sup>lt;sup>531</sup> Note: We have considered the limitations of this study when presenting its findings. The preliminary findings of this research, within a US context, were included in the <u>CCDH response</u> to our May 2024 Consultation, p.6. The evidence has since been updated to reflect the findings of a follow-up study in a UK context, including its methodology. CCDH created a test account on a large video-sharing service, setting it as a 13-year-old female based in the UK. Researchers ran ten simulations of the account encountering an eating disorder-related video for the first time, collecting the top ten recommendations from each simulation. This resulted in a sample of 100 videos, which were subsequently analysed. Data was collected between 2 December and 4 December 2024. CCDH's evidence shows that harmful content was present on the site for that specific account. Source: CCDH, 2025. <u>YouTube's Anorexia Algorithm: How YouTube Recommends Eating</u> <u>Disorder Videos to Young Girls in the UK.</u> [accessed 20 February 2025].
designed to optimise user engagement, and to learn about the content users are likely to engage with through implicit (e.g., viewing multiple times) and explicit (e.g., liking, sharing and commenting) user feedback. As explored earlier in this section, the pro-eating disorder community online is highly active.<sup>532</sup> Therefore, in this area, functionalities combine to increase the risk of harm, because engagement with eating disorder content may lead recommender systems to promote more content that is harmful.

- 4.105 It can be challenging to distinguish between eating disorder content and recovery content, because both types of content cover similar themes.<sup>533</sup> Some eating disorder content can also be disguised so that it does not initially appear to be harmful.<sup>534</sup> This creates a risk that recommender systems will inadvertently recommend eating disorder content to children wishing to engage with recovery content, or content that does not initially appear to be harmful. Indeed, Ofcom research found that children and young adults aged 13-21 believed that their initial engagement with disguised eating disorder content, even if they stopped looking at it once they realised its true nature, led to further such content being recommended.<sup>535</sup>
- 4.106 The risks, as outlined above, are particularly acute, as children with experience of an eating disorder are more likely to engage with eating disorder and/or recovery content and are at greater risk of harm from seeing eating disorder content. They may also face greater risk of harm from exposure to such content, especially if they perceive eating disorders in a positive light or find value in them. This may make it more difficult to disengage from eating disorder content, as recommender systems can amplify and promote such content, as with other types of harmful content, even when individuals are not actively seeking it.<sup>536</sup>

# **Risk factors: Business model and commercial profile**

#### **Revenue models**

#### Advertising-based model

4.107 Advertising-based business models may increase the risk of children encountering eating disorder content. Services which optimise revenue based on user base and engagement have incentives to develop service designs and features that maximise engagement and drive revenue, even if this is at the expense of exposing child users to harmful content. As set out earlier in this section, eating disorder content can generate high engagement, especially within eating disorder communities. Advertising-based models therefore have the financial incentives to recommend such content to users, including children. Moreover, evidence indicates that child accounts can be served content that may not itself be eating disorder content but is likely to increase the risk of harm from viewing eating disorder content if seen in combination. For example, research by 5Rights Foundation used avatars to search for key words on accounts registered with a child's age and found that searching

<sup>&</sup>lt;sup>532</sup> As evidenced in this section, commenting on, reacting to and posting content is common among this community. Active searching for eating disorder content has also been observed. Refer to sub-sections 'User communication' and 'Content exploring' within this section for more information.

<sup>&</sup>lt;sup>533</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>534</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>535</sup> Ofcom, 2024. <u>Online Content: Qualitative Research Experiences of children encountering online content</u> relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>536</sup> Beat response to May 2024 Consultation, p.1.

for eating disorder-related words returned social media accounts advertising harmful weight-loss products.<sup>537</sup> In an effort to keep them engaged, at-risk children are therefore being directed to harmful combinations of content. Refer to Section 14: Business models and commercial profiles for further information.

4.108 Advertising-based business models can also involve presenting children with advertising content likely to increase the risk of harm from eating disorder content. Research from Beat among adults with experience of an eating disorder found that 96% of those who took part reported having encountered adverts online which could be harmful in the context of their eating disorder. Most participants had encountered weight-loss programmes (89%), weightloss apps (76%) and intermittent fasting adverts (73%). Eighty per cent reported seeing these adverts at least once a day, while 40% saw them multiple times a day, and 13% saw them more than five times daily.<sup>538</sup> There is evidence that children may have similar experiences. Research commissioned by DCMS reported that girls' social media feeds contained targeted adverts promoting unhealthy eating habits, body image, exercise patterns, and diet products.<sup>539</sup> Paid-for adverts are not in scope of the Act, but may increase the risk of harm from eating disorder content, particularly for children with experience of an eating disorder. In the Beat study discussed above, participants described how online advertising around weight loss fuelled their eating disorder or disordered eating behaviours. As one participant described, it is "not the root cause, but cheers (my) eating disorder on".<sup>540</sup> Should users encountering weight loss advertising alongside eating disorder content, it is likely to have a cumulative impact in exacerbating disordered eating behaviours.

<sup>&</sup>lt;sup>537</sup> The research involved setting up a series of avatars, which were profiles set up on social media apps that mimicked the online profiles of real children who took part in the interviews for this project. The age of the real child was used to register the profile and displayed in the bio of the user account. Source: 5Rights Foundation, 2021. <u>Pathways: how digital design puts children at risk</u>.

<sup>&</sup>lt;sup>538</sup> Beat, 2021. <u>Online advertising and eating disorders</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>539</sup> One case study described the experience of a 15-year-old girl who, after being diagnosed with an eating disorder, unfollowed triggering accounts on social media but continued to be targeted with adverts for meal replacement pills. Source: Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>540</sup> Beat, 2021. <u>Online advertising and eating disorders</u>.

# 5. Abuse and hate content

Warning: this section contains references to content that may be upsetting or distressing, including references to suicide and self-harm, as well as physical and sexual violence.

#### Summary: Risk of harm from abuse and hate content

This section covers content which is abusive and content which incites hatred. These kinds of content are similar, and are therefore assessed together, in that they both target groups and individuals who have one or more of these listed characteristics: race, religion, sex, sexual orientation, disability or gender reassignment.<sup>541</sup>

Evidence suggests that the online environment may encourage the sharing of abuse or hate content. While abuse and hate exist in the 'offline' world, the far greater potential for anonymity online may enable users to trivialise the consequences of their actions and break social norms of respect and decency that they may adhere to in in-person interactions.

About one in five UK children aged 13-17 have encountered content that is abusive or hateful, such as misogynistic, homophobic, racist or transphobic content. Evidence suggests that children are generally more likely to encounter abuse and hate if they have personal characteristics frequently targeted in such content. Evidence also indicates that the risk of encountering hate and abuse online is higher than in offline contexts.

Children with listed characteristics are at heightened risk of harm. They are more likely to be targeted as individuals, or to encounter content targeting people with these characteristics.

Encountering hate and abuse creates emotional harm, and can damage self-esteem, discourage online expression and affect educational performance. Evidence also highlights how children, in particular boys, are being influenced by online content to adopt hateful attitudes or behaviours, which risks causing harm both online and offline. The evidence also suggests there can be associations between encountering abuse and hate and acts of violence or self-harm.

#### Risk factors: User base

Some users who post abuse or hate content may be incentivised to maintain a presence on **larger mainstream social media services**, in order to build their network. However, there is evidence that **smaller**, **niche online services** can contain far more abuse, including hateful activity, despite these services attracting far fewer users. The risk is that children might encounter hate content on larger services, then be led to the smaller services where there are higher volumes of such content.

Evidence shows that exposure **increases with age**, although lack of understanding of the content among younger children could also explain the increase in reported exposure.

Abuse and hate content discriminates against listed characteristics, making demographic factors highly relevant to risk of harm. Misogynistic content presents a number of **different risks for boys and girls**. Girls are more likely to be targeted by abuse and hate, while

<sup>&</sup>lt;sup>541</sup> These are the characteristics provided in the Online Safety Act 2023 (the Act) definitions for content which is abusive, and content which incites hatred.

evidence suggests that boys are being frequently exposed to and indoctrinated by misogynistic ideologies online.

Children with other listed characteristics are disproportionately likely to be targeted by abuse and hate. They are also inherently more likely than children without these characteristics to encounter content targeting their identity group. **Ethnicity, religion, disability, gender**<sup>542</sup> and **sexual orientation** are therefore also risk factors for harm from abuse and hate content.

#### Risk factors: Service types

Evidence suggests that abusive content is particularly likely to appear on **social media and video-sharing services**, where content recommender systems have been shown to suggest such content to children, regardless of whether they actively search for it. **Gaming services** can also present risks for encountering abusive behaviour and may create opportunities for the spread of hate content to children, in particular within messaging functionalities.

Social media services, video sharing services and gaming services are therefore included in the Children's Risk Profiles.<sup>543</sup>

#### Risk factors: Functionalities and recommender systems

Several functionalities increase the risk of children encountering abuse and hate content.

The use of **anonymous profiles** enables users to do or say things online that they may not do in person, encouraging them to engage in hateful or abusive behaviour online. Abuse and hate content is commonly found in **comment sections** on posts; the harm is amplified when many comments are received simultaneously. These functionalities have been included in the Children's Risk Profiles.

**Content recommender systems**<sup>544</sup> may increase the risk of children encountering abuse and hate content, without their actively searching for or engaging with it. This content can often be encountered on recommendation feeds/surfaces. Those who do engage with such content can be served high volumes and potentially increasingly extreme forms of hate and abuse. For example, misogynistic content has become highly prominent in the online feeds of many boys in the UK. As a result, content recommender systems are also included in the Children's Risk Profiles.

Other functionalities also present a risk of harm from abuse and hate content. **User connections** enable children to add (or be added by) both friends and strangers to build their online networks. The wider their network, the higher the risk that children will encounter

<sup>&</sup>lt;sup>542</sup> We use this term to refer to a child's sex and to gender reassignment. In Section 62(11) of the Act, the characteristic of gender reassignment is defined as follows: "if the person is proposing to undergo, is undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex". We have used the term 'gender' as it is more commonly used in contemporary language and in the relevant evidence cited about the risk of harm.

<sup>&</sup>lt;sup>543</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

<sup>&</sup>lt;sup>544</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

abuse and hate content. **Stranger pairing**, where users can be randomly put into contact with other users, also presents a risk of children encountering this content.

The ability to **post** abuse and hate online means children can create and share such content among their peers. **Livestreaming** can be used to broadcast abuse and hate content to a large audience, and some services allow users to combine user-generated content with existing content, which can then be used to respond to posts in a hateful way.

Children can, at times, be contacted through **direct messages** which can expose them to abuse and hate content. Children can also encounter abuse and hate that is shared via **group messaging**, which they can sometimes be added to without the option of declining. This may be particularly true on group messaging chats on gaming services. Group messaging has been included in the Children's Risk Profiles.

# Introduction

- 5.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by the following priority content that is harmful to children (PC)<sup>545</sup> on user-to-user services ('risks of harm'):
  - a) content which is abusive and which targets any of the following characteristics:
    - i) race,
    - ii) religion,
    - iii) sex,
    - iv) sexual orientation,
    - v) disability, or
    - vi) gender reassignment.546
  - b) content which incites hatred against people:
    - i) of a particular race, religion, sex or sexual orientation,
    - ii) who have a disability, or
    - iii) who have the characteristics of gender reassignment.<sup>547</sup>
- 5.2 This section will use the terms 'abuse content' and 'hate content' to refer to the kinds of content listed above, unless referencing specific evidence that uses different terminology.<sup>548</sup>

<sup>&</sup>lt;sup>545</sup> As referenced in Sections 62(2) and 62(3) of the Act, for content which is either abusive or incites hatred, (a) 'disability' means any physical or mental impairment; (b) 'race' includes colour, nationality, and ethnic or national origins; (c) references to religion include references to a lack of religion.

<sup>&</sup>lt;sup>546</sup> In Section 62(11) of the Act, the characteristic of gender reassignment is defined as follows: "if the person is proposing to undergo, is undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex".

<sup>&</sup>lt;sup>547</sup> As referenced in Section 62(3) of the Act, for the purposes of content which incites hatred, a person has the characteristic of gender reassignment if the person is proposing to undergo, is undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex, and the reference to gender reassignment in subsection (i) is to be construed accordingly.

<sup>&</sup>lt;sup>548</sup> The term 'online hate' is used by various sources to describe content which incites hatred. For example, Internet Matters refers to <u>online hate</u> as "language or actions that target a characteristic of a person or group of people in the digital space", and <u>online hate speech</u> as "any online communication or expression which encourages or promotes hatred, discrimination or violence against any person or group because of their race,

- 5.3 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks. 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.
- 5.4 In the Guidance on Content Harmful to Children, we provide guidance on identifying abuse and hate content, including examples of what Ofcom considers to be, or considers not to be, abuse and hate content. Abuse and hate content can be on the basis of one or multiple characteristics. We define abusive content as content targeted at the listed characteristic(s) of an individual, for example, content that objectifies and demeans individuals, and involves threats or aggressive behaviours. Content that incites hatred is against a group, or a group of persons holding the same listed characteristic(s), for example, content which repeats harmful and discriminatory ideas about another group in order to encourage others to share such beliefs and content that defends or legitimises threatening action against a group of people. See Section 6: Guidance on abuse and hate content for more detail and contextual considerations when identifying abuse and hate content.
- 5.5 Abuse and hate content both target listed characteristics, and manifest in similar ways online. In addition, there are many examples of content that are both hateful and abusive in nature. They are therefore frequently discussed together throughout this section. However, we understand there to be some distinguishing factors. In general terms, content which incites hatred is more likely to be directed at a group of people who share a personal characteristic (rather than at a specific person or specific individuals) and often involves inciting others towards hateful actions and behaviour against that group.
- 5.6 'Bullying content' is differentiated by the fact that it does not necessarily target listed characteristics (although it may do so in some instances). Therefore, evidence for this harm is explored in a separate section, although there may be some overlap in evidence and analysis.<sup>549</sup> Please see Section 6: Bullying content for more detail.
- 5.7 As abuse and hate content are directly associated with listed characteristics, user demographics are highly relevant to understanding how these harms manifest and the effects they have. This is discussed in the sub-sections 'Impacts' and 'User demographics' within this section. To address this, this section draws some distinctions between:
  - a) children encountering abuse or hate content,
  - b) children encountering abuse or hate content as individuals who share the characteristic(s) being targeted,
  - c) individual children being targeted by specific and/or direct abuse or hate content, and
  - d) children posting abuse or hate content.

religion, disability, sexual orientation, gender or gender identity". [accessed 28 March 2025]. Stop Hate UK refers to <u>online hate</u> as "posting and sharing hateful and prejudiced content against an individual, group or community. It can take the form of derogatory, demonising and dehumanising statements, threats, identity-based insults, pejorative terms and slurs." [accessed 28 March 2025].

The NSPCC cites <u>hateful content</u> as "where others are inciting hatred towards an individual or a group. If the focus of the hateful content is a protected characteristic, then it's a hate crime." [accessed 28 March 2025]. Cambridge Dictionary defines <u>hate speech</u> as "public speech that expresses hate or encourages violence towards a person or group based on something such as race, religion, sex, or sexual orientation". [accessed 28 March 2025].

<sup>&</sup>lt;sup>549</sup> For example, based on the definitions set out in the Act, content that is abusive towards a group of people or an identity, but which does not feature characteristics listed above, might be categorised as bullying content, even if it is abusive in nature.

- 5.8 We have sought evidence relating to online content that specifically targets others based on listed characteristics, as per the Online Safety Act 2023 (the Act)'s definitions of these harms. Due to overlaps and limitations in the evidence base available, some of the evidence described in this section relates to content which is broader than the definitions in the Act. As part of this, evidence about 'offline' experiences of hate and abuse has been used to infer harm from online content, given that evidence suggests some of the impacts of hate and abuse are sometimes the same or similar regardless of whether the experience was offline or online. Where such evidence has been included, it is because we think it is relevant to understanding the risk of harm from online abuse and hate content.
- 5.9 It is important to note that there are forms of online content that are also described as hateful and/or abusive, but which are illegal, and so outside of the scope of this section. For further information on what content may amount to an offence, please refer to our <u>Illegal</u> <u>Content Judgements Guidance</u>. Harassment, stalking, threats and abuse offences, threatening communications offences, controlling or coercive behaviour, hate offences, and other offences that may involve the use of abusive or hateful language or content, are all explored in detail in the <u>Illegal Harms Register of Risks</u> (Illegal Harms Register).
- 5.10 Because there is overlap between illegal hate and abuse, and hate and abuse which is considered harmful to children but not illegal, some of the evidence we have drawn on in this section includes references to activities that could also amount to illegal content. These include offences relating to one or more of the following areas: threats, public order, harassment, stalking, controlling or coercive behaviour, and hate offences.<sup>550</sup>

# How abuse and hate content manifests online

- 5.11 This sub-section looks at how abuse and hate content manifests online, and how children may be at risk of harm from these kinds of content.
- 5.12 Abuse and hate content can take many forms, including misogyny, racism, transphobia, homophobia and ableism. These forms of discrimination span offline and online contexts. However, the distinctive characteristics of the online environment may make it easier both to encounter and to share abuse and hate content. For example, the far greater potential for anonymity online may enable users to trivialise consequences, and break social norms of respect and decency, which they may adhere to in their in-person interactions. This is referred to in the literature as the 'online disinhibition effect'.<sup>551</sup>

## Presence

5.13 There is clear evidence that abuse and hate content targeting listed characteristics is available on many online services used by children.<sup>552</sup> People create or share abuse and

<sup>&</sup>lt;sup>550</sup> Other kinds of illegal content and content harmful to children might be hateful or abusive in nature. Some examples of these are discussed in this section but it is not possible to give an exhaustive account of where hate and abuse content might manifest within another type of harm.

<sup>&</sup>lt;sup>551</sup> Suler, J., 2004. <u>The Online Disinhibition Effect</u>, *Cyberpsychology and Behavior*, 7 (3). [accessed 28 March 2025Subsequent references to this source throughout.

<sup>&</sup>lt;sup>552</sup> Ofcom's <u>Online Experiences Tracker</u> tracks the proportions of UK internet users aged 13 and upwards encountering a range of potential online harms, including content that might be hateful or abusive online. Other relevant evidence about the presence of hate and abuse content online toward listed characteristics includes the following. Glitch, 2023. <u>The Digital Misogynoir Report: Ending the dehumanising of Black women</u>

hate content for a wide range of reasons.<sup>553</sup> Hate and abuse content exists in a wider societal context of hate and abuse, as well as direct or indirect discrimination, that targets people based on relevant characteristics including gender, sexuality, disability, religion, race and/or ethnicity.<sup>554</sup>

5.14 In some cases, content proliferates after significant national or international events such as large sporting events like Euro 2020,<sup>555</sup> a terror attack<sup>556</sup> or events such as the 2024 Southport stabbing;<sup>557</sup> there are also examples of hate and abuse content targeting Muslim and Jewish people increasing during the Israel–Gaza conflict from 2023 onwards.<sup>558</sup>

on social media. [accessed 15 November 2024]. Subsequent references to this source throughout; Center for Countering Digital Hate, 2024. <u>Abusing Women in Politics: How Instagram is failing women and public officials</u>. [accessed 15 November 2024]; Community Security Trust and Antisemitism Policy Trust, 2021. <u>Twitter: the</u> <u>extent and nature of antisemitism on Twitter in the UK</u>. [accessed 15 November 2024]; Stonewall, 2017. <u>LGBT</u> <u>in Britain: Hate crime and discrimination</u>. [accessed 21 March 2025]. Subsequent references to this source throughout; Leonard Cheshire, 2019. <u>Online disability hate crimes soar 33%</u>. [accessed 15 November 2024]. ElSherief, M., Kulkarni, V., Nguyen, D., Yang Wang, W. and Belding, E., 2018. <u>Hate Lingo: A Target-Based</u> <u>Linguistic Analysis of Hate Speech in Social Media</u>. [accessed 15 November 2024].

<sup>&</sup>lt;sup>553</sup> In one study, individuals engaging in 'negative online behaviours', including reading, creating and sharing content likely to be abusive and hateful, described motivations including: self-expression, humour, seeking attention and not believing the content to be harmful in nature. Source: Daly, S. E., and Nichols, A. L., 2023. <u>'Incels are shit-post kings': incels' perceptions of online forum content</u>. [accessed 9 January 2025]. It should also be noted there are examples of people (e.g., from minority ethnic communities) who 'reclaim' hateful language to be used in positive ways, for example, as terms of endearment, though research shows there are mixed views from members of wider communities around whether or not the language is still offensive or hateful in nature. Source: Ofcom, 2021. <u>Public attitudes towards offensive language on TV and radio</u>. [accessed 31 January 2025].

<sup>&</sup>lt;sup>554</sup> Relevant evidence about the presence of discrimination includes the following – note that not all studies focus exclusively on experiences of children, but we see all as relevant to the wider context described here. Finney, N., Nazroo, J., Bécares, L., Kapadia, D. and Schlomo. N., 2023. <u>Racism and Ethnic Inequality in a Time of Crisis: Findings from the Evidence for Equality National Survey.</u> [accessed 13 November 2024]; National Education Union and UK Feminista, 2017. <u>"It's just everywhere": A study on sexism in schools – and how we tackle it</u>. [accessed 13 November 2024]; Scope, 2022. <u>Attitudes and disability: the experiences of disabled people in 2022</u>. [accessed 13 November 2024]; Stonewall, 2017. <u>LGBT in Britain: Hate Crime and Discrimination</u>.; TransActual, 2021. <u>Trans lives survey 2021: Enduring the UK's hostile environment</u>. [accessed 13 November 2024].

<sup>&</sup>lt;sup>555</sup> Ofcom, 2023. <u>Qualitative research into the impact of online hate</u>. [accessed 31 January 2025]. Subsequent references to this source throughout; Alan Turing Institute (Vidgen, B., Chung, Y-L, Johansson, P., Kirk, H. R., Williams, A., Hale, S. A., Margetts, H., Röttger, P. and Sprejer, L.), 2022. <u>Tracking abuse on Twitter against football players in the 2021-22 Premier League season</u>. [accessed 31 January 2025]; Kearns, C., Sinclair, G., Black, J., Doidge, M., Fletcher, T., Kilvington, D., Liston, K., Lynn, T. and Rosati, P., 2022. <u>A scoping review of research on online hate and sport</u>, *Community and Sport*, 11 (2). [accessed 19 January 2023].

<sup>&</sup>lt;sup>556</sup> Williams, M. and Reya, M., 2019. <u>Hatred behind the screens: a report on the rise of online hate speech.</u> [accessed 23 March 2023]; Demos, 2016. <u>Islamophobia on Twitter</u>. [accessed 22 October 2024].

<sup>&</sup>lt;sup>557</sup> Institute for Strategic Dialogue (ISD) and CASM Technology, 2024. <u>Evidencing a rise in anti-Muslim and anti-</u> <u>migrant online hate following the Southport attack</u>. [accessed 15 October 2024].

<sup>&</sup>lt;sup>558</sup> See Tell MAMA, <u>Greatest Rise in Reported Anti-Muslim Hate Cases to Tell MAMA since Oct 7<sup>th</sup></u>. [accessed 22 October 2024]; Hope not Hate, 2024. <u>Doubling Down on Division, Anti Muslim hatred in the UK since 7<sup>th</sup></u> <u>October</u>. [accessed 22 October 2024]; Community Security Trust, 2024. <u>Antisemitic Incidents Report January-June 2024</u>. [accessed 22 October 2024].

- 5.15 Well-known individuals and public figures can be targeted on services used by children, including potential role models to children, <sup>559</sup> and children with a large public profile.<sup>560</sup>
- 5.16 Abuse content can result from an individual being targeted by someone else that they know, if it involves abuse towards that person's relevant characteristics. This can intersect and overlap with other kinds of online harm, including bullying, violent content and illegal harms.<sup>561</sup> Research into bullying<sup>562</sup> among children, teachers and other practitioners shows there are scenarios where online bullying can be misogynistic in nature, as well as involving 'racist, homophobic, ableist and transphobic language'.<sup>563</sup> In addition, research into online harassment and domestic abuse has shown cases where women and girls are harassed (e.g., in a 'pile-on'), in many cases involving sexist language and abuse, by people they do not know.<sup>564</sup>
- 5.17 Abuse and hate content varies depending on the listed characteristics it targets. Children with these characteristics are at heightened risk of being targeted by abuse and hate, or encountering content targeting their identity or listed characteristic. The risk for children with multiple listed characteristics is even greater. Discussion of the relative presence of specific forms of abuse and hate content, and the disproportionate harm for different demographic groups, will be explored in the sub-sections on 'Impact' and 'User base' within this section.
- 5.18 Considering the child population as a whole, not just those with listed characteristics, **many children in the UK encounter abuse or hate content online**. Ofcom's research on online experiences in 2025 found that one in five children had seen hateful content online: 21% of 13-17-year-olds reported that over the four-week period prior to the research, they had seen or experienced 'hateful, offensive or discriminatory content that targets a group or person based on specific characteristics like race, religion, disability, sexuality or gender

<sup>&</sup>lt;sup>559</sup> Barker, K. and Jurasz, O., 2021. <u>Text-based (Sexual) Abuse and Online Violence Against Women: Toward Law Reform?</u>. [accessed 20 December 2024]; Barker, K. and Jurasz, O., 2024. <u>#MeToo, Sport, and Women: Foul, Own Goal, or Touchdown? Online Abuse of Women in Sport as a Contemporary Issue</u>. [accessed 20 December 2024].

<sup>&</sup>lt;sup>560</sup> Park, C. S., Liu, Q. and Kaye, B. K., 2021. <u>Analysis of Ageism, Sexism, and Ableism in User Comments on</u> <u>YouTube Videos About Climate Activist Greta Thunberg</u>, *Social Media and Society*, 7 (3). [accessed 20 December 2024].

<sup>&</sup>lt;sup>561</sup> Robust quantitative evidence about this is more limited given the overlap between this form of abuse and other kinds of online harm such as bullying, threats, stalking and harassment. There are two research studies in which survey respondents experiencing or being targeted with hate and abuse content, as well as other forms of online harm, were also asked if the content was from someone they knew. Neither study breaks down this data according to type of online harm. Source: Glitch, 2021. <u>The Ripple Effect: Covid-19 and the</u> <u>epidemic of online abuse</u>. [accessed 18 November 2024]; Victims' Commissioner for England and Wales, 2022. <u>The Impact of Online Abuse: Hearing the Victims' Voice</u>. [accessed 15 November 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>562</sup> Although this research references online bullying, as it targets listed characteristics it has been included in this section on abuse and hate.

<sup>&</sup>lt;sup>563</sup> Ofcom, 2024. <u>Key attributes and experiences of cyberbullying among children in the UK</u>. [accessed 1 October 2024].

<sup>&</sup>lt;sup>564</sup> Research does not include UK. Source: Plan International, 2020. Free to be online? Girls' and young women's experiences of online harassment. [accessed 28 March 2024]. Subsequent references to this source throughout; Women's Aid, 2022. Technology and domestic abuse: Experiences of survivors during the Covid 19 pandemic. [accessed 28 March 2025]. This study did not specify the age of research participants who had experienced this kind of abuse and harassment but we consider the risks cited here relevant to children who are victims or survivors of domestic abuse from a partner or parent.

identity'.<sup>565</sup> Internet Matters found that 16% of children aged 9-16 said they had come across 'hate speech' online (the period during which it had been seen was not cited in the study), rising to 25% among 'vulnerable' children.<sup>566</sup> There are also examples of hateful content being encountered or shared by children without the user understanding the hateful nature of what they are sharing.<sup>567</sup>

- 5.19 Over longer periods, the likelihood of encountering hate content may increase. Research from 2016 reported that, over the course of a year, 82% of 13-18-year-olds said they had 'seen or heard something hateful about a certain group on the internet'. Less than half (46%) said they had witnessed it 'occasionally', while 23% said it had happened 'often'.<sup>568</sup>
- 5.20 **Misogynistic content is also being encountered by children.** Research in 2025 found that 20% of 13-17-year-olds had seen or experienced, over the four-week period prior to the research, 'content or language which objectifies, demeans or otherwise negatively portrays women';<sup>569</sup> while a study on the 'effects of AI [artificial intelligence] algorithms' on 11-14-year-old boys<sup>570</sup> found that seven in ten (69%) had been exposed to content that 'promotes misogyny and other harmful views', and more than half of them (52%) were aware of, and had engaged with, content from influencers with ties to the 'manosphere'.<sup>571</sup> Other research suggests that boys and young men may be shown misogynistic content on popular social media services, regardless of whether they seek this out or not; and engaging with this content can lead to more of it being shown to users.<sup>572</sup>

<sup>568</sup> 'Something hateful about a certain group on the internet' was defined as "potentially offensive, mean or threatening behaviour targeted at or about someone because of their race, religion, disability, gender, sexual orientation or transgender identity". Source: UK Safer Internet Centre (UKSIC), 2016. <u>Creating a Better Internet</u> <u>for All: Young people's experiences of online empowerment + online hate.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>565</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>566</sup> <u>Internet Matters</u> response to the May 2024 Consultation on Protecting Children from Harms Online. [accessed 24 February 2025].

<sup>&</sup>lt;sup>567</sup> For example, in Ofcom's 2023 Children's Media Lives report, there is an example of a ten-year-old girl who shared a potentially racist meme, who described posting this without any understanding of what it was about. Source: Ofcom, 2023. <u>Children's Media Lives 2023</u>. [accessed 17 December 2024]. See also Office for the Children's Commissioner for England, 2024. <u>"I've seen horrible things": children's experiences of the online world</u>. [accessed 20 December 2024].

<sup>&</sup>lt;sup>569</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>570</sup> Manosphere is defined in the study as: "a term used to describe the network of online communities responsible for creating and promoting negative, often misogynistic, content." Source: Vodafone, 2024. <u>AI</u> <u>'Aggro-rithms': young boys are served harmful content within 60 seconds of being online</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>571</sup> The disparity between these two data points can be explained by the differing focus of each study: the former asked about a range of harms among respondents aged 13-84, the latter focused on the serving of harmful content by 'AI algorithms' to teenage boys.

<sup>&</sup>lt;sup>572</sup> In this research, five online accounts were set up to simulate the identities and potential viewing behaviours among boys and young men. The accounts engaged with different forms of content on TikTok and YouTube, to understand the impact upon what videos were recommended to them. While this is not the same as a user's own experience, it indicates what content was available on the services at this time and is suggestive of how similar patterns of user behaviour could lead to harmful content being served to children. Baker, C., Ging, D. and Brandt Andreasen, M., 2024. <u>Recommending Toxicity: The role of algorithmic</u> <u>recommender functions on YouTube Shorts and TikTok in promoting male supremacist influencers</u>. [accessed 18 November 2024].

- 5.21 The presence of misogynistic content online is linked to a wider context of sexism and gender-based harm which exists both offline and online.<sup>573</sup> In a 2024 survey of 2,500 girls and young women aged 7-21, 74% of respondents reported seeing or experiencing sexism across a range of contexts, including online.<sup>574</sup> This wider context of sexism and gender-based harm encompasses illegal activity targeting women and girls, including domestic abuse and other offences that may also involve 'abusive' activities (such as coercive and controlling behaviour, harassment, stalking and threats).<sup>575</sup>
- 5.22 Certain kinds of abuse are reported as more common in online spaces than offline. For example, half the participants in an international study with 15-25-year-old women and girls<sup>576</sup> reported that online abuse, harassment and hate were 'more common than street harassment'<sup>577</sup> in their lives (50%, compared to 19% who felt the opposite).
- 5.23 Children are more likely to encounter hate and abuse online than in offline contexts. As noted above, research from 2016 found that 82% of children had seen or heard something hateful online: higher than the proportions encountering this at school (77%), in other media (69%) or face-to-face in other places (54%).<sup>578</sup> Since then, children's access to connected devices and online services has increased, which could in turn increase their exposure to this content online: widening the gap further between offline and online exposure. The presence of abuse and hate content in children's online lives may also affect the volume of offline incidents of abuse and hate.<sup>579</sup>
- 5.24 Encountering these kinds of content is a considerable concern among children. Ofcom research found that 'hateful, offensive or discriminatory content that targets a group or person based on specific characteristics' was the kind of content which concerned the highest proportion of 13-17-year-olds. Fifty-four per cent expressed 'high levels' of concern about this kind of content existing online, while 50% felt 'highly concerned' about misogynistic content.<sup>580</sup>
- 5.25 **The proportion of children targeted by abuse or hate content is also significant.** Research from 2016 shows that almost a quarter of 13-18-year-olds (24%) said they had been targeted with online hate because of their characteristics (gender, sexual orientation, race, religion, disability or transgender identity), with 1 in 25 children (4%) saying this happened

<sup>&</sup>lt;sup>573</sup> For a more detailed account of how online harms target women and girls, see our <u>Consultation on draft</u> <u>Guidance: A safer life online for women and girls</u>.

<sup>&</sup>lt;sup>574</sup> Girlguiding, 2024. <u>Girls' Attitudes survey 2024</u>. [accessed 18 November 2024].

<sup>&</sup>lt;sup>575</sup> The National Policing Statement 2024 For Violence Against Women and Girls (VAWG) noted that 123,515 recorded VAWG offences had an online element between August 2022 and July 2023, with victims aged 10-15 being the most common of all age ranges. Source: National Police Chiefs' Council, 2024. <u>Violence Against</u> <u>Women and Girls (VAWG): National Policing Statement 2024</u>. [accessed 15 November 2024].

<sup>&</sup>lt;sup>576</sup> Research does not include UK. Source: Plan International, 2020. <u>Free to be online? Girls' and young</u> women's experiences of online harassment.

<sup>&</sup>lt;sup>577</sup> Online harassment in this study was defined as "online abuse, harassment and hate", meaning it may have encompassed illegal and legal forms of abuse, harassment and hate.

<sup>&</sup>lt;sup>578</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

<sup>&</sup>lt;sup>579</sup> One in five parents (22%) have noticed a gradual change over time in the language their sons use to talk about women and girls, while 70% of teachers have seen a rise in sexist language in the classroom during the last 12 months. Source: Vodafone, 2024. <u>AI 'Aggro-rithms': young boys are served harmful content within 60</u> seconds of being online.

<sup>&</sup>lt;sup>580</sup> The full definition in the research study for this kind of content was "content or language which objectifies, demeans or otherwise negatively portrays women". Source: Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

all or most of the time.<sup>581</sup> In addition, as detailed below, evidence suggests that children with characteristics frequently targeted by abuse and hate are generally more likely than others to encounter such content; more detail on the presence of hate and abuse content targeting children with different backgrounds and identities can be found in the sub-section 'User base' within this section.<sup>582</sup>

- 5.26 **Children can also post abuse and hate content.** Evidence on the extent to which children are themselves posting this kind of content is limited, and has questionable reliability, given the limited understanding of the age of the users by many services and the tendency for problematic behaviours to be underestimated in research based on self-reported data (see sub-section 'User communication').
- 5.27 There are scenarios where abuse and hate content might also be linked to another type of online harm, including illegal activity.<sup>583</sup> There are many cases of hateful language being used in online threats and abuse against women.<sup>584</sup> In research about experiences of violent content, children and teachers talked about pupils seeing content that both encouraged violence and was misogynistic.<sup>585</sup> In a study about teenage terrorism offenders, researchers described cases of children creating content that was simultaneously hateful, abusive and encouraging acts of terrorism.<sup>586</sup> Finally, there are examples of individuals who have committed acts of violence who are members of misogynistic communities, and other kinds of online communities where hate and abuse content circulates.<sup>587</sup>

## Impacts

- 5.28 Abuse and hate content can cause emotional, behavioural and attitudinal harms to those who encounter it, those who are directly targeted as individuals, and those who encounter content targeting a personal characteristic they share.<sup>588</sup> It can also have indirect negative impacts on children and adults who do not encounter abuse and hate content themselves, by contributing to the presence of hateful attitudes in society, and potentially increasing the likelihood of children and adults committing acts of violence and aggression against others with listed characteristics.
- 5.29 **Children report a number of emotional impacts from encountering these kinds of content**, regardless of whether or not they have personal characteristics being targeted or are

<sup>&</sup>lt;sup>581</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

<sup>&</sup>lt;sup>582</sup> Ofcom's 2025 research into online experiences cannot show the proportion of children being targeted by this kind of content, due to the sample sizes being too low to report. Therefore, we are relying on older evidence here.

<sup>&</sup>lt;sup>583</sup> See the introduction to this section for further details of where abuse and hate content would also be considered illegal content.

<sup>&</sup>lt;sup>584</sup> Demos (Judson, E., Stewart, A., Smith, J. and Krasodomski-Jones, A.), 2021. <u>Silence, Woman: An</u> <u>investigation into gendered attacks online</u>. [accessed 18 November 2024].

<sup>&</sup>lt;sup>585</sup> Ofcom, 2024. <u>Understanding pathways to online violent content among children</u>. [accessed 1 October 2024].

<sup>&</sup>lt;sup>586</sup> Rose, H. and Vale, G., 2023. <u>Childhood Innocence?: Mapping Trends in Teenage Terrorism Offenders.</u> [accessed 13 November 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>587</sup> United States Secret Service, 2022. <u>Hot Yoga Tallahassee: A case study of misogynistic extremism</u>. [accessed 18 November 2024]. Subsequent references to this source throughout; United States Secret Service, 2023. <u>Mass Attacks in Public Spaces: 2016-2020</u>. [accessed 18 November 2024].

<sup>&</sup>lt;sup>588</sup> Abuse tends to be targeted at an individual, while incitement to hatred tends to be targeted at a group. See our Guidance on Content Harmful to Children for more information.

themselves being targeted. Over three quarters (77%) of children aged 9-16 who've received online abuse said they found it scary, and around a third of children (35%) found seeing 'racist, homophobic or sexist content' online upsetting or frightening.<sup>589</sup> Research from 2016 found that about a third of children and young adults aged 13-18 reported feeling anger, upset, sadness or shock after being exposed to 'online hate'.<sup>590</sup> The same study found that hate which directly targeted an individual (whether known to the child or not) caused higher levels of emotional distress: 44% felt angry on seeing this, compared to 30% who saw hate targeted towards a particular group. In a study of gamers aged 8-17 in Australia, 19% of respondents who saw hate speech whilst gaming described 'feeling more worried, anxious or sad' as a result, and 16% of respondents described feeling 'bad about myself' as a result.<sup>591</sup>

5.30 Evidence suggests negative impacts are stronger for children who are directly targeted by hate and abuse content, as well as children who share an identity or characteristic with a person or group who is targeted. As a result of encountering online hate, LGBTQ+<sup>592</sup> children and young people can withdraw socially, hiding their identities, and experience anxiety or depression.<sup>593</sup> Research looking at broader experiences of LGBTQ+ children and young people demonstrates the risk that these mental health impacts can be particularly severe: a 2024 study on the mental health of LGBTQ+ children and young people in the UK aged 13-24<sup>594</sup> found that survey participants were more likely to have attempted or considered suicide, and/or to have experienced anxiety or depression, if they had experienced threats or discrimination due to sexual orientation or gender identity, as well as if they were in an unaccepting school or community.<sup>595</sup> In some cases, experiences of hate and abuse can be an 'ingrained' part of the lives of targeted individuals; research with people from Gypsy, Traveller and Roma communities about the experiences of children and adults showed that abuse and hate offline and online was treated like "background noise" given the emotional strain of trying to take action against it.<sup>596</sup> More detail on the impact of hate and abuse content on children with different backgrounds and identities can be found in the sub-section 'User base' within this section.

<sup>&</sup>lt;sup>589</sup> Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>. [accessed 31 March 2025].

 <sup>&</sup>lt;sup>590</sup> Proportions of 13-18s experiencing emotions: anger (37%), sadness (34%) and shock (30%). Source: UKSIC,
2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.
<sup>591</sup> eSafety Commissioner, 2024. <u>Young people's experiences navigating the joys and risks of online gaming</u>.
[accessed 15 November 2024]. Subsequent references to this source throughout. Note: This finding should be treated with caution as the base size of the number of respondents who had experienced hate speech while

gaming was low (77). <sup>592</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual, and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGB, which reflect the acronyms used in each source.

<sup>&</sup>lt;sup>593</sup> Keighley, R., 2021. <u>Hate Hurts: Exploring the Impact of Online Hate on LGBTQ+ Young People</u>, *Women and Criminal Justice*, 32 (1-2). [accessed 31 January 2025].

<sup>&</sup>lt;sup>594</sup> The Trevor Project, 2024. <u>2024 United Kingdom Survey on the Mental Health of LGBTQ+ Young People</u>. [accessed 21 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>595</sup> While the research does not specify or explore what role online hate and abuse played in these experiences of threats and discrimination, we consider it highly likely that some of these experiences would have involved online content.

<sup>&</sup>lt;sup>596</sup> GATE HERTS, 2020. <u>Hate: "As regular as rain". A pilot research project into the psychological effects of hate</u> <u>crime on Gypsy, Traveller and Roma (GTR) communities</u>. [accessed 22 January 2025]. Subsequent references to this source throughout.

- 5.31 There are other negative impacts on children's lives as a result of encountering abuse and hate content. Abuse and hate content can affect educational performance. Research commissioned by the Department for Digital, Culture, Media & Sport (DCMS)<sup>597</sup> found that the combination of offline and online abuse<sup>598</sup> among 9-18-year-olds had detrimental effects on their wellbeing, confidence and feelings of isolation; which in turn could affect school attendance and concentration on academic learning.<sup>599</sup> An international study among women and girls aged 15-25 echoed this;<sup>600</sup> 18% reported having problems at school due to their experience of 'online harassment'.<sup>601</sup>
- <sup>5.32</sup> Abuse and hate content may worsen social isolation. A study commissioned by DCMS found that LGBTQ+ children from ethnic minority groups may not disclose and seek support for 'abuse'<sup>602</sup> if their offline support networks do not know or accept their sexual orientation or gender identity.<sup>603</sup>
- 5.33 Being targeted by abuse and hate content can result in children withdrawing online. An international study among women and girls aged 15-25, who were frequently harassed online, revealed that 19% used a social media service less, 18% stopped posting content that expressed their opinions, 16% changed the way they expressed themselves, and 12% stopped using the online service altogether.<sup>604</sup> Research from 2016 also found that concern around online hate affected children's self-expression and use of technology: 74% said it made them more careful about what they shared online, while one in three said it made them less likely to use social media.<sup>605</sup>
- 5.34 Being targeted by abuse and hate content can also create issues with relationship building. Ofcom's research on the impact of online hate among adults found that participants reported being more guarded and less trusting of others, and feeling less at ease when in public or interacting with people they did not know, due to the fear that people could be harbouring similar views to those they had experienced online.<sup>606</sup> A survey by the Victims'

<sup>&</sup>lt;sup>597</sup> The UK Government department DCMS has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>598</sup> Online abuse in this study was defined as, "could be targeted at an individual or at a group of people due to their race, ethnicity, gender, religion, sexual orientation or disability; or personal attributes e.g. height, appearance, or just 'being different'."

<sup>&</sup>lt;sup>599</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>600</sup> Research does not include UK. Source: Plan International, 2020. <u>Free to be online? Girls' and young</u> women's experiences of online harassment.

<sup>&</sup>lt;sup>601</sup> 'Online harassment' in this study was defined as "action by one or more people that harms others based on their sexual or gender identity or by enforcing harmful gender norms. This action is carried out using the internet and/or mobile technology and includes stalking, bullying, sex-based harassment, defamation, hate speech, exploitation and gender trolling."

<sup>&</sup>lt;sup>602</sup> This study categorised 'cyberbullying, abuse, trolling, harassment' as 'online abuse', noting that these could be "targeted at an individual or at a group of people due to their race, ethnicity, gender, religion, sexual orientation or disability, or personal attributes, e.g. height, appearance, or 'just being different'."

<sup>&</sup>lt;sup>603</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>604</sup> Research does not include UK. Source: Plan International, 2020. <u>Free to be online? Girls' and young</u> women's experiences of online harassment.

<sup>&</sup>lt;sup>605</sup> UKSIC, 2016. Creating a Better Internet for All: Young people's experiences of online empowerment + online <u>hate</u>.

<sup>&</sup>lt;sup>606</sup> Ofcom, 2023. <u>Qualitative research into the impact of online hate</u>.

Commissioner for England and Wales about experiences of 'online abuse'<sup>607</sup> similarly reported that being targeted led many to experience anxiety and distrust.<sup>608</sup> While these studies are not specific to children, there is a risk of similar attitudinal outcomes affecting children experiencing these kinds of content.

- 5.35 Abuse and hate online may lead to children developing hateful beliefs more generally, and may lead to children taking harmful actions, including committing acts of violence. It is important to note that exposure to hateful content online does not always correlate to online radicalisation or violence, as a host of contextual factors interplay, often unique to individual circumstances. There are nevertheless examples where exposure to abuse and hate content online – likely to have encompassed illegal content, as well as content harmful to children – is correlated with committing hate crimes and acts of violence,<sup>609</sup> as noted in <u>Illegal Harms Register (Section 3: Hate)</u>. This is linked more generally to the crossover between hate/abuse content and content that encourages violence (see Section 7: Violent content for more details).<sup>610</sup>
- 5.36 This evidence base includes examples of when children have committed acts of violence after exposure to hateful content, either when they were children or as young adults. A study about child perpetrators of terrorism discusses cases of children who both consumed and created content that was hateful, abusive and encouraging terrorist violence.<sup>611</sup> The murderer of ten Black people in Buffalo, New York in 2022 had seen content when he was a teenager promoting hatred and violence, that featured "antisemitic, racist, misogynistic and homophobic views".<sup>612</sup> This risk is also supported by evidence that focuses on adults, but which may be applicable to children as well. In a study about former members of racist, violent skinhead groups, "participants overwhelmingly suggested that the Internet played an important role in facilitating their process of radicalization to violence", with access to racist content being a key element of this.<sup>613</sup>
- 5.37 Encountering abuse and hate can be associated with the normalisation, encouragement or justification of harmful and discriminatory attitudes and behaviours among children. The harm caused by misogynistic content is particularly well-evidenced compared to other forms of abuse and hate. Evidence relates this content to violence and hostility towards women and girls, often creating a sense of crisis – for example, rising rates of mental ill-

<sup>&</sup>lt;sup>607</sup> While the definition of online abuse in this study was broad and related to a range of online harms, the survey results suggest many respondents had experienced hate and abuse as defined in this section, though it is not possible to say how many.

<sup>&</sup>lt;sup>608</sup> Victims' Commissioner for England and Wales, 2022. <u>The Impact of Online Abuse: Hearing the Victims'</u> <u>Voice</u>.

<sup>&</sup>lt;sup>609</sup> Müller, K. and Schwarz, C., 2017. <u>Fanning the Flames of Hate: Social Media and Hate Crime</u>. [accessed 22 January 2025].

<sup>&</sup>lt;sup>610</sup> See for example, United States Secret Service, 2022. <u>Hot Yoga Tallahassee: A case study of misogynistic</u> <u>extremism</u>.

 <sup>&</sup>lt;sup>611</sup> Rose, H. and Vale G., 2023. <u>Childhood Innocence?: Mapping Trends in Teenage Terrorism Offenders</u>.
<sup>612</sup> Barnes, L., 2023. <u>Daniel Harris: UK teen sentenced over videos linked to US shootings</u>. BBC News, 27 January. [accessed 28 March 2025].

<sup>&</sup>lt;sup>613</sup> Gaudette, T., Scrivens, R. and Venkatesh, V., 2020. <u>The Role of the Internet in Facilitating Violent</u> <u>Extremism: Insights from Former Right-Wing Extremists</u>, *Terrorism and Political Violence*. [accessed 19 November 2024].

health or fear of 'false' claims of sexual as sault – and position women and girls at the root of these issues.  $^{\rm 614}$ 

- 5.38 There is widespread evidence about the harmful impact of misogynistic content on girls (see sub-section 'User Base' below). Teenage boys also feel the effects of misogynistic content on their mental health: two-thirds (66%) reported that seeing misogynistic and other harmful content online made them feel a range of negative emotions, including feeling worried, sad or scared.<sup>615</sup>
- 5.39 Evidence suggests some children are adopting the attitudes presented in misogynistic content. One study reported that 19% of boys aged 9-16 have a positive impression of Andrew Tate, an online personality whose content presents views that are generally considered to be misogynistic, rising to 23% of older boys (aged 15-16).<sup>616</sup> In research by Women's Aid, children and young people being exposed to 'Andrew Tate content'<sup>617</sup> was correlated with misogynistic attitudes and 'unhealthy' views of relationships. Children and young people exposed to this content were almost five times more likely to view hurting someone physically as acceptable, compared to those not exposed to this content. There was evidence of these attitudes being held by both boys and girls (though often higher among boys than girls), highlighting the danger that both girls and boys can be negatively impacted by the normalisation of such beliefs.<sup>618</sup>
- 5.40 These attitudes are playing out interpersonally, contributing to rising sexism within schools and homes that presents a risk of harm to others, in particular girls.<sup>619</sup> Catch22 reported to Ofcom that "young people (specifically boys) are taking learnings from the misogynistic content they are exposed to online and applying them to real-life relationships".<sup>620</sup> Similarly, girls and young women who took part in research in Northern Ireland described sometimes 'play[ing] along' with misogynistic comments due to their 'jokey' nature making them hard to address.<sup>621</sup> Another study found that one in five parents (22%) reported having noticed a gradual change over time in the language their sons use to talk about women and girls, because of what they have seen online.<sup>622</sup> These mindsets are also being seen by teachers: seven in ten (70%) reported having seen a rise in sexist language in the

<sup>&</sup>lt;sup>614</sup> Internet Matters, 2023. <u>"It's really easy to go down that path": Young people's experiences of online</u> <u>misogyny and image-based abuse</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>615</sup> Vodafone, 2024. <u>Al 'Aggro-rithms': young boys are served harmful content within 60 seconds of being online</u>.

<sup>&</sup>lt;sup>616</sup> Internet Matters, 2023. "<u>It's really easy to go down that path</u>": Young people's experiences of online misogyny and image-based abuse.

<sup>&</sup>lt;sup>617</sup> The research study defines this as relating both to content posted and created by Andrew Tate as well as content that research participants thought were similar in nature.

<sup>&</sup>lt;sup>618</sup> Women's Aid, 2023. <u>Influencers and Attitudes: How will the next generation understand domestic abuse?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>619</sup> A study sharing examples of sexist behaviours in schools in Australia can be found here: Wescott, S., Roberts, S. and Zhao, X., 2023. <u>The problem of anti-feminist 'manfluencer' Andrew Tate in Australian schools:</u> <u>women teachers' experiences of resurgent male supremacy</u>, *Gender and Education*, 36 (2), pp.167-182. [accessed 18 November 2024].

<sup>&</sup>lt;sup>620</sup> Ofcom, 2023. <u>Catch22</u> response to our 2023 Protection of Children Call for Evidence (CFE). [accessed 31 January 2025].

<sup>&</sup>lt;sup>621</sup> McAlister, S., Neill, G., Schubotz, D. and Templeton, M., 2023. <u>'It's just what happens:' Girls' and young</u> women's views and experiences of violence in Northern Ireland. [accessed 15 November 2024].

<sup>&</sup>lt;sup>622</sup> Vodafone, 2024. <u>Al 'Aggro-rithms': young boys are served harmful content within 60 seconds of being online</u>.

classroom over the last 12 months, and 81% stated that this behaviour was negatively affecting female students. This extends to boys as well: 79% of teachers reported that a lack of respect for female teachers was negatively affecting boys' listening and learning in class.<sup>623</sup>

- 5.41 The impact on boys of encountering misogynistic content may be heightened by encountering content that promotes potentially psychologically harmful ideals of masculinity. Internet Matters reported on the risks to the boys and young men who consume misogynistic content. For example, Andrew Tate claims that 'real men don't cry', that mental illness makes people 'weak' and that depression 'isn't real' which all pose a real threat to boys' mental health, wellbeing and self-esteem.<sup>624</sup> While evidence is limited for other kinds of discriminatory content, other forms of abuse and hate content may cause similar direct and indirect harm to children.
- 5.42 Hate and abuse content may contribute to the wider negative impacts of social inequality in children's lives and in their future adult lives. These impacts include poorer mental and physical health. There is widespread evidence that children belonging to groups targeted by hate and abuse content also experience other forms of hate and abuse, as well as direct and indirect discrimination, and social exclusion (see above sub-section 'Presence'). The impacts of these experiences and broader histories vary widely, but include increased risk of violence, poorer health, and negative outcomes in educational and professional life.<sup>625</sup> As a result, there is a risk that the impacts described in this sub-section also contribute to these trends, that lead to children from targeted groups to experience more harm as a result of inequality and discrimination.

# **Evidence of risk factors on user-to-user services**

5.43 We consider that the risk factors below are likely to increase the risks of harm relating to abuse and hate content. This is also summarised in the summary box at the start of the section.

<sup>625</sup> Relevant studies about the impact of discrimination include the following – note that not all studies include experiences of children, but we see all as relevant to the wider context described here. Source: Hackett, R. A., Hunter, M. S. and Jackson, S. E., 2024. <u>The relationship between gender discrimination and wellbeing in middle-aged and older women</u>. [accessed 18 November 2024]; Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., Gupta, A., Kelaher, M. and Gee, G., 2015. <u>Racism as a Determinant of Health: A Systematic Review and Meta-Analysis</u>. [accessed 18 November 2024]; Crisis, 2024. <u>"Where do I belong? Where is home?"</u> <u>Experiences of racism and homelessness</u>. [accessed 13 November 2024]; Hackett, R., Steptoe, A., Lang, P. R. and Jackson, S. E., 2020. <u>Disability discrimination and well-being in the United Kingdom: a prospective cohort study</u>, *BMJ Open*, 10. [accessed 13 November 2024]; Stonewall, 2019. <u>Shut out: The experiences of LGBT young people not in education, training or work</u>. [accessed 13 November 2024]; Hatzenbuehler, M. L., Lattanner, M. R., McKetta, S. and Pachankis, J. E., 2024. <u>Structural stigma and LGBTQ+ health: a narrative review of quantitative studies</u>, *Lancet Public Health*, 9 (2). [accessed 7 January 2025]; The Trevor Project, 2024. 2024 United Kingdom Survey on the Mental Health of LGBTQ+ Young People.

<sup>&</sup>lt;sup>623</sup> Vodafone, 2024. <u>Al 'Aggro-rithms': young boys are served harmful content within 60 seconds of being online</u>.

<sup>&</sup>lt;sup>624</sup> Internet Matters, 2023. <u>"It's really easy to go down that path": Young people's experiences of online</u> misogyny and image-based abuse.

# **Risk factors: User base**

#### User base size

- 5.44 Our <u>Illegal Harms Register</u> (Section 3: Hate) notes that the number of users on a service carries different risks associated with hate content. There is a risk of children encountering abuse and hate content, both on services with a large user base and on more niche, smaller services with a small user base, for different reasons. There is evidence that niche online services can contain far more abuse (including hateful activity) than mainstream services, despite these services attracting far fewer users. The research suggests that some communities, and even entire services, are 'deeply hateful': that the terms of use for these services are 'more lax' than mainstream services, and do not explicitly prohibit hate speech. Comparison of hate content within these services, and more mainstream ones, found that while even in the more extreme parts of the internet not all posts are hateful, the level of hate is significantly higher than in mainstream services.<sup>626</sup>
- 5.45 Although there is a lack of evidence on children's use of these smaller niche services, there is a risk that children might encounter hate content on large social media services, and then be led to smaller, niche services with higher volumes of hate content and therefore higher risk of harm. Our <u>Illegal Harms Register</u> (Section 3: Hate) notes that 'perpetrators of hate offences' tend to use services with large and small user bases in different ways. Research has found that some potential perpetrators are incentivised to maintain a presence on larger mainstream social media services, where they build their network further with new users, attracting them with 'borderline' hate content (such as by sharing incendiary news stories and provocative memes). These networks of users are then directed towards less-moderated services. In these spaces, users discuss and share hate content more openly.<sup>627</sup>

#### **User demographics**

- 5.46 The following sub-section outlines the evidence of how user base demographic factors affect the risk of harm. By definition, abuse and hate content presents specific risks to those whose demographic characteristics are listed characteristics. The evidence broadly falls into two categories:
  - a) Evidence demonstrating the presence of specific types of abuse or hate content (misogynistic, homophobic, etc.), indicating an increased risk of children in that group being targeted.
  - b) Evidence that certain groups are at disproportionate risk of encountering abuse or hate content generally, and/or content targeting their listed characteristic.
- 5.47 Data suggests that user base characteristics including **age, gender**,<sup>628</sup> **sexual orientation**, **ethnicity, religion, mental health** and **disability** could lead to an increased risk of harm to children.

<sup>&</sup>lt;sup>626</sup> Data based on UK adults aged 18+. Source: The Alan Turing Institute (Vidgen, B., Margetts, H. and Harris, A.), 2019. <u>How much online abuse is there? A systematic review of evidence for the UK.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>627</sup> Velasquez, N., Leahy, R., Johnson Restrepo, N., Lupu, Y., Sear, R., Gabriel, N., Jha, O. K., Goldberg, B. and Johnson, N. F., 2021. <u>Online hate network spreads malicious COVID-19 content outside the control of individual social media platforms</u>, *Scientific Reports*, 11 (11549). [accessed 28 March 2025].

<sup>&</sup>lt;sup>628</sup> We use this term to refer to a child's sex and to gender reassignment. In Section 62(11) of the Act, the characteristic of gender reassignment is defined as follows: "if the person is proposing to undergo, is

- 5.48 Research by Glitch<sup>629</sup> shows the role that intersectionality<sup>630</sup> can play in heightening the risk of certain groups of people encountering hate online – where individuals with multiple personal characteristics may be targeted more often and with more severe forms of hate or abuse. This research shows how Black women may be more susceptible to being targeted with abuse and hate due to their ethnic and gender characteristics. In a similar vein, children with other intersecting personal characteristics may also be susceptible to being targeted with or encountering abuse and hate content.
- 5.49 Services should therefore consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.

#### Age

- 5.50 The risk of encountering abuse or hate content appears to increase with age. Research in 2016 reported that exposure to 'online hate'<sup>631</sup> over the previous year was higher among 16-18-year-olds (89%) than those aged 13-15 (75%). In particular, older children were more likely than the younger ones to be exposed to hate targeted at girls and women, lesbian, gay and bisexual people, transgender people, and those in minority ethnic communities.<sup>632</sup>
- 5.51 However, while younger children may encounter abuse content less often, they may be less well equipped to deal with it. Evidence indicates that older children are also more likely to be able to navigate abusive content online. Research commissioned by DCMS with 9-18-year-olds reported that older children felt better at navigating 'unwanted contact and online abuse'. The children in the study explained that they had not been aware of reporting and blocking functions when they were younger, but had learnt to identify suspicious contacts and felt more confident in declining requests as a result of their previous negative online experiences.<sup>633</sup>

#### Gender

- 5.52 Misogynistic content is commonly encountered by children. Ofcom research in 2025 found that one fifth of 13-17-year-olds (20%) reported encountering 'content or language which objectifies, demeans or otherwise negatively portrays women' over the four-week period prior to the research; more likely to be seen by girls (22%) than boys (18%).<sup>634</sup>
- 5.53 Targeted studies among young women and girls reveal how many are encountering misogynistic content. An international study in 2020 found that gender-based harassment<sup>635</sup> online had been personally experienced on social media by 58% of women

<sup>629</sup> Glitch, 2023. <u>The Digital Misogynoir Report: Ending the dehumanising of Black women on social media</u>.

undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex". We have used the term gender as it is more commonly used in contemporary language and in the relevant evidence cited about the risk of harm.

 <sup>&</sup>lt;sup>630</sup> A term created by American sociologist Kimberlé Crenshaw to describe how people can face different kinds of discrimination at the same time due to their 'intersecting' or overlapping personal characteristics.
<sup>631</sup> Online hate is defined in this study as "something hateful about a certain group on the internet (for example, potentially offensive, mean or threatening behaviour targeted at or about someone because of their

race, religion, disability, gender, sexuality or transgender identity)". Source: UKSIC, 2016. <u>Creating a Better</u> <u>Internet for All: Young people's experiences of online empowerment + online hate.</u>

<sup>&</sup>lt;sup>632</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate.</u>

<sup>&</sup>lt;sup>633</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children.</u>

<sup>&</sup>lt;sup>634</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>635</sup> Harassment in this study was defined as 'online abuse, harassment and hate'.

and girls aged 15-25 (63% across Europe).<sup>636</sup> A 2023 study by Girlguiding found that the proportion of women and girls aged 13-21 who have received 'sexist comments' online has almost tripled in ten years (from 20% in 2013 to 57% in 2023).<sup>637</sup> This is reflected in the observations of Catch22, a provider of educational and social support to children, which reported a rise in the "violent and misogynistic content [against women and girls] being produced, consumed and shared online".<sup>638</sup>

- 5.54 Related to the presence of misogynistic content, and the higher risk of being targeted as a girl, the evidence indicates that girls are both more likely to be concerned by, and to experience emotional harms from, abuse and hate content. A study by Girlguiding found that more than half of young women and girls aged 11-21 (54%) said that fear of abuse made them feel less free to share their views online and on social media.<sup>639</sup> Research from 2016 found that online hate caused girls to be more careful than boys in what they shared online (77% vs 71%). The study also found that, among those who had witnessed online hate, girls aged 13-18 were more likely than boys that age to be worried about standing up to it, for fear of then being targeted (49% vs 40%). Girls were also more likely than boys to express certain emotions after encountering online hate in general: anger (45% of girls, 27% of boys), upset or sadness (41% vs 26%), and shock (36% vs 23%).<sup>640</sup>
- 5.55 Boys are also highly likely to be exposed to misogynistic content online. Ofcom research on online experiences reported that just under a fifth of boys aged 13-17 (18%) had seen misogynistic content over the four-week period prior to the research.<sup>641</sup> A Vodafone study on the proportion of younger boys encountering misogynistic content via 'AI algorithms' found that 69% of boys aged 11-14 had been exposed to online content promoting misogyny and 'other harmful views'. This included high engagement with 'manosphere' content (52%), specifically content from Andrew Tate.<sup>642</sup> A study by Internet Matters which explored online misogyny found that boys were more likely than girls to see content by Andrew Tate, especially among older boys: 55% of 15-16-year-old boys had seen his content on social media, compared to 34% of girls the same age.<sup>643</sup>
- 5.56 Internet Matters goes on to express concern about the implications of online misogyny on behaviour if exposure begins at a young and susceptible age, such as misogynistic rhetoric translating into real-world violence, likely directed at women and girls.<sup>644</sup> See also subsection 'Impacts' within this section.

<sup>&</sup>lt;sup>636</sup> The overall proportion experiencing harassment includes those who cited 'threats of violence', 'sexual harassment', 'body shaming' and 'threats of physical violence', which are not in scope of this section's definition of abusive content. Research does not include UK. Source: Plan International, 2020. Free to be online? Girls' and young women's experiences of online harassment.

<sup>&</sup>lt;sup>637</sup> Girlguiding, 2023. <u>Girls' Attitudes Survey 2023: Girls' lives over 15 years</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>638</sup> Catch22 response to our 2023 CFE.

<sup>&</sup>lt;sup>639</sup> Girlguiding, 2023. <u>Girls' Attitudes Survey 2023: Girls' lives over 15 years.</u>

<sup>&</sup>lt;sup>640</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate.</u>

<sup>&</sup>lt;sup>641</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>642</sup> Vodafone, 2024. <u>AI 'Aggro-rithms': young boys are served harmful content within 60 seconds of being online.</u>

<sup>&</sup>lt;sup>643</sup> Internet Matters, 2023. <u>"It's really easy to go down that path": Young people's experiences of online</u> misogyny and image-based abuse.

<sup>&</sup>lt;sup>644</sup> Internet Matters, 2023. <u>"It's really easy to go down that path": Young people's experiences of online misogyny and image-based abuse.</u>

- 5.57 Gender, as a risk factor, can intersect with other demographic factors such as age, ethnicity and sexuality. An international study of online harassment<sup>645</sup> among women and girls aged 15-25 noted that 42% who identified themselves as LGBTQI+<sup>646</sup> had experienced harassment because of their sexuality, 37% were harassed due to being from an ethnic minority, and 14% because of a disability.<sup>647</sup> Research in 2016 found that girls were more likely than boys to be exposed to online hate targeting LGB people (47% of girls vs 36% of boys), and hate targeting transgender people (38% of girls vs 18% of boys).<sup>648</sup>
- 5.58 Online harassment faced by adolescent girls is not a homogenous experience but parallels the differentiated and intersecting forms of abuse and discrimination girls also face in offline settings: in all countries, disability, race, ethnicity, and identifying as LGBTQI+ increase the harassment girls and young women face just because they are young and female.<sup>649</sup>
- 5.59 In cases where hate content or abuse targets multiple characteristics, rather than a single one, this can heighten the potential for harm (see 'Ethnicity' sub-section below for further examples). Ofcom research into the impact of online hate found that participants felt that hate targeting multiple characteristics can affect a greater number of people and therefore was more damaging.<sup>650</sup>

#### Gender and sexual orientation<sup>651</sup>

5.60 Children encounter content that is transphobic as well as content that is hateful or abusive towards non-binary people. Ofcom's 2024/25 research reported that just over a fifth of children aged 13-17 (22%) said that the abusive content<sup>652</sup> they had seen online, over a four-week period, was directed towards transgender people, and 8% said it was towards non-binary people.<sup>653</sup> Less recent research, from 2016, found that three in ten children aged 13-18 had seen transgender people targeted with online hate (29%); this was more likely to be seen by older children aged 16-18 (34%) than 13-15s (22%), and by girls than boys (38% vs 18%).<sup>654</sup>

<sup>&</sup>lt;sup>645</sup> Harassment in this study was defined as 'online abuse, harassment and hate'.

<sup>&</sup>lt;sup>646</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual, and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGB, which reflect the acronyms used in each source.

<sup>&</sup>lt;sup>647</sup> The overall proportion experiencing harassment includes those who cited 'threats of violence', 'sexual harassment', 'body shaming' and 'threats of physical violence', which are not in scope of this section's definition of abusive content. Research does not include the UK. Source: Plan International, 2020. Free to be online? Girls' and young women's experiences of online harassment.

<sup>&</sup>lt;sup>648</sup> UKSIC, 2016. Creating a Better Internet for All: Young people's experiences of online empowerment + online <u>hate.</u>

<sup>&</sup>lt;sup>649</sup> Research does not include UK. Source: Plan International, 2020. <u>Free to be online? Girls' and young</u> women's experiences of online harassment.

<sup>&</sup>lt;sup>650</sup> Ofcom, 2023. <u>Qualitative research into the impact of online hate</u>.

<sup>&</sup>lt;sup>651</sup> As noted earlier, we are using the term 'gender' to refer to both sex and to gender reassignment. We have grouped together sexual orientation alongside gender in this sub-section as much of the available evidence about the risk of harm as it relates to the characteristics of gender reassignment and sexual orientation looks at both these factors alongside one another.

 <sup>&</sup>lt;sup>652</sup> Abusive content seen in this research was defined as 'bullying, abusive behaviour, threats or hate speech'.
<sup>653</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. [accessed 16 April

<sup>2025].</sup> Subsequent references to this source throughout. Caution: low base size of 88 children aged 13-17. <sup>654</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

- 5.61 Homophobic content is also commonly encountered by children online. Nearly one-fifth of children aged 13-17 (18%) in Ofcom's 2024/25 research reported that the abusive content<sup>655</sup> they had seen online, over the four-weeks prior to the research, was directed towards people based on their sexual orientation.<sup>656</sup> Research in 2016 found that more than four in ten respondents aged 13-18 (42%) cited ever having seen LGB people targeted with online hate: this was more likely to be seen by older children aged 16-18 (46%) than by 13-15s (37%), and by girls than boys (47% vs 36% respectively).<sup>657</sup>
- 5.62 While evidence comparing the experience of LGBTQIA+ children to other children is limited, the high proportion of LGBTQIA+ children encountering abuse and hate online suggests this group are particularly affected. Stonewall reported that even if LGBT children had not been targeted themselves, nearly all said they had seen homophobic, biphobic and transphobic content online (97%), while more than four in ten (43%) said they saw it 'often'.<sup>658</sup> LGBTQIA+ children are also likely to experience being the target of abuse and hate online. Almost a fifth of school-age children in England (17%) in 2023 who reported being 'bullied'<sup>659</sup> online said they believe it was because of their sexual orientation.<sup>660</sup> Stonewall research in 2017 found that two-fifths (40%) of LGBT children and young adults (aged 11-19) in Britain had been the target of homophobic, biphobic and transphobic abuse online.<sup>661</sup> In particular, nearly three in five trans people (58%) had been the target of transphobic abuse online.<sup>662</sup>
- 5.63 Evidence reporting the proportion of LGBTQIA+ people who have been targeted confirms the disproportionate risk of harm. Stonewall research among adults in 2017 found that one in ten (10%) had been the direct target of homophobic, biphobic or transphobic abuse online in the previous month, increasing to 23% of younger adults aged 18-24. One in four trans people (26%) were directly targeted with transphobic abuse online, higher again among the younger adults (34% of 18-24s).<sup>663</sup> Although this study was based on adults, dynamics similar to those in the 18-24 age group are likely to be represented across the LGBTQIA+ population in children.
- 5.64 Certain characteristics can intersect to increase the risk of abuse and hate online, such as gender and sexuality. The Stonewall research among adults reported that non-binary LGBT people were significantly more likely than LGBT men and women to experience personal online abuse (26% compared to 10% of men and 8% of women). Sexuality also intersects with ethnicity as a risk factor. The Stonewall research reported that minority ethnic LGBT

 <sup>&</sup>lt;sup>655</sup> Abusive content seen in this research was defined as 'bullying, abusive behaviour, threats or hate speech'.
<sup>656</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. Caution: low base size of 88 children aged 13-17.

<sup>&</sup>lt;sup>657</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online</u> hate.

<sup>&</sup>lt;sup>658</sup> Stonewall, 2017. <u>School Report: The experiences of lesbian, gay, bi and trans young people in Britain's</u> <u>schools in 2017</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>659</sup> Although this data point references online bullying, as it targets listed characteristics it has been included in this section on abuse and hate.

 <sup>&</sup>lt;sup>660</sup> Department for Education, 2023. <u>National behaviour survey – Findings from Academic Year 2021/2022</u>.
[accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>661</sup> Stonewall, 2017. <u>School Report: The experiences of lesbian, gay, bi and trans young people in Britain's</u> <u>schools in 2017</u>.

<sup>&</sup>lt;sup>662</sup> Stonewall, 2017. <u>School Report: The experiences of lesbian, gay, bi and trans young people in Britain's</u> <u>schools in 2017</u>.

<sup>&</sup>lt;sup>663</sup> Stonewall, 2017. <u>LGBT in Britain: Hate crime and discrimination</u>.

adults were more likely than white LGBT people to experience homophobic, biphobic and transphobic abuse online (20% vs 9%).<sup>664</sup>

5.65 In a survey of LGBTI<sup>665</sup> children and young people in Scotland aged 13-25, 43% of lesbian and gay participants reported experiences of online bullying<sup>666</sup> due to their actual or perceived sexual orientation, and 53% of transgender participants reported online bullying due to their actual or perceived gender identity. The study also shows that the proportion of LGBTI children and young people who thought homophobia, biphobia and transphobia was a big problem in Scotland had increased between 2012 and 2022.<sup>667</sup>

#### Ethnicity<sup>668</sup>

- 5.66 Evidence shows that children encounter racist content and other abuse and hate which targets people from minority ethnic backgrounds. Eighteen per cent of children aged 13-17 in Ofcom's 2024/25 research reported that the 'abusive content'<sup>669</sup> which they had seen online over the four-week period prior to the research was directed towards people based on their ethnicity, and 3% noted 'abusive content' directed towards people based on their nationality.<sup>670</sup> The Department for Education found in 2023 that one in ten school-age children in England who reported being 'bullied' online said they believed the reason was their nationality (11%), or their race or ethnicity (9%).<sup>671</sup> While referred to as 'bullying' within this study, being linked to nationality, race or ethnicity suggests that this abuse is likely to target listed characteristics. Research in 2016 among children and young adults aged 13-18 found that 42% had ever seen minority ethnic groups targeted with online hate, higher among those aged 16-18 than among those aged 13-15 (48% vs 36%).<sup>672</sup>
- 5.67 Wider evidence about the experiences of children 'offline' suggests there is a high risk of children from minority ethnic groups being targeted with hate and abuse content. For example, studies about the experiences of children from minority ethnic backgrounds also describe how experiences of racism in school are common.<sup>673</sup> In one report, most young Black people aged 16-30 spoken to shared they had heard or witnessed the use of racist language at school.<sup>674</sup> Similarly, research with Gypsy, Roma and Traveller school pupils found it was common for children to hear racist language about them in secondary

<sup>&</sup>lt;sup>664</sup> Stonewall, 2017. <u>LGBT in Britain: Hate crime and discrimination</u>.

<sup>&</sup>lt;sup>665</sup> This is the term used in the research study referenced.

<sup>&</sup>lt;sup>666</sup> Although this data point references online bullying, as it targets listed characteristics it has been included in this section on abuse and hate.

<sup>&</sup>lt;sup>667</sup> LGBT Youth Scotland, 2022. Life in Scotland for LGBT Young People 2022. [accessed 28 March 2025].

 <sup>&</sup>lt;sup>668</sup> We have used the term ethnicity here to reflect the language used in key sources of evidence about experiences of racism online among UK internet users. It is worth noting, however, that in Section 62(10)(b) of the Act, the characteristic of race is defined as including "colour, nationality, and ethnic or national origins."
<sup>669</sup> Abusive content seen in this research was defined as 'bullying, abusive behaviour, threats or hate speech'.
<sup>670</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. Caution: low base size of 88 children aged 13-17.

 <sup>&</sup>lt;sup>671</sup> Department for Education, 2023. <u>National behaviour survey – Findings from Academic Year 2021/2022</u>.
<sup>672</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

<sup>&</sup>lt;sup>673</sup> Race on the Agenda, 2024. <u>ROTA Community Research Partnership Report: Education and Employment</u>. [accessed 21 February 2025]; Mind, 2021. <u>Not making the grade: why our approach to mental health at secondary school is failing young people</u>. [accessed 18 November 2024]; YoungMinds, 2023. <u>Deconstructing the system: young people's voices on mental health, society and inequality</u>. [accessed 20 December 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>674</sup> YMCA, 2020. <u>Young and Black: The Young Black Experience of Institutional Racism in the UK</u>. [accessed 18 November 2024].

school.<sup>675</sup> Given the prominence of online user-to-user services in the lives of many schoolchildren, this evidence suggests a risk of exposure to racist online communication and content from peers.

- 5.68 Research looking at experiences of particular minority ethnic groups highlights the ways in which they are targeted with hate and abuse content using different racist and hateful tropes. A study about experiences of racism among children and young people from East and South-east Asian backgrounds discussed encounters with specific racist tropes online during the Covid-19 pandemic, and how encountering these led to anxiety and distress at a time when there was increased violence against people from these backgrounds.<sup>676</sup>
- 5.69 Black women and girls are likely to be exposed to and targeted by racist and misogynistic content online according to research by Glitch which found over 2,000 'highly toxic'<sup>677</sup> posts across five social media services. Content sat at the intersection of racist and sexist hate, with content about Black women ranking as the most toxic on average, including the use of dehumanising language and stereotypes. Of the posts labelled 'Black toxic', 69.9% were in the highest category of toxicity, compared to 33.6% of the 'white toxic' data set. Harmful content included racist and sexist hate towards Black girls specifically as well as Black women.<sup>678</sup>

#### Religion

A child's religion can contribute to the risk of encountering content targeting them or their religious group. One in ten UK children aged 13-17 (11%) in Ofcom's 2024/25 research reported that the abusive content they had seen online, over the four-weeks prior to the research, was directed towards people based on their religion.<sup>679</sup> Two per cent of school-age children in England who reported being bullied online said they believed it was because of their religion or beliefs.<sup>680</sup> Research by the Institute for Strategic Dialogue (ISD) has found that, in the wake of the Israel–Gaza conflict, there has been a rise in anti-Muslim and antisemitic content online. This includes hateful comments on posts rising sharply on a video sharing service used by many children.<sup>681</sup>

5.70 Exposure over longer periods brings a higher likelihood of seeing such content: in 2016, more than half of 13-18s in the UK (55%) said they had seen, in the past year, online hate targeted towards people of a certain religion.<sup>682</sup>

<sup>&</sup>lt;sup>675</sup> Anti-Bullying Alliance and Friends, Families and Travellers, 2020. <u>Bullied, Not Believed, and Blamed. The</u> <u>Experiences of Gypsy, Roma and Traveller Pupils: Recommendations for Schools and Other Settings</u>. [accessed 22 January 2025].

 <sup>&</sup>lt;sup>676</sup> Gram, L. and Mau, A., 2024. <u>'We are not the virus' – Experiences of racism among East & Southeast Asian heritage young people in London during the height of the COVID-19 pandemic</u>. [accessed 10 January 2025].
<sup>677</sup> Keywords for toxic messages include racial and misogynistic slurs.

<sup>&</sup>lt;sup>678</sup> Clitate 2022. The Digital Missinger and Parents Fading the data was a single

 <sup>&</sup>lt;sup>678</sup> Glitch, 2023. <u>The Digital Misogynoir Report: Ending the dehumanising of Black women on social media</u>.
<sup>679</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. Caution: low base size of 88 children aged 13-17.

 <sup>&</sup>lt;sup>680</sup> Department for Education, 2023. <u>National behaviour survey – Findings from Academic Year 2021/2022</u>.
<sup>681</sup> ISD, 2023. 43-fold increase in anti-Muslim YouTube comments following Hamas' October 7 attack.

<sup>[</sup>accessed 15 October 2024]. Subsequent references to this source throughout; ISD, 2024. <u>Rise in antisemitism</u> on both mainstream and fringe social media platforms following Hamas' terrorist attack</u>. [accessed 28 March 2025]. Subsequent references to this source throughout; ISD, 2023. <u>Narratives of Hate: Post-7 October</u> <u>Antisemitism and Anti-Muslim Hate on Social Media</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>682</sup> UKSIC, 2016. Creating a Better Internet for All: Young people's experiences of online empowerment + online <u>hate.</u>

5.71 There is evidence that children from religious minorities experience discrimination in schools.<sup>683</sup> This suggests there is a risk of such children also being targeted by hate and abuse content online from peers.

#### Mental health and disability

- 5.72 The presence of content targeting people with mental and physical disabilities suggests that children with disabilities are more likely to be targeted, either as individuals or as a group. Over a tenth of children aged 13-17 (14%) in Ofcom's 2024/25 research reported that the abusive content they had seen online in the four-weeks prior to the research was directed towards people based on their disability.<sup>684</sup>
- 5.73 Indeed, the evidence shows that children with disabilities are disproportionately likely to be targeted by online hate. Research in 2016 found that, among respondents aged 13-18, those with disabilities were more likely to have experienced being targeted with online hate (38%), than those with no disabilities (21%). They were also more likely to experience this 'all or most of the time' (20%) than those with no disabilities (12%).<sup>685</sup>
- 5.74 Research commissioned by DCMS into the impact of online harms on children and young adults (ages 9-18) found that children with special educational needs and disabilities may be more vulnerable to being targeted by online abuse.<sup>686</sup> Those with learning disabilities and autism were identified as being vulnerable to seeking connections online with strangers, but were not always able to distinguish between healthy and harmful connections with others, either online or offline.<sup>687</sup> This may make them more susceptible to being targeted by online abuse.
- 5.75 There are distinct emotional and behavioural impacts. Children and young adults aged 13-18 with a disability were more likely to be worried about online hate than those without a disability (45% vs 4%) and to feel angry when seeing it (54% vs 35% of those without a disability). They were also more likely to say that online hate had made them less likely to use social media (43% vs 32% of those with no disability).<sup>688</sup>

## **Risk factors: Service types**

5.76 Research suggests that the following service types can increase the risk of abuse and hate content, manifesting online: **social media and video sharing services,** and **gaming services.** A user-to-user service may simultaneously include more than one service type.

<sup>&</sup>lt;sup>683</sup> YoungMinds, 2023. <u>Deconstructing the system: young people's voices on mental health, society and</u> <u>inequality</u>; Institute for Jewish Policy Research, 2024. <u>Antisemitism in schools: How prevalent is it, and how</u> <u>might it affect parents' decisions about where to educate their children post-October 7?</u> [accessed 20 December 2024]; Department for Education, 2017. <u>Omnibus Survey of Pupils and their Parents/Carers:</u> <u>Research Report Wave 2</u>. [accessed 20 December 2024].

<sup>&</sup>lt;sup>684</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. Caution: low base size of 88 children aged 13-17.

<sup>&</sup>lt;sup>685</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online</u> <u>hate</u>.

<sup>&</sup>lt;sup>686</sup> Online abuse in the study included being targeted "due to race, ethnicity, gender, religion, sexual orientation or disability; or personal attributes e.g. height, appearance, or just 'being different'."

<sup>&</sup>lt;sup>687</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>688</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

#### Service type

#### Social media services and video-sharing services

- 5.77 Evidence suggests that children can often encounter abuse or hate content on social media services, as well as video-sharing services.
- 5.78 Ofcom's research on online experiences found that certain kinds of content were more likely to be seen on social media than on other online services.<sup>689</sup> Three-quarters of all respondents<sup>690</sup> reported that their most recent experience of 'hateful, offensive or discriminatory content that targets a group or person based on specific characteristics' had been on a social media website or app (78%). Two-thirds of respondents (69%) also reported that their most recent experience of misogynistic content was on a social media website or app.<sup>691</sup> This research also found that around one in ten respondents reported that their most recent experience of seeing hateful content (7%) and misogynistic content (11%) was on video-sharing services.<sup>692</sup>
- 5.79 Similarly, research from 2016 found that, among respondents aged 13-18 who had seen online hate, more respondents said they had seen such content on social media in the previous year (81%), than on other types of services.<sup>693 694</sup>
- 5.80 More targeted studies indicate the nature of online hate on these services. A US study looking at experiences of online hate within social media and online games found that 17% of respondents aged 13-17 (who were online gamers) reported being exposed to white supremacist views on social media (17%) more so than on the other services, <sup>695</sup> including online gaming services. <sup>696</sup>
- 5.81 There is also evidence of social media services featuring hate and abuse content that is closely linked to extremist and terrorist ideologies and activities. It is worth noting that some of this content could also amount to illegal content; refer to the <u>Illegal Harms Register</u> (Section 1: Terrorism) for more detail.<sup>697</sup>

<sup>&</sup>lt;sup>689</sup> Note: The other services included in the Ofcom survey were 'a website or app where you view videos posted by other users'; news website or app; instant messenger website or app; email; livestreaming website or app; Q&A website or app; blog website or app; the 'dark web'; online dating websites or apps; search engine; 'adult' site containing sexual content; shopping website/app; gaming website/app; video on demand app; in-game chat/chat room; generative AI; other. Source: Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>.

<sup>&</sup>lt;sup>690</sup> This proportion relates to both adults and children aged 13 and above, as the sample of children experiencing this content was too low to report on alone.

<sup>&</sup>lt;sup>691</sup> The full definition in the research study for this kind of content was "content or language which objectifies, demeans or otherwise negatively portrays women".

<sup>&</sup>lt;sup>692</sup> Ofcom, 2024/25. Online Experiences Tracker – Wave 6 and 7 combined.

<sup>&</sup>lt;sup>693</sup> The other services included in the UKSIC survey were: videos and video comments threads; websites or blogs; chat functions in games; instant messaging services, forums or message boards, video chat services. Collectively, 66% of children reported seeing online hate on these services.

<sup>&</sup>lt;sup>694</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online</u> <u>hate</u>.

<sup>&</sup>lt;sup>695</sup> The other services asked about in this study were: through a chat app (10%); through an online video game (10%); on a forum (6%). 'In person' was also included (11%).

<sup>&</sup>lt;sup>696</sup> Anti-Defamation League (ADL), 2021. <u>Hate is No Game: Harassment and Positive Social Experiences in</u> <u>Online Games 2021</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>697</sup> ISD, 2021. <u>Hatescape: An In-Depth Analysis of Extremism and Hate Speech on TikTok</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

5.82 Research looking at specific events has also shown how comments on video-sharing services specifically can be used to spread potentially hateful content. For example, research in 2024 found that, in the wake of the Israel–Gaza conflict, anti-Muslim and antisemitic comments on posts published on a video-sharing service rose sharply.<sup>698</sup>

#### **Messaging services**

- 5.83 Evidence relating to children encountering abuse and hate content within messaging services often relates to group chats: cases where children have been added to user groups on messaging services where hateful content is shared.<sup>699</sup> There is also evidence of children being bullied via messaging services in ways that are abusive or hateful towards relevant characteristics.<sup>700</sup>
- 5.84 In addition, evidence and analysis from our <u>Illegal Harms Register</u> (Section 3: Hate) notes how private messaging services can be used to create inward-looking groups, which can be perceived as a safe space to stir up hatred based on race or ethnicity, religion, or sexual orientation. Similarly, Sections 4 and 5 of the Illegal Harms Register note how private messaging services can be used to send abusive and threatening content, which may include content targeting an individual's identity and relevant listed characteristics.
- 5.85 There is also wider evidence that messaging functionalities (such as direct messaging and group messaging) are used to share abuse and hate content, within other service types, such as gaming and video-sharing services (see sub-section 'User communication' within this section). As these functionalities are central to messaging services, this increases the likelihood that such services pose a risk to children relating to abuse and hate content.

#### **Gaming services**

5.86 Evidence suggests that gaming services, and gaming-adjacent services, in which users can interact with each other are spaces in which children can encounter abuse or hate content. Indeed, several organisations report on the issue of abuse and hate content on these services. A United Nations report examining gaming and violent extremism noted that certain gaming communities enable "a culture in which misogyny, toxicity, racism and hate can flourish".<sup>701</sup> Our <u>Illegal Harms Register</u> (Section 3: Hate) cites an investigation by the BBC which concluded that "extremists are using mainstream video games and gaming chat platforms to spread hate". The BBC investigation also found "antisemitism, racism and homophobia on platforms [where] users stream and chat about games".<sup>702</sup>

<sup>&</sup>lt;sup>698</sup> ISD, 2023. <u>43-fold increase in anti-Muslim YouTube comments following Hamas' October 7 attack.</u> See also ISD, 2023. <u>Rise in antisemitism on both mainstream and fringe social media platforms following Hamas'</u> <u>terrorist attack</u>; ISD, 2023. <u>Narratives of Hate: Post-7 October Antisemitism and Anti-Muslim Hate on Social</u> <u>Media</u>.

 <sup>&</sup>lt;sup>699</sup> Downs, J. and Lindsay, M., 2024. <u>Nine-year-olds added to malicious WhatsApp groups</u>. BBC News, 12 April.
[accessed 15 November 2024]. Subsequent references to this source throughout; Woodward, S., 2024.
<u>Warning for parents over 'explicit' WhatsApp group</u>. BBC News, 30 October. [accessed 28 January 2025].
Subsequent references to this source throughout.

<sup>&</sup>lt;sup>700</sup> A research study about the experiences of Gypsy, Traveller and Roma communities includes an account of a Traveller child being bullied via messaging and social media services in a way that was perceived as being linked to their Traveller identity. GATE HERTS, 2020. <u>Hate: "As regular as rain". A pilot research project into the psychological effects of hate crime on Gypsy, Traveller and Roma (GTR) communities.</u>

<sup>&</sup>lt;sup>701</sup> United Nations Office of Counter-Terrorism, 2022. <u>Examining the Intersection Between Gaming and Violent</u> <u>Extremism</u>. [accessed 28 March 2024].

<sup>&</sup>lt;sup>702</sup> Miller, C. and Silva, S., 2021. Extremists using video-game chats to spread hate. BBC News, 23 September. [accessed 28 March 2024].

- 5.87 In a study about experiences of gaming among 8-17 year olds in Australia, survey participants described other gamers using hateful and abusive language (20% of respondents), expressing sexist attitudes (11%) and expressing attitudes about the superiority of one race, culture, religion or nationality over another.<sup>703</sup> Six per cent of respondents also said other gamers had said hurtful or nasty things to them because of 'my race (or skin colour), religion, culture, nationality, disability, gender or sexuality.' Participants in this study talked about how, while the gaming environment provided a degree of anonymity that could prevent individuals from being targeted based on their personal characteristics, it was also a space where racist language and abuse is considered 'banter' and "people just shout slurs for the fun of it". The likelihood of experiencing hate speech increased with greater levels of engagement in gaming.<sup>704</sup>
- 5.88 In a US study among gamers, 12% of the gamers aged 13-17 reported being 'excluded from joining a game or chat because of their identity (based on age, gender, ethnicity, etc.)'. This study also found that 10% had been exposed to discussions around white supremacist ideologies within online multiplayer games.<sup>705</sup>
- 5.89 As noted above, children on gaming services are at risk of encountering abuse and hate, particularly through the messaging functionalities that are often offered on gaming services (see sub-section 'User communication' within this section).

#### Discussion forums and chat room services

<sup>5.90</sup> Abuse and hate content can be found within chat functionalities and forums, although evidence on this is limited. In a US study looking at experiences of online hate among online gamers, one in ten of the child gamers aged 13-17 had been exposed to discussions around white supremacist ideologies within chat apps (10%), and 6% within a forum.<sup>706</sup>

## **Risk factors: Functionalities and recommender systems**

#### **User identification**

#### User profiles

- 5.91 The type of profile that children use, such as open or public profiles or accounts, and the implications for user connections, increases the risk of children being targeted by abuse and hate content. A ten-year-old participant in Ofcom research spoke about how he wanted an open account when gaming, to be able to play against lots of different people in public matches. However, during one such public match, he experienced racist abuse from another player in a first-person shooter game.<sup>707</sup>
- 5.92 The personal information displayed in a user profile can also present as a risk. A US study about the experiences of gamers in online multiplayer games found that the identity of a user (based on their age, gender, ethnicity, etc.) could result in a form of abuse, in that they

<sup>707</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online.</u> [accessed 31 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>703</sup> The exact survey question wording used can be found on p.33. Source: eSafety Commissioner, 2024. <u>Young</u> people's experiences navigating the joys and risks of online gaming.

 <sup>&</sup>lt;sup>704</sup> eSafety Commissioner, 2024. <u>Young people's experiences navigating the joys and risks of online gaming</u>.
<sup>705</sup> ADL, 2021. <u>Hate is No Game: Harassment and Positive Social Experiences in Online Games 2021</u>.

<sup>&</sup>lt;sup>706</sup> ADL, 2021. Hate is No Game: Harassment and Positive Social Experiences in Online Games 2021.

were excluded from joining a game or chat. This was experienced by 12% of 13-17-year-old gamers.<sup>708</sup>

#### Anonymous profiles

- 5.93 Anonymity can be important in protecting users and allowing people to express themselves and engage freely online: for example, users who wish to talk openly about their sexuality or explore gender identity without fear of discrimination or harassment. Anonymity can enable users to express ideas or criticisms about people in power without risking attribution.<sup>709</sup>
- 5.94 While anonymity online confers some important benefits, the ability to create anonymous user profiles can also increase the risk of others encountering abuse and hate content. Anonymity has been cited as one of the principal factors creating the 'disinhibition effect' when people do or say things online that they would not do in person.<sup>710</sup>
- 5.95 Our <u>Illegal Harms Register</u> (Section 3: Hate) makes two points about gender-based harassment: that anonymous participants made more threats than identifiable participants,<sup>711</sup> and that the perception of anonymity predicted users' intentions to engage in harassing behaviour online.<sup>712</sup> The Illegal Harms Register notes that some studies suggest that anonymity can increase the risk of users sharing hate content, but also that a significant amount is also shared by users who are not anonymous.
- 5.96 There is evidence of children experiencing abuse and hate content via anonymous profiles. The findings of an international study among 15-25-year-old women and girls showed that, of those who had either experienced or knew someone who had experienced 'harassment' online,<sup>713</sup> this harassment was either by strangers (36%) or anonymous social media users (32%). Twenty-nine per cent said it came from people on social media services who were not their friends. This was significantly more likely than the proportion who were harassed by people they knew: 23% by people from school or work, and 21% by friends.<sup>714</sup>
- 5.97 Research into the link between anonymity and abuse online has also highlights the role pseudonymous user profiles play. Users even described creating 'disposable' user accounts in order to carry out abuse online in a particular case or for a more limited time, knowing their actions were in contravention of a service's rules.<sup>715</sup>

<sup>709</sup> eSafety Commissioner, n.d. <u>Anonymity and identity shielding.</u> [accessed 22 May 2023].

<sup>&</sup>lt;sup>708</sup> ADL, 2021. <u>Hate is No Game: Harassment and Positive Social Experiences in Online Games 2021</u>.

<sup>&</sup>lt;sup>710</sup> Suler, J., 2004. <u>The Online Disinhibition Effect</u>, *Cyberpsychology and Behavior*, 7 (3).

 <sup>&</sup>lt;sup>711</sup> Note: Study with students in Israel, aged 18-34. Source: Lapidot-Lefler, N. and Barak, N., 2012. Effects of anonymity, invisibility, and lack of eye-contact in toxic online disinhibition, Computers in Human Behaviour, 28 (2). [accessed 28 March 2025].

<sup>&</sup>lt;sup>712</sup> Note: Study with students in the US, with a mean age of 22. Source: Ritter, 2014. <u>Deviant Behavior in</u> <u>Computer-Mediated Communication: Development and Validation of a Measure of Cybersexual Harassment</u>, *Journal of Computer-Mediated Communication*, 19 (2). [accessed 28 March 2025].

<sup>&</sup>lt;sup>713</sup> Harassment in this study was defined as 'online abuse, harassment and hate'.

<sup>&</sup>lt;sup>714</sup> Research does not include UK. Source: Plan International, 2020. <u>Free to be online? Girls' and young</u> women's experiences of online harassment.

<sup>&</sup>lt;sup>715</sup> DCMS, 2022. Abuse and Anonymity. [accessed 28 March 2025].

#### **User networking**

#### User connections and user groups

- 5.98 Functionalities that allow users to easily add new connections, based on 'friend of friend' networks, increase the risk that children will encounter or be targeted by abuse and hate content.
- 5.99 The evidence reports that children are being sent abusive messages by other users who have added them to their networks. For example, Ofcom research found several participants aged 7-17 who had been exposed to abusive and racist language in this way, including a 14-year-old girl who had been sent racist abuse in a message on a video-sharing service by a stranger who had added her (see sub-section 'User communication' within this section).<sup>716</sup>
- 5.100 Children report encountering abuse and hate in user groups.<sup>717</sup> A study commissioned by DCMS, on the impact of online harms among 9-18-year-olds, identified that connection requests, and being added to groups, were common ways in which children encountered these kinds of content.<sup>718</sup>
- 5.101 There are also cases of children creating and being added to online groups where hateful and abusive content is shared.<sup>719</sup>

#### Stranger pairing

5.102 Pairing random users to chat online, via text, video or both, presents a risk that children could encounter, or be targeted by, hate or abuse. Ofcom research on the risk factors that may lead children to harm found that two participants, aged 13 and 17, had used a 13+ online service which pairs random users to chat to each other, and both had encountered abusive and racist language within it. They had both tried using this particular service because they had heard of friends using it or had seen 'vloggers' trying it.<sup>720</sup>

#### **User communication**

#### Livestreaming

5.103 As noted in our <u>Illegal Harms Register</u> (Section 3: Hate), livestreaming may be used to share hate content with large audiences of users. For instance, it has been reported that livestreaming was used to incite hate and violence across the country in the lead up to the Southport riots in July 2024.<sup>721</sup>

<sup>&</sup>lt;sup>716</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>717</sup> Downs, J. and Lindsay, M., 2024. <u>Nine-year-olds added to malicious WhatsApp groups</u>. BBC News, 12 April.

<sup>&</sup>lt;sup>718</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on children.</u>

 <sup>&</sup>lt;sup>719</sup> Burke, M., 2024. <u>6 Massachusetts teens charged in racial bullying incident with mock slave auction on Snapchat</u>. NBC News, 14 March. [accessed 31 January 2025]. Subsequent references to this source throughout; Downs, J. and Lindsay, M., 2024. <u>Nine-year-olds added to malicious WhatsApp groups</u>. BBC News, 12 April; Woodward, S., 2024. <u>Warning for parents over 'explicit' WhatsApp group</u>. BBC News, 30 October; BBC News, 2022. <u>Former Portsmouth academy players cautioned after racism probe</u>. BBC News, 30 June. [accessed 31 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>720</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online.</u>

<sup>&</sup>lt;sup>721</sup> Online Safety Act Network, 2024. <u>Disinformation and disorder: the limits of the Online Safety Act</u>. [accessed 28 March 2025].

- 5.104 Livestreams can be used to broadcast hateful content with large audiences of users, and their ephemeral nature makes moderation challenging.<sup>722</sup> Moreover, some video-sharing services allow users to combine user-generated content with existing content, which can be used to respond to posts in a hateful way.<sup>723</sup> The ephemeral nature of livestreaming means that the content is less likely to be archived and may not be moderated in real time.<sup>724</sup> The risk of harm presented by livestreaming is increased when paired with screen recording functionality, as the subsequent recording and dissemination of potentially hateful livestreamed footage can increase content virality.<sup>725</sup>
- 5.105 There is also evidence that livestreams can be targeted by people who share hateful and abusive content and messages with content creators and their audience. Research has shown instances where a 'stream' is targeted by a 'hate raid', an "attack that overwhelms a streamer's chatroom with hateful messages" and features abusive content targeting characteristics such as race and sexuality. This means that children who are content creators or viewing such a livestream can both be unexpectedly subjected to hate and abuse when using this functionality.<sup>726</sup>
- 5.106 Ofcom research shows that in 2024, the proportion of children who reported watching content on livestreaming services had risen significantly to two thirds of children aged 3-17 (66%). The figure increases to about eight in ten for children aged 13-15 (82%) and 16-17 (82%).<sup>727</sup> The reported use by children of this livestreaming functionality presents a risk of them encountering abuse and hate online.

#### Direct and group messaging

- 5.107 Messaging functionalities, such as group messaging chats within gaming services, can play a role in children encountering abuse and hate content. There is strong evidence around messaging functionalities as a risk that focuses specifically on gaming services. Research from 2016 reported that one in ten children aged 13-18 said they had seen online hate within chat functions in games; this was more likely among boys than girls (15% vs 5%).<sup>728</sup>
- 5.108 There is evidence of children sharing hateful and abusive content in group messaging chats on other service types.<sup>729</sup> In addition, children can sometimes be added to group messaging chats and contacted by users they do not know without being given the option of declining, and receive hateful and abusive content.<sup>730</sup> The user may have to opt out by leaving the chat, as opposed to having an active choice on whether to engage in the first place.

<sup>&</sup>lt;sup>722</sup> Zhou, Y. and Farzan, R., 2021. <u>Designing to stop live streaming cyberbullying: A case study of Twitch live</u> <u>streaming platform</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>723</sup> ISD, 2021. <u>Hatescape: An In-Depth Analysis of Extremism and Hate Speech on TikTok</u>.

<sup>&</sup>lt;sup>724</sup> Zhou, Y. and Farzan, R., 2021. <u>Designing to stop live streaming cyberbullying: A case study of Twitch live</u> <u>streaming platform</u>.

<sup>&</sup>lt;sup>725</sup> Ofcom, 2022. <u>The Buffalo Attack: Implications for Online Safety</u>. [accessed 31 January 2025].

<sup>&</sup>lt;sup>726</sup> Han, C. and Seering, J., 2023. <u>Hate Raids on Twitch: Echoes of the Past, New Modalities, and Implications for</u> <u>Platform Governance</u>. [accessed 4 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>727</sup> The proportion of 3-17-year-olds who had watched content on livestreaming services was 57% in 2021 and 62% in 2023. Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>. [accessed 21 March 2025].

<sup>&</sup>lt;sup>728</sup> UKSIC, 2016. Creating a Better Internet for All: Young people's experiences of online empowerment + online <u>hate.</u>

 <sup>&</sup>lt;sup>729</sup> Burke, M., 2024. <u>6 Massachusetts teens charged in racial bullying incident with mock slave auction on</u>
<u>Snapchat</u>. NBC News, 14 March; BBC News, 2022. <u>Former Portsmouth academy players cautioned after racism</u>
<u>probe</u>. BBC News, 30 June.

<sup>&</sup>lt;sup>730</sup> Downs, J. and Lindsay, M., 2024. <u>Nine-year-olds added to malicious WhatsApp groups</u>. BBC News, 12 April; Woodward, S., 2024. <u>Warning for parents over 'explicit' WhatsApp group</u>. BBC News, 30 October.

- 5.109 Similar encounters with hate and abuse content have occurred in one-to-one direct messaging, involving contact between schoolchildren as well as between children and people they meet online.<sup>731</sup> Research by Ofcom on the risk factors that may lead children to harm online reported on one child participant who had experienced racism from a stranger who had added her via the service, and then sent her a stream of abusive messages.<sup>732</sup>
- 5.110 Our <u>Illegal Harms Register</u> (Sections 4 and 5) includes many other examples of people receiving abusive and threatening language via direct messaging. This provides further indications of the risk of these features to children relating to abuse and hate content, based on the evidence that, for example, young adult women receive messages with sexist and abusive language on services with messaging functionalities.

#### **Commenting on content**

- 5.111 Abuse and hate content is commonly found in comment sections on posts online. Our <u>Illegal Harms Register</u> (Section 3: Hate) notes how hateful content sent to an individual through a comment functionality can be amplified by the scale of comments that the individual receives. Ofcom research on footballer abuse suggests that a user may send just one abusive comment to an individual,<sup>733</sup> but the targeted individual can then receive comments from a lot of other users simultaneously.
- 5.112 Our <u>Illegal Harms Register</u> (Section 3: Hate) cited research into online hate crime against LGBT+ adults, which found that 71% of online anti-LGBT+ incidents involved more than one perpetrator, and 13% involved 21 or more perpetrators. This resulted in respondents reporting incidents of 'cybermobbing' (where a group of individuals come together to attack a single target) and/or 'dogpiling' (where a large number of individuals respond to a post in a disparaging or spiteful way).<sup>734</sup>
- 5.113 Ofcom research on online experiences<sup>735</sup> found that, of all respondents aged 13 and over<sup>736</sup> who had seen hateful content,<sup>737</sup> almost half had seen it in comments or replies to a post, article or video (45%). Two-fifths of respondents had seen misogynistic content in this way (40%). Both these kinds of content were most commonly experienced while scrolling through feeds, followed by being found in comments (see sub-section 'Recommender systems').
- 5.114 The volume of abusive and hateful comments can increase in response to external events. For example, research has found that in the wake of the Israel–Gaza conflict (2023

 <sup>&</sup>lt;sup>731</sup> Jenkinson, O., 2020. <u>Student protest in Cheam after racist Snapchat incident</u>. Your Local Guardian, 16
October. [accessed 31 January 2025]; Denton, M., 2023. <u>Mum's heartbreak as daughter left in tears after being subjected to racist messages over Snapchat</u>. CornwallLive, 1 March. [accessed 31 January 2025].
<sup>732</sup> Ofcom 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>733</sup> Ofcom's research into Twitter abuse of Premier League football players found that many users send just one abusive tweet. Source: Alan Turing Institute (Vidgen et al.), 2022. <u>Tracking abuse on Twitter against</u> <u>football players in the 2021-22 Premier League season</u>. [accessed 28 March 2025].

 <sup>&</sup>lt;sup>734</sup> Note: Survey was with 700 LGBT people in the UK aged 18-70+. Source: Galop, 2020. <u>Online Hate Crime</u> <u>Report 2020: Challenging online homophobia, biphobia and transphobia</u>. [accessed 28 March 2025].
<sup>735</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>736</sup> The number of children in the survey (aged 13-17) who experienced this content was too low to report on, hence figures are based on adults and children.

<sup>&</sup>lt;sup>737</sup> Hateful content defined in the study as 'hateful, offensive or discriminatory content that targets a group or person based on specific characteristics like race, religion, disability, sexuality or gender identity; e.g. hate speech'.

onwards), anti-Muslim and antisemitic comments on posts published on a video-sharing service rose sharply.<sup>738</sup>

5.115 There is little available recent evidence on children in this area, but older research has similar insights into the role of comments. In 2016, a quarter of 13-18-year-olds (26%) who had seen something hateful online said it was in 'videos and video comment threads'; this was more likely among children aged 16-18 (29%) than those aged 13-15 (23%).<sup>739</sup>

#### **Reacting to content**

5.116 As noted in our <u>Illegal Harms Register</u> (Section 3: Hate), reacting to content can help facilitate the creation and circulation of illegal hate content, in ways that we also deem relevant to abuse and hate content that is harmful to children. Those creating the content can disseminate this in ways that encourage reactions, potentially increasing user engagement, as well as potentially encouraging like-minded individuals to connect with one another.

#### **Posting content**

- 5.117 As noted in our <u>Illegal Harms Register</u> (Section 3: Hate), the ability to post content on services enables its easy dissemination, increasing the risk of exposure of child users to controversial or emotive posts, and making it easier to disseminate hateful content. In the ten days following the Southport attack, the ISD found that the use of anti-Muslim slurs in posts more than doubled on a social media service also used by children. Hashtags containing anti-Muslim sentiments also proliferated, collectively receiving almost 5 million views.<sup>740</sup>
- 5.118 Children can encounter abuse and hate content posted by friends, whom they are also connected to online, indicating also how children can be both the creators and sharers of abuse and hate content online. UK research in 2016 reported that 35% of 13-18-year-olds said they had seen their friends 'posting offensive, mean or threatening things online about people of a certain group'.<sup>741 742</sup> This was more common among boys: in the same age group four in ten boys (41%) agreed with this statement, compared to three in ten girls (29%). Boys were also more likely to see their friends sharing 'offensive humour' about a certain group (78%, vs 69% of girls).<sup>743</sup>
- 5.119 Evidence exploring the proportion of children self-reporting abuse and hate content is limited. However, a 2018 study from Germany found that 11.3% of 12-17-year-olds reported having posted at least one item of 'hateful or degrading writing or speech online, inappropriately attacking certain groups of people or individuals because of their sex,

 <sup>&</sup>lt;sup>738</sup> ISD, 2023. <u>43-fold increase in anti-Muslim YouTube comments following Hamas' October 7 attack</u>; ISD,
<u>2023. Rise in antisemitism on both mainstream and fringe social media platforms following Hamas' terrorist attack</u>; ISD, 2024. <u>Narratives of Hate: Post-7 October Antisemitism and Anti-Muslim Hate on Social Media</u>.
<sup>739</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

<sup>&</sup>lt;sup>740</sup> ISD and CASM Technology, 2024. <u>Evidencing a rise in anti-Muslim and anti-migrant online hate following</u> <u>the Southport attack</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>741</sup> The definition in the research for a 'certain group' was "for example, girls, LGBT people, disabled people or a certain race or religion".

<sup>&</sup>lt;sup>742</sup> UKSIC, 2016. Creating a Better Internet for All: Young people's experiences of online empowerment + online <u>hate</u>.

<sup>&</sup>lt;sup>743</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment + online hate</u>.

religious affiliation, race or sexual orientation'.<sup>744</sup> This may indicate the proportion of children posting abuse and hate content in the UK.

5.120 There is also evidence showing that for higher-profile internet users, posting content can leave an individual susceptible to being targeted with hate and abuse content.<sup>745</sup> This suggests there is a risk of harm to child content creators and influencers who post content, as well as children who look at this content, given that associated content (such as comments and reposts) may include hate and abuse.

#### User-generated content exploring

#### Hyperlinking

5.121 As noted in our <u>Illegal Harms Register</u> (Section 3: Hate), there is evidence showing that hyperlinks can make it easier for internet users to be directed to more hateful content from a mainstream source. This has been noted in relation to popular online services used by many children.

#### **Content tagging**

- 5.122 Our <u>Illegal Harms Register</u> (Section 3: Hate) notes how content tagging can be a risk factor for hate offences, in ways we also consider relevant for abuse and hate content that is harmful to children. The use of hashtags, for example, may sometimes result in hateful content being circulated more widely. Research by the ISD looking at harmful content on a major video-sharing service includes examples of content creators using popular hashtags in order to promote their hateful content.<sup>746</sup>
- 5.123 The Antisemitism Policy Trust have produced evidence noting the use of antisemitic hashtags on some social media services, often associated with conspiracy theories. Sometimes this happens on posts about topics unrelated to the hashtag, in order to expose the hashtag to more users. The use of a popular social media service means that it is likely these hashtags were viewed by children.<sup>747</sup>

#### **Recommender systems**

#### Content recommender systems

5.124 Abuse and hate content is commonly encountered through scrolling through content discovery feeds. Recommendation surfaces can be a pathway to harmful content and are often driven by content recommender systems to deliver a personalised user experience. A detailed explanation of how content recommender systems<sup>748</sup> work, and how they can pose a risk to children, is set out in Section 16: Wider context to understanding risk factors.

<sup>&</sup>lt;sup>744</sup> Wachs, S. and Wright, M. F., 2018. <u>Associations between Bystanders and Perpetrators of Online Hate: The</u> <u>Moderating Role of Toxic Online Disinhibition</u>, *International Journal of Environmental Research and Public Health*, 15 (9). [accessed 28 March 2025].

<sup>&</sup>lt;sup>745</sup> Thomas, K., Gage Kelley, P., Consolvo, S., Samermit, P and Bursztein, E., 2022. <u>"It's common and a part of being a content creator"</u>: <u>Understanding How Creators Experience and Cope with Hate and Harassment Online</u>. [accessed 4 February 2025]; Han, C. and Seering, J., 2023. <u>Hate Raids on Twitch: Echoes of the Past, New Modalities, and Implications for Platform Governance</u>.

<sup>&</sup>lt;sup>746</sup> ISD, 2021. <u>Hatescape: An In-Depth Analysis of Extremism and Hate Speech on TikTok</u>.

<sup>&</sup>lt;sup>747</sup> Antisemitism Policy Trust, 2021. Instagram: Bad Influence. [accessed 27 January 2025].

<sup>&</sup>lt;sup>748</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter

- 5.125 There is evidence that hate and abuse content is being recommended to child users. Ofcom's research on online experiences<sup>749</sup> found that certain kinds of content were most likely to be seen when respondents<sup>750</sup> were scrolling through their feeds. For example, more than half of all respondents (54%) who encountered hateful content<sup>751</sup> said they came across it while scrolling, and 54% of all respondents who encountered misogynistic content<sup>752</sup> said they came across it this way. While these data points reflect the experiences of both adults and children, scrolling, and the associated role of recommender systems, is likely to remain important when considering children in isolation.
- 5.126 For example, if children's accounts indicate an interest in certain kinds of content, this is then served to them rapidly, and in high volumes. A 2022 investigation by The Observer revealed how an 18-year-old's account was served videos aimed at male users. Initially, this was comedy and mental health content which then progressed to content that appeared to be tailored towards men. This included videos by Andrew Tate, which were recommended without the user 'liking' or searching for any of this kind of content proactively.<sup>753</sup> When harmful content is repeatedly encountered by a child, this may lead the child to experience 'cumulative harm'.<sup>754</sup>
- 5.127 Other evidence shows how child users can be served abuse and hate content, regardless of whether they have actively searched for this kind of content. A UK study on the effects of content recommender systems on 11-14-year-old boys reported that most boys are being served misogynistic content without having actively searched for it. The study found that 69% are led to content promoting misogyny through innocent and unrelated searches, due to recommender systems. On average, the boys in the study were exposed to harmful content (including misogyny and violence) within 30 minutes of being online, and one in ten were seeing it in as little as 60 seconds.<sup>755</sup> An Australian study using ten avatar accounts (aged between 13 and 20) found that each of the accounts were recommended misogynistic videos on a video-sharing service. Four of the accounts were set up as being aged under 18. While some accounts were set up to deliberately seek out extreme sources

content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>749</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>750</sup> The number of children in the survey (aged 13-17) who experienced this content was too low to report on, hence the figures are based on adults and children.

<sup>&</sup>lt;sup>751</sup> Hateful content in this research defined as "Hateful, offensive or discriminatory content that targets a group or person based on specific characteristics like race, religion, disability, sexuality or gender identity; e.g. hate speech".

<sup>&</sup>lt;sup>752</sup> The full definition in the research study for this kind of content was "content or language which objectifies, demeans or otherwise negatively portrays women".

<sup>&</sup>lt;sup>753</sup> Note: For this experiment, news organisation The Observer set up a new account on TikTok to resemble a teenager (aged 18) to see what content the algorithm recommended. Source: Das, S., 2022. <u>How TikTok</u> <u>bombards young men with misogynistic videos</u>, The Guardian, 6 August. [accessed 28 March 2025].

<sup>&</sup>lt;sup>754</sup> Cumulative harm can occur when harmful content – primary priority content (PPC), priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different kinds of harmful content (PPC, PC or NDC), or a kind of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in the Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>755</sup> Vodafone, 2024. <u>AI 'Aggro-rithms': young boys are served harmful content within 60 seconds of being online</u>.

and influencers, all the accounts received this kind of content, with more overtly misogynist 'manosphere' and 'incel'<sup>756</sup> content also being recommended.<sup>757</sup>

<sup>&</sup>lt;sup>756</sup> 'Incel' is defined as 'a member of a group of people on the internet who are unable to find sexual partners despite wanting them, and who express hate towards people whom they blame for this.' Source: <u>Cambridge</u> <u>Dictionary</u>, n.d. [accessed 28 March 2025].

<sup>&</sup>lt;sup>757</sup> Reset Australia, 2022. <u>Algorithms as a weapon against women: How YouTube lures boys and young men</u> <u>into the 'Manosphere'</u>. [accessed 28 March 2025].
# 6. Bullying content

Warning: this section contains reference to content that may be upsetting or distressing, including references to self-harm and suicide.

#### Summary: Risk of harm from bullying content

This section covers bullying content. Content may, in particular, be 'bullying content' if it is targeted against a person and a) conveys a serious threat, or b) is humiliating or degrading, or c) forms part of a campaign of mistreatment. In online environments, being targeted with bullying content can feel inescapable as it is often a continuation or escalation of behaviours that begin offline. Evidence suggests that the potential for anonymity can encourage the creation and sharing of bullying content.

Up to one in four children have been targeted by bullying content and behaviour online, with experiences varying depending on a child's characteristics, as noted below. Being targeted by bullying is linked to a range of harmful outcomes, from poor educational performance and social withdrawal to self-harm and suicidal ideation.

#### Risk factors: User base

Some studies indicate that services with **larger user bases** can be used to spread bullying to a wider audience, thereby intensifying the harm to the person being bullied.

Several demographic factors increase the risk of children being exposed to bullying content and behaviour. In some instances, there may be cross-over between bullying content and abuse and hate content which targets individuals based on listed characteristics. This latter kind of content is explored in Section 5: Abuse and hate content.

**Secondary school-aged children** are more likely than those in primary school to encounter and experience bullying content online. However, younger children are increasingly encountering such content, due to having greater access to devices and online services than ever before.

Gender and sexuality affect the risk to children from bullying. Although online bullying is likely to be experienced by both girls and boys, most studies suggest that **girls** are more likely to be targeted, although boys may under-report their experiences. Non-binary children are also more likely to be bullied online and are less likely to report this. The evidence indicates that **LGBTQIA+ children** are also at high risk of being bullied online. When targeted directly because of their sexual orientation and gender reassignment characteristics, this can also constitute abuse or hate (see Section 5: Abuse and hate content).

Several studies found that children with **mental health conditions** or **disabilities** were worse for these children. There are also some indicators that children in receipt of **free school meals** are more likely to be bullied online.

Risk factors: Service types

Bullying content is particularly likely to occur on **social media, messaging** and **gaming services**. As a result, these three service types have been included in the Children's Risk Profiles.<sup>758</sup>

Social media is more likely than other service types to serve bullying content. The likelihood of this increases by age, reflecting children's growing use of social media from primary to secondary school age. Girls are more likely to experience bullying on social media, whereas boys are more likely than girls to be bullied via online gaming. However, this may be due to the relative amount of time they spend on each service.

#### Risk factors: Functionalities and recommender systems

**Anonymous profiles** can make it easier for users to engage in bullying behaviour and exacerbates the harm to the targeted individual because the identity of the tormentor is unknown, making it harder for action to be taken against them. This functionality is therefore included in the Children's Risk Profiles.

Bullying content is also sent using messaging functionalities. **Direct messaging** is used more frequently than group messaging for this kind of behaviour, and will therefore be more likely to go unnoticed by the service, unless reported. **Group messaging** can be used in two ways: to increase the humiliation of the targeted individual by reaching a wider audience, and by excluding an individual from the chat as a bullying tactic which can form part of a campaign of mistreatment. Due to their role in enabling bullying, these functionalities have been included in the Children's Risk Profiles. **Ephemeral messaging**<sup>759</sup> is a functionality that some research respondents felt limited their ability to collect evidence of bullying, making it more difficult for those in authority to intervene, to hold perpetrators to account or to resolve issues.

Negatively **commenting** on content and **reposting or sharing content** about others were all reported as bullying behaviour and have been included in the Children's Risk Profiles.

Other functionalities play a role in enabling bullying online. Bullying content is often shared via **posting content**, while having a **geographic location** shared in a user's profile presents a risk of bullying behaviours being escalated offline. Users can also sometimes make **fake user profiles** from which they can impersonate and target individuals in bullying campaigns.

The ability to capture images and videos, via **screenshots and recordings**, may enable bullying content to be shared further. Although this function can help targeted individuals to collate evidence of bullying, it can also deter some from doing so (e.g., if an online service sends a notification when a user takes a screenshot of someone else's content).

Bullying behaviour online can involve creating or editing content to humiliate or denigrate a child (e.g., by creating images that alter their physical appearance or that show them in compromising situations). At the extreme, generative artificial intelligence can be used to produce sexual images of children in order to humiliate and bully them. Content that

<sup>&</sup>lt;sup>758</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

<sup>&</sup>lt;sup>759</sup> User-to-user service functionality that that allows users to send messages that are automatically deleted after they are viewed by the recipient, or after a prescribed period of time has elapsed.

shows a child in a sexually explicit way constitutes child sexual abuse material and is illegal, <sup>760</sup> but can also be part of a wider bullying campaign.

# Introduction

- 6.1 This section summarises our assessment of the risks of harm from bullying content to children, in different age groups, presented on user-to-user services (risk of harm). This kind of content has been designated as priority content that is harmful to children (PC), as defined in the Online Safety Act 2023 (the Act).<sup>761</sup>
- 6.2 Many research sources use the term 'cyberbullying' within their analysis when referring to bullying content and behaviour online. In line with the Act, we use the term 'bullying content' or 'bullying online' throughout this section, unless citing specific evidence using different terminology.
- 6.3 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks. 'Harm' means physical or psychological harm. Harm can be cumulative or indirect.
- 6.4 Content or online behaviour may, in particular, amount to bullying if it is targeted against a person and:
  - a) conveys a serious threat,
  - b) is humiliating or degrading, or
  - c) forms part of a campaign of mistreatment.
- 6.5 In the Guidance on Content Harmful to Children, we provide guidance on identifying bullying content, including examples of what Ofcom considers to be, or considers not to be, bullying content. Contextual factors are particularly important to consider when identifying bullying content. Examples include content that persistently or repetitively targets individuals or groups with offensive or otherwise harmful content, content depicting or relating to a specific individual in an offensive or otherwise harmful way, shared without their consent in order to humiliate, pile-ons,<sup>762</sup> or serious threats or aggressive behaviours. For more detail and contextual considerations, please refer Section 7 in our Guidance on Content Harmful to Children.
- 6.6 Bullying may therefore overlap with other kinds of harmful content. Bullying can often be aimed at individuals from certain groups, for example, because of race, religion, sex, gender reassignment or sexual orientation. Content targeting individuals based on listed characteristics is covered in Section 5: Abuse and hate content. Within this current section, we focus on bullying online more generally, not where it is targeting listed characteristics. However, there is evidence to suggest that children in certain groups (e.g., girls, LGBTQIA+<sup>763</sup> children, children with disabilities) may be at a higher risk of bullying content

<sup>&</sup>lt;sup>760</sup> See Section 2B: Child Sexual Abuse Material (CSAM) in our <u>Illegal Harms Register of Risks</u> for more information about this.

<sup>&</sup>lt;sup>761</sup> Section 62(5) of the Act.

<sup>&</sup>lt;sup>762</sup> Refers to when a user is criticised or targeted by a large number of other users, often as part of bullying campaigns.

<sup>&</sup>lt;sup>763</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual and others. Not all of the evidence

that does not target these characteristics. See sub-section 'User base' within this section for more information. Bullying content may also overlap with content which encourages self-harm or suicide (see Section 3: Suicide and self-harm content for more detail) or as part of a campaign of mistreatment involving violent content (see Section 7: Violent content).

- 6.7 The literature in this area explores bullying as a behaviour, as well as bullying content. Bullying behaviours which happen online generally involve the sharing of content that might be considered bullying content. However, certain forms of bullying behaviour, such as deliberately excluding others from online chats or spaces, may form part of a wider bullying campaign but would not constitute 'bullying content' for the purposes of the Act if it does not involve direct interaction between users. This section will therefore consider bullying content in its analysis and draw on evidence relating to bullying as a behaviour, as both have an impact on the harm children may experience from bullying.
- 6.8 Some research in this area avoids the term 'bullying', preferring to ask respondents more generally about 'negative experiences', as children can be unwilling to report bullying. It is then the researchers' own interpretation as to which of these experiences represent bullying content or behaviour. For the purposes of this section, the definition used by each survey has been footnoted for reference.

# How bullying content manifests online

- 6.9 This sub-section looks at how bullying content manifests online and how children may be at risk of harm.
- 6.10 Bullying is often a continuation or escalation of behaviour which begins offline. Online spaces can then provide an additional forum for the bullying to continue.<sup>764</sup> Ofcom research shows that bullying through 'communications technology' is actually more likely to occur than bullying in person.<sup>765</sup> The Anti-Bullying Alliance told Ofcom that children often refer to online bullying as "another tool in the toolbox", rather than it being something separate from bullying face-to-face.<sup>766</sup> Ofcom research in 2022 among children aged 8-17 found that children who were experiencing bullying offline appeared to be more likely to experience it online as a result.<sup>767</sup>

sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGB, which reflect the acronyms used in each source. LGBTQ+ is the acronym for lesbian, gay, bi, trans, queer, questioning and ace. Source: Stonewall, n.d. <u>Stonewall list of LGBTQ+ terms</u>. [accessed 28 March 2025]. <sup>764</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>765</sup> Among those who were bullied, 90% experienced it via communications technology\* and 53% in person. \*Note that 'communications technology' includes: text or messaging apps, social media, online games, phone calls, video calls, other sites and apps. When considering user-to-user services likely to be accessed by children, and which are in scope of the Act, the figure becomes 71% for communications technology (this excludes phone calls, and text and messaging apps; while messaging apps are in-scope, texts and phone calls are not, therefore these have been removed for this calculation). Data is not contained within the published data tables, but can be derived via calculation from the published SPSS files. Source: Ofcom, 2023. <u>Children's Media Literacy Tracker</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.
<sup>766</sup> <u>Anti-Bullying Alliance</u> response to our 2023 Protection of Children Call for Evidence. [accessed 30 January 2025].

<sup>&</sup>lt;sup>767</sup> A 17-year-old participant had experienced various kinds of bullying at school, which had transitioned online during the first Covid-19 lockdown in 2020. Another participant, a 14-year-old boy, had fallen out with some of his friends offline, after which they began to bully him online. Source: Ofcom, 2022. <u>Research into risk factors</u>

- 6.11 The characteristics of the online environment may also encourage bullying behaviours and content. The potential for anonymity enables a person to 'disassociate' themselves from their bullying behaviour so that they do not have to own or acknowledge it, and can therefore adopt different behaviours and social norms in their offline interactions. This anonymity may also enable those conducting the bullying to trivialise the consequences of it. The phenomenon of users acting differently online to how they would in real life is termed in the literature as the 'online disinhibition effect'. The negative effect is termed 'toxic inhibition'.<sup>768</sup> The effect of toxic inhibition was raised in our research among 12-17-year-olds, practitioners and school staff, who deemed that being anonymous or 'behind a screen' reduced the repercussions or consequences of bullying.<sup>769</sup> The risk of children being bullied by people not personally known to them is heightened online.
- 6.12 Online services enable bullying content to be shared quickly and widely, which can exacerbate harmful effects. Various organisations observe that bullying content has the capacity to reach a wide audience, escalating quickly if it is shared or commented on.<sup>770 771</sup>
- 6.13 Bullying content can also feel inescapable, following a child wherever they go, and can happen at any time, day or night. Online services also have a range of functionalities which can enable bad actors to target individuals in different ways: not only direct, targeted harassment, but also the creation and sharing of material.<sup>772</sup>

## Presence

6.14 Overall, studies show that up to one in four children have ever been targeted by bullying content online. This figure ranges from 8% to 24%, depending on the kind of bullying content or behaviour, the age range, and the data source.<sup>773</sup>

that may lead children to harm online. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>768</sup> Suler, J., 2004. <u>The Online Disinbition Effect</u>, *CyberPsychology and Behaviour*, 7 (3). [accessed 28 March 2025].

<sup>&</sup>lt;sup>769</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>770</sup> The Children's Society and YoungMinds, 2018. <u>Safety Net: Cyberbullying's impact on young people's health.</u> <u>Inquiry report.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>771</sup> United Nations: UN Special Representative of the Secretary-General on Violence Against Children, n.d. <u>Bullying and Cyberbullying.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>772</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

<sup>&</sup>lt;sup>773</sup> Data shows that 10% of school-age children in England said they had been bullied online (22% said it had happened both online and in person). Source: Department for Education, 2023. National behaviour survey -Findings from Academic Year 2021/2022. [accessed 28 March 2025]. Subsequent references to this source throughout; Data shows that 19% of children aged 9-16 have experienced 'bullying, abusive or upsetting messages/comments online from people you don't know'. Source: Internet Matters, 2025. Children's Wellbeing in a Digital World 2025. [accessed 28 March 2025]. Subsequent references to this source throughout; Internet Matters' Digital Tracker Survey from May 2024. [accessed 13 February 2025]. Subsequent references to this source throughout; Data shows that 18.7% of children aged 10-15 had experienced at least one kind of bullying behaviour online. Source: Office for National Statistics, 2020. Online bullying in England and Wales: year ending March 2020. [accessed 30 January 2025]. Subsequent references to this source throughout; Data shows that 23% of those aged 8-17 had ever had someone be 'nasty or hurtful' to them via an online method (such as via social media, online games, video calls, or other sites or apps) - this is then interpreted as bullying within the report. Data referred to here has been rebased on all respondents who go online (whereas the published data tables are based on those who opted to answer the question). Source: Ofcom, 2023. Children's Media Literacy Tracker; Data shows that 24% of children and young adults aged 4-18 in England said they had ever experienced 'other pupils are mean or rude to me online', which the report

- 6.15 Children experience bullying online both by people known to them and by strangers. Around a fifth of all children aged 8-17 have been bullied online by people they know.<sup>774</sup> Evidence on the proportions of children being bullied online by a stranger is more difficult to assess, but there are indications that up to a fifth of all children have experienced this.<sup>775</sup>
- 6.16 The effect of bullying content is not restricted to those who are targeted by it; children are also witnessing others being bullied online. Ofcom's 2025 research on online experiences found that up to one in five (21%) of UK children aged 13-17 had seen or experienced some form of bullying behaviour online, over the four-week period prior to the research.<sup>776</sup> The National Society for the Prevention of Cruelty to Children (NSPCC) reported in 2019 that a quarter of primary school children said they had seen others bullied online (25%), rising to a

terms as 'cyber victimisation'. Source: Anti-Bullying Alliance, 2022. <u>Bullying, school experiences and wellbeing:</u> <u>a picture of pupil experience in England 2022</u>. [accessed 28 March 2025]. Subsequent references to this source throughout; Data shows that 16% of children aged 9-17 were exposed to bullying content online. Source: Internet Matters, 2024. <u>Protecting children from harms online: Response to Ofcom consultation</u>. [accessed 13 February 2025]. Subsequent references to this source throughout; Data shows that 18.7% of children aged 10-15 had experienced at least one kind of bullying behaviour online. Source: Office for National Statistics, 2020. <u>Online bullying in England and Wales: year ending March 2020</u>. [accessed 30 January 2025]. Subsequent references to this source throughout; Data shows that 23% of those aged 8-17 had *ever* had someone be 'nasty or hurtful' to them via an online method (such as via social media, online games, video calls, or other sites or apps) – this is then interpreted as bullying within the report. Data referred to here has been rebased on all respondents who go online (whereas the published data tables are based on those who opted to answer the question). Source: Ofcom, 2023. <u>Children's Media Literacy Tracker</u>; Data shows that 24% of children and young adults aged 4-18 in England said they had *ever* experienced 'other pupils are mean or rude to me online', which the report terms as 'cyber victimisation'. Source: Anti-Bullying Alliance, 2022. <u>Bullying, school</u> <u>experiences and wellbeing: a picture of pupil experience in England 2022</u>.

<sup>&</sup>lt;sup>774</sup> Data shows that 15% of children aged 9-15 had experienced receiving 'abusive or upsetting messages from people you know in real life'. Source: Internet Matters, 2024. <u>Children's Wellbeing in a Digital World: Year Two</u> Index Report 2024; Data shows that 19% of those aged 8-17 experienced 'bullying from people you know'. Source: Nominet S, 2023. <u>Digital Youth Index Interactive portal</u>. Portal pathway used: *Topic = Internet safety / Question = Have you ever seen or experienced any of the following while online? / Results refined by Age filter: 8-17s*. [accessed 28 March 2024]. Subsequent references to this source throughout; Data shows that 18% of those aged 12-18 had 'something mean' posted about them online by people they knew offline (plus 8% by people they knew online). Source: Ditch the Label, 2021. <u>Wireless Report 2021</u>. [accessed 28 March 2025]. Subsequent references to this source throughout; Impact, 2023. <u>Digital Youth Index Interactive portal</u>. Portal pathway used: *Topic = Internet safety / Question = Have you ever seen or experienced any of the following while online? / Results refined by Age filter: 8-17s*; Data shows that 18% of those aged 12-18 had 'something mean' posted about them online by people they knew online). Source: Ditch the Label, 2021. <u>Wireless Report 2021</u>. [accessed 28 March 2025]. Subsequent references to this source throughout; Impact, 2023. <u>Digital Youth Index Interactive portal</u>. Portal pathway used: *Topic = Internet safety / Question = Have you ever seen or experienced any of the following while online? / Results refined by Age filter: 8-17s*; Data shows that 18% of those aged 12-18 had 'something mean' posted about them online by people they knew offline (plus 8% by people they knew online). Source: Ditch the Label, 2021. <u>Wireless Report 2021</u>.

<sup>&</sup>lt;sup>775</sup> Data shows that 5% of those aged 12-18 had 'something mean' posted about them online by people they did <u>not</u> know, and 8% by an anonymous account. Source: Ditch the Label, 2021. <u>Wireless Report 2021</u>; Data shows that 20.1% of those aged 8-17 experienced 'bullying from people you don't know'. Source: Nominet Social Impact, 2023. <u>Digital Youth Index Interactive portal</u>. Portal pathway used: *Topic = Internet safety / Question = Have you ever seen or experienced any of the following while online? / Results refined by Age filter: 8-17s*.

<sup>&</sup>lt;sup>776</sup> The kinds of bullying experienced included: 21% 'trolling' (a person who says something to cause intentional upset or provoke a negative reaction), 14% 'one-off abusive behaviour or threats', 11% 'group shaming, boycotting, or excluding someone based on their views, opinions or actions' (including online 'pileons'), 8% 'people pretending to be another person (for example, catfishing)', 10% 'private conversations being shared without their consent', 7% 'persistent bullying online', 5% 'stalking, cyberstalking or harassing behaviour', 5% 'private/intimate information made public' (for example, 'doxxing'). Source: Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

third of those in secondary school (33%).<sup>777</sup> This increased likelihood among older children was echoed in 2017 research: 68% of children aged 13-17 said they had seen images or videos that were 'mean, or bully someone', compared to 47% of children aged 8-12.<sup>778</sup>

- 6.17 The sharing of bullying content is particularly common during school time. The 2020 Crime Survey for England and Wales found that almost three-quarters of children aged 10-15 (72%) had experienced online bullying during school time: 19% said it all happened during school time, and 52.9% said some of it happened during school time.<sup>779</sup> The Professionals Online Safety Helpline reported that during 2022, 10% of its calls were from school settings regarding 'cyberbullying'.<sup>780</sup>
- 6.18 The proportion of children both being bullied, and encountering bullying content, is likely to be under-reported, given the challenges in identifying bullying content. Ofcom research reports children acknowledging that it can be hard to distinguish between 'cyberbullying' and behaviour that some might describe as 'jokes' or 'banter' but which could be unintentionally harmful.<sup>781</sup> Other research found that a quarter of 11-16-year-olds (26%) said they had experienced 'banter that went too far', and that 10-12-year-olds felt confused when trying to distinguish between jokes and 'mean' behaviour online.<sup>782 783</sup> As a result, children who are bullied online do not always recognise it as such, while others might not realise they are engaging in bullying behaviours themselves.<sup>784 785 786</sup>
- 6.19 Certain groups are more likely to be bullied online, such as girls, non-binary children, LGBTQIA+ children, older children, and those with mental health conditions or disabilities. Disproportionate risk to children in certain groups is discussed in detail in the sub-section 'User base' within this section. However, the evidence is not clear as to whether they are more likely to be targeted *because of* these characteristics. Content that targets characteristics such as these is covered in Section 5: Abuse and hate content.

<sup>&</sup>lt;sup>777</sup> NSPCC, 2019. <u>How safe are our children? An overview of data on child abuse online [accessed 28 March 2025]</u>. Subsequent references to this source throughout.

 <sup>&</sup>lt;sup>778</sup> UK Safer Internet Centre (UKSIC), 2017. <u>Power of Image: A report into the influence of images and videos in young people's digital lives [accessed 28 March 2025]. Subsequent references to this source throughout.
 <sup>779</sup> Office for National Statistics, 2020. <u>Online bullying in England and Wales: year ending March 2020</u>.
</u>

<sup>&</sup>lt;sup>780</sup> More calls were made about this from 'secondary settings' than primary ones (29 calls vs 9 calls). However, the study notes that the helpline is used far more by secondary settings, which could explain this difference (3,401 cases tagged as secondary vs 109 tagged as primary). Source: Phippen, A., 2022. <u>Professionals Online</u> <u>Safety Helpline Analysis 2021-2022 Exploring the Issues Professionals Face in Supporting Young People with</u> <u>Staying Safe Online</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>781</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

<sup>&</sup>lt;sup>782</sup> Family Kids & Youth, The Royal Foundation of The Duke and Duchess of Cambridge and Prince Harry, 2016. <u>Cyberbullying: Research into the attitudes of 11-16 year olds, Quantitative Findings.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>783</sup> Office of the Children's Commissioner for England, 2018. <u>Life in 'likes': Children's Commissioner report into</u> <u>social media use among 8-12 year olds.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>784</sup> Among children aged 10-15 who had experienced bullying online, 52% said they would not describe the behaviours as bullying. Source: Office for National Statistics, 2020. <u>Online bullying in England and Wales: year ending March 2020.</u>

<sup>&</sup>lt;sup>785</sup> Among children aged 11-16 who reported experiencing 'something online that had upset or really hurt them', 65% did not define these as cyberbullying. Source: Family Kids & Youth, The Royal Foundation of The Duke and Duchess of Cambridge and Prince Harry, 2016. <u>Cyberbullying: Research into the attitudes of 11-16</u> <u>year olds</u>, <u>Quantitative Findings</u>.

<sup>&</sup>lt;sup>786</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

## Impacts

- 6.20 Being bullied online can have a wide range of harms on children, affecting their emotional wellbeing, their mental and physical health, and their social participation and engagement.
- 6.21 Bullying content and bullying behaviour online is a concern for children. More than half (54%) of teenagers aged 13-17 reported being highly concerned about persistent bullying online. Meanwhile, up to half of 13-17-year-olds report being highly concerned about trolling<sup>787</sup> (47%), one-off abusive behaviour or threats (45%), and intentional harassment during gaming, known as 'griefing'<sup>788</sup> (37%) online.<sup>789</sup>
- 6.22 The inescapability and the public nature of bullying online can be traumatic for children. Ofcom research with 12-17-year-olds, youth practitioners and school staff found that the permanence of bullying content online, and the risk of it being spread more widely, contributed to ongoing experiences of trauma, adding to the cumulative effect of harm.<sup>32</sup>
- 6.23 Psychological harms are extensive. The Crime Survey for England and Wales noted that almost seven in ten children aged 10-15 (68%) were emotionally affected, to some extent, by the online bullying they had experienced (22% were affected a lot by the incidents, and 47% were affected a little).<sup>790</sup> Fear emerges as a common emotional response. Internet Matters reported that almost two-thirds of 9-16-year-olds (64%) found their online bullying experience<sup>791</sup> scary, including 20% who found it 'very scary'. Being bullied online by people known 'in real life'<sup>792</sup> caused higher levels of distress: more than three-quarters of 9-16-year-olds (77%) reported being scared by this experience, including 30% who found it 'very scary'.<sup>793 794</sup>
- 6.24 Extreme psychological harm from bullying can lead to self-harm and suicide in children.<sup>795</sup> The helpline service Childline<sup>796</sup> reports handling children in states of desperation on

<sup>&</sup>lt;sup>787</sup> The full definition in the research study for this kind of content was 'trolling, i.e. a person who says something to cause intentional upset or provoke a negative reaction'.

<sup>&</sup>lt;sup>788</sup> The full definition in the research study for this kind of content ('griefing') was 'intentional harassment during gaming'.

<sup>&</sup>lt;sup>789</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>790</sup> The Crime Survey for England and Wales is a self-reporting survey, which asks people resident in households about their experiences of a range of 'offences' in the 12 months before the interview; however, these offences are not necessarily reported to the police. Source: Office for National Statistics, 2020. <u>Online bullying in England and Wales: year ending March 2020</u>.

<sup>&</sup>lt;sup>791</sup> Online bullying experience in this study defined as, 'experiencing bullying/abusive or upsetting messages/comments online from people you know'.

<sup>&</sup>lt;sup>792</sup> The bullying experienced here is defined in the study as, 'receive abusive or upsetting messages from people you know in real life'.

<sup>&</sup>lt;sup>793</sup> Internet Matters, 2024. <u>Children's Wellbeing in a Digital World 2024</u>.

<sup>&</sup>lt;sup>794</sup> Note: In their 2025 report Internet Matters reported that 20% of UK children aged 9-16 'feel upset or comfortable' all the time or quite a lot due to seeing 'people being mean or unpleasant to each other online', up from 13% in the year before. Likewise, 13% of children said they have upsetting experiences interacting with other people online (e.g. bullying) all the time or quite a lot, up from 7% the year prior. Source: Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>.

<sup>&</sup>lt;sup>795</sup> The NSPCC reports how "at its worst, bullying has driven children and young people to self-harm and even suicide". Source: NSPCC. <u>Bullying and cyberbullying: Effects of bullying</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>796</sup> Childline is a free, private and confidential service provided by the NSPCC for children to use to talk through any issues they are going through: <u>About Childline</u>. [accessed 28 March 2025].

account of bullying.<sup>797</sup> Findings from an inquest in January 2024 concluded that 14-year-old Mia Janin had taken her own life in March 2021 after being bullied by boys at her school, both in person and online (see sub-section 'User communication' within this section).<sup>798</sup> This is also reflected in Ofcom's research in which school staff and youth practitioners said that, in their experience, a small number of children being bullied engaged in forms of selfharm and suicidal ideation.<sup>799</sup> These findings are not new – in 2010, a European study among 11-16-year-olds found that those involved in bullying online in some way (either as a victim, or the individual displaying the bullying behaviour) were more likely than those with no involvement in bullying to view self-harm or suicide-related web-content.<sup>800</sup>

- 6.25 Being targeted by bullying content can also cause children to isolate themselves socially. Some children withdraw from online spaces, leading to isolation and loss of contact with friends online. Children may also withdraw from physical spaces, being reluctant to leave their homes to socialise with friends, as well as non-attendance in education, employment and training.<sup>801</sup>
- 6.26 Bullying (both being bullied or engaging in bullying behaviours) is also linked to poor experiences at school. The Anti-Bullying Alliance reported that children who had 'never' experienced online bullying (or bullying in person) were more positive about their school experience than those who had been bullied. The same was found for those who did not engage in any bullying behaviours (whether online or in person); they were more positive about school than those who bullied.<sup>802</sup> This effect is heightened for children with special educational needs and disabilities (SEND) or disabilities (see sub-section 'User base' within this section for more information).
- 6.27 Psychological harms can have lasting effects. A 2018 inquiry into the impact of cyberbullying on young people's mental health heard how being bullied online, and the psychological trauma that can come with it, increases the chances that a child will go on to have poor social and health outcomes throughout their life.<sup>803</sup>
- 6.28 Being targeted can also lead to children engaging in bullying behaviours themselves. The target of the bullying can sometimes turn to bullying tactics themselves in retaliation,

<sup>801</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>797</sup> "Every day I wake up scared to go to school, scared about the comments people will make and scared about walking home. Then I get in and log onto my social networking site and there are horrible messages everywhere. It's like there's no escaping the bullies. I'm struggling to cope with how upset I feel so sometimes I cut myself just to have a release but it's not enough. I can't go on like this." (quote from Childline counselling session with a girl aged 13). Source: NSPCC. <u>Protecting children from bullying and cyberbullying</u> [accessed 28 March 2025].

 <sup>&</sup>lt;sup>798</sup> Lynn, G., 2024. Mia Janin took own life after bullying – inquest. BBC, 26 January. [accessed 28 March 2025].
 Subsequent references to this article throughout.

<sup>&</sup>lt;sup>799</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>800</sup> Those who had been both a bully and a victim ('bully-victim') were the most likely to seek out these kinds of content (30% self-harm content, 16% suicide content). A fifth of both 'victim only' and 'bully only' respondents sought self-harm content; but those who were 'victim only' were more likely to seek suicide content than those who were 'bully only' (12% vs 6%). Based on a study of 19,406 11-16-year-olds, of whom 6% reported being a 'cybervictim', 2.4% a 'cyberbully', and 1.7% a 'cyberbully-victim'. Source: Gorzig, A., 2016. <u>Adolescents' viewing of suicide-related web-content and psychological problems: Differentiating the roles of cyberbullying involvement</u>, *Cyberpsychology, Behavior, and Social Networking*, 19 (8). [accessed 28 March 2025].

<sup>&</sup>lt;sup>802</sup> Anti-Bullying Alliance, 2022. <u>Bullying, school experiences and wellbeing: a picture of pupil experience in</u> <u>England 2022</u>.

<sup>&</sup>lt;sup>803</sup> The Children's Society and YoungMinds, 2018. <u>Safety Net: Cyberbullying's impact on young people's health.</u> <u>Inquiry report summary.</u>

causing further harm. Our research found there is not always a clear distinction between the children displaying, and those affected by, bullying behaviours online. In some instances, both parties might be perceived as aggressors at different points, with the targeted person using bullying behaviour as a defence mechanism.<sup>804</sup>

- 6.29 Those who encounter bullying content and witness bullying behaviour online can also be adversely affected, even if they are not the direct target. There is evidence to suggest children can become desensitised to bullying content, with 'bystanders' online displaying higher moral disengagement and lower feelings of responsibility than those who witness bullying in person in school.<sup>805</sup> This suggests that online bullying content is normalising bullying behaviour for some children.
- 6.30 The effects of bullying can prompt action; bullying is one of the most-reported kinds of harm online. The NSPCC compiled reviews from children aged 11-18 of the 40 most popular sites, apps and games (at the time of fieldwork in 2017-2018), and found that bullying was the most commonly reported form of 'inappropriate content' (18%).<sup>806</sup> Analysis conducted on the UK's Report Harmful Content Service<sup>807</sup> found that during 2021 and 2022,<sup>808</sup> of the 2,195 enquiries made, 754 were about bullying and harassment online (the harm most frequently reported).<sup>809</sup>
- <sup>6.31</sup> Harmful content shared across multiple services poses a heightened risk to children, as its widespread dissemination amplifies harm and increases distress. The 2024 Office of the Children's Commissioner for England's report highlighted that a substantial number of young people encounter online bullying, with nearly one in four experiencing targeted harassment and 68% of teenagers aged 13-17 being exposed to harmful or bullying videos. The interconnected nature of social media allows such content to be widely shared, often reaching a much larger audience than intended by the original sharer. This research also captured data on the widespread sharing of bullying content, demonstrating just how difficult it can be for victims of bullying content to limit its reach (which is likely to exacerbate the harm caused).<sup>810</sup>

<sup>&</sup>lt;sup>804</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>805</sup> UNICEF (Stoilova, M., Livingstone, S., and Khazbak, R.), 2021. <u>Investigating Risks and Opportunities for</u> <u>Children in a Digital World: A rapid review of the evidence on children's internet use and outcomes.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>806</sup> The other kinds of inappropriate content reported were violence and hatred (16%), sexual content (16%), drink, drugs and crime (12%), and suicide and self-harm (11%). Source: NSPCC, 2019. <u>How safe are our children? An overview of data on child abuse online</u>.

<sup>&</sup>lt;sup>807</sup> Report Harmful Content (RHC) is a national impartial dispute resolution service that has been designed to assist everyone with reporting harmful content online. RHC is provided by the UKSIC and operated by Safety and Security Online (SWGfL).

<sup>&</sup>lt;sup>808</sup> The period covered was April 2021 to November 2022.

<sup>&</sup>lt;sup>809</sup> Evidence does not state the range of ages making the reports to the service. Source: SWGflL, 2022. <u>Report</u> <u>Harmful Content Annual Report 2022</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>810</sup> Office of the Children's Commissioner for England, 2023. <u>The Big Ambition – Ambitions, Findings and</u> <u>Solutions</u>. [accessed 30 January 2025]. This research design, including accessible surveys for diverse groups of children, specifically captured data on the widespread sharing of bullying content and the challenges victims face in limiting its reach. By involving over 250,000 respondents aged 6 to 18, the study provided critical insights into how harmful content spreads across services and the barriers victims encounter in trying to manage its impact.

# **Evidence of risk factors on user-to-user services**

6.32 We consider that the risk factors outlined in this section may increase the risk of harm to children relating to bullying content. This is also summarised in the summary box at the start of this section.

## **Risk factors: User base**

#### User base size

- 6.33 As bullying is targeted at an individual, there is no specific evidence on how the user base size of a service can affect the risk of bullying online.
- 6.34 However, some studies mentioned earlier in this section suggest that services with a larger user base can spread bullying content to wider audiences. This may consequently intensify the harm inflicted on the person being bullied.
- 6.35 As mentioned in the 'How bullying manifests online' sub-section within this section, bullying is often a continuation or escalation of bullying which begins in person. This therefore suggests that it could happen on a service where both the person engaging in the bullying behaviours and the target are present.

#### **User demographics**

- 6.36 The following sub-section outlines the evidence of user base demographic factors that impact the risk of harm to children, which can include listed characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 6.37 Data suggests that user base characteristics including **age**, **gender**, **gender** reassignment and sexual orientation, mental health and disability, and **socio-economic factors** could lead to an increased risk of harm to children in different age groups.
- 6.38 As mentioned earlier, bullying that targets listed characteristics is likely to be considered abuse or hate content. This is discussed in detail in Section 5: Abuse and hate content. However, evidence relating to the disproportionate risk of different groups being bullied is set out in this section on bullying.

#### Age

6.39 Evidence suggests that children in secondary school are more at risk than younger children of encountering or being targeted by bullying online. Recent evidence shows that parents of secondary-school-aged children who had been bullied in England were significantly more likely than parents of primary-aged children to say that the bullying the child had experienced had happened online (26% vs 8%).<sup>811</sup> Findings from 2014 showed that online bullying<sup>812</sup> increased by age, for both girls and boys. In England, girls aged 15 were twice as likely to experience online bullying as 11-year-old girls (31% vs 16%), while 16% of 15-year-old boys experienced it (compared to 10% of 11-year-old boys).<sup>813</sup> This may be because friendships among teenagers are more intense, so that bullying related to friendship

 <sup>&</sup>lt;sup>811</sup> Department for Education, 2023. <u>National behaviour survey – Findings from Academic Year 2021/2022.</u>
 <sup>812</sup> Online bullying in this study included via messages, photographs and pictures. Respondents were asked if

they had experienced these in the previous two months.

<sup>&</sup>lt;sup>813</sup> Brooks, F., Magnusson, J., Klemera, E., Chester, K., Spencer, N. and Smeeton, N., 2015. <u>HBSC England</u> <u>National Report 2014. University of Hertfordshire; Hatfield, UK</u>. [accessed 28 March 2025].

breakdowns are more common for this age group,<sup>814</sup> alongside their higher use of online services.<sup>815</sup>

6.40 Nevertheless, our 2023 qualitative research suggests that younger children (including primary-school-aged children) are increasingly being affected by online bullying. School staff and youth practitioners attributed this to younger children's increased access to devices and the internet, which can increase opportunities for others to contact them with bullying content.<sup>816</sup>

#### Gender

- 6.41 Most evidence suggests that girls are at higher risk than boys of being targeted by bullying content online, especially by certain kinds of bullying content. Research with children aged 8-13 in Northern Ireland found that the majority of those who reported being cyberbullied were girls (57%) compared to a lower incidence among boys (40%).<sup>817</sup> A study by Internet Matters with girls aged 13-16 found that they had received and observed 'hateful comments' on popular social media services. These were in response to both content they had posted and content posted by others, and typically targeted girls' appearance such as clothes, weight or bodies, which participants said impacted on their wellbeing. The participants attributed the comments to men and boys and noticed a lack of similar comments on boys' videos.<sup>818</sup>
- 6.42 Our research indicates that girls aged 13-17 could be more likely than boys the same age to experience bullying behaviour online in terms of private conversations being shared without their consent (11% vs 9%). Meanwhile, boys and girls report similar levels of experiencing stalking or harassing behaviour online (4% vs 5%).<sup>819</sup>
- 6.43 Our research into online bullying presents several potential reasons for disproportionate harm to girls. Misogyny and sexism were reported as commonplace among children by school staff included in the study. While content explicitly targeting women because of their gender constitutes abuse or hate (see Section 5: Abuse and hate content), a culture of misogyny may underpin the more critical and aggressive attitude towards girls more generally especially the attitude towards their physical appearance.<sup>820</sup>
- 6.44 However, a higher proportion of boys may be being bullied online than the evidence suggests. Several studies find that boys respond differently to being bullied and are less likely than girls to report the bullying.

<sup>817</sup> Note: This report was funded by the Safeguarding Board for Northern Ireland. Source: Purdy, N., York, L. and Ballentine, M., 2023. <u>Growing up online: Children's online activities, harm and safety in Northern Ireland – an evidence report</u>. [accessed 13 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>814</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

 <sup>&</sup>lt;sup>815</sup> See 'Overview of child behaviours' sub-section in Section 1: Introduction to the Children's Register of Risks.
 <sup>816</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

<sup>&</sup>lt;sup>818</sup> Internet Matters, 2024. <u>"So standard it's not noteworthy": Teenage girls' experiences of harm online.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>819</sup> Note: The differences between these datapoints are not statistically significant and so are indicative only. Source: Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025].

<sup>&</sup>lt;sup>820</sup> Among the youth practitioners and school staff who suggested that the impacts of cyberbullying varied among gender, some suggested that the cyberbullying girls experienced tended to relate to breakdown in friendships and/or focus on their physical appearance. Source: Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

- 6.45 Ofcom research found that boys are equally affected as girls by online bullying, but are less likely to speak up about it or report it.<sup>821</sup> Likewise, research with children aged 8-13 in Northern Ireland found girls (54%) were much more likely than boys (39%) to report their experiences.<sup>822</sup> A further study among 11-16-year-olds found that while children in general were embarrassed about being bullied online, boys in particular found it difficult to disclose that they had been bullied. Almost half the boys in the study (48%) said they would 'rather cope with cyberbullying than tell anyone else about it', compared to 38% of girls. Among those who had experienced bullying online, boys were more likely than girls to have not told anyone about the experience (12% vs 3%).<sup>823</sup>
- 6.46 Older boys are particularly unlikely to report bullying. In an Irish study with children aged 8-16, two-fifths of boys aged 8-12 (39%) kept it to themselves, compared to one-fifth of girls this age (21%). This increased to 46% (almost half) of older boys aged 12-16, compared to 28% (over a quarter) of girls this age.<sup>824</sup>
- 6.47 Some studies suggest that boys may be more likely than girls to experience bullying in gaming contexts. Ofcom research found this to be the case in two separate studies. Research on online experiences found that 14% of boys aged 13-17 had seen or experienced "griefing" compared to 6% of girls this age.<sup>825</sup> Ofcom's media literacy research found that boys aged 8-17 were more likely than girls to encounter 'nasty or hurtful' behaviour within online games (14% of boys vs 11% of girls).<sup>826</sup> A review by UNICEF found that boys experienced bullying online mainly through video games, while girls experienced it mainly through social media.<sup>827</sup> However, Ofcom's media literacy research also shows that boys are generally more likely to game online than girls, so their greater use of these services may explain the higher proportions being bullied there.<sup>828</sup>

#### Sexual orientation and gender<sup>829</sup>

6.48 Children who are non-binary are particularly likely to report having experienced bullying. Research in Ireland among 12-16-year-olds found that over three-quarters (74%) of those identifying as non-binary experienced bullying, compared to just under half (43%) of girls

<sup>&</sup>lt;sup>821</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

<sup>&</sup>lt;sup>822</sup> Purdy et al., 2023. <u>Growing up online: Children's online activities, harm and safety in Northern Ireland – an</u> evidence report.

<sup>&</sup>lt;sup>823</sup> Family Kids & Youth, The Royal Foundation of The Duke and Duchess of Cambridge and Prince Harry, 2016. <u>Cyberbullying: Research into the attitudes of 11-16 year olds, Quantitative Findings</u>.

<sup>&</sup>lt;sup>824</sup> Cybersafe Kids (Beresford, O., Cooney, A., Keogh, A., Flynn, E., and Messena, M.), 2022-2023. <u>Keeping Kids</u> <u>Safer Online, Trends and Usage Report Academic Year 2022-2023</u>.[accessed 28 March 2025]. Subsequent references to report throughout.

<sup>&</sup>lt;sup>825</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

 <sup>&</sup>lt;sup>826</sup> Data referred to here has been rebased on all respondents (whereas the published data tables are based on those who opted to answer the question). Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>.
 <sup>827</sup> UNICEF, 2021. <u>Investigating Risks and Opportunities for Children in a Digital World</u>.

<sup>&</sup>lt;sup>828</sup> The study shows that 89% of boys aged 13-15 game online, compared to 77% of girls this age; and 91% of boys aged 16-17 game online, compared to 74% of girls this age. Source: Ofcom, 2024. <u>Children's Media</u> <u>Literacy Tracker</u>.

<sup>&</sup>lt;sup>829</sup> We use this term to refer to a child's sex and to gender reassignment. In Section 62(11) of the Act, the characteristic of gender reassignment is defined as follows: "if the person is proposing to undergo, is undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex". We have used the term 'gender' as it is more commonly used in contemporary language and in the relevant evidence cited about the risk of harm.

and around one-third (30%) of boys. Moreover, this group are particularly likely to keep it to themselves (64%), compared to girls (28%) and boys (46%).<sup>830</sup>

- 6.49 LGBTQIA+<sup>831</sup> children are also at a high risk of being bullied online. Much of this would be considered abuse and hate content.<sup>832</sup> Evidence measuring the proportion of LGBTQIA+ children experiencing bullying, beyond direct homophobia, biphobia or transphobia, is limited. However, The Trevor Report in the US found that almost half (42%) of LGBTQ children and young adults aged 13-24 were bullied 'electronically',<sup>833</sup> indicating that a similarly high proportion of LGBTQIA+ children may be experiencing online bullying in UK. Indeed, research with children in Northern Ireland found a slightly higher incidence of cyberbullying among those who identified as gay/lesbian or bisexual rather than heterosexual. A higher percentage of gay/lesbian (78%) and bisexual (73%) compared to heterosexual (69%) children aged 14-18 reported that 'mean or nasty comments were made about me or sent to me' over the past couple of months.<sup>834</sup>
- 6.50 The Trevor Report found that transgender and non-binary students reported higher rates of bullying online (50%) than cisgender LGBTQIA+ students (35%).<sup>835</sup>

#### Mental health and disability

6.51 Several studies focusing on children in England in 2022 reported that those with mental or physical health conditions or disabilities were more likely to be bullied online than those without these conditions. Some aspects of the bullying may explicitly target their health or disability and therefore constitute abuse or hate.<sup>836</sup>

 <sup>&</sup>lt;sup>830</sup> Cybersafe Kids, 2022/23. <u>Keeping Kids Safer Online, Trends and Usage Report Academic Year 2022-2023</u>.
 <sup>831</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGB, which reflect the acronyms used in each source.

<sup>&</sup>lt;sup>832</sup> Research in 2017 from LGBTQ+ charity Stonewall found that two in five LGBT children and young adults aged 11-19 across Britain (40%) have been the target of homophobic, biphobic and transphobic abuse online. In particular, nearly three in five trans children and young adults (58%) have received this abuse online. Even if not directly targeted by homophobic, biphobic and transphobic bullying online, many LGBT children and young adults witness homophobia, biphobia and transphobia online regularly. Nearly all LGBT young people in the study said they had seen this kind of content (97%), with 43% saying they see it 'often'. Source: Stonewall, 2017. School Report: The experiences of lesbian, gay, bi and trans young people in Britain's schools in 2017. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>833</sup> Electronic bullying was examined using the question, 'During the past 12 months, have you been electronically bullied? Count being bullied through texting, Instagram, Facebook, or other social media.' Source: The Trevor Project, 2021. <u>The Trevor Project Research Brief: Bullying and Suicide Risk among LGBTQ</u> <u>Youth.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>834</sup> Purdy et al., 2023. <u>Growing up online: Children's online activities, harm and safety in Northern Ireland – an</u> <u>evidence report</u>.

<sup>&</sup>lt;sup>835</sup> The Trevor Project, 2024. <u>2024 US National Survey on the Mental Health of LGBTQ+ Young People.</u> [accessed 25 March 2025].

<sup>&</sup>lt;sup>836</sup> Bullying which targets a person's listed characteristics, such as a disability, is included within Section 5: Abuse and hate content.

- 6.52 The Anti Bullying Alliance found that school-aged children (aged 4-18) with SEND were more likely to have *ever* been bullied online (26%) than those without SEND (23%).<sup>837 838</sup>
- 6.53 The NHS also reported that children aged 11-16 who used social media and who had a 'probable mental disorder'<sup>839</sup> were more likely to report they had been bullied online (29.4%) than those 'unlikely to have a mental disorder' (7.9%).<sup>840</sup>
- 6.54 Among children across England and Wales aged 10-15, the presence of online bullying was higher for those with a long-term illness or disability (26%) than those without (18%).<sup>841</sup>
- 6.55 For this group, the effects of encountering bullying content are heightened. Ofcom's research with school staff and youth practitioners suggests that children with SEND might experience a worsening of their existing challenges, such as absences from school and their associated educational attainment.<sup>842</sup>

#### Socio-economic factors

6.56 Some socio-economic indicators are associated with a higher risk of being targeted by bullying content. The Anti-Bullying Alliance found in 2022 that school-aged children who received free school meals were more likely to have ever been bullied online (28%) than those who did not (21%).<sup>843</sup>

### **Risk factors: Service types**

6.57 Research suggests that the following service types can increase the risk of bullying content manifesting online: **social media services, gaming services** and **messaging services**.

#### Service type

#### Social media services

6.58 Of com research on online experiences among children and adults aged 13 and upwards<sup>844</sup> found that social media is much more likely than other service types<sup>845</sup> to serve *any* form of

<sup>838</sup> Internet Matters' Digital Tracker survey from May 2024 indicated that children with vulnerable circumstances are more likely to experience bullying content online. Of children 13-17, 31% of those defined as vulnerable encountered bullying content online, compared to 19% of all children aged 13-17. For this survey, vulnerable children are defined as those who received special education needs (SEN) support, those who have an education, health and care plan (EHCP), indicate a significant level of SEND, or those who have a mental or physical health need which requires professional support. Source: Internet Matters, 2024. Protecting children from harms online: Response to Ofcom consultation.

<sup>839</sup> The study asks a range of questions about children and young people's wellbeing and physical health, then uses a symptom scoring process to determine whether the respondent possibly has a mental disorder, *probably* has one, or is unlikely to have one. The study shows that rates of children aged 7-16 in England with a *probable mental disorder* have increased from 12.1% in 2017 to 18.0% in 2022.

<sup>840</sup> NHS Digital, 2022. Slides from Webinar: <u>Mental Health of Children and Young People - Seminar 270123</u> v2.pptx (live.com). [accessed 28 March 2025].

<sup>841</sup> Office for National Statistics, 2020. <u>Online bullying in England and Wales: year ending March 2020</u>.

<sup>&</sup>lt;sup>837</sup> Anti-Bullying Alliance, 2022. <u>Bullying, school experiences and wellbeing: a picture of pupil experience in</u> <u>England 2022</u>.

<sup>&</sup>lt;sup>842</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>843</sup> Anti-Bullying Alliance, 2022. <u>Bullying, school experiences and wellbeing: a picture of pupil experience in</u> <u>England 2022</u>.

 <sup>&</sup>lt;sup>844</sup> The sample size of children aged 13-17 who experienced this harm was too low to report on, so data is shown as overall figure for children and adults. Source: Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.
 <sup>845</sup> The services asked about in this survey were: social media website or app (such as Facebook, Twitter or Instagram); a website or app where you view videos posted by other users (such as YouTube or TikTok); news

online bullying content included in the study. In particular, three-quarters (75%) of those who had experienced trolling<sup>846</sup> reported that their experience took place on a social media service.<sup>847</sup>

6.59 Our media literacy research also reported that social media is the most likely service type where 'nasty or hurtful behaviour'<sup>848</sup> is experienced by children aged 8-17 (14%). The likelihood of this increased considerably by age (from 10% of children aged 8-12 to 18% of children aged 13-17).<sup>849</sup>

#### **Gaming services**

- 6.60 Several studies suggest that gaming services are also a common platform for bullying content and behaviour. Ofcom research on online experiences found that 10% of children aged 13-17 had seen or experienced 'intentional harassment during gaming' ('griefing').<sup>850</sup> Ofcom media literacy research reports that online games were the third most likely place for 'nasty or hurtful' behaviour to occur among children aged 8-17 (12%, after social media at 16% and messaging apps at 15%).<sup>851</sup> As mentioned in the sub-section 'User demographics' within this section, boys were more likely than girls to experience these kinds of harm within gaming.
- 6.61 In other Ofcom research, a 14-year-old boy described how he had fallen out with some of his friends offline after which they began to bully him within a gaming service, including sharing a picture of him with an 'embarrassing filter'.<sup>852</sup>
- 6.62 In a US study among gamers, nearly two-thirds (60%) of gamers aged 13-17 had experienced some form of bullying in the previous year within online multiplayer games.

website or app (such as BBC News, The Guardian or Daily Mail Online); instant messenger website or app (such as Facebook Messenger or WhatsApp); email; livestreaming website or app, this could be part of a social media website or app (such as Twitch or Facebook Live); a Q&A website or app (such as Quora, Yahoo! Answers); a blog website or app (such as WordPress or Bloglovin'); the 'dark web'; online dating websites or apps (such as Tinder or Bumble); search engine (such as Google or Yahoo); 'adult' site containing sexual content; shopping website or app (such as Amazon, eBay or Depop); gaming website or app (such as PlayStation Network, Nintendo Online); video-on-demand application (such as Netflix or Now TV); an in-game chat or chat room; generative AI (such as ChatGPT); and 'other'.

<sup>&</sup>lt;sup>846</sup> Trolling is defined in the study as 'trolling, i.e. a person who says something to cause intentional upset or provoke a negative reaction'.

<sup>&</sup>lt;sup>847</sup> Other bullying content and behaviours experienced by children and adults aged 13 and upwards on social media included: 63% 'group shaming, boycotting, or excluding someone based on their views, opinions or actions (including online 'pile-ons')', 57% 'one-off abusive behaviour or threats', and 58% 'people pretending to be another person (for example, catfishing)'. Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. [accessed 16 April 2025].

<sup>&</sup>lt;sup>848</sup> Respondents were provided with this description of nasty or hurtful behaviour: 'People can be nasty or hurtful. It could be behind someone's back, to their face, through calls or texts. It could be by being nasty through social media, games or other websites. It could be by calling people names, leaving them out, or through sharing photos or videos that upset them. It could be threatening to hurt or actually hurting them. It could be done on purpose or as a joke that goes too far.'

 <sup>&</sup>lt;sup>849</sup> Data referred to here has been rebased on all respondents (whereas the published data tables are based on those who opted to answer the question). Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>.
 <sup>850</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>851</sup> Data referred to here has been rebased on all respondents (whereas the published data tables are based on those who opted to answer the question). Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>.

<sup>&</sup>lt;sup>852</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online.</u>

The most cited kinds were 'disrupted play (such as trolling or griefing)' (33%) and 'being called offensive names' (29%).<sup>853</sup>

- 6.63 Another study found that 7% of children aged up to 15 who played any kind of video game had experienced bullying within gaming.<sup>854</sup> Ditch the Label reported that over one in ten (11%) of UK children and young adults aged 12-18 said they had been bullied in online games in the previous 12 months.<sup>855</sup> A review by UNICEF also found that boys tended to be targeted through video games.<sup>856</sup>
- 6.64 Immersive technology in gaming services can also present added risks for encountering bullying behaviour. Ofcom's research into the use of these technologies among children aged over 13 and adults found that some participants saw 'anti-social and abusive behaviour' as a constant threat, and so they regulated their interactions with other users. These behaviours were both observed and experienced by the participants, and were especially commonplace in a video game context, due to the competitive element, particularly when participants were thought to have 'negatively impacted' a team's performance.<sup>857</sup>

#### **Messaging services**

- 6.65 The evidence suggests that messaging services are another common area for bullying content, as they can allow more targeted and private behaviour, which may be particularly harmful. Our research shows that, of children aged 8-17 who had reported experiencing someone being 'nasty or hurtful' to them, the most common ways were via social media (46%) and via text or messaging apps (43%). Experiencing bullying in these ways online was as likely as in-person bullying to happen to children (43%).<sup>858</sup>
- 6.66 The evidence shows that messaging functionalities (see sub-sections on 'Direct messaging' and 'Group messaging' within this section) are commonly used in bullying campaigns. While not specific to messaging services, this indicates that these services may be used in sharing bullying content, as these functionalities are central to messaging services.

### **Risk factors: Functionalities and recommender systems**

#### **User identification**

#### Fake user profiles

6.67 Fake accounts, and their associated fake profiles, can be used in bullying campaigns. A study in Ireland among children aged 8-16 found that about one in 20 had experienced 'fake profiles used to target/scare me' (experienced by 3% of children aged 8-12 and 5% of children aged 12-16).<sup>859</sup>

<sup>&</sup>lt;sup>853</sup> Anti-Defamation League, 2021. <u>Hate is No Game: Harassment and Positive Social Experiences in Online</u> <u>Games 2021. [accessed 28 March 2025].</u>

<sup>&</sup>lt;sup>854</sup> Ipsos MORI for the Interactive Software Federation of Europe, 2021. <u>Use of communication features when</u> playing video games. [accessed 28 March 2025].

<sup>&</sup>lt;sup>855</sup> Ditch the Label, 2020. The Annual Bullying Survey 2020. [accessed 28 March 2025].

<sup>&</sup>lt;sup>856</sup> UNICEF, 2021. Investigating Risks and Opportunities for Children in a Digital World.

<sup>&</sup>lt;sup>857</sup> Ofcom, 2023. <u>Media literacy, immersive technology and the future</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>858</sup> Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>.

<sup>&</sup>lt;sup>859</sup> Cybersafe Kids, 2022-2023. Keeping Kids Safer Online, Trends and Usage Report Academic Year 2022-2023.

6.68 Fake accounts can be used to impersonate victims of bullying. Impersonation intensifies harm by distorting the victim's identity, spreading false information, or associating them with inappropriate or offensive content. The NSPCC highlights cases where fake profiles were created to humiliate victims, with perpetrators sharing false or manipulative content under the victim's identity. This practice not only undermines the victim's online reputation but also exacerbates psychological distress.<sup>860</sup> One study reported a 15-year-old being sent a link to a fake account by someone from their school. This fake account was impersonating them and included "horrible pictures and comments about them", which resulted in the participant refusing to go to school until the content had been taken down.<sup>861</sup> Participants in Ofcom research on cyberbullying also noted that the ability to create multiple new accounts, by a single user, allowed them to create fake accounts and was regarded by the participants as reducing the deterrence effect of mitigation measures such as account suspensions and bans.<sup>862</sup>

#### Anonymous user profiles

- 6.69 Anonymous profiles can make it easier for people to engage in bullying behaviour. As explained earlier in this section, anonymity online can enable a person to 'dissociate' themselves from their bullying behaviour so that they do not have to own or acknowledge it, and can adopt different behaviours and social norms than in their offline interactions.
- 6.70 Participants in our research on cyberbullying reported that communicating from 'behind a screen, sometimes anonymously' made it easier for people to make comments they would not make in circumstances where they were more likely to be held accountable.<sup>863</sup>
- 6.71 Participants in the above Ofcom study also noted that some online services made it easy for users to conceal their identities, such as those where normal use does not involve posting anything identifiable, or personal content. Users could set up 'aliases' or fake accounts to target somebody without disclosing their identity, thereby achieving a degree of anonymity. Youth practitioners in the study reported that children who experienced bullying (both online and offline) sometimes cyberbullied others, suggesting that these children used the anonymity afforded by online services in an attempt to assert power and control.<sup>864</sup>
- 6.72 NSPCC research in 2017 reported that posting comments anonymously is often central to bullying behaviour. A 14-year-old respondent describing his experience of a video-sharing service said that "users are sometimes abusive of their so-called 'anonymity' and use it to harass other users".<sup>865</sup> Ditch the Label reported that nearly one in ten (8%) of children aged 12-18 had had 'something mean posted about them online' via anonymous accounts.<sup>866</sup>
- 6.73 Anonymity was also said to make the effects of online bullying worse than in-person bullying. Participants in our research were concerned that mitigation measures might be

<sup>&</sup>lt;sup>860</sup> NSPCC, n.d. <u>Bullying and cyberbullying</u>. [accessed 3 March 2025].

<sup>&</sup>lt;sup>861</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>. [accessed 28 March 2024]. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science,

Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS). <sup>862</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

 <sup>&</sup>lt;sup>863</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK.</u>

<sup>&</sup>lt;sup>864</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>865</sup> NSPCC, 2017. <u>Net Aware Report 2017: "Freedom to express myself safely", Exploring how young people</u> <u>navigate opportunities and risks in their online lives</u>. [accessed 28 March 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>866</sup> Ditch the Label, 2021. <u>Wireless Report 2021</u>.

less effective where the identity of the user engaging in the bullying behaviour was unknown. Not knowing who was involved could also exacerbate children's anxiety and unease, offline as well as online.<sup>867</sup>

#### **User networking**

#### User connections

6.74 The ability to form user connections plays a role in experiencing harm from bullying. As explored in the sub-section 'Presence' within this section, children can be targeted both by people they know, and by strangers. Messaging functionalities are also commonly used in the context of bullying, and these rely on users to be connected in some way.

#### **User communication**

#### **Direct messaging**

- 6.75 Bullying content is enabled by direct messaging such as written messages or voice notes, according to our research with 12-17-year-olds. Participants in the study also reported that some services allowed other users to message each other without recipient permission, reducing individuals' control over who could contact them and the kinds of messages to which they might be exposed.<sup>868</sup>
- 6.76 Research into online bullying among 10-15-year-olds in England and Wales found that having 'nasty messages about them sent to them' was one of the most common online bullying behaviours reported by children, experienced by one in ten (10%).<sup>869</sup> The study noted that 'private messages' were used more frequently for one-to-one bullying, and as such were likely to go unnoticed unless the recipient told someone about it.<sup>870</sup>
- 6.77 A study in Ireland among children aged 8-16 who had experienced some form of bullying online noted that one of these bullying behaviours was receiving hurtful messages experienced by 12% of children aged 8-12 and 22% of children aged 12-16. There were gender differences among the older age group: non-binary children aged 12-16 were more likely to receive these messages (58%), followed by girls (25%), then boys (12%).<sup>871</sup>

#### Group messaging

6.78 The less private nature of group messaging or chats can create a context for bullying. Participants in Ofcom research among 12-17-year-olds reported they could be targeted in group chats to which they had been added without their permission or 'conflict or bullying' was already taking place. Practitioners in the study suggested that group or posts in more public contexts could encourage a 'piling-on' effect, a normalisation of negativity, or 'audience-seeking'<sup>872</sup> behaviours.<sup>873</sup> Participants in a recent study by Internet Matters,

<sup>&</sup>lt;sup>867</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>868</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>869</sup> This behaviour was the most common behaviour, alongside that of having 'someone called you names, swore at you or insulted you' (10.5% of children).

<sup>&</sup>lt;sup>870</sup> Other methods of carrying out online bullying behaviours included posting online messages, images or videos about children, contacting children in a chatroom, and through online games. Source: Office for National Statistics, 2020. <u>Online bullying in England and Wales: year ending March 2020</u>.

 <sup>&</sup>lt;sup>871</sup> Cybersafe Kids, 2022/23. <u>Keeping Kids Safer Online, Trends and Usage Report Academic Year 2022-2023</u>.
 <sup>872</sup> In this research, audience-seeking behaviour was defined as 'enacting purposeful behaviour in visible spaces with the intention to elicit attention and audience'.

<sup>&</sup>lt;sup>873</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

among 13-16-year-old girls, also discussed how bullying could occur in groups chats, with upsetting and sometimes threatening messages being sent by different people.<sup>874</sup>

- 6.79 In addition, knowing that other members of a group chat would be notified if they left was seen as something that could reduce children's willingness to distance themselves from spaces in which they were being targeted, or were witnessing bullying content.<sup>875</sup>
- 6.80 Content which humiliates or degrades a person, and therefore singles them out within a wider group chat, may not be seen as bullying content to the rest of the group. Participants in one study described instances where group chats were used to make a 'joke' that singled out one person. They commented that the intention behind these could easily be lost, and that "jokes could be seen to be serious".<sup>876</sup>
- 6.81 Even when children are not members of group chats, they risk being the target of bullying content that has been shared within the chat. An inquest in January 2024 concluded that 14-year-old Mia Janin had taken her own life in March 2021 after being bullied by boys at her school, both in person and online. The inquest, in particular, heard how boys from her school shared one of her social media videos in a group chat where they 'mocked' her. It was also reported that boys used the group chat to share faked nude photos of girls (see sub-section 'Content editing' within this section).<sup>877</sup> Ofcom research also found that a 14-year-old boy was sent screenshots of a group chat where other children, with whom he had previously been friends, had been 'making fun of him' by "making jokes about his dad who had passed away some years ago".<sup>878</sup>
- 6.82 Being excluded from group messaging or chats can be seen as a form of bullying when it is part of a campaign of bullying or mistreatment.<sup>879</sup> Research among 10-15-year-olds in England and Wales noted that 6.1% of them had experienced being 'left out or excluded from a group or activity on purpose' in the previous 12 months.<sup>880</sup> Among children aged 8-16 in Ireland who had experienced some form of bullying online, being excluded from group chats was the most likely form (for 15% of children aged 8-12 and 26% of children aged 12-16).<sup>881</sup> A source from 2016 noted that almost a quarter of 11-16-year-olds had experienced being excluded from a group chat (23%). This was more likely to occur among those aged 15-16 (29%) than those aged 12-13 (17%).<sup>882</sup>

#### Ephemeral messaging<sup>883</sup>

6.83 Our research reported that disappearing messages are a feature that emboldens people to bully others as they limit the ability to collect evidence of bullying. Messages that disappear

<sup>&</sup>lt;sup>874</sup> Internet Matters, 2024. <u>"So standard it's not noteworthy": Teenage girls' experiences of harm online</u>.

<sup>&</sup>lt;sup>875</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

<sup>&</sup>lt;sup>876</sup> Office of the Children's Commissioner for England, 2018. <u>Life in 'likes': Children's Commissioner report into</u> social media use among 8-12 year olds.

<sup>&</sup>lt;sup>877</sup> Lynn, G., 2024. <u>Mia Janin took own life after bullying – inquest</u>. BBC, 26 January.

<sup>&</sup>lt;sup>878</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online.</u>

<sup>&</sup>lt;sup>879</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

<sup>&</sup>lt;sup>880</sup> Office for National Statistics, 2020. Online bullying in England and Wales: year ending March 2020.

<sup>&</sup>lt;sup>881</sup> Cybersafe Kids, 2022/23. <u>Keeping Kids Safer Online, Trends and Usage Report Academic Year 2022-2023</u>.

<sup>&</sup>lt;sup>882</sup> Family Kids & Youth, The Royal Foundation of The Duke and Duchess of Cambridge and Prince Harry, 2016. <u>Cyberbullying: Research into the attitudes of 11-16 year olds, Quantitative Findings</u>.

<sup>&</sup>lt;sup>883</sup> User-to-user service functionality that that allows users to send messages that are automatically deleted after they are viewed by the recipient, or after a prescribed period of time has elapsed.

after 24 hours, or even immediately after viewing, also make it more difficult for those in authority to intervene, to hold perpetrators of bullying to account, and to resolve issues.<sup>884</sup>

#### **Commenting on content**

- 6.84 Bullying content can also be shared within comments. Our research on online experiences found that some kinds of bullying content were most commonly experienced in this way. For example, over half (52%) of all respondents (children and adults) aged 13 and over<sup>885</sup> who had experienced trolling<sup>886</sup> said it appeared in comments or replies to posts.<sup>887</sup>
- 6.85 Almost two-fifths of children aged 8-17 (38%) said they had received negative comments on a photo they had posted; this was more likely among those aged 13-17 (45%) than those aged 8-12 (32%). This study, by the UK Safer Internet Centre in 2017, noted that this can affect children's ability to express themselves, with four in ten (40%) overall saying they did not post images because of worries about 'mean' comments. Girls were more likely than boys to agree with this (44% vs 37%).<sup>888</sup>
- 6.86 A study in Ireland among children aged 8 to 16 found that older children were more likely to experience 'nasty comments posted about me', with 12% of those aged 12-16 reporting this compared to 7% of those aged 8-12. Significant differences by gender occurred here, with 37% of non-binary children aged 12-16 experiencing this behaviour, followed by 13% of girls, and 9% of boys.<sup>889</sup>
- 6.87 The ability to comment on content can combine with the anonymity of user profiles to exacerbate the conditions for online bullying. As mentioned in the sub-section 'Anonymous user profiles' within this section, the NSPCC reported that posting comments anonymously is often central to bullying behaviour.<sup>890</sup>

#### **Posting content**

- 6.88 Participants in our research said that the ability to post content made online bullying easier. They felt that those targeted by online bullying could be targeted in more varied ways than in person, including the creation and sharing of material. The various ways in which to bully someone online, for example, by creating and sharing humiliating content, meant that online bullying tended to be more aggressive than in-person bullying.<sup>891</sup>
- 6.89 In 2017, more than a fifth (22%) of children aged 8-17 said that they had experienced bullying via images and videos online. This was more likely to happen 'occasionally' (11%) than on a frequent basis: 5% said 'someone had posted an image or video to bully me' often, while another 5% said this happened 'all or most of the time'.<sup>892</sup>

<sup>&</sup>lt;sup>884</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

<sup>&</sup>lt;sup>885</sup> This data is based on children and adults aged 13 and upwards, as the sample size for children (under 13-17) experiencing these was too low to report.

<sup>&</sup>lt;sup>886</sup> Trolling is defined in this research as 'a person who says something to cause intentional upset or provoke a negative reaction'.

<sup>&</sup>lt;sup>887</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>888</sup> UKSIC, 2017. <u>Power of Image: A report into the influence of images and videos in young people's digital</u> <u>lives</u>.

<sup>&</sup>lt;sup>889</sup> Cybersafe Kids, 2022/23. <u>Keeping Kids Safer Online, Trends and Usage Report Academic Year 2022-2023</u>.

<sup>&</sup>lt;sup>890</sup> NSPCC, 2017. Net Aware Report 2017: "Freedom to express myself safely".

<sup>&</sup>lt;sup>891</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

<sup>&</sup>lt;sup>892</sup> Data shows that 22% of children aged 8-17 had experienced someone post an image or video to bully them. Source: UKSIC, 2017. <u>Power of Image: A report into the influence of images and videos in young people's</u> <u>digital lives</u>.

6.90 Generative artificial intelligence (GenAI) models can be used to create bullying content that can be posted on user-to-user services or shared with other users by other means such as messages or comments. For instance, AI-based voice synthesisation software may be used to create audio that mimics an individual's voice and share intimate information or create inflammatory content. This can then be posted online. GenAI bots can also be uploaded by malicious actors to troll specific and targeted individuals.<sup>893</sup>

#### Reposting and forwarding content

- 6.91 Bullying content can be reshared or forwarded, often without the targeted individual knowing, or giving their consent. A source from 2016 noted that more than one in ten (12%) of children aged 11-16 had experienced someone sharing pictures or videos of them without their permission. This was more likely to happen among the older age groups: 17% of both Year 10s (aged 14-15) and Year 11s (aged 15-16), compared to 8% to 9% of the younger children (aged 11-14).<sup>894</sup> This finding was reflected in research in Ireland among children aged 8-16: 14% of those aged 12-16 reported having 'my photo/video posted without permission', compared to 6% of those aged 8-12.<sup>895</sup>
- 6.92 Resharing or forwarding content, including degrading or humiliating content, can amplify the reach of bullying content and the harm it causes. A participant in another Ofcom study described local groups online which were known for sharing and reposting 'local drama', including 'call out' and 'raid'<sup>896</sup> videos. The participant said "A video that I watched... this girl, she got raided by a few other girls... The girl was in the toilet, and they grabbed the girl by the hair and stuffed her face in her [faeces] and videoed it. It got sent over everywhere." The participant noted that the content she saw gained a lot of attention online in the form of views, likes and reshares.<sup>897</sup>

#### Posting or sending location information

6.93 A user's geographic location can be shared in their profile, and this can create a risk of online bullying transitioning to offline. In our research with children aged 12-17, practitioners, and school staff, the participants felt that identifying someone's physical location could encourage escalation to in-person bullying among children, or threats to do so.<sup>898</sup>

#### **Content storage and capture**

#### Screen capturing or recording

6.94 The ability to capture images and videos is a feature which may enable bullying content to be shared further. Participants in our research among children aged 12-17 reported that being able to 'take and share screenshots or recordings, and autosave content to phone galleries' meant that people were able share content from, or about, someone else to other sites without the individual being targeted knowing about it. A participant noted that

<sup>&</sup>lt;sup>893</sup> Cyberbullying Research Center, 2023. <u>Generative AI as a Vector for Harassment and Harm</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>894</sup> Family Kids & Youth, The Royal Foundation of The Duke and Duchess of Cambridge and Prince Harry, 2016. <u>Cyberbullying: Research into the attitudes of 11-16 year olds</u>, <u>Quantitative Findings</u>.

<sup>&</sup>lt;sup>895</sup> Cybersafe Kids, 2022/23. <u>Keeping Kids Safer Online, Trends and Usage Report Academic Year 2022-2023</u>.

<sup>&</sup>lt;sup>896</sup> This research defines 'call-out' videos as those where people provoke or retaliate (often involving violent threats), and 'raid' videos as those where people film a break-in to the homes of their rivals as a form of humiliation.

<sup>&</sup>lt;sup>897</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>898</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

someone could think something was funny, and share it, which is then seen by others and shared further, and "it's like a continuous chain of people [sharing it] to make fun".<sup>899</sup>

6.95 The same study found that these features deterred some people from reporting bullying. Functionalities such as notifications when another user takes a screenshot of their content (a default feature on one service), were identified as a potential mitigation measure for online bullying. Some participants suggested that this would discourage people from taking and sharing content, as well as making it difficult to do it without the target knowing.<sup>900</sup>

#### **Content editing**

#### **Editing visual media**

- 6.96 The ability to edit images and videos can play a role in bullying content that is shared online. A recent inquest found that a group of boys had created fake nude photos of girls in their school, sharing them via group chats.<sup>901</sup> This kind of behaviour constitutes an illegal offence (see Section 2B, Child Sexual Abuse Material, in the <u>Illegal Harms Register of Risks</u>), but is mentioned here as the impact of sharing such images can often be compounded with bullying received by peers.
- 6.97 Participants in our research discussed how existing content could be edited negatively, to influence how children were seen. A child participant spoke about how content he had posted was screen-grabbed and reposted by others in an attempt to create a 'meme'.<sup>902 903</sup> A participant in other Ofcom research said how other users shared a picture of him with an embarrassing filter, acquired by their 'hacking' into his account on an online gaming service.<sup>904</sup>

#### **Recommender systems**

- 6.98 Detailed explanation on how content recommender systems<sup>905</sup> work and how they can pose a risk to children is set out in Section 16: Wider context to understanding risk factors.
- 6.99 Bullying content is often shared directly with the children being targeted. Recommender systems are therefore less relevant to risk of harm than other kinds of harmful content. However, dissemination by recommender systems can amplify bullying content, creating a wider audience for the bullying, which can intensify the harm on the targeted individual (see sub-section on 'Impacts' within this section). Our research on online experiences found

<sup>&</sup>lt;sup>899</sup> Ofcom, 2023. <u>Key attributes and experiences of cyberbullying among children in the UK</u>.

<sup>&</sup>lt;sup>900</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>901</sup> Lynn, G., 2024. <u>Mia Janin took own life after bullying – inquest</u>. BBC, 26 January.

<sup>&</sup>lt;sup>902</sup> A 'meme' is an idea, image, video, etc, that spreads very quickly on the internet. <u>Cambridge Dictionary</u>. [accessed 18 January 2024]; A 'meme' is an amusing or interesting item (such as a captioned picture or video). or genre of items that is spread widely online especially through social media. <u>Merriam-Webster Dictionary</u>. [accessed 18 January 2024].

<sup>&</sup>lt;sup>903</sup> Ofcom, 2023. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>904</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>905</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and is outside of the user's normal engagement pattern.

that certain kinds of bullying content were most likely to be seen when users<sup>906</sup> were scrolling through their feeds.<sup>907</sup> For example, a third of child and adult participants aged 13 and upwards reported encountering trolling<sup>908</sup> and one-off abusive threats or behaviour when scrolling through their feed/'For You' page (36% and 33% respectively). This was the second most common way in which this kind of content was encountered (after encountering them via comments or replies to posts, articles or videos). While this study explores the experiences of adults and children, scrolling and the associated role of recommender systems is likely to remain important when considering children in isolation.

<sup>&</sup>lt;sup>906</sup> The sample size of children aged 13-17 who experienced each harm was too low to report on, so data is shown as overall figure for adults and children (ages 13 and upwards). Bases sizes: 13+ base size for trolling = 548; 13+ base size for one-off abusive behaviour or threats = 96.

<sup>&</sup>lt;sup>907</sup> Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>. Note: Data is largely reflective of adults' experiences due to small number of children citing experiences of trolling and one-off abusive behaviour or threats.

<sup>&</sup>lt;sup>908</sup> Trolling is defined in this research as 'a person who says something to cause intentional upset or provoke a negative reaction'.

# 7. Violent content

Warning: this section contains references to content that may be upsetting or distressing, including references to sexual violence.

#### Summary: Risk of harm from violent content

In this section, we consider content that encourages, promotes or provides instructions for an act of serious violence against a person; depicts real or realistic serious violence/injury against a person in graphic detail; or depicts real or realistic serious violence/injury against an animal or fictional creature in graphic detail.

The physical and psychological harms that can arise from this kind of content can include the normalisation and adoption of violent behaviours, alongside anxiety, avoidant behaviours and other emotional distress.

#### Risk factors: User base

**User demographics** can play a significant role in the risk of harm that can occur from violent content. **Age** affects the risk of harm; evidence suggests that children in their midteens (aged 13-15) may be most likely to encounter violent content, while older children (aged 16-17) may be at greater risk of encountering more extreme violent content but be desensitised to it. **Gender** is also a factor: evidence suggests that both boys and girls are encountering violent content, but the type of violent content varies according to the child's gender.

Evidence suggests that an individual's **race and ethnicity** and **socio-economic status** can have an effect on their risk of harm from violent content.

Children with a **mental health condition** or **special educational needs** may be more at risk of harm from violent content than those without, due to their greater consumption of such content, and how they engage with it.

#### Risk factors: Service types

Violent content tends to be in video format and shared publicly online on **video-sharing** and **social media services**. These services enable the content to be disseminated to large audiences.

The content is also present in more closed spaces. **Messaging services** are used to share violent content as there is a perception that they offer more protection against enforcement or moderation than other services.

Violent content can be found on **gaming services** due to such content being shared via chats while gaming. The evidence also suggests that clips of violent game-play circulate online.

Due to their role in enabling encounters with violent content, these four service types have been included in the Children's Risk Profiles.<sup>909</sup>

<sup>&</sup>lt;sup>909</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

#### Risk factors: Functionalities and recommender systems

**Content recommender systems**<sup>910</sup> may increase the risk of children encountering violent content, often without them actively seeking it out. Evidence suggests that recommender systems are one of the ways in which children encounter violent content without seeking it out, largely from users they do not already have a connection with. Content recommender systems are therefore included in the Children's Risk Profiles.

There is a culture of sharing violent content among children, and many functionalities can provide the online infrastructure to support this culture.

Violent content, often fighting content, can be **posted** online as images and videos. Functionalities that enable children to establish a large number of **user connections** can lead to vast online networks through which violent content can be rapidly distributed. This risks a greater number of children encountering violent content, and could encourage further sharing of violent content, as children can be incentivised by the perceived popularity of the content. In the context of peer fighting and serious youth violence, humiliation – due to the size of the online audience – can risk provoking retaliation. The use of large **group messages** is commonplace and further enables the spread of violent content. Violent content can also be shared from **anonymous user profiles**, which can increase the ease with which violent content can be shared. These four functionalities have been included in the Children's Risk Profiles.

Other functionalities are also relevant to consider in the context of violent content. Evidence suggests that some posts containing violent content are **ephemeral**,<sup>911</sup> and some violent content is **livestreamed**, so is intended to only exist for a limited time. However, evidence also suggests that **downloading and screen capturing** violent content is second nature to children, extending the lifespan of the content as it can be **reposted and forwarded** with ease.

**User profiles** dedicated to sharing violent content, mainly local violence, are present online. Such user profiles can become integrated in the online networks of children and facilitate the spread of violent content.

Violent content can also be shared via **direct messages** between users. Some content is shared via **encrypted** messaging services specifically due to the perceived protection offered against reporting. **Hyperlinks** are often used within messages, facilitating the spread of violent content across services. **User tagging** is also used by children to direct friends towards violent content.

<sup>&</sup>lt;sup>910</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside of the user's normal engagement pattern.

<sup>&</sup>lt;sup>911</sup> User-to-user service functionality that allows users to send messages that are automatically deleted after they are viewed by the recipient, or after a prescribed period of time has elapsed.

# Introduction

- 7.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by the following priority content that is harmful to children (PC) on user-to-user services (risk of harm):
  - a) Content which encourages, promotes or provides instructions for an act of serious violence against a person.
  - b) Content which:
    - i) depicts real or realistic serious violence against a person;
    - ii) depicts the real or realistic serious injury of a person in graphic detail.
  - c) Content which:
    - i) depicts real or realistic serious violence against an animal;
    - ii) depicts the real or realistic serious injury of an animal in graphic detail;
    - iii) realistically depicts serious violence against a fictional creature, or the serious injury of a fictional creature in graphic detail.
- 7.2 This section will use the term 'violent content' to refer to the kinds of content listed above.
- 7.3 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out Section 1: Introduction to the Children's Register of Risks. 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.
- 7.4 In our Guidance on Content Harmful to Children, we provide guidance on identifying violent content, including examples of what Ofcom considers to be, or considers not to be, violent content. To summarise, this is a broad category which can take many forms. It includes content depicting graphic physical fights between groups and individuals, content depicting serious injuries (often including blood and gore), serious threats of violence, content promoting or glamourising weapons, content condoning gendered and sexual violence and animal cruelty content. See Section 8 of our Guidance on Content Harmful to Children for more detail and contextual considerations when identifying violent content.
- 7.5 Some kinds of violent content overlap with other kinds of harmful content in the Act. For example, content encouraging violence against women and girls or another listed characteristic (such as race, religion or sexual orientation) may overlap with abuse and hate content. Refer to Section 5: Abuse and hate content for more detail.
- 7.6 Some of this content may be illegal. For example, some content encouraging violence may contain a direct threat of violence or to kill. Content depicting sexual violence may constitute an extreme pornography offence. Any content depicting children aged under 18 engaged in, or appeared to be engaged in, sexual acts is child sexual abuse material (CSAM). Content depicting cruelty to animals may be illegal under the Animal Welfare Act.<sup>912</sup> For further details, please check our <u>Illegal Harms Register of Risks</u> (Illegal Harms Register) (see 'Child Sexual Abuse Material', 'Extreme pornography offence', 'Harassment, stalking, threats and abuse' and 'Animal cruelty' sections).

<sup>&</sup>lt;sup>912</sup> Online content that encourages or assists someone to commit animal cruelty, or conspires to commit this behaviour, may be illegal.

- 7.7 Since the evidence does not often distinguish between legal and illegal content, this section may include reference to some illegal content in seeking to assess risk of harm to children from violent content from the available evidence. However, illegal content is explored primarily in our <u>llegal Harms Register</u> and for more information on these offences, please refer to our <u>llegal Content Judgements Guidance</u>.
- 7.8 Due to these overlaps and limitations in the available evidence base, some of the evidence described in this section relates to content which is broader than the definition of violent content in the Online Safety Act 2023 (the Act). Where such evidence has been included, it is because we think it is nevertheless relevant to understanding the risk of harm from violent content.
- 7.9 To build our evidence base on these harms, Ofcom commissioned research on children's experiences of encountering violent content online (see footnote for sample details).<sup>913</sup> The findings from this research are noted throughout, where relevant, but we have also considered the wider landscape of the evidence available.

# How violent content manifests online

- 7.10 This sub-section looks at how violent content manifests online and how children may be at risk of harm.
- 7.11 Children interact with violent content online in a number of ways. These include encountering it on their feeds, being sent it by peers or sharing violent content themselves.
- 7.12 Interacting with violent content online is closely related to social status.<sup>914</sup> Violence among children is not new, but the potential consequences (including loss or gain in status) are amplified by incidents involving violence being recorded and shared online. Online conflicts can escalate more quickly because of the ease with which content and messages can be shared online.<sup>915</sup> Ofcom research also reported that many children, and particularly those seeking social validation or looking to build their online following, said they shared violent content to gain popularity, due to the high levels of engagement that violent content as they thought it was "funny" to surprise them with it.<sup>917</sup>
- 7.13 Moreover, online environments allow people to post content and interact with other users in a way that projects a particular identity: evidence suggests that social media services can be used to cultivate a perception of being violent, and a "tough" reputation. A Revealing

<sup>&</sup>lt;sup>913</sup> This study incorporated three stages: two online focus groups with professionals currently working with children and young people across the UK (included those working in education, such as teachers; headteachers; personal, social, health and economic education teachers (PSHE) and special educational needs coordinators (SENCO); and other professionals such as social workers, child protection leaders, gang/exploitation workers and youth workers); 15 workshops with children (aged 8-17); and 15 in-depth interviews with children (aged 12-16) who were identified as having had direct experience of violent content. Source: Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>. [accessed 30 January 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>914</sup> Revealing Reality, 2023. <u>Anti-social Media.</u> [accessed 28 March 2025]. Subsequent references to the report throughout.

<sup>&</sup>lt;sup>915</sup> Crest Advisory (Caluori, J., Hutt, O., Olajide, P. and Kirk, E.), 2022. <u>Fixing Neverland</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>916</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>917</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

Reality study found that vulnerable children aged 14-17 in disadvantaged communities had experienced threats of violence online, which were "theatrical, dramatic displays of violence" optimised for how they looked on camera.<sup>918</sup> While some threats may be motivated by image-building and are not intended to be carried out in reality, there are many examples of threats or humiliations made online relating to incidents of serious harm or death to children and young adults. Refer to sub-section 'Impacts' within this section for more information.

## Presence

- 7.14 Violent content is widely encountered by children. Evidence suggests that between 22% (over a fifth) and 60% (over half) of children have seen violent content online, and many are seeing it regularly.<sup>919</sup> Ofcom research found that 10% of children aged 13-17 recalled encountering violent content at least once in the four-week period prior to the research.<sup>920</sup> Other Ofcom research reported that children aged 8-17 described encountering violent content content online as "unavoidable".<sup>921</sup>
- 7.15 Certain types of content are particularly present in the online lives of children. The evidence suggests that fighting is one of the most common types of violent content experienced by children. Ofcom's research found that local school and street fighting was a commonly named type of violent content encountered by children aged 8-17, with fights being set up, filmed and posted online.<sup>922</sup> The Youth Endowment Fund also reported fighting as one of the types of violent content most commonly seen by children aged 13-17, making up 44% (almost half) of such content seen.<sup>923</sup> They also found that, geographically, children in the north-east and north-west of England and London were more likely to see violent content.<sup>924</sup>
- 7.16 Another common type of content for some children is content relating to serious youth violence or violent crimes. Ofcom research found that this was more commonly mentioned by children who live in a city, who described the content as featuring local violence, weapons, and specific crimes including murders and stabbings.<sup>925</sup> Other evidence indicates

<sup>&</sup>lt;sup>918</sup> Evidence uses varying definitions of vulnerable children. Vulnerable in this sample relates to children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socio-economic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>919</sup> Internet Matters found that one in five (22%) of children aged 9-16 have encountered violent content. Source: Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>. [accessed 31 March 2025]. Subsequent references to this report throughout. A study by the Youth Endowment Fund found children's experience of violent content online was more common, with three in five children aged 13-17 (60%) having seen any violent content on social media in the past 12 months. Source: Youth Endowment Fund, 2022. <u>Children, Violence and Vulnerability</u>. [accessed 5 February 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>920</sup> Ofcom, 2025. <u>Online Experiences Tracker (Wave 7</u>). [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>921</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>922</sup> The research describes local school and street fights as those tending to be among children aged 11 and older, both in and outside of school. It was common for children and young people involved in the fights to know each other, but they could also be among strangers. Source: Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>923</sup> Youth Endowment Fund, 2022. <u>Children, Violence and Vulnerability</u>

<sup>&</sup>lt;sup>924</sup> Youth Endowment Fund, 2022. Children, Violence and Vulnerability.

<sup>&</sup>lt;sup>925</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

that user-to-user services can be used to threaten and provoke others in ways likely to trigger an act of violence, with the scale of an online audience amplifying humiliation and making retaliation more likely.<sup>926</sup> Refer to our <u>Illegal Harms Register</u> (see 'Harassment, stalking, threats and abuse' section) for more information.

- 7.17 Children may also encounter graphic depictions of violence in other contexts, such as gaming. Ofcom research found that many of the children spoken to cited gaming as a source of violent content, due to violent comments from other users being shared in gaming chats, and edited clips of violent games circulating online.<sup>927</sup>
- 7.18 Evidence also suggests that children may be encountering content depicting graphic violence in conflict zones. A recent study created profiles with an age of 13 across various online services. These attracted more than 300 posts or videos portraying extremely graphic and distressing (including violent) imagery from the Gaza conflict.<sup>928</sup> See Section 8 of the Guidance on Content Harmful to children for the circumstances in which this kind of content may, or may not, meet the definition of content that is harmful to children and the relevance of news publisher and journalistic content.
- 7.19 Children may also encounter violent content inadvertently, thinking they were watching another piece of content. In a roundtable discussion with children and young adults in July 2024, participants talked about how users are finding creative ways to create violent content which could circumvent some content filters put in place to prevent it from being viewed. This can be done through 'click bait and switch content'. A 17-year-old boy at the roundtable described this happening where a video begins with "5 second, 10 seconds of an interesting video [...] and then it's just the worst thing you could ever see". <sup>929</sup>
- 7.20 Children may also encounter content which promotes violence, even where violence is not depicted in the content itself. This can include content which justifies, normalises or encourages violence against women and girls.<sup>930</sup> This content can overlap with other forms of violent content, or with hate or abuse content. Refer to Section 5: Abuse and hate content for more information.
- 7.21 Violent content involving animals is accessible to children online, and the volume of such content appears to be increasing. Ofcom's research found that 7% of children aged 13-17 recalled encountering "content depicting animal cruelty" over the four weeks prior to the research.<sup>931</sup> The Royal Society for the Prevention of Cruelty to Animals (RSPCA) reported that there were 756 reports of animal abuse on social media in 2021, up from 157 in

<sup>&</sup>lt;sup>926</sup> Catch22 (Irwin-Rogers, K. and Pinkney, C.), 2017. <u>Social Media as a Catalyst and Trigger for Youth Violence</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>927</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>928</sup> This research involved creating profiles on Instagram, TikTok and Snapchat with an age of 13, in the UK jurisdiction. Content related to the conflict was surfaced using prominent relevant hashtags, as well as content geotagged in Gaza. Source: Institute for Strategic Dialogue, 2023. <u>Violent and graphic content of the Gaza conflict served to minors' accounts</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>929</sup> This is part of the Office of the Children's Commissioner for England Big Ambition survey where they asked 253,000 children and adults about their satisfaction with a wide range of statements about their satisfaction with life. Source: Office of the Children's Commissioner for England, 2024. <u>"I've seen horrible things":</u> <u>children's experiences of the online world.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>930</sup> Internet Matters, 2023. <u>"It's really easy to go down that path": Young people's experiences of online</u> <u>misogyny and image-based abuse.</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>931</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

2019.<sup>932</sup> While not specific to children, this evidence indicates an increase in the volume of violent animal content online, and therefore the risk of children encountering it.

7.22 Many forms of animal violence exist online but there is evidence to suggest that specific types of widely shared content are more commonly experienced by children. The RSPCA is aware of multiple types of violent content involving animals,<sup>933</sup> but Ofcom's research among children aged 8-17 found that discussion tended to focus on a recent example of extreme animal cruelty content.<sup>934</sup>

## Impacts

- 7.23 Research has shown that children, particularly older children aged 16-17, believe they are becoming desensitised to violent content.<sup>935</sup> Children may therefore not be forthcoming about the impact on them of consuming violent content. Indeed, research commissioned by the Department for Digital, Culture, Media & Sport (DCMS) among children and young adults aged 9-18 found that children were likely to report fewer negative impacts than their parents and carers.<sup>936</sup> However, evidence suggests that exposure to violent content online can be related to a number of psychological and behavioural outcomes.
- 7.24 Internet Matters 2025 research reported that children are affected by the violent content they encounter: 31% of children aged 9-16 said they found seeing violent content online really upsetting or scary, ranking the experience a 6 or 7 on a 1-7 scale. This was a significant rise from 19% the prior year.<sup>937</sup> Seeing violent animal abuse online also impacts children. In the 2024 Internet Matters Digital Tracker survey, when asked to rate the effect that online harms had on them on a scale of 1-7 (with 1 being 'no impact' and 7 being a 'significant impact') violent animal abuse was ranked highly, with children aged 13-17 rating the impact as a 4.5.<sup>938</sup>
- 7.25 Encountering violent content can create feelings of anxiety for children, particularly when the content is from their local area.<sup>939</sup> This can manifest in a number of ways, including sleep disruption, behavioural changes and social withdrawal.<sup>940</sup> Ofcom research reported that teachers of children from disadvantaged communities had observed children becoming socially and physically withdrawn, staying at home to feel safe, and missing out on

<sup>&</sup>lt;sup>932</sup> Morris, A., 2022. <u>RSPCA reports of online animal abuse more than doubled in the last year</u>. Chronicle Live, 7 September. [accessed 28 March 2025].

<sup>&</sup>lt;sup>933</sup> Examples of violent content included organised animal fighting, animal hunting, animals being kept in poor conditions and content of a sexual nature. Source: Meeting between Ofcom and the RSPCA, October 2023.
<sup>934</sup> Ofcom 2024, Understanding Pathways to Online Violent Content Among Children.

<sup>&</sup>lt;sup>934</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>935</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>936</sup> This source defines violent content as "Content showing violence that may not be appropriate for children depending on their age. Content may include fights and injury, the use of weapons to cause harm, the infliction of pain, domestic violence, gang violence or sexual aggression". Source: Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>. [accessed 17 April 2024]. Subsequent references to this report throughout. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).
<sup>937</sup> Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>.

<sup>&</sup>lt;sup>938</sup> Internet Matters, 2024. <u>Protecting children from harms online: Response to Ofcom consultation</u>. [accessed 10 February 2025].

<sup>&</sup>lt;sup>939</sup> Social Finance, 2022. <u>Social media, psychological harm and violence among young people</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>940</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

education. Teachers said they thought this was because consistent exposure to violent content had contributed to children thinking they were likely to encounter violence similar to that which they frequently encountered online.<sup>941</sup> Catch22's response to our 2023 Protection of Children Call for Evidence also described how viewing any violent content online leads "some of the young people [Catch22] work with [to] become traumatised by the violent content [they encounter] and do not want to leave the house".<sup>942</sup>

- 7.26 Violent content is associated with other psychological impacts for children, including feeling anxious, guilty and isolated. Ofcom research found that children can feel peer pressure to find violent content funny, and failure to do so can lead to a feeling of isolation from their peer group. Children reported viewing violent content alone before bed, which made some feel anxious, and others described feeling guilty about not reporting what they had seen.<sup>943</sup>
- 7.27 Encountering violent content online, especially in high volumes, risks normalising violence. This was reported by professionals and children in the Ofcom research<sup>944</sup> and by a study by Revealing Reality among vulnerable children aged 13-17.<sup>945</sup> Encountering content promoting violence against women and girls has been linked to a difference in attitudes towards violence among children. A study by domestic abuse organisation Women's Aid found that children and young adults aged 7-18 who had seen content from Andrew Tate (an online personality whose content presents views that are generally considered to be misogynistic, including talking about committing acts of violence against women and girls), were nearly five times as likely to believe that "hurting someone physically is okay if you say sorry after hurting them" (compared with just 4% of those who had not seen such content).<sup>946</sup> While this content does not link these outcomes specifically to violent content shared by the influencer, the messages within his content may have contributed to the significant difference in attitudes towards violence between those who have, and have not, seen his content.
- 7.28 Certain pornographic content has been linked to the normalisation of violent sexual aggression and harmful sexual behaviours (which is defined as a spectrum of sexual behaviours exhibited by children that are sexually harmful to others), often towards girls. A survey from the Office of the Children's Commissioner for England shared the perspective of a girl aged 18, who first saw pornography at the age of 12: "[a] lot of online pornography can be unrealistic and some of it is rape content, so young people may think this is okay and realistic. When in reality it is not acceptable, it teaches incorrect and disgusting behaviours".<sup>947</sup> This is further highlighted by the fact that almost half, 47%, of respondents to the survey aged 18-21 had experienced a sexually violent act. An independent

<sup>942</sup> Catch22 response to 2023 Protection of Children Call for Evidence. [accessed 5 February 2025].

<sup>946</sup> Women's Aid (Dean, K. and Davidge, S.), 2023. <u>Influencers and Attitudes: How will the next generation</u> <u>understand domestic abuse?</u> [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>941</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>943</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>944</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>945</sup> Note: The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>947</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>. [accessed 28 March 2025]; <u>Office of the Children's Commissioner for England</u> response to the May 2024 Consultation on Protecting Children from Harms Online, p.8. [accessed 28 March 2025].

pornography review by Baroness Bertin provides further insight and evidence around the impacts of pornographic content on aggressive sexual behaviours.<sup>948</sup>

- 7.29 There are of course other drivers of harmful sexual behaviour, and it is important to take into account wider individual, social and developmental factors when categorising harmful violent sexual behaviour.<sup>949</sup> While this section covers violent content, pornographic content is discussed in more detail in Section 2: Pornographic content.
- 7.30 Normalisation of violent content online also risks increasing the amount of violent content in circulation online. A study in West Yorkshire among children and young adults aged 11-25 concluded that the normalisation of violent content among children can increase the risk of them sharing such content further.<sup>950</sup>
- 7.31 Encountering violent content can encourage specific behaviours relating to violence, such as carrying weapons. Children may be encouraged to carry weapons by seeing content showing others doing this: a study by the Youth Endowment Fund found that nearly a quarter (24%) of children aged 13-17 had seen other children carrying or promoting weapons on social media in the past year.<sup>951</sup> Ofcom research also reported that professionals had seen some of the vulnerable children they worked with adopting violent behaviours, such as carrying knives for protection, after seeing violent content such as weapons being used or flaunted online.<sup>952</sup> These behaviours can be normalised through online communities in which violent content is widely shared. Revealing Reality showed how encountering high volumes of harmful content can warp children's perception of reality, with one child from a vulnerable community believing that all children carry knives.<sup>953</sup>
- 7.32 While the relationship between encountering violent content and acts of violence is complex, there is evidence to suggest that violent content can directly contribute to, or trigger, acts of violence. In a survey by Crest Advisory with children aged 13-17, 52% (over half) said they believed social media was either a major, or the most important, factor influencing why some young people commit acts of violence.<sup>954</sup> The murder of Olly Stephens is an example of how violent content can be linked to acts of serious violence. While the use of social media to organise this crime would probably be illegal, the lead detective described his shock at the volume of violent content found on the phones of the 13- and 14-year-olds convicted of the murder, which included videos of knives being flicked

 <sup>&</sup>lt;sup>948</sup> Baroness Bertin, 2025. <u>Creating a safer world – the challenge of regulating online pornography</u>. [accessed
 18 March 2025].

<sup>&</sup>lt;sup>949</sup> Office of the Children's Commissioner for England, 2023. <u>Evidence on pornography's influence on harmful</u> <u>sexual behaviour among children.</u> [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>950</sup> Social Finance, 2022. Social media, psychological harm and violence among young people.

<sup>&</sup>lt;sup>951</sup> Youth Endowment Fund, 2022. <u>Children, Violence and Vulnerability</u>.

<sup>&</sup>lt;sup>952</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>953</sup> The evidence showed that seeing a lot of this kind of content can affect young people's perceptions or assessments: "One young person was asked by a police liaison officer, 'Out of 100 kids, how many on average do you think carry a knife?' The young person responded, '100 out of 100'. In reality, the police liaison officer told us, 'It's one out of 100. It has become the norm for him, I think he's got the idea from social media'." Note: The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media.</u>

<sup>&</sup>lt;sup>954</sup> Crest Advisory (Caluori et al.), 2022. <u>Fixing Neverland</u>.

and shown off. He believed that those involved were regularly exposed to violent content and had become desensitised to it, speaking of the "casual and cold tone" in which they discussed the attack online.<sup>955</sup>

7.33 Evidence suggests that the risk of retributive violence is related to the larger audience of violent content online (compared to offline), which can create pressure for children to defend their social status. A Crest Advisory report explained that practitioners and parents believe the presence of an online audience increases the pressure on young people to act, rather than risk compromising their reputation.<sup>956</sup>

# **Evidence of risk factors on user-to-user services**

7.34 We consider that the risk factors that we outlined in this section may increase the risk of harm to children from violent content. This is summarised in the summary box at the start of the section.

## **Risk factors: User base**

#### User base size

7.35 Violent content can appear on services such as social media and video-sharing services with large user bases. This large pool of users, including children, are at risk of encountering harmful content. In addition to this, because violent content can receive substantial amounts of engagement, and is then amplified through recommender systems, it is more likely to occur on services with larger user bases. Refer to sub-sections 'User communication: Commenting on content, posting content and reposting content' and 'Recommender systems' for more information.

#### **User demographics**

- 7.36 The following sub-section outlines key evidence of user base demographic factors and risks of harm to children, which can include listed characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 7.37 The evidence suggests that user base characteristics including **age**, **gender**, **race and ethnicity**, **disability** and **socio-economic factors** of users could lead to an increased risk of harm to children.

#### Age

7.38 Age affects the risk of harm from violent content. Ofcom research found that encountering violent content began in primary school and the nature of the content encountered became increasingly violent among older children.<sup>957</sup> However, the research found that the risks of harm from violent content, and the effect of exposure to it, differed by age group, as described below.

<sup>&</sup>lt;sup>955</sup> Thirteen-year-old Olly Stephens was stabbed to death by two teenage boys in a field behind his house, after they recruited a girl online to lure him there. The attack was planned on social media and triggered by a dispute in a social media chat group. Source: Spring, M., 2022. <u>A social media murder: Olly's story.</u> BBC, 30 June. [accessed 28 March 2025].

<sup>&</sup>lt;sup>956</sup> Crest Advisory (Caluori et al.), 2022. <u>Fixing Neverland</u>.

<sup>&</sup>lt;sup>957</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

- 7.39 Ofcom research suggests that children in their mid-teens (aged 13-15) may be more likely to engage with violent content than children of other ages.<sup>958</sup> Internet Matters similarly found that 15-16 year olds are twice as likely to report seeing violent content compared to 9-10 year olds (32% vs 15%).<sup>959</sup> The children in the Ofcom study said that this was due to the perceived popularity of the content, and the desire to belong, and to fit in with what others their age are doing online. This behaviour is linked to children's developmental stages; peer relations and social pressures at this age contribute to children's engagement with violent content.<sup>960</sup> Despite the increased likelihood of their engaging with violent content, children of this age still described the content as "shocking" and "upsetting".<sup>961</sup> Children's engagement with violent content of the same kind, (refer to sub-section 'Recommender systems' within this section for more information), so children of this age may be at disproportionate risk of encountering high volumes of violent content which they find upsetting.
- 7.40 Evidence suggests that children in their late teens (aged 16-17) may be encountering extreme violent content, and are at greater risk of being desensitised to it.<sup>962</sup> Ofcom research found that children of this age tended to speak about violent content in a dispassionate, or sometimes jovial, manner.<sup>963</sup> Children may be desensitised by repeated exposure to violent content, which may drive the way they view the content. The research also reported that children of this age said they were less likely to engage with violent content than children aged 13-15, as this behaviour was something they tended to do more when they were younger.

#### Gender

- 7.41 Although there is evidence to suggest that both girls and boys aged 13-17 claim to have similar overall experiences of encountering violent online content, other evidence suggests that the type of violent online content experienced may vary by gender.<sup>964</sup> Ofcom research into violent content found that fighting content was more common among boys,<sup>965</sup> and a study in West Yorkshire reported that only about 3% of girls had seen "murder" content, compared to nearly 30% of boys.<sup>966</sup>
- 7.42 The evidence suggests that boys may be more likely to encounter misogynistic content promoting violence against women and girls. A study found that just under a third (29%) of boys aged 7-11 had seen content from Andrew Tate, who discusses committing acts of violence against women and girls, compared to just 13% (just over one in eight) of girls.<sup>967</sup>

<sup>965</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>958</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>959</sup> Internet Matters, 2025. <u>Children's Wellbeing in a Digital World</u>.

<sup>&</sup>lt;sup>960</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>961</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>962</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>963</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>964</sup> Ofcom's Online Experiences Tracker reports a small but not statistically significant difference between girls and boys aged 13-17 who have seen content depicting or encouraging violence or injury in the past four weeks (7% of girls and 11% of boys). Source: Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. Similarly, a study among children aged 13-17 found similar overall consumption of violent content between girls and boys. Source: Youth Endowment Fund, 2022. <u>Children, Violence and Vulnerability.</u>

<sup>&</sup>lt;sup>966</sup> Figures are estimates read from the chart on p.26. Source: Social Finance, 2022. <u>Social media, psychological</u> <u>harm and violence among young people.</u>

<sup>&</sup>lt;sup>967</sup> Women's Aid, 2023. Influencers and Attitudes: : How will the next generation understand domestic abuse?

The impact on boys of encountering this kind of content may be heightened by also encountering content that promotes potentially psychologically harmful ideals of masculinity. Refer to Section 5: Abuse and hate content for more information.

- 7.43 Evidence from a survey from the Office of the Children's Commissioner for England found that young people were significantly more likely to see women portrayed as the target of sexual violence in pornography. Among respondents who had seen pornography, nearly two thirds (65%) of 16-21-year-olds had seen a sexually violent act perpetrated against a woman, compared to 29% (just under a third) who had seen sexual violence perpetrated against a man.<sup>968</sup> Evidence indicates that viewing content like this may impact how women and girls are treated, normalising violence against women and girls including domestic abuse, with the same survey finding that young people who frequently viewed pornography (two or more times a week) were significantly more likely to have experienced a physically aggressive or degrading sex act.<sup>969</sup> While this section covers violent content, pornographic content is discussed in much more detail in Section 2: Pornographic content.
- 7.44 The evidence suggests that boys, particularly those aged 13-15, may be more likely to both seek out violent content, and to share it once they have encountered it. Ofcom research found that boys aged 13-15 were most likely to search for violent content which they had heard about, and share it, due to their desire to "fit in" as well as the perceived popularity of the content.<sup>970</sup>

#### **Race and ethnicity**

7.45 Race may be a risk factor for encountering online violent content. The evidence indicates that Black children are disproportionately affected by violence offline: the Youth Endowment Fund found that one third (33%) of Black children aged 13-17 had been victims of violence in the past 12 months, compared to 13% (just over one in eight) of white children and 11% (just over one in ten) of Asian children.<sup>971</sup> The report found that children who had either witnessed or been a victim of violence were more likely to have seen an act of violence on social media, therefore it is reasonable to assume that Black children may be more likely to encounter violent content compared to white or Asian children.

#### Disability

7.46 Children with some types of disability may be more at risk of harm from violent content than those without any disability because they may encounter more of it. A study by Internet Matters found that 16% (one in six) of 11-17-year-olds with speech difficulties, and 14% (just under one in six) of autistic 11-17-year-olds had "often" seen violent content, compared to 5% of children the same age without any vulnerabilities.<sup>972</sup>

 <sup>&</sup>lt;sup>968</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>, p.21. [accessed 28 March 2025]. Subsequent references to this source throughout.
 <sup>969</sup> Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and</u>

pornography, p.32. <sup>970</sup> Ofcom, 2024. Understanding Pathways to Online Violent Content Among Children.

<sup>&</sup>lt;sup>971</sup> Youth Endowment Fund, 2022. <u>Children, Violence and Vulnerability.</u>

<sup>&</sup>lt;sup>972</sup> Note: Figures cited have been taken from the charts of the report. Vulnerable groups specified in the research are: anger issues, autism, 'I worry about life at home', learning difficulties, speech difficulties, hearing difficulties, vision difficulties, mental health difficulties, care experienced, eating disorder, physical illness, carer and 'English is not my first language'. Source: Internet Matters (Katz, A. and El Asam, A.), 2021. <u>Refuge and Risk: Life Online for Vulnerable Young People</u>. [accessed 28 March 2025].
7.47 Children who are neurodivergent or have special educational needs may also be more at risk of harm from violent content than children without, due to the way in which they engage with the content. Ofcom research found that specialists who work with children who are neurodivergent think they may be more at risk of violent content because they can become more "obsessive" about the content.<sup>973</sup> Similarly, in a small-scale study by the UK Council for Child Internet Safety (UKCCIS), teachers of children with special educational needs reported that these children were more likely than their peers to regard games as "real", and struggled to see them as fantasy.<sup>974</sup> This suggests that the risk of psychological or behavioural impacts from violent gaming content may be higher for children with special educational needs.

#### Physical and mental health

7.48 Children with a mental health condition may be more at risk of harm from violent content than those without because they may encounter more of it. Ofcom research found that children with a mental health condition were more likely than children without to recall encountering violent content online (14% vs 10%).<sup>975</sup>

#### Socio-economic factors

- 7.49 Evidence suggests that children with a lower socio-economic background are more likely to experience violence offline. The Youth Endowment Fund found that children aged 13-17 who were either supported by a social worker (60%), regularly missed classes (55%), received free school meals (46%), or were not from a two-parent household (42%), were more likely to have been a victim of, or a witness to, violence, compared to children who were not from any of these backgrounds (31%).<sup>976</sup> The research also found that children who had either witnessed or been a victim of violence were more likely to have seen real-life violence on social media. Therefore, it is likely that socio-economic factors may increase a child's risk of encountering violent content online. Indeed, a study by Revealing Reality with vulnerable children aged 13-17 from deprived backgrounds found that violent content is often created and shared in a hyperlocal context, making it particularly prevalent in specific urban, disadvantaged areas.<sup>977</sup>
- 7.50 There is also specific evidence to suggest that children with a lower socio-economic background are more at risk of harm from violent content online. Ofcom research reported that professionals working with children think that children with a lack of parental oversight, or those who may be experiencing instability at home, may be at greater risk of harm from violent content. These participants explained that an online world can feel "supportive" for these children and can result in them becoming more immersed in violent

<sup>975</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>973</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>974</sup> UKCCIS and the Lucy Faithfull Foundation, 2011. <u>Children with special educational needs – internet safety</u> <u>concerns</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>976</sup> Youth Endowment Fund, 2022. Children, Violence and Vulnerability.

<sup>&</sup>lt;sup>977</sup> Note: The study was with 13 'vulnerable' children, which here means children who, when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media.</u>

content.<sup>978</sup> Children who have witnessed violence at home may also be more at risk of harm from violent content due to the greater risk of re-traumatisation.<sup>979</sup>

# **Risk factors: Service types**

- 7.51 Research suggests that children are at an increased risk of encountering violent content on the following service types: social media services and video-sharing services, messaging services, gaming services, discussion forums and chat room services.
- 7.52 A user-to-user service may simultaneously include more than one service type, and some might also be a feature of a wider service.

#### Service types

#### Social media services and video-sharing services

- 7.53 Evidence indicates that children are encountering and engaging with violent content on social media services and video-sharing services.<sup>980</sup> Videos and images are shared on such services, and this is often the format in which violent content is encountered. These types of services can also allow content to be disseminated among large audiences rapidly, and therefore potentially encountered by a large number of children.
- 7.54 An EU study among children aged 9-16 found that many children tend to link particular online risks to particular types of online services, and violent content was linked to video-sharing services 30% of the time.<sup>981</sup> Ofcom research also found that children most commonly mentioned social media services and video-sharing services, in addition to messaging services, when asked where they had most often encountered violent content.<sup>982</sup>
- 7.55 The evidence suggests that content encouraging or promoting violence is likely to be posted on social media services, as these services can enable users to construct an online identity that glamourises violence. A study from the US reported on "gang-associated" children and young adults aged 13-27 who selectively shared content to establish and maintain a violent reputation; for example, borrowing weapons to pose with online, or making violent threats online to people they know are "out of town".<sup>983</sup>

#### **Messaging services**

- 7.56 Children also encounter violent content in more closed spaces such as messaging services. Ofcom research found that children often mentioned messaging services in relation to their experiences of violent content; local school and street fighting, and gang-related violence were the types of violent content they cited most often in relation to messaging services.<sup>984</sup>
- 7.57 Messaging services can be seen to offer more protection against enforcement or moderation than other services where children spend their time – particularly when they offer ephemeral or encrypted messaging. Refer to sub-sections 'User Communication:

<sup>&</sup>lt;sup>978</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>979</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>980</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>981</sup> LSE Research Online (Livingstone, S., Kirwil, L., Ponte, C. and Staksrud, E.), 2014. <u>In their own words: what</u> <u>bothers children online?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>982</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>983</sup> Stuart, F., 2020. <u>Code of the Tweet: Urban Gang Violence in the Social Media Age</u>, *Social Problems*, 67 (2). [accessed 28 March 2025].

<sup>&</sup>lt;sup>984</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

Ephemeral messaging' and 'Encrypted messaging' within this section for more information. This may encourage children to use such services to share violent content. A UK study reported an increase in encrypted messaging services and ephemeral messaging being used in the context of gang-related violence, due to the belief that these services cannot be monitored by law enforcement.<sup>985</sup>

#### **Gaming services**

- 7.58 Gaming services can carry the risk of exposing children to violent content via functionalities that enable users to communicate with each other while gaming. Ofcom research found that children experience violent content on gaming services from comments by other users in gaming chats (refer to sub-sections 'User communication: Group messaging' and 'Direct messaging' within this section for more information).<sup>986</sup> Children cite gaming services as a place where they often see violence online: an NSPCC study reported that 21% of children and young adults aged 11-18 had seen violence and hatred on gaming services.<sup>987</sup>
- 7.59 Children can encounter violent content in the form of clips of violent gameplay from gaming services being posted online, for example, on social media websites. Ofcom research found that many children cited gaming as a frequent source of violent content, due to edited clips of violent games circulating online.<sup>988</sup>
- 7.60 The evidence suggests that user characteristics are important in assessing the risk of harm from violent gaming content. For example, a risk may emerge when violent gaming content is encountered by children younger than the target audience of the game. Research conducted by the NSPCC reported that, when asked where they were most likely to see violence in gaming, children aged 8-14 most often said Call of Duty a game rated 18+.<sup>989</sup>
- 7.61 Similarly, the extent to which violent gaming content can be considered realistic, and therefore have potential greater propensity for harm, may depend on the characteristics of the user. A small-scale study by the UK Council for Child Internet Safety reported that children with special educational needs can perceive gaming content to be more realistic than do their peers, so may be at greater risk of harm.<sup>990</sup> Refer to sub-section 'User demographics: Disability' for more information.

#### Discussion forum and chat room services

7.62 Discussion forums can act as spaces where communities of users share content on specific, and sometimes more extreme, topics. They can therefore pose a risk of introducing children to more extreme forms of violent content. Ofcom research found that although only a minority of children were actively searching for violent content, those who did so were

<sup>&</sup>lt;sup>985</sup> Whittaker, A., Densley, J. and Moser, K., 2020. <u>No two gangs alike: The digital divide in street gangs'</u> <u>differential adaptations to social media.</u> [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>986</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>987</sup> NSPCC statistic taken from a literature review commissioned by DCMS. The full NSPCC report, Net Aware Results, was unpublished, so this source has not been individually reviewed. The statistic was cited on p.43 of the published literature review. Source: UKCCIS, 2017. <u>Children's online activities, risks and safety: A literature</u> <u>review by the UKCCIS Evidence Group</u>. [accessed 28 March 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>988</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>989</sup> UKCCIS, 2017. <u>Children's online activities, risks and safety</u>.

<sup>&</sup>lt;sup>990</sup> UKCCIS and the Lucy Faithfull Foundation, 2011. <u>Children with special educational needs – internet safety</u> <u>concerns</u>.

most likely to do it on social media, video sharing, chat room and discussion forum services.<sup>991</sup>

7.63 Discussion forums can contribute to children encountering more extreme violent content. Ofcom research reported that some of the more extreme violent content encountered by children had originated on discussion forums, but had then been posted to social media and video-sharing services that were more commonly used by children.<sup>992</sup>

## **Risk factors: functionalities and recommender systems**

#### **User identification**

#### **User profiles**

7.64 Several studies report violent content being shared on purpose-built user accounts, created specifically to disseminate violent content, which can contribute to the content spreading quickly and reaching a large number of users (including children). These accounts are identifiable and therefore discoverable to users, including children, through the user profiles that are associated with them. Ofcom research found that children are accessing violent content, mostly local school and street fights, through dedicated accounts that exist to disseminate it.<sup>993</sup> Similarly, a study in West Yorkshire among children and young adults aged 11-25 noted the use of accounts dedicated to distributing violent content.<sup>994</sup>

#### Anonymous user profiles

- 7.65 Anonymous user profiles risk increasing the ease with which violent content can be shared online, due to users' perception that there is reduced accountability as the content is not directly tied to an identity. Crest Advisory's research with 11-18-year-olds described how, in the context of gang violence, the ability to create anonymous profiles online has the potential to encourage the sharing of violent content and threats, as children and young adults assume their actions will not be traced back to them.<sup>995</sup>
- 7.66 Invitation-only anonymous accounts, dedicated to sharing, often local, violent content, exist online; these require users to be connected in order to access the content.<sup>996</sup> Due to the enhanced privacy of these accounts, evidence of the type of content shared is limited, but it is likely to be more extreme or personalised violent content. Revealing Reality's study on vulnerable children aged 13-17 from disadvantaged backgrounds reported on the use of such accounts, where content can only be seen if the user has been added by the account. Children reported that only those "known" locally by reputation were accepted, and unknown accounts were treated with suspicion.<sup>997</sup>

<sup>&</sup>lt;sup>991</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>992</sup> The qualitative research was designed to be participant led and captured children's perceptions of online violent content, therefore no definition as to what constitutes more extreme violence was given to participants. Analysis was done following fieldwork and more extreme depictions of violence tended to include murder, shootings and stabbings, and were often related to gang violence. Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>993</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>994</sup> Social Finance, 2022. Social media, psychological harm and violence among young people.

<sup>&</sup>lt;sup>995</sup> Crest Advisory (Caluori et al.), 2022. Fixing Neverland.

<sup>&</sup>lt;sup>996</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>997</sup> Note: The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socio-

#### **User networking**

#### User connections

- 7.67 Children report encountering violent content shared by other users who they are connected to online, including their friends. Children share violent content with their friends for a number of reasons. Refer to sub-section 'How violent content manifests online' within this section for more information.
- 7.68 Some functionalities enable children to establish a large number of user connections with people both known and unknown to them.<sup>998</sup> These connections can then become networks through which violent content can be rapidly distributed. Ofcom research described the experience of one 17-year-old participant who had thousands of 'friends' on a social media service, many of whom were unknown to him, and regularly shared graphic, violent and gory content.<sup>999</sup>
- 7.69 The risk of user connections intersects with that of dedicated accounts for sharing violent content, as these accounts can appear on children's recommended follower lists, and quickly amass hundreds of followers and become integrated in children's networks. For example, a participant in the Revealing Reality study reported seeing a video of a stabbing from a 'fights' account which had added him.<sup>1000</sup>
- 7.70 User connections enable the creation of large audiences and can help facilitate violent content going viral.<sup>1001</sup> The more widely violent content is shared, the greater the number of child users who are exposed to it and put at risk of harm. Ofcom research reported that many children cited influencers and those with a large online following as sources of violent content, with children believing these individuals shared violent content because they knew it would draw the attention of children.<sup>1002</sup>
- 7.71 Viral violent content can also risk provoking further violence. Some violent content, particularly peer fighting, is shared with the intent of humiliation. The size of the audience increases the threat of loss of "status" or "reputation" and can provoke real-life retaliation.<sup>1003</sup>

#### User groups

7.72 User groups often involve large group chats, and this functionality can offer an easy way for users to share violent content to a wide audience. Refer to sub-section 'User communication: Group messaging' within this section for more information.

economic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media.</u>

<sup>&</sup>lt;sup>998</sup> Revealing Reality's study on the experiences of vulnerable children aged 13-17 on social media reported how platform functionalities can present children with long lists of recommended contacts, through which they can add large numbers of friends, with often no limit on how many people could add them. 'Vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socio-economic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media.</u>

 <sup>&</sup>lt;sup>999</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 5 February 2025].
 Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1000</sup> Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>1001</sup> Circulated rapidly and widely from one internet user to another.

<sup>&</sup>lt;sup>1002</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1003</sup> Crest Advisory (Caluori et al.), 2022. <u>Fixing Neverland.</u>

#### User tagging

7.73 Reflecting the culture of sharing violent content among children, Ofcom research reported that children are tagging their friends in violent content they think they should see.<sup>1004</sup> This increases the risk that children encounter violent content.

#### **User communication**

#### Livestreaming

7.74 Children are watching livestreams of violent content. Ofcom research into violent content found that children had seen livestreams of violent content, mainly local school and street fights.<sup>1005</sup>

#### **Direct messaging**

- 7.75 Violent content is being shared via direct messages, which may make the content harder for children to avoid. Ofcom research reported that violent content sent to children in direct messages was typically from friends or people they knew offline.<sup>1006</sup>
- 7.76 Gaming services can include functionalities which enable users to talk to each other while gaming, and the comments can be a source of violent messaging. Indeed, 74% of children aged 8-17 who play games online chat to other people while playing through messaging or a headset.<sup>1007</sup> Ofcom research found that children experienced violence in gaming due to violent comments sent by other users during play.<sup>1008</sup>

#### **Group messaging**

- 7.77 Violent content can be shared in group chats with many members, facilitating the spread of the content to a large audience while still in a closed environment.<sup>1009</sup> Ofcom research heard that it was relatively commonplace for large group chats to be places where violent content is shared.<sup>1010</sup> A Revealing Reality study found that children often reported being added to group chats where violent content was shared, both by people they knew and people they did not.<sup>1011</sup> Other Ofcom research also reported that children tended to share the more extreme forms of violent content on group messages.<sup>1012</sup>
- 7.78 Group messaging may allow for children to be unintentionally introduced to violent content. Ofcom research found that children were being added to group chats without their consent, or option to decline, and then being exposed to violent content unexpectedly, since they were unaware of the purpose of the group chat they had been added to. The

<sup>&</sup>lt;sup>1004</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1005</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1006</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1007</sup> Ofcom, 2024. <u>Children's Media Literacy Tracker</u>. [accessed 6 February 2025].

<sup>&</sup>lt;sup>1008</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1009</sup> Note: The study was with 13 'vulnerable' children, which here means children who, when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>1010</sup> The report describes the experience of one 13-year-old child who was a member of several local groups known for sharing and reposting local "drama", as well as violent or graphic content. Source: Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>1011</sup> Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>1012</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

research also found that violent content was being unexpectedly shared in other innocuous groups that were not specifically labelled as being for violent content.<sup>1013</sup>

- 7.79 Evidence indicates that some children are joining group chats dedicated to sharing violent content, often fighting content.<sup>1014</sup> This can be due to a desire to stay up-to-date with fights that have recently taken place, without having to rely on their friends to send them the content, highlighting how the importance of peer influence for children can increase the risk of their engaging with violent content.<sup>1015</sup>
- 7.80 Evidence suggests that violent content being shared in groups can contribute to provoking further violence offline, due to the increased speed of escalation of conflict and the threat of loss of reputation.<sup>1016</sup> A study from Crest Advisory highlighted how the ease with which users can be added or removed from conversations, while simultaneously engaging in many others, increases the speed in which threats of violence escalate online, compared to what would have been feasible offline.<sup>1017</sup>
- 7.81 As with direct messaging, some gaming services include functionalities which enable users to talk to each other in groups while gaming. These group chats can be a source of violent messaging: Ofcom research found that children had received violent messages in such chats from other users while playing.<sup>1018</sup>

#### **Encrypted messaging**

7.82 The evidence suggests that violent content is being shared in encrypted messages due to the perception that this route offers protection against enforcement or moderation. A UK study into gang violence in London reported that participants believe there has been an increase in encrypted and ephemeral messaging services in the context of gang violence, due to the belief that these services cannot be monitored by law enforcement.<sup>1019</sup>

#### Ephemeral messaging<sup>1020</sup>

7.83 The evidence suggests that children are viewing and sharing violent content via disappearing messages as these allow the content to be seen, but then removed before it can be reported.<sup>1021</sup> A study exploring what vulnerable children from disadvantaged communities aged 14-17 are seeing on social media reported that children perceive services with ephemeral messaging to be a "safer" place for the sharing of violent content, because most messages disappear after they are viewed.<sup>1022</sup>

<sup>&</sup>lt;sup>1013</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1014</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1015</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1016</sup> Revealing Reality, 2023. <u>Anti-social Media.</u>

<sup>&</sup>lt;sup>1017</sup> Crest Advisory (Caluori et al.), 2022. <u>Fixing Neverland.</u>

<sup>&</sup>lt;sup>1018</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1019</sup> Participants in the study consisted of ex-gang members, gang-affected youth, police officers and criminal justice workers, local authority workers (community safety, education, early help and terrorism prevention) and voluntary sector grassroots workers. Source: Whittaker et al., 2020. <u>No two gangs alike: The digital divide in street gangs' differential adaptations to social media</u>.

<sup>&</sup>lt;sup>1020</sup> User-to-user service functionality that that allows users to send messages that are automatically deleted after they are viewed by the recipient, or after a prescribed period of time has elapsed.

<sup>&</sup>lt;sup>1021</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1022</sup> Revealing Reality, 2023. <u>Anti-social Media</u>.

#### Commenting on content and reacting to content

7.84 As noted previously, violent content can often go viral. Virality can encourage the creation and sharing of new violent content, as the engagement the content receives can be perceived to validate or normalise the behaviours depicted.<sup>1023</sup> Ofcom research into violent content online reported how some children aged 8-17 shared violent content to gain popularity, due to the likes and comments such posts would generate.<sup>1024</sup>

#### **Posting content**

- 7.85 The ability to post content, particularly videos, poses a risk because content depicting violence, such as peer fights, can be posted in public settings that may reach a large audience. Posting in this way risks provoking retaliation in the form of further filming and sharing of violence between peers. Ofcom research into violent content found that local school and street fighting, and violent gang-related content, were often shared as stories and posts on messaging, video-sharing and social media services.<sup>1025</sup> A study in West Yorkshire among children and young adults aged 11-25 reported on children filming playground fights and the footage being shared on social media.<sup>1026</sup>
- 7.86 Evidence suggests that violent content is being posted on services where the post disappears after a certain time period, such as 'stories' that disappear after 24 hours. This may risk more extreme violent content being shared using this functionality, due to the perception that the content will be harder to moderate. A Revealing Reality study, focusing on what vulnerable children aged 14-17 from disadvantaged backgrounds were encountering on social media, reported that several children perceive services where most content disappears after being viewed, or after a certain time period, "to be a 'safe' place for people to share illicit or illegal content".<sup>1027</sup>

#### **Reposting and forwarding content**

7.87 The evidence suggests that children are reposting and forwarding violent content, which is contributing to the spread of the content online. Ofcom research reported that children describe it as "second nature" to screenshot or screen-record violent content they see online and then repost or share the content.<sup>1028</sup>

#### **Content exploring**

#### User-generated content searching<sup>1029</sup>

7.88 Evidence suggests that children are searching for content they have heard about offline to satisfy their curiosity, and so as not to feel left out. Ofcom research found that, for children seeking out violent content, On-platform searching was most commonly mentioned, particularly to search for more extreme violent content that they thought they were less likely to see through a recommender system or without searching for it.<sup>1030</sup>

<sup>&</sup>lt;sup>1023</sup> Vannucci, A., Simpson, E., Gagnon, S. and Ohannessian, C., 2020. <u>Social media use and risky behaviors in</u> <u>adolescents: A meta-analysis</u>, *Journal of Adolescence*, 79 (1). [accessed 28 March 2025].

<sup>&</sup>lt;sup>1024</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1025</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1026</sup> Social Finance, 2022. <u>Social media, psychological harm and violence among young people</u>.

<sup>&</sup>lt;sup>1027</sup> Revealing Reality, 2023. <u>Anti-social Media</u>.

<sup>&</sup>lt;sup>1028</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1029</sup> User-generated content searching refers to a user-to-user service functionality allowing users to search for user-generated content by means of a user-to-user service.

<sup>&</sup>lt;sup>1030</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

#### **Content tagging**

- 7.89 Content tagging can make violent content easily accessible to children who seek it. Ofcom research found that children were using content tags warning users of inappropriate content in order to search for violent content.<sup>1031</sup>
- 7.90 Users can create violent videos and disguise the true nature of the content both by initially mimicking age-appropriate content, and mis-labelling the content.<sup>1032</sup> The use of content tagging in this way heightens the risk that children seeking age-appropriate content will be unintentionally exposed to violent content. A study of disturbing content on a popular video-sharing service found that disturbing or restricted videos used the same tags as videos suitable for children.<sup>1033</sup>

#### Hyperlinking

7.91 Hyperlinks are used to share violent content, facilitating the spread of such content across services. Ofcom research found that links were commonly used in both direct messages and group chats, and often resulted in children unwittingly watching violent content when they were not aware of what the link contained.<sup>1034</sup> Children described how friends thought it was funny to surprise them with content in this way, reflecting the pressure children can feel to find such content amusing.

#### **Content storage and capture**

#### Screen capturing or recording

7.92 As discussed above, evidence suggests that it is "second nature" for children to screencapture and record content shared in ephemeral or encrypted messaging, thereby allowing them to replay, forward and repost the content.<sup>1035</sup> <sup>1036</sup> This enables the spread of the

<sup>&</sup>lt;sup>1031</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1032</sup> Papadamou K., Papasavva, A., Zannettou, S., Blackburn, J., Kourtellis, N., Leontiadis, I., Stringhini, G. and Sirivianos, 2019. <u>Disturbed YouTube for Kids: Characterizing and Detecting Disturbing Content on YouTube</u>. [accessed 17 April 2023]. Subsequent references to this report throughout. An Ofcom study exploring how people are harmed online also found examples of adults accidentally watching violent content that had been mislabelled. For example, one user described thinking he was watching a piece of content about Game of Thrones that had a spoiler alert tag, but it was actually gore content. Even as an adult aged 26-30, this exposure made him feel anxious, revolted and guilty. Source: Ofcom, 2022. <u>How people are harmed online:</u> testing a model from a user perspective. [accessed 19 March 2025].

<sup>&</sup>lt;sup>1033</sup> The study defines 'disturbing' as "when it targets toddlers but it contains sexual hints, depiction of unusual eating habits (e.g., eating big portions of junk food), children driving, child abuse (e.g., children hitting each other), scream and horror sound effects, scary scenes or characters (e.g., injections, attacks by insects, etc.)". 'Restricted' is defined as "when it contains content that is inappropriate for individuals under the age of 17. Such videos usually contain sexually explicit language, graphic nudity, pornography, violence (e.g., gaming videos featuring violence like God of War, or life-like violence, etc.), abusive/inappropriate language, online gambling, drug use, alcohol, or upsetting situations and activities". The name of a well-known superhero was found in 28.7% of disturbing videos and 58% of restricted videos; similarly, 'superhero' itself appeared in 31.6% and 53.4% of disturbing and restricted videos respectively. Source: Papadamou et al., 2019. <u>Disturbed YouTube for Kids: Characterizing and Detecting Disturbing Content on YouTube.</u>

<sup>&</sup>lt;sup>1034</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1035</sup> Revealing Reality's study on vulnerable children aged 13-17 described how 'stories' were often screenrecorded to be shared more widely. As a result, participants reported that videos of fights between peers could re-emerge years after they were first shared and recirculated. Source: Revealing Reality, 2023. <u>Antisocial Media</u>; Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1036</sup> While users can often screen-record or capture content using third-party services, screen recordings and captures are shared on user-to-user services as user-generated content, and some user-to-user services have dedicated screen-recording and screen-capturing functionalities.

content and can increase the number of children who see it and may be harmed by it. In the context of street fighting and gang violence, this functionality also risks increasing the likelihood of retaliation, due to the increased scale of the audience and the need to defend reputational status.<sup>1037</sup>

#### **Recommender systems**

#### Content recommender systems

- 7.93 Services which deploy content recommender systems<sup>1038</sup> could be at a higher risk for suggesting violent content to children. Refer to Section 16: Wider context to understanding risk factors for more information on how recommender systems work and how they can pose a risk to children.
- 7.94 Children are being recommended violent content without searching for it. Ofcom research reported that recommender systems were generally stated as the main way in which children encountered violent content without seeking it out, largely from users they do not already have a connection with. Children said they felt they had no control over the content they were recommended, and therefore seeing more violent content felt inevitable.<sup>1039</sup>
- 7.95 Auto-play functions have also been identified as increasing the risk of accidental exposure to violent content. Research commissioned by DCMS among children and young adults aged 9-18 found that children sometimes review the comments sections to assess whether they want to view the content, and auto-play was seen to take away this agency, particularly on services where content is auto-played without comments being visible.<sup>1040</sup>
- 7.96 Users can upload videos with violent themes featuring popular cartoon characters. Due to the similarity between these videos and age-appropriate content, this can increase the risk that recommender systems will inadvertently promote violent content to children. A study into content targeted at toddlers on a popular video-sharing service estimated that there is a 45% chance that a toddler who starts watching non-disturbing videos will be recommended inappropriate ones within ten recommendations.<sup>1041</sup>
- 7.97 There is a culture of sharing violent content among children, with some actively searching for it. Recommender systems are commonly designed to optimise user engagement, and learn about users' preferences through implicit user feedback (such as viewing content multiple times) and explicit user feedback (such as liking, sharing and commenting). Therefore, the level of engagement with violent content may lead these systems to

<sup>&</sup>lt;sup>1037</sup> Catch22, 2017. <u>Social Media as a Catalyst and Trigger for Youth Violence</u>.

<sup>&</sup>lt;sup>1038</sup> A content recommender system is an algorithmic system that determines the relative ranking of an identified pool of content, including regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside of the user's normal engagement pattern.

<sup>&</sup>lt;sup>1039</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1040</sup> Children described how seeing comments saying the video was "disgusting" could act as a signpost to avoid the content. Source: Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate</u> the impact of online harms on children.

<sup>&</sup>lt;sup>1041</sup> Papadamou et al., 2019. <u>Disturbed YouTube for Kids: Characterizing and Detecting Disturbing Content on</u> <u>YouTube.</u>

promote further content that is harmful to children. When harmful content is repeatedly encountered by a child, this may lead the child to experience cumulative harm.<sup>1042</sup>

<sup>&</sup>lt;sup>1042</sup> Cumulative harm can occur when harmful content – primary priority content (PPC), priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

# 8. Harmful substances content

#### Warning: this section contains references to content that may be upsetting or distressing.

#### Summary: Risk of harm from harmful substances content

In this section, we consider content that encourages a person to ingest, inject, inhale or in any other way self-administer (i) a physically harmful substance, or (ii) a substance in such a quantity as to be physically harmful.

This harm manifests online in several ways. The ingestion or consumption of harmful substances, such as illegal and controlled drugs, can be encouraged via the publication of posts and videos that actively or expressly encourage the use of a particular substance.

#### Risk factors: User base

The evidence we have assessed for this section suggests that the **age** of children impacts how children experience this harm.

#### Risk factors: Service types

Content promoting and encouraging the ingestion of harmful substances has been documented as manifesting on **social media and video-sharing** services. Due to the risks they present, these service types have been included in the Children's Risk Profiles.<sup>1043</sup>

#### Risk factors: Functionalities and recommender systems

Functionalities that increase the risk of harm include **posting content** and **content tagging**. These functionalities can increase the likelihood of children viewing and finding this form of content and therefore they have been included in the Children's Risk Profiles. Some other functionalities contribute to the dissemination of harmful substances content including **livestreaming** and **hyperlinks**.

# Introduction

- 8.1 This sub-section summarises our assessment of the risks of harm presented to children in different age groups by content which encourages a person to ingest, inject, inhale or in any other way self-administer a physically harmful substance, or a substance in such a quantity as to be physically harmful (risks of harm). This is a category of priority content that is harmful to children.
- 8.2 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the

<sup>&</sup>lt;sup>1043</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

Children's Register of Risks (Children's Register). 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.

- 8.3 We will use the term 'harmful substances content' to refer to this type of content throughout this section.
- 8.4 In the Guidance on Content Harmful to Children, we provide guidance on identifying harmful substances content. In summary, we consider physically harmful substances, or substances that may be harmful when used to excess, to include:
  - a) illegal drugs or psychoactive substances;
  - b) alcohol and tobacco products (which it is not legal to sell to children in the UK due to the fact they could cause them harm);
  - c) unregulated medicines, prescription medicines without a prescription, and nonprescription medicines in excess;
  - d) medical or cosmetic substances or treatments administered contrary to regulation; and
  - e) substances not intended for human consumption.
- 8.5 We consider harmful substances content to actively or expressly encourage the use of harmful substances, such as those listed above. This is likely to include a recommendation or call to action. Examples include content calling on users to try illegal drugs or psychoactive substances, content recommending abuse of steroids as part of a fitness regime, or directions for use of cosmetic products that regulation determines should be administered by qualified professionals. Refer to Section 9 of our Guidance on Content Harmful to Children for contextual detail and further examples of what Ofcom considers to be, or not to be, harmful substances content.
- 8.6 Children can also be encouraged to ingest, inhale or otherwise consume harmful substances as part of other harms to children discussed in this Children's Register, and details on these types of harmful content can be found in the relevant sections. These include harmful substances which are consumed:
  - a) as part of online challenges (Section 9: Dangerous stunts and challenges content),
  - b) in the encouragement or promotion of eating disorders (Section 4: Eating disorder content), and
  - c) in the context of suicide and self-harm content (Section 3: Suicide and self-harm content).
- 8.7 For evidence about illegal content that relates to these areas, refer to our <u>Illegal Harms</u>
   <u>Register of Risks</u> (Illegal Harms Register) (Section 13: Drugs and psychoactive substances,
   Section 15: Encouraging or assisting suicide (or attempted suicide) and Section 20:
   Encouraging or assisting serious self-harm).
- 8.8 The evidence base relating to harmful substances content is limited so some of the evidence we have described in this section relates to content which is broader than the definition of the ingestion of harmful substances in the Online Safety Act 2023 (the Act). For example, some of the evidence we include may not relate to content actively or expressly encouraging the use of harmful substances. Where such evidence has been included, it is because we consider it relevant to understanding the risk of harm from harmful substances content.

# How harmful substances content manifests online

- 8.9 This sub-section looks at how harmful substances content manifests online and how children in different age groups may therefore be at risk of harm.
- 8.10 Harmful substances content is present in a range of contexts and formats, often from users talking about their own experiences.<sup>1044</sup> This content can also appear in several spaces and communities. Some harmful substances are promoted as means to escape, and experience pleasure or 'highs', while others are promoted as a means to treat medical conditions or aesthetic concerns.
- 8.11 Some types of harmful substances content are designed to circumvent services' automated content moderation systems. An investigation into the promotion of the consumption of dangerous substances as 'natural' or 'herbal' abortion remedies found that text content encouraging the use of these substances as abortifacients<sup>1045</sup> was hidden within passages of unrelated text, or phrased as fake warnings, to bypass services' automated content moderation systems. Other posts promoting dangerous substances for these purposes use code words, deliberate misspellings and the replacement of letters with special characters or numbers to avoid detection by automated content moderation systems.<sup>1046</sup>

### Presence

- 8.12 Measuring the presence of any type of harmful substances content is challenging. However, evidence indicates that children are at risk of encountering several specific types of harmful substances content.
- 8.13 For example, nearly a third of 11-17-year-olds in Great Britain have encountered content promoting e-cigarettes. The campaign group Action on Smoking and Health's Smokefree GB Youth Survey 2024 found that 29% of 11-17-year-olds were aware of e-cigarettes being promoted online. The report notes that some of the most common places participants reported seeing e-cigarettes promoted online were popular video-sharing and social media services. Of the 11-17-year-olds who reported seeing e-cigarettes promoted online, the most common service reported was on TikTok, accounting for almost half (52%), followed by YouTube (32%), Instagram (28%) and Snapchat (25%), and Google (23%).<sup>1047</sup>
- 8.14 Evidence also indicated that children were encountering content relating to medical treatments or enhancements that are illegal, or which can present a risk of harm if not administered by qualified individuals. An investigation into the promotion of the abuse of steroids and steroid-like drugs to teenagers on a popular video-sharing service found that

 <sup>&</sup>lt;sup>1044</sup> Rutherford, B. N., Lim, C. C. W., Johnson, B., Cheng, B., Chung, J., Huang, S., Sun, T., Leung, J., Stjepanović, D. and Chan, G. C. K., 2023. <u>#TurntTrending: a systematic review of substance use portrayals on social media</u> platforms, *Addiction*, 118(2), pp.206-217. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1045</sup> A substance that is associated with increased abortion incidence.

<sup>&</sup>lt;sup>1046</sup> Sadeghi, M. and Pavilonis, V., 2022. <u>Special Report: Videos Promoting Dangerous Herbal Abortions</u> <u>Continue To Circulate on TikTok Despite Platform's Pledge To Crack Down, NewsGuard Finds</u>. NewsGuard, 25 July. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1047</sup> Action on Smoking and Health, 2024. <u>Use of e-cigarettes (vapes) among young people in Great Britain</u>, [accessed 11 November 2024]; Action on Smoking and Health, 2024. <u>UK policy on smoking and vaping</u>. [accessed 11 November 2024].

many of the videos posted included first-hand accounts of the use of these substances.<sup>1048</sup> There is some limited evidence to suggest that children could be able to encounter content encouraging viewers to pursue cosmetic treatments, including the injection of botulinum toxin and hyaluronic acid fillers, which are illegal for practitioners to administer to under 18s in England.<sup>1049</sup>

- 8.15 Other content falsely promotes potentially harmful substances as medical treatments. For example, a report from the Institute for Strategic Dialogue found that content promoting self-administered abortion 'reversal' remedies<sup>1050</sup> continues to be found on social media services, with false information about abortions found in text posts, videos and image-based posts.<sup>1051</sup> Another example is content promoting the consumption of highly concentrated alcohol to 'disinfect' the body and kill the Covid-19 virus. While there is no direct evidence of children encountering this specific content, its presence on user-to-user services suggests that children may be at risk of encountering it, or similar content.<sup>1052</sup>
- 8.16 Evidence also shows that image- and performance-enhancing drugs are being sold online, 1053 and therefore children could be encountering this content. An investigation by the Center for Countering Digital Hate (CCDH) into the promotion of the use of steroids and steroid-like drugs found that videos posted on popular video-sharing services targeted teenagers, encouraging them to take steroids or steroid-like drugs to achieve body-building goals.<sup>1054</sup>

<sup>&</sup>lt;sup>1048</sup> Note: We have considered the limitations of this study when presenting its findings. While the report did find evidence of hashtags and language within video posts being used to target teenagers, the report authors could not access data on service users under 18, and so viewing figures in this report are for 18-24-year-olds. Source: CCDH, 2023. <u>TikTok's Toxic Trade: How TikTok promotes dangerous and potentially illegal steroids and steroid-like drugs to teens</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.
<sup>1049</sup> Note: This was a limited exercise and its findings should be treated as indicative only. To test how available these videos are to young teenagers, ITV News created a TikTok account as a 14-year-old female and found videos promoting lip fillers were recommended to the account via the For You page within 15 minutes. Source:

ITV, 2021. <u>'Predatory' plastic surgeons are targeting young teenagers on TikTok</u>. [accessed 3 March 2025]; Department of Health & Social Care, 2021. <u>Guidance: Botulinum toxin and cosmetic fillers for under 18s</u>. [accessed 3 March 2025].

 <sup>&</sup>lt;sup>1050</sup> These remedies promise to reverse the effects of an abortion pill. It is reasonable to infer that if a child encounters such content, this could lead the child to physical harm, as well as psychological harm.
 <sup>1051</sup> Institute for Strategic Dialogue (Martiny, C., Visser, F., Jones, I. and Castillo Small, A.), 2022. <u>Analysis of Social Media Platform's Response 100 Days After US Supreme Court Decision Overturning Roe V. Wade</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1052</sup> Note: After following this suggested 'disinfection' method, approximately 800 people have died, 5,876 people have been hospitalised and 60 developed blindness after drinking methanol as a cure for Covid-19. Source: Islam, M. S., Sarkar, T., Khan, S. H., Mostofa Kamal, A. H., Hasan, S. M. M., Kabir, A., Yeasmin, D., Islam, M. A., Amin Chowdhury, K. I., Anwar, K. S., Chughtai, A. A. and Seale, H., 2020. <u>COVID-19-Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis</u>, *American Journal of Tropical Medicine and Hygiene*, 103 (4), pp. 1621-1629. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1053</sup> A US investigation in 2019 by the US-based Digital Citizens Alliance found that potentially dangerous appearance and performance enhancing drugs can be bought online. Note: We have considered the limitations of study when presenting its findings. The US-based Digital Citizens Alliance purchased the drugs online as an experiment and in the report shared their findings and policy recommendations. Source: Digital Citizens Alliance, 2019. <u>Digital Platforms on Steroids: How Facebook and Google Enable the Sale of Illegal</u> <u>Appearance and Performance Enhancing Drugs</u>. [accessed 14 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1054</sup> Note: We have considered the limitations of this study when presenting its findings. While the report did find evidence of hashtags and language within video posts being used to target teenagers, the report's authors

# Impacts

- 8.17 Encountering harmful substances content has several outcomes. Children who see such content risk not understanding the potentially harmful outcomes of substance use. The impacts include engaging in harmful substance-related behaviours that adversely affect health and potentially result in loss of life in worst-case scenarios.
- 8.18 Harmful substances content can also be mistaken for accurate information on disease prevention and control, or other medical treatments. This can have serious consequences for an individual's physical wellbeing, and public health, if acted upon, especially if the alleged 'treatment' is not only ineffective, but physically harmful. Examples include the consumption of concentrated alcohol to treat Covid-19, and some substances promoted as methods for 'herbal' or 'natural' abortions causing damage to internal organs like the kidneys or liver.<sup>1055</sup>
- 8.19 Image- and performance-enhancing drugs being sold online could lead to significant negative side effects. The NHS website states that regularly taking anabolic steroids, <sup>1056</sup> which copy the effects of the male hormone testosterone, can lead to physical and psychological changes (e.g., infertility, depression, aggressive behaviour and paranoia), as well as potentially dangerous medical conditions, such as heart attacks, strokes and liver and kidney failure.<sup>1057 1058</sup>
- 8.20 In the worst cases, children can be encouraged to consume substances that lead to serious injury or loss of life.<sup>1059</sup> There are examples of this happening when children consume harmful substances, or harmful quantities of a substance, in the context of challenges. In the US, a 14-year-old girl was found to have died following ingesting a large amount of

could not access data on service users under 18, so viewing figures in this report are for 18-24-year-olds. Source: CCDH, 2023. <u>TikTok's Toxic Trade: How TikTok promotes dangerous and potentially illegal steroids and steroid-like drugs to teens</u>.

 <sup>&</sup>lt;sup>1055</sup> Sadeghi, M. and Pavilonis, V., 2022. <u>Special Report: Videos Promoting Dangerous Herbal Abortions</u>
 <u>Continue To Circulate on TikTok Despite Platform's Pledge To Crack Down, NewsGuard Finds</u>. NewsGuard, 25
 July.

<sup>&</sup>lt;sup>1056</sup> According to the NHS, anabolic steroids are prescription-only medicines that are sometimes taken without medical advice to increase muscle mass and improve athletic performance. If used in this way, they can cause serious side effects and addiction. Anabolic steroids are manufactured drugs that copy the effects of the male hormone testosterone. They have limited medical uses and are not the same as corticosteroids, a different type of steroid drug that's more commonly prescribed. Source: NHS, n.d. <u>Anabolic Steroid Misuse</u>. [accessed 18 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1057</sup> NHS, n.d. <u>Anabolic Steroid Misuse</u>.

<sup>&</sup>lt;sup>1058</sup> The organisation UK Anti-Doping also provides information about the negative physical and psychological effects of steroid-like substances. Source: UK Anti-Doping, n.d. <u>Image and Performance Enhancing Drugs</u>. [accessed 17 December 2024].

<sup>&</sup>lt;sup>1059</sup> In the US, a 17-year-old boy reportedly died by suicide after using anabolic steroids. His parents believe that his death was related to depression that he felt upon discontinuing the use of anabolic steroids. Source: The Taylor Hooton Foundation, n.d. <u>The Taylor Hooton Foundation - Who We Are</u>. [accessed 14 February 2025]; Digital Citizens Alliance, 2019. <u>Digital Platforms on Steroids: How Facebook and Google Enable the Sale of Illegal Appearance and Performance Enhancing Drugs</u>; Digital Citizen Alliance and the Taylor Hooton Foundation, n.d. <u>Better at any cost: The dangerous intersection of young people, steroids, and the internet</u>. [accessed 18 February 2025].

diphenhydramine while taking part in a video-sharing service challenge.<sup>1060</sup> See Section 9: Dangerous stunts and challenges content for more information on online challenges.

- 8.21 Harmful substances content can confuse children about the age-appropriateness and safety of some acts that they see other children participating in online, such as smoking tobacco products or nicotine vaping. Both these acts have harmful health implications, and it is illegal to sell children tobacco or nicotine products in the UK. A UK study commissioned in 2022 by the Department for Digital Culture, Media & Sport (DCMS) on online harms experienced by children and young adults aged 9-18 found that participants questioned the 'illegality' of acts like vaping for children because they frequently saw their peers displaying these behaviours in social media posts.<sup>1061</sup> Another study argues that greater use of social media is associated with an increased willingness and intention to use e-cigarettes, a more positive attitude towards them, and lower perceived danger from their use (though this study used advertising-style posts to investigate this).<sup>1062</sup> While some of these studies relate to content that includes paid-for advertisements and may not include active or express encouragement, they demonstrate how content relating to harmful substances can create false perceptions about the legality and safety of certain substances. Moreover, some advertising content which promotes harmful substances such as alcohol and tobacco products may meet the definition of user-generated content under the Act, such as sponsored content shared by influencers. Refer to our Section 9 of our Guidance on Content Harmful to Children for more detail.
- 8.22 The use of substances such as alcohol, e-cigarettes and tobacco-based products carry risk of addiction and harmful health impacts. The NHS states that the use of nicotine (which is found in cigarettes, some e-cigarettes and other tobacco-based products) presents a higher risk to young people (including children) than adults, as evidence suggests that their developing brains are more susceptible to nicotine's addictive effects.<sup>1063</sup>

# **Evidence of risk factors on user-to-user services**

8.23 We consider that the risk factors discussed in this sub-section may increase the risks of harm to children relating to content that encourages the ingestion or other self-administration of harmful substances. This is also summarised in the summary box at the start of this section.

<sup>&</sup>lt;sup>1060</sup> Elkhaszeen, A., Poulos, C., Zhang, X., Cavanaugh, J. and Cain, M., 2021. <u>A TikTok "Benadryl Challenge"</u> <u>death – A case report and review of the literature</u>, *Journal of Forensic Science*, 68, pp. 339-342. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1061</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>. [accessed 28 March 2025]. Subsequent references to this source throughout. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

 <sup>&</sup>lt;sup>1062</sup> Note: We have considered the limitations of this study when presenting its findings. The study presented
 135 participants aged 13-18 in California with social media (peer or advertisement) posts to then examine their
 beliefs, willingness and intention to use e-cigarettes. Source: Vogel, E. A., Ramo, D. E., Rubinstein, M. L.,
 Delucchi, K. L., Darrow, S. M., Costello, C. and Prochaska, J. J., 2021. Effects of Social Media on Adolescents'
 Willingness and Intention to Use E-Cigarettes: An Experimental Investigation, Nicotine & Tobacco Research, 23
 (4), pp.694-701. [accessed 28 March 2025]. Subsequent references to this source throughout.
 <sup>1063</sup> NHS, 2024. Young people and vaping. [accessed 28 March 2025].

# **Risk factors: User base**

#### User demographics

- 8.24 The following sub-section outlines key evidence of user base demographic factors and risks of harm, which can include protected characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 8.25 Research suggests that user base characteristics, including **age** and **gender**, could lead to an increased risk of harm to children.

#### Age

- 8.26 There is limited evidence of different age groups being at disproportionate risk of harm from this content. However, it is likely that some age groups will be more susceptible to the influence of encountering this type of content online given their developmental stage.
- 8.27 The onset of puberty (within the transition years 10-12) drives neurobiological changes that influence cognitive development and increase risk-taking and impulsive behaviour. This continues into adolescence (13-15 years old) when peer influence becomes particularly important, risk taking and impulsive behaviour increase, and teenagers develop and assert their personalities by making choices, for example, about their interests. See Section 17: Recommended age groups for more detail. The presence of harmful substances content online, particularly if among peer groups or children of similar ages are actively encouraging use of substances, is likely to normalise this behaviour, make it appear socially acceptable to children and thereby encourage consumption.
- 8.28 While not directly linked to online content, there is evidence to suggest older children are more likely to consume harmful substances. NHS data shows the number of children in England having ever had an alcoholic drink increases with age, from 13% of 11-year-olds to 65% of 15-year-olds.<sup>1064</sup> Another survey shows the same in relation to smoking e-cigarettes (15% for 11-15-year-olds to 34% for 16-17-year-olds).<sup>1065</sup>

#### Gender

8.29 Gender differences in children's vulnerability to content promoting harmful substances vary according to the type of substance. We can infer that girls may be more vulnerable to content promoting abortion 'reversal' pills or fake abortion methods. Boys, meanwhile, may be more vulnerable to content promoting anabolic steroids, which copy the effects of the male hormone.<sup>1066</sup>

# **Risk factors: Service types**

8.30 Research suggests that children are at an increased risk of encountering content encouraging the ingestion of dangerous substances on the following service types: **social** 

<sup>&</sup>lt;sup>1064</sup> NHS, 2022. <u>Smoking, Drinking and Drug Use among Young People in England, 2021</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1065</sup> Action on Smoking and Health, 2023. <u>Use of e-cigarettes (vapes) among young people in Great Britain</u>. [accessed 17 January 2024].

<sup>&</sup>lt;sup>1066</sup> The NHS website states that "people of all ages have been known to misuse these drugs, including adolescent boys who suffer from body dysmorphic disorder [...]. People who have body dysmorphic disorder may take anabolic steroids because they do not see themselves as being physically big enough or strong enough." Source: NHS, n.d. <u>Anabolic Steroid Misuse</u>.

**media services** and **video-sharing services**. A user-to-user service may simultaneously include more than one service type, and some might also be a feature of a wider service.

#### Service type

#### Social media services

- 8.31 Evidence suggests that children are likely to encounter harmful substances content on social media services, and that the use of social media services can result in increased intention to use some harmful substances.
- 8.32 One in four 16-24-year-olds (24%) report seeing illicit drugs for sale on social media. Most of these (72%) reported that they had seen illegal drugs advertised for sale on social media websites or apps about once a month or more often.<sup>1067</sup> While these adverts are illegal (see Section 13: Drugs and psychoactive substances in our <u>Illegal Harms Register</u>), their presence reflects the quantity of drug-related content that children encounter online, some of which may be generally promoting the consumption of substances, as opposed to selling them, and so contributing to the normalisation of substance use.
- 8.33 As noted earlier, another study argues that greater use of social media is associated with a greater willingness and intention to use e-cigarettes, as well as more positive attitudes and lower perceived danger from e-cigarette use.<sup>1068</sup>

#### Video-sharing services

- 8.34 Evidence suggests that children can encounter harmful substances content on video-sharing services. An investigation by the CCDH into the promotion of the use of steroids and steroid-like drugs found that videos posted on popular video-sharing services targeted teenagers (see sub-section 'Posting content'), encouraging them to take steroids or steroid-like drugs to achieve body-building goals.<sup>1069</sup>
- 8.35 An investigation into the promotion of 'natural' or 'herbal' abortions on a video-sharing service, including promoting the ingestion of substances to induce abortion, identified 102 videos promoting herbal recipes to induce abortions.<sup>1070</sup>
- 8.36 There are cases in which online content encourages the ingestion of harmful substances as part of a challenge, and these indicate that this content is being posted and encountered on video-sharing services. As noted above, a case report into the death of a 14-year-old girl in the US, who died after ingesting a large amount of diphenhydramine while taking part in a video-sharing service challenge, noted that this challenge encouraged children and teens to

<sup>&</sup>lt;sup>1067</sup> Volteface (McCulloch, L. and Furlong, S.), 2019. <u>DM for Details: Selling Drugs in the Age of Social Media</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1068</sup> Note: The study presented 135 participants aged 13-18 in California with social media (peer or advertisement) posts to then examine their beliefs, willingness and intention to use e-cigarettes. Source: Vogel et al., 2021. Effects of Social Media on Adolescents' Willingness and Intention to Use E-Cigarettes: An Experimental Investigation, Nicotine & Tobacco Research, 23 (4), pp.694-701. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1069</sup> Note: We have considered the limitations of this study when presenting its findings. While the report did find evidence of hashtags and language within video posts being used to target teenagers, the report's authors could not access data on service users under 18, so viewing figures in this report are for 18-24-year-olds. Source: CCDH, 2023. <u>TikTok's Toxic Trade: How TikTok promotes dangerous and potentially illegal steroids and</u> <u>steroid-like drugs to teens</u>.

<sup>&</sup>lt;sup>1070</sup> Note: The study found that 102 herbal abortion videos remained on the service as of July 2019. Source: Sadeghi, M. and Pavilonis, V., 2022. <u>Special Report: Videos Promoting Dangerous Herbal Abortions Continue To</u> <u>Circulate on TikTok Despite Platform's Pledge To Crack Down, NewsGuard Finds</u>. NewsGuard, 25 July.

record themselves taking large amounts of these substances, and to publish the results on video-sharing services.<sup>1071</sup>

# **Risk factors: Functionalities and recommender systems**

#### User communication

#### Livestreaming

8.37 Studies have found that users sometimes post livestreams of themselves after ingesting a drug or psychoactive substance, with some showcasing the 'high' after consumption, which may encourage viewers to try the substance for themselves. However, it is important to note that these streams do not necessarily promote the taking of the drug, and some serve as warnings or cautionary tales, highlighting the negative impacts of drug use.<sup>1072</sup>

#### **Posting content**

- 8.38 Posting content is fundamental to the risk of children encountering harmful substances content. A systematic review of studies covering a large sample of substance-related posts on various social media and video-sharing services found that a majority of this content was positive in its depiction of substance use.<sup>1073</sup>
- 8.39 Images and videos can often be posted to depict and promote the ingestion of harmful substances. For instance, a report from the Institute for Strategic Dialogue found that content promoting self-administered abortion 'reversal' remedies continues to be found on social media services, with false information about abortions found in posts. These posts typically contained videos and images.<sup>1074</sup> An investigation into the promotion of steroids and steroid-like drugs on a video-sharing site by campaign group the CCDH found evidence of child users posting videos claiming to use these substances to achieve body-building goals, potentially creating an environment in which under 18s encourage each other to abuse these substances.<sup>1075</sup>

#### **Content tagging**

8.40 Hashtags can be used to direct children to content promoting the ingestion of harmful substances. An investigation into the promotion of steroids and steroid-like drugs to teens on a popular video-sharing service found that some influencers used hashtags (including 'teen') to target teenage audiences with content encouraging the use of these drugs. The investigation found that US users aged 18-24 had viewed videos promoting steroid-like drug abuse up to 420 million times over the last three years. While this service does not provide

<sup>&</sup>lt;sup>1071</sup> Elkhaszeen et al., 2021. <u>A TikTok "Benadryl Challenge" death – A case report and review of the literature</u>, *Journal of Forensic Science*, 68, pp. 339-342.

<sup>&</sup>lt;sup>1072</sup> Miliano, C., Margiani, G., Fattore, L. and De Luca, M. A., 2018. <u>Sales and Advertising Channels of New</u> <u>Psychoactive Substances (NPS): Internet, Social Networks, and Smartphone Apps</u>, *Brain Sciences*, 8 (7). [accessed 10 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1073</sup> Rutherford et al., 2023. <u>#TurntTrending: a systematic review of substance use portrayals on social media</u> <u>platforms</u>, *Addiction*, 118(2), pp.206-217.

<sup>&</sup>lt;sup>1074</sup> Institute for Strategic Dialogue (Martiny et al.), 2022. <u>Analysis of Social Media Platform's Response 100</u> <u>Days After US Supreme Court Decision Overturning Roe V. Wade</u>.

<sup>&</sup>lt;sup>1075</sup> Note: We have considered the limitations of this study when presenting its findings. While the report did find evidence of hashtags and language within video posts being used to target teenagers, the report authors could not access data on platform users under 18, and so viewing figures in this report are for 18-24-year-olds. Source: CCDH, 2023. <u>TikTok's Toxic Trade: How TikTok promotes dangerous and potentially illegal steroids and</u> <u>steroid-like drugs to teens</u>.

data on the number of views by users aged under 18, these figures suggest that there could be a younger audience for these videos, due both to the high number of views and the high level of use of this service by under 18s.<sup>1076</sup>

- 8.41 Research has found that specific hashtags are being used on posts about new psychoactive substances, and these hashtags can be used to find content about these substances on social networks.<sup>1077</sup> The promotion of this content increases the risk that children will encounter it.
- 8.42 Users posting harmful substances content to social media and video-sharing services can also use obfuscation to prevent these services removing content that violates their terms of service. For example, posts promoting dangerous substances for use as 'herbal' or 'natural' abortion methods use code words, deliberate misspellings and the replacement of letters with special characters or numbers to avoid detection by automated content moderation systems.<sup>1078</sup>

#### Hyperlinking

8.43 Hyperlinks can increase the risk of harm from exposure to substance-related content by directing children to buy the substance in question. An investigation into the promotion of the abuse of steroids and steroid-like drugs to teens and young people on a popular video-sharing service in the US found that videos encouraging teenagers to hide the use of these substances from their parents were sometimes accompanied by hyperlinks to websites selling these drugs, and a promotional code to reduce their cost.<sup>1079</sup> In these cases, hyperlinks can sometimes lead children to illegal content (see our <u>Illegal Harms Register</u>, Section 13: Drugs and psychoactive substances).

#### **Recommender systems**

#### Content recommender systems

8.44 Services which deploy content recommender systems<sup>1080</sup> could be at higher risk for recommending and suggesting harmful substances content to children. Detailed explanation on how recommender systems work and how they can pose a risk to children is set out in Section 16: Wider context to understanding risk factors.

<sup>&</sup>lt;sup>1076</sup> CCDH, 2023. <u>TikTok's Toxic Trade: How TikTok promotes dangerous and potentially illegal steroids and</u> <u>steroid-like drugs to teens</u>.

<sup>&</sup>lt;sup>1077</sup> Miliano et al., 2018. <u>Sales and Advertising Channels of New Psychoactive Substances (NPS): Internet, Social</u> <u>Networks, and Smartphone Apps</u>, *Brain Sciences*, 8 (7).

<sup>&</sup>lt;sup>1078</sup>Sadeghi, M. and Pavilonis, V., 2022. <u>Special Report: Videos Promoting Dangerous Herbal Abortions</u> <u>Continue To Circulate on TikTok Despite Platform's Pledge To Crack Down, NewsGuard Finds</u>. NewsGuard, 25 July.

<sup>&</sup>lt;sup>1079</sup> Note: We have considered the limitations of this study when presenting its findings. While the report did find evidence of hashtags and language within video posts being used to target teenagers, the report authors could not access data on platform users under 18, and so viewing figures in this report are for 18-24-year-olds. Source: CCDH, 2023. <u>TikTok's Toxic Trade: How TikTok promotes dangerous and potentially illegal steroids and</u> <u>steroid-like drugs to teens</u>.

<sup>&</sup>lt;sup>1080</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and is outside of the user's normal engagement pattern.

- 8.45 Evidence suggests that children are encountering content promoting consumption of dangerous substances through recommender systems. Qualitative research commissioned by DCMS into the online harms experienced by children and young people aged between nine and 18 found that content promoting substances that are illegal or age-restricted products for children, including the sale and use of illegal drugs or substances, smoking, and drinking alcohol, appeared in the participants' 'recommended' feeds (feeds of content selected for users by service algorithms). Children and young people reported skipping past or clicking 'not interested' to try to stop the algorithms presenting this content to them. One participant in the case study featured in this research reported that this content reappeared in their feed after about a year.<sup>1081</sup> An investigation by the US-based Digital Citizens Alliance also found examples of steroids-related content being promoted on a popular social media service, which users, including children, could be exposed to.<sup>1082</sup>
- 8.46 When harmful content is repeatedly encountered by a child, this may lead the child to experience 'cumulative harm'.<sup>1083</sup> In this context, the cumulative impact of harmful substances content is related to the normalisation of the harmful behaviour it is reflecting. Normalising this behaviour among children is likely to encourage, or at least not discourage, children from consuming those harmful substances.

<sup>&</sup>lt;sup>1081</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>1082</sup> Note: We have considered the limitations of study when presenting its findings. The US-based Digital Citizens Alliance purchased appearance and performance enhancing drugs online as an experiment and in the report shared their findings and policy recommendations. Source: Digital Citizens Alliance, 2019. <u>Digital</u> <u>Platforms on Steroids: How Facebook and Google enable the sale of illegal appearance and performance</u> <u>enhancing drugs</u>.

<sup>&</sup>lt;sup>1083</sup> Cumulative harm can occur when harmful content – primary priority content (PPC), priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

# 9. Dangerous stunts and challenges content

Warning: this section contains references to content that may be upsetting or distressing, including mention of suicide.

#### Summary: Risk of harm from dangerous stunts and challenges content

In this section, we consider content that encourages, promotes or provides instructions for a challenge or stunt highly likely to result in serious injury to the person who does it, or to someone else.

This content typically manifests as videos, posted to social media or video-sharing services, but can also appear in image- and text-based content.

#### Risk factors: User base

Research suggests that boys are more likely than girls to participate in dangerous stunts and challenges, and also more likely to take part once they reach their teenage years.

#### Risk factors: Service types

Research suggests that **social media** and **video-sharing services** are service types which can increase the risk of dangerous stunts and challenges content appearing online. We have included these service types in the Children's Risk Profiles.<sup>1084</sup>

#### Risk factors: Functionalities and recommender systems

**Posting content, content tagging, user connections** and **content recommender systems**<sup>1085</sup> are functionalities that increase the risk of harm. Each of these functionalities helps raise children's awareness of dangerous stunts and challenges, whether through the depiction of participating in one of these stunts or challenges, or by inviting the child to participate through tagging their username. These functionalities have been included in the Children's Risk Profiles.

The ability to **react to content, commenting on content** and **repost or forward content** can also play a role in children encountering dangerous stunts and challenges content, as they can contribute to virality and encourage users to share this content.

<sup>&</sup>lt;sup>1084</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

<sup>&</sup>lt;sup>1085</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

# Introduction

- 9.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by content on user-to-user services which encourages, promotes or provides instructions for a challenge or stunt highly likely to result in serious injury to the person who does it or to someone else (risk of harm). This kind of content has been designated as priority content that is harmful to children (PC).<sup>1086</sup>
- 9.2 We set out the characteristics of user-to-user services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks (Children's Register). 'Harm' means physical or psychological harm. Harm can also be cumulative<sup>1087</sup> or indirect.
- 9.3 This section will use the phrase 'dangerous stunts and challenges' to refer to the content described above, or 'challenge content' to describe content depicting challenges more broadly.
- 9.4 Dangerous stunts and challenges are trending topics, and this content is commonly found on social media services. The challenges or stunts vary, and it is important to note that not all online challenges are dangerous. Some, like the amyotrophic lateral sclerosis (ALS) 'Ice Bucket Challenge', popular in 2014, encouraged social media users to pour ice-cold water over themselves and film it to raise money for ALS research. The challenge raised approximately \$135 million worldwide.<sup>1088</sup>
- 9.5 However, to encourage participation, online challenges are often designed to be enticing and/or exciting for children and young adults. This can manifest in popular challenges having an element of risk, with some challenges encouraging individuals to harm themselves, others or property.<sup>1089</sup> Examples of viral challenges include choking challenges, ingesting harmful substances or applying harmful substances to the skin. **Risks can range from minor physical harm to substantial injury, permanent harm, and in extreme cases death.**<sup>1090</sup>
- 9.6 In our Guidance on Content Harmful to Children, we provide guidance on identifying content depicting dangerous stunts and challenges, including examples of what Ofcom considers, or considers not to be, content depicting dangerous stunts and challenges.
   Dangerous stunt and challenges content involves people recording themselves online doing something that is difficult or risky, sometimes as part of a challenge. Examples

<sup>&</sup>lt;sup>1086</sup> Section 61(5) of the Online Safety Act 2023 (the Act).

<sup>&</sup>lt;sup>1087</sup> Cumulative harm can occur when harmful content – primary priority content (PPC), priority content (PC) or non-designated content (NDC) – is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>1088</sup> ALS Therapy Development Institute, n.d. <u>ALS Ice Bucket Challenge</u>. [accessed 28 March 2025]. Note: ALS stands for amyotrophic lateral sclerosis, which is a progressive neurodegenerative disease.

<sup>&</sup>lt;sup>1089</sup> UK Safer Internet Centre, 2024. <u>De-escalating and responding to harmful online challenges</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1090</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>. [accessed 28 March 2025]. Subsequent references to this source throughout. Note: This study was commissioned by TikTok.

include content encouraging or providing instructions for partaking in a stunt or challenge or content encouraging others to emulate stunts carried out by professionals that could cause serious injury if emulated. For more detail and contextual considerations, please refer to Section 10 of our Guidance on Content Harmful to Children.

9.7 Due to limitations in the evidence base available, some of the evidence described in this section relates to content broader than the definition of content depicting dangerous stunts and challenges in the Online Safety Act 2023 (the Act). For example, we have also included some evidence relating to challenges which may fall into other categories of harmful content. Challenges that encourage acts of self-harm or suicide would likely be considered 'suicide or self-harm content' (a primary priority type of content) or 'illegal content promoting suicide' (see 'Encouraging or assisting suicide (or attempted suicide)' in the <u>Illegal Harms Register of Risks</u>). These examples have been included because they provide useful insight into the characteristics of services that are relevant to the risk of children encountering content relating to dangerous stunts and challenges.

# How dangerous stunts and challenges content manifests online

- 9.8 This sub-section looks at how dangerous stunts and challenges content manifests online, and how children may be at risk of harm.
- 9.9 Dangerous stunts and challenges typically manifest as videos encouraging other users to attempt the same stunt or challenge. Harm is most likely to occur when children encounter this content and subsequently decide to participate or emulate the stunt or challenge. Harm can also occur when children decide to pass the challenge on to other children, including by directly sharing the content. Understanding the risk of harm includes considering both the risk of encountering this content, and the likelihood of children partaking in the challenge or emulating the stunt.
- 9.10 Children participate in harmful and non-harmful challenges for a variety of reasons. Gaining engagement from others on the content they post is an important motivating factor. A survey of 5,400 teenagers aged 13-19 in a variety of countries, including the UK, found that the most common reason teens took part in challenges was to gain views, comments and likes. Half of the teens in the survey included this as one of their top three reasons for participation (50%), and for 22% it was their top-ranking reason.<sup>1091</sup> A survey of adult and child participants in India into the motivations behind participation in viral online challenges found that respondents' likelihood of participation increased by 54% if an influencer had participated in the challenge.<sup>1092</sup>
- 9.11 Participating in challenges is associated more broadly with satisfaction and affirmation. A study of 10-14-year-olds found that 58% agreed that performing a dare or challenge made

<sup>&</sup>lt;sup>1091</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1092</sup> Note: Figures have been rounded so appear different to as in the report. The study sample of 259 included both adults and children, with participants split into the following age groups: under 18, 19-24 years old, 25-30 years old, 31-36 years old and over 36 years old. The study focused on participants aged 19-24 years old and 25-20 years old in India. Source: Shroff, N., Shreyass, G. and Gupta, D., 2021. <u>Viral Internet Challenges: A Study on the Motivations Behind Social Media User Participation</u>, in International Conference on Information and Communication Technology for Intelligent Systems, p.196. [accessed 28 March 2025].

them feel good.<sup>1093</sup> In a worldwide study among 13-19-year-olds, 46% of teens included 'impressing others' as one of their top three main reasons for participation.<sup>1094</sup>

- 9.12 Social pressure also drives desire to partake in a challenge. Children participate in challenges in the hope that others will do the same. The same study found that 71% of 10-14-year-olds liked others to follow and to perform the dare or challenge they had performed. The study also found that pressure from peers can also lead children to overcome their reluctance to participate in challenges. More than a third of respondents (36%) agreed that they had performed 'dares or challenges' which their friends or contacts on social media had asked them to do, with 21% agreeing that if their friends insisted they perform a dare or challenge which they did not initially want to do, they ended up doing it anyway. Almost a quarter said they did dares and challenges so as not to feel left out of their group of friends.<sup>1095</sup> A study of 30 US college students' participation in online challenges found that the social pressure to perform challenges took two forms: either direct encouragement from peers, or doing it as a way of seeking acceptance from peers.<sup>1096</sup>
- 9.13 These motivating factors can result in children overlooking the risks. The previously cited study of 10-14-year-olds found that 27% of those surveyed said they performed 'dares or challenges' that were 'fashionable', without thinking whether they were good or bad for them.<sup>1097</sup>
- 9.14 The functionalities that play a role in motivating participation in dangerous stunts and challenges (e.g., 'likes' as a signal of affirmation) may increase the risk of harm from this content. This is explored in detail in the 'Functionalities and recommender systems' subsection within this section.
- 9.15 Several functionalities also contribute to the virality of content, thereby encouraging dangerous stunts or challenges. Virality is defined as the degree to which online content spreads easily and/or quickly across many online users.<sup>1098</sup> High virality can increase the risk of harm from this content in several ways. If content encouraging dangerous stunts and challenges is widely shared, it increases the likelihood that children will encounter it. In the previously cited study, almost all participants were exposed to between 1 and 25 social media posts about the challenge before deciding to participate in it. Some participants had seen more than 50 social media posts before attempting the challenge, which may suggest that initial reluctance to perform a challenge can be reduced by repeated exposure to social

<sup>&</sup>lt;sup>1093</sup> Ortega-Barón, J., Machimbarrena, J. M., Montiel, I., González-Cabrera, J., 2022. <u>Viral internet challenges</u> <u>scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1094</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1095</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1096</sup> Note: The study held semi-structured interviews with 30 students at several US colleges aged 18-27. Source: Abraham, J., Roth, R., Zinzow, H., Madathil, K. and Wisniewski, P., 2022. <u>Applying Behavioral Contagion</u> <u>Theory to Examining Young Adults' Participation in Viral Social Media Challenges</u>, *ACM Transactions on Social Computing*, 5, pp.1-4. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1097</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1098</sup> Ofcom, 2023. <u>Evaluating recommender systems in relation to the dissemination of illegal and harmful</u> <u>content in the UK</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

media posts about it.<sup>1099</sup> If a challenge goes viral, and therefore has many participants, it could present a significant risk of harm even if it is only harmful in a minority of cases.

9.16 However, engagement with online challenges and stunts content can help children assess the dangers associated with these challenges. The evidence found that the most common methods used by teens to assess the risk of online challenges were to watch videos of people trying it, view comments and speak to friends about it.<sup>1100</sup>

## Presence

- 9.17 Encountering dangerous stunts and challenges content is common among children. Ofcom research found that one in five (20%) children aged 13-17 said they had encountered content showing dangerous stunts or online challenges over a four-week period prior to the research.<sup>1101</sup> A survey of 5,400 teenagers aged 13-19, living in a variety of countries including the UK, also found that about one in five (17%) were aware of the existence of online challenges that they themselves deemed risky or dangerous. A further 32% felt the challenges they had seen were 'risky but safe'.<sup>1102</sup>
- 9.18 The evidence suggests that although some children do take part in online challenges, fewer attempt challenges that are risky or dangerous. The above study among 13-19-year-olds found that 21% of them had participated in an online challenge, of whom 2% reported that they deemed the challenge to be risky or dangerous, and 0.3% considered it 'really dangerous'.<sup>1103</sup> However, it is reasonable to presume a tendency for children to underestimate the level of risk associated with these challenges. One study found that 8% of its participants aged 10-14 had performed dangerous challenges that endangered their physical or psychological wellbeing or privacy, consisting of more boys than girls (6% vs 2%).<sup>1104</sup>

# Impacts

- 9.19 If children encounter content depicting dangerous stunts and challenges online, there is a risk that they will emulate or participate in some way in the stunt or challenge, and cause themselves harm. Different challenges are associated with different risks.
- 9.20 Online stunts and challenges can risk loss of or threats to life. This can involve ingestion of harmful substances (see also Section 8: Harmful substances content). There have been several examples of children losing their lives or being hospitalised having attempted online

<sup>&</sup>lt;sup>1099</sup> Abraham et al., 2022. <u>Applying Behavioral Contagion Theory to Examining Young Adults' Participation in</u> <u>Viral Social Media Challenges</u>, *ACM Transactions on Social Computing*, 5, pp.1-4.

<sup>&</sup>lt;sup>1100</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1101</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1102</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1103</sup> Note: The survey was completed by 5,400 teenagers aged 13-19 across several countries, including the UK. Source: Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous online challenges</u>.

<sup>&</sup>lt;sup>1104</sup> Note: Figures have been rounded so appear different to as in the report. Source: Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

challenges. In the US, a 14-year-old girl was found to have died after ingesting a large amount of diphenhydramine while taking part in a social media challenge.<sup>1105</sup> The US Food and Drug Administration (FDA) published a warning that taking higher than recommended doses of diphenhydramine can lead to serious heart problems, seizures, coma or even death, following reports of teenagers being hospitalised or dying after reportedly participating in this challenge.<sup>1106</sup>

- 9.21 Challenges involving hot water present another example of a challenge with fatal or nearfatal impacts. This involves throwing, drinking or pouring boiling water over oneself or others. An 11-year-old boy who participated was left with third-degree burns after his friend poured boiling water on him,<sup>1107</sup> while an eight-year-old girl died as a result of drinking hot water through a straw for the challenge.<sup>1108</sup>
- 9.22 Some challenges involve choking. A study reports on a 'choking game' which led to the death of a 12-year-old girl who played the 'game' alone<sup>1109</sup> while another refers to a ten-year-old girl who died in Italy after allegedly taking part in a choking game.<sup>1110</sup>
- 9.23 Other challenges have been linked to bodily harm. For example, a popular challenge encouraged children to burn themselves by applying salt and ice to their skin for prolonged periods of time. This can leave participants with localised first- and second-degree burns, similar to the effects of frostbite.<sup>1111</sup> Challenges can also include actions that risk physical harm, such as climbing tall buildings and structures, and sitting or standing on the edge of tall buildings and structures. For instance, a series of viral videos of climbers illegally scaling skyscrapers and tall structures has been viewed by millions, leading others to copy the stunts and post their exploits on internet forums.<sup>1112</sup> For guidance on differentiating between dangerous stunts and challenges content harmful to children, and sports content Harmful to Children.
- 9.24 Another example of a challenge that risks causing children psychological harm is one which exposes them to distressing or age-inappropriate content that is, content that may be considered a kind of content harmful to children. For example, a particularly dangerous

<sup>&</sup>lt;sup>1105</sup> Benadryl (diphenhydramine) is an over-the-counter medication with potential for misuse in both suicidal and recreational purposes. Elkhazeen, A., Poulos, C., Zhang, X., Cavanaugh, J. and Cain, M., 2022. <u>A TikTok</u> <u>"Benadryl Challenge" death – A case report and review of the literature</u>, *Journal of Forensic Sciences*, 68 (1). [accessed 28 March 2025].

<sup>&</sup>lt;sup>1106</sup> US Food and Drug Administration, 2020. <u>FDA warns about serious problems with high doses of the allergy</u> <u>medicine diphenhydramine (Benadryl)</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1107</sup> Murphy, N., 2019. <u>'Hot Water Challenge' warning after 'boy pours boiling water on sleeping friend'</u>. The Daily Mirror, 30 July. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1108</sup> Malone Kircher, M., 2017. <u>The 'Hot Water Challenge' Is Leading Kids to Badly Burn Themselves Over</u> <u>YouTube Videos</u>. The New York Times, 11 August. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1109</sup> Egge, M. K., Berkowitz, C. D., Toms, C. and Sathyavagiswaran, L., 2010. <u>The choking game: a cause of</u> <u>unintentional strangulation</u>, *Pediatric Emergency Care*, 26 (3). [accessed 28 March 2025].

<sup>&</sup>lt;sup>1110</sup> The Guardian, 2021. <u>Italy blocks TikTok for certain users after death of girl allegedly playing 'choking'</u> <u>game</u>. 23 January. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1111</sup> Gallagher, S., 2017. <u>Salt And Ice Challenge: NSPCC Supports Warning Against Latest Social Media Craze</u>. Huffington Post, 26 January. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1112</sup> Tidy, J., 2014. Skyscraper Climbers 'Putting Others At Risk'. Sky News, 5 April. [accessed 28 March 2025].

challenge went viral around 2010-2014 that tasked children with watching horror videos and performing certain tasks to harm themselves.<sup>1113</sup>

9.25 Some content relating to dangerous stunts and challenges may cause fear and distress to users who encounter content describing such challenges, even though they do not participate in them. This can include challenges which may have begun as a hoax, often to spread fear or anxiety, but by being widely publicised online become perceived as credible, particularly by children. For example, a number of hoax challenges have been reported which propagate the falsehood that there is a bad actor directing users (usually children) to carry out a series of harmful activities which escalate, ending in the user being tasked to carry out self-harm or suicide.<sup>1114</sup> Content relating to these specific suicide-related challenges is likely to be considered suicide or self-harm content (see Section 3: Suicide and self-harm content). However, these examples demonstrate how content relating to, or discussing, these challenges (even if the challenge is a hoax) may cause psychological harm to children. A report on dangerous challenges found that among all teens exposed to hoax challenges, 31% believed it had had a negative impact on them (consistent across age groups). Of these, 63% felt that the negative impact was on their mental health.<sup>1115</sup>

# Evidence of risk factors on user-to-user services

9.26 We consider that the risk factors below may increase the risks of harm to children relating to dangerous stunts and challenges content. This is also summarised in the summary box at the start of this section.

# **Risk factors: User base**

#### **User demographics**

- 9.27 The following sub-section outlines the evidence of user base demographic factors and risk of harm to children, which can include listed characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 9.28 Data suggests that user base characteristics including **gender** and **age** could lead to an increased risk of harm to children in different age groups.

#### Gender

9.29 Several studies have found that boys are more likely than girls to participate in dangerous or harmful challenges. The results of a survey of children aged 9-17 conducted by Internet Matters found that boys are more likely to be exposed to content containing dangerous stunts or challenges (21%) than girls (16%).<sup>1116</sup>

<sup>&</sup>lt;sup>1113</sup> DeTuro, B. L., 2021. <u>The Virality of Horror Trends on Social Media</u>, MAPC, The University of Tampa. [accessed 15 April 2024].

<sup>&</sup>lt;sup>1114</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1115</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1116</sup> Internet Matters response to May 2024 Consultation on Protecting Children from Harms Online; Internet Matters, 2024. Protecting children from harms online: Response to Ofcom consultation. [accessed 17 January 2025].

- 9.30 A UK study, commissioned by the Department for Digital, Culture, Media and Sport (DCMS), reported that teenage boys (aged 13-17) were more at risk of engaging with content showing dangerous stunts and challenges. This study takes a broader approach to 'dangerous stunts and challenges' than the definition set out in the Act, including skateboarding tricks, parkour and free running.<sup>1117</sup> However, it indicates that teenage boys are less risk-averse when it comes to stunts and challenges, and so are likely to be more at risk of harm from content encouraging dangerous stunts and challenges.<sup>1118</sup>
- 9.31 A study in Spain among 10-14-year-olds also found that boys in the study were more likely than girls to take part in dangerous challenges (6% vs 2%).<sup>1119</sup>

#### Age

- 9.32 It is likely that some age groups will be more susceptible to the influence of encountering this type of content online given their developmental stage.
- 9.33 The onset of puberty (within the transition years 10-12) drives neurobiological changes that influence cognitive development and increases risk-taking and impulsive behaviour as children undergo adolescence. This continues as children enter their teenage years (aged 13-15) when peer influence (and the desire to fit in) becomes particularly important. Risk-taking and impulsive behaviour increases and teenagers develop and assert their personalities by making choices, for example, about their interests. This can continue as children move into early adulthood (aged 16-17). See Section 17: Recommended age groups for more information about the sources behind this evidence.
- 9.34 Evidence suggests that over-13s are the group most likely to encounter dangerous stunts, although younger teenagers may be more vulnerable to taking part in them, due to having less maturity in assessing risk. A study showed that while teenage boys (aged 13-17) were most likely to be exposed to dangerous stunts, older children (aged 16-17) were generally less interested in this type of content and felt that younger children may be more 'susceptible' to online stunts and challenges, particularly those which are accessible to them and appear to be fun.<sup>1120</sup>
- 9.35 This is also reflected in a study with 13-19-year-olds across ten countries, including the UK. The survey found that 14% of 13-15-year-olds participated in challenges online, compared with 9% of 18-19-year-olds. The study reflected that this may in part be developmental, with the younger age group having a greater need for peer approval and social validation, less developed critical thinking skills, and a greater propensity to take risks, making them more likely to participate.<sup>1121</sup>

<sup>&</sup>lt;sup>1117</sup> For guidance on differentiating between dangerous stunts and challenge content harmful to children, and sports content (such as skateboarding or parkour), please see Section 10 of our Guidance on Content Harmful to Children.

<sup>&</sup>lt;sup>1118</sup> Ecorys (commissioned by the DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>. [accessed 15 April 2025]. Subsequent references to this source throughout. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>1119</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1120</sup> Ecorys (commissioned by the DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>.

<sup>&</sup>lt;sup>1121</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

9.36 Although the available evidence generally focuses on teenagers, case studies of child deaths or serious harm often involve children under 13 (see 'Impacts' sub-section). While more evidence is needed, the prevalence of younger children in fatal or serious cases suggests they may be at risk of the most severe outcomes.

# **Risk factors: Service types**

9.37 Research suggests that children are at an increased risk of encountering stunts and challenges content on **social media services** and **video-sharing services** as set out below.

#### Service type

#### Social media and video-sharing services

- 9.38 Evidence suggests that children are likely to encounter online challenges on social media services as well as video-sharing services. A survey of 5,400 teenagers aged between 13 and 19, in several countries (including the UK), found that 83% said they became aware of online challenges via social media. This was almost double the proportion who became aware of them from traditional media sources, such as television (43%). The survey also found that awareness of hoax challenges (discussed earlier in paragraph 9.25) is most likely to derive from social media, with 77% of teens coming across them this way.<sup>1122</sup> There are also several reports of children encountering online challenges on video-sharing services.<sup>1123</sup>
- 9.39 Social media services also emerge in the evidence in cases where children are pressured by their peers to attempt dangerous stunts and challenges. A study in Spain among 10-14-year-olds found that more than a third of them (36%) said they performed 'dares or challenges' that their friends or contacts had asked them to do on social media.<sup>1124</sup>
- 9.40 Fatal or severe outcomes from children participating in dangerous challenges often appear on social media and video-sharing services. For example, as reported in a case report, the viral challenge directed children and teens to record themselves taking large amounts of diphenhydramine and to publish the results on video-sharing services.<sup>1125</sup> There are other instances of online challenges being posted on video-sharing services by children and teens.<sup>1126</sup>
- 9.41 Video-sharing services also allow users to post videos, which we note as fundamental to sharing dangerous stunts and challenges content that can be encountered by children (see 'Posting content' sub-section within this section).

<sup>&</sup>lt;sup>1122</sup> Praesidio Safeguarding (Hilton, Z.), 2021. <u>Exploring effective prevention education responses to dangerous</u> <u>online challenges</u>.

<sup>&</sup>lt;sup>1123</sup> Malone Kircher, M., 2017. <u>The 'Hot Water Challenge' Is Leading Kids to Badly Burn Themselves Over</u> <u>YouTube Videos</u>. The New York Times, 11 August.; The Guardian, 2021. <u>Italy blocks TikTok for certain users</u> <u>after death of girl allegedly playing 'choking' game.</u> 23 January.

<sup>&</sup>lt;sup>1124</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study.</u> *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1125</sup> Elkhaszeen, A., Poulos, C., Zhang, X., Cavanaugh, J. and Cain, M., 2021. <u>A TikTok "Benadryl Challenge"</u> <u>death – A case report and review of the literature</u>, *Journal of Forensic Science*, 68, pp.339-342. [accessed 15 April 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1126</sup> Ritschel, C., 2018. <u>Tide pod challenge: Teenagers are risking death to film themselves eating detergent</u>. The Independent, 12 January. [accessed 28 March 2025]. Subsequent references to this source throughout.

# **Risk factors: Functionalities and recommender systems**

#### **User communication**

#### **Posting content**

- 9.42 The ability to post content, which typically involves videos showing the challenge, but can manifest as images or text, is fundamental to dangerous stunts and challenges content. Short-form videos depicting online challenges are often posted on user-to-user and video-sharing services by children, young people and adults. These often show both the actual challenge being performed and encourage other users to participate in it.<sup>1127 1128</sup>
- 9.43 As explored in the 'How dangerous stunts and challenges content manifests online' subsection above, children are participating in stunts and challenges to get affirmation from peers and to feel included. Participating in a stunt or challenge visible to peers (through posted content) is a crucial part of this.

#### Reacting to content, commenting on content, and reposting or forwarding content

- 9.44 Challenges and stunts make for engaging content for children, generally involving a competitive element, a shock factor and a clear call to action. This can correlate with high numbers of reactions, reposts and comments.
- 9.45 Reacting to or reposting content also provides positive user feedback that can feed into the virality of online content.<sup>1129</sup> The reacting or reposting of content depicting dangerous stunts and challenges can therefore increase the likelihood of children encountering this content.
- 9.46 This can also be true of comments on content. A study with 10-14-year-olds in Spain found that 58% liked to comment on the dares or challenges which other people perform, while 47% liked to be told what others thought of their dares and challenges.<sup>1130</sup> This kind of user-to-user engagement, often through comments, may contribute to the social pressure and affirmation that drives some children to participate in dangerous stunts and challenges. These functionalities may therefore increase the likelihood of children participating in dangerous stunts and challenges.

#### **User networking**

#### User connections

- 9.47 User connections increase both the risk of children encountering content encouraging dangerous stunts and challenges, and the likelihood of them participating.
- 9.48 Functionalities that allow users to create online networks, such as user connections, play an important role in circulating content depicting dangerous stunts and challenges. Large networks in particular are likely to increase the virality of this content. Although not in itself a dangerous challenge, the participation in, and support of, the ALS Ice Bucket Challenge by celebrities with large followings on social media helped the challenge go viral, leading to

<sup>&</sup>lt;sup>1127</sup> Elkhaszeen, A., Poulos, C., Zhang, X., Cavanaugh, J. and Cain, M., 2021. <u>A TikTok "Benadryl Challenge"</u> <u>death – A case report and review of the literature</u>, *Journal of Forensic Science*, 68, pp.339-342.

<sup>&</sup>lt;sup>1128</sup> Ritschel, C., 2018. <u>Tide pod challenge: Teenagers are risking death to film themselves eating detergent</u>. The Independent. 12 January.

<sup>&</sup>lt;sup>1129</sup> Ofcom, 2023. Evaluating recommender systems in relation to the dissemination of illegal and harmful content in the UK.

<sup>&</sup>lt;sup>1130</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

large numbers of people both seeing and performing the challenge online.<sup>1131</sup> This dynamic may also be present for stunts and challenges, with potentially harmful outcomes for children. Children also post content with intention of encouraging their connections to participate. In a study with 10-14-year-olds in Spain, 71% reported that 'when I perform a dare or challenge, I like others to follow and also perform it'.<sup>1132</sup> Seeing other users participate is likely to increase the social pressure to actively participate in the challenge.

9.49 Another study found that a challenge's perceived viral reach, in terms of the number of posts which participants see, and their perception of how many others are participating in it, may reduce their initial hesitancy about performing the challenge. The study suggests that the increased presence of challenge posts on social media services may increase the sense that these challenges are normal, or the perception that hundreds or thousands of other people are also participating in them.<sup>1133</sup>

#### **Content exploring**

#### **Content tagging**

- 1.3 Research has found that hashtags (usually '#' followed by the challenge name) help to spread online challenges.<sup>1134</sup> Searching for challenges using hashtags enables users to see the full extent of users participating in that challenge across a service.
- 1.4 For example, in March 2020, a coronavirus challenge was circulating on social media which encouraged people to lick items in public, such as toilets, and post about it online. At that time, the associated hashtag had almost 100 million views on one social media service, and nearly a year later it had had 3.1 billion views.<sup>1135</sup>

#### **Recommender systems**

#### Content recommender systems

- 9.50 Services which deploy content recommender systems<sup>1136</sup> could be at higher risk for recommending and suggesting dangerous stunts and challenges content to children. Detailed explanation on how recommender systems work and how they can pose a risk to children is set out in Section 16: Wider context to understanding risk factors.
- 9.51 Recommender systems can serve children dangerous stunts and challenges content. Positive user feedback on challenge content (see 'Reacting to content, commenting on

<sup>&</sup>lt;sup>1131</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1132</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1133</sup> Abraham et al., 2022. <u>Applying Behavioral Contagion Theory to Examining Young Adults' Participation in</u> <u>Viral Social Media Challenges</u>, *ACM Transactions on Social Computing*, 5, pp.1-4.

<sup>&</sup>lt;sup>1134</sup> Ortega-Barón et al., 2022. <u>Viral internet challenges scale in preadolescents: An exploratory study</u>, *Current Psychology*, 42, pp.12530-12540.

<sup>&</sup>lt;sup>1135</sup> This may not constitute a dangerous stunt or challenge. However, we believe it illustrates dynamics that are relevant to other dangerous stunts and challenges. Source: Morris, S., 2021. <u>21 Dangerous TikTok Trends</u> <u>Every Parent Should Be Aware of</u>. Newsweek, 6 March. [accessed 15 April 2025].

<sup>&</sup>lt;sup>1136</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

content, and reposting or forwarding content' within this section), may result in this content being amplified by recommender systems, depending on the recommender system's design.<sup>1137</sup> This increases the risk of children encountering it, and the likelihood that they will participate in the challenge. When harmful content is repeatedly encountered by a child, this may lead the child to experience 'cumulative harm'.<sup>1138</sup>

9.52 One study in particular found that dangerous stunts and challenges content can be recommended alongside educational content, which may make children more inclined to trust the safety of the content, and participate in the challenge.<sup>1139</sup>

<sup>&</sup>lt;sup>1137</sup> Ofcom, 2023. Evaluating recommender systems in relation to the dissemination of illegal and harmful content in the UK.

<sup>&</sup>lt;sup>1138</sup> Cumulative harm can occur when harmful content (PPC, PC or NDC) is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>1139</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

# 10.Depression content (Nondesignated content)

Summary: Risk of harm from content that promotes depression, hopelessness and despair ('depression content')

We have identified 'content that promotes depression, hopelessness and despair' ('depression content') as a kind of content that is harmful to children. This meets the definition of non-designated content set out in the Online Safety Act 2023, in particular because of the harm that may arise when this content is encountered in high volumes. We therefore include it in the Children's Register of Risks.

This content is distinct from suicide and self-harm content (see Section 3). Examples of depression content include content that romanticises depression or feelings of despair or hopelessness; content that depicts depression or feelings of hopelessness and despair in aspirational ways; and content that discourages recovery or help seeking.

The physical and psychological harms that can arise from high volumes of depression content include contribution to or exacerbation of mental health issues, as well as barriers to help seeking.

#### Risk factors: User base

Services with large user bases are likely to pose an increased risk of cumulative harm to children due to higher numbers of user uploads (which may include depression content).

User demographics can also play a significant role in the risk of physical or psychological harm from this content. For example, children with existing mental health issues may be at an increased risk of harm from this content, and yet may also be the most likely to be recommended it (see user demographics).

#### Risk factors: Service types

Social media and video-sharing services are frequently noted as spaces where children encounter content that promotes depression, hopelessness and despair. These services enable this content to be disseminated to a large audience and are services where children can view and engage with such content, both through active searching and recommended content. These service types are included in the Children's Risk Profiles.<sup>1140</sup>

<sup>&</sup>lt;sup>1140</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

The evidence indicates that children may also be at risk of encountering content that promotes depression, hopelessness and despair on messaging forums.

#### Risk factors: Functionalities and recommender systems

Content recommender systems are a risk factor for this type of content. High volumes of depressive content are commonly encountered through content recommender systems, increasing the volume of content that promotes depression, hopelessness and despair seen by children. Content recommender systems have therefore been included in the Children's Risk Profiles.

Content tagging is also a risk factor for depression content and can be responsible for helping users find this content. Depression-related hashtags have a high reach on social media. This functionality is also included in the Children's Risk Profiles.

The evidence suggests that functionalities that allow for the posting and editing of content can contribute to the harms caused by depression content. For example, content that romanticises depression and depressive thinking can have stylistic elements, such as romantic imagery or emotive music that appear alongside depressive quotes. Often, this content is shared by anonymous profiles. These functionalities are included in the Children's Risk Profiles.

Other functionalities can also contribute to the harm caused by content that promotes depression, hopelessness and despair. The ability to make user connections is linked to online communities that validate sharing and engaging with harmful content.

# Introduction

- 10.1 This section summarises our assessment of the risks of harm to children, in different age groups, presented by content that promotes depression, hopelessness and despair. We use the term 'depression content' throughout this section to refer to such content.<sup>1141</sup>
- 10.2 We set out the characteristics of user-to-user services that we consider are likely to increase risks of harm. The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks (Children's Register). 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.
- 10.3 Depression content is a kind of non-designated content (NDC). We therefore include an additional sub-section in this section titled 'identifying depression content as a kind of NDC'. In this sub-section, we include our assessment of how, particularly in high volumes, depression content meets the statutory definition of NDC set out in the Online Safety Act 2023 (the Act) and set out how it "presents a material risk of significant harm to an appreciable number of children". We use a three-step framework (set out in detail in the Section 1: Introduction to the Children's Register) to assess this. We conclude this sub-

<sup>&</sup>lt;sup>1141</sup> For brevity, we use shorthand references ('depression content') throughout the sections to refer to these kinds of content. These shorthand references should be understood in this context to refer to that kind of non-designated content (NDC), not a broader category of content relating to that topic (e.g., we refer to 'content promoting depression, hopelessness and despair', not any content relating to depression). Further detail on how Ofcom defines these kinds of NDC, including examples that we consider do and do not meet the definition, is set out in the rest of this section.
section with a definition of depression content, including some examples of what we consider to be, and not to be, depression content. We then provide our risk assessment of depression content, where we set out the characteristics of user-to-user services that we consider are likely to increase risks of harm.

- 10.4 There are ethical and legal limitations in conducting research into this type of content with children, so the research has often relied on indicative insights from qualitative information and methodologies with adult and non-UK samples. We have considered the wider landscape of the evidence available and, importantly, information from stakeholders with experience in this field.
- 10.5 Some of the evidence that we use refers to content broader than our definition of depression content. For example, some studies discuss the impact of content that may include personal accounts of depression that do not promote depression. Others may also discuss content that promotes other mental health issues such as anxiety, or include some content that might be considered suicide and self-harm content. We have signalled where this is the case, and sought to extract analysis of content that promotes depression and depressive thinking specifically. However, since these studies likely include content that would meet our definition of 'depression content', we generally consider this evidence relevant to understanding the risk of harm from this type of content. This reflects the approach we took in the Children's Register when assessing risk of harm from other primary priority content (PPC) and priority content (PC) harms.

# Identifying depression content as a kind of NDC

- 10.6 Below we provide detail on why depression content meets the definition of NDC set out in the Act using the three-step framework:
  - Step 1: Identifying a kind of content that is potentially harmful.
  - Step 2: Is there a material risk of significant harm?
  - Step 3: Are an appreciable number of children at risk?

# Step 1: Identifying a kind of content that is potentially harmful

10.7 Some children, parents and experts report on a phenomenon of 'depressing' or 'depressive' content that they consider exacerbates poor mental health in children and negatively impacts recovery. For example, the Molly Rose Foundation has identified content containing intense themes of misery, hopelessness and despair as distinct from content referencing suicide and self-harm.<sup>1142</sup> This kind of content was implicated in the death of Molly Russell by suicide.<sup>1143</sup> Research by Amnesty International drew on clinical expertise to identify a category of 'potentially harmful' mental health-related content, far broader than content promoting suicide and self-harm.<sup>1144</sup> Examples include: "posts that glamorize, romanticise, or trivialise depression and anxiety"; "posts (inc. quotes, text, voice-overs)

<sup>&</sup>lt;sup>1142</sup> Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful</u> <u>content, including suicide and self-harm material, on Instagram, TikTok and Pinterest</u>. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1143</sup> North London Coroner's Service, 2022. <u>Molly Russell: Prevention of future deaths report</u>. [accessed 8<sup>th</sup> January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1144</sup> Amnesty International, 2023. <u>Driven into Darkness: How TikTok's 'For You' Feed Encourages Self-Harm and</u> <u>Suicidal Ideation</u>. [accessed 13 February 2025]. Subsequent references to this source throughout.

intended to portray [...] depression [...] as inescapable" or "posts portraying feelings of loneliness or inadequacy as helpless and/or deserved." Interviews with children and young people demonstrate the impact of this content. For example, one participant described how even on good mental health days, she is still recommended "content that's very sad and depressing, so that messes me up."<sup>1145</sup>

- 10.8 However, there is a broad range of content online relating to mental health and depression specifically. Other evidence highlights the potential benefits of some mental health-related content. For example, a study on depression-related content found that many participants felt better and not alone (41%) after following this content, while others shared that they felt worse (40%), engaging in rumination, for example.<sup>1146</sup> Despite some positive experiences, the potential for online content to contribute to the high rates of mental health issues among UK children is concerning.<sup>1147</sup>
- 10.9 From the above, we conclude that there are likely some kinds of content relating to poor mental health that are different to suicide and self-harm content (kinds of PPC, see Section 3 and 4 of our Guidance on Content Harmful to Children), but nevertheless causing harm to children. However, we also understand the importance of identifying specific harmful elements to avoid capturing content that might be beneficial (e.g., offering community or helpful information).
- 10.10 Most of the evidence relating to potentially harmful mental health content focuses on 'depressing' or 'depressive' content, or content specifically relating to depression as a mental illness. We therefore focus on content relating to 'depression' (a mental health disorder) and intense emotions associated with depression, namely 'hopelessness and despair'. When reviewing evidence relating to kinds of potentially harmful content, the idea of 'promoting' emerges as a useful way of categorising potentially harmful content. 'Promotes' here refers to any content that portrays depression, hopeless and despair as positive, or otherwise discourages recovery. This includes content that glamourises, glorifies or romanticises depression, hopeless and despair – likely through specific themes or stylistic features, such as aesthetic imagery or music. Content describing experiences of depression in realistic ways, or content that seeks or provides support or information would not be considered 'promoting'.

## **Our conclusion**

10.11 We therefore consider 'content that promotes depression, hopelessness and despair' (depression content) as a kind of potentially harmful content. Having defined depression content, we then consider Steps 2 and 3 of the framework to assess whether this content meets the definition of NDC in the Act.

<sup>&</sup>lt;sup>1145</sup> Amnesty International, 2023. <u>Driven into Darkness: How TikTok's 'For You' Feed Encourages Self-Harm and</u> <u>Suicidal Ideation</u>, p.39.

<sup>&</sup>lt;sup>1146</sup> Caution: This study has a lower sample size of 93. Source: Szlyk, H. S., Li, X., Kasson, E. Peoples, J. E., Montayne, M., Kaiser, N. and Cavazos-Rehg, P., 2023. <u>How do teens with a history of suicidal behavior and selfharm interact with social media?</u>, *Journal of Adolescence*, 95 (4), pp.797-810. [accessed 17 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1147</sup> Children with mental health conditions make up a sizeable proportion of children overall. Recent statistics from the NHS suggest that that one in five children (20%) aged 8-16 had a probable mental health disorder in the UK in 2023. Source: NHS England, 2023. <u>Mental Health of Children and Young People in England, 2023 –</u> wave 4 follow up to the 2017 survey. [accessed 29 January 2025]. Subsequent references to this source throughout.

# Step 2: Is there material risk of significant harm?

- 10.12 To understand the risk of significant harm occurring, we consider the evidence of a relationship between the specific kind of content (here depression content) and significant harm. Based on that relationship, we make an assessment as to the 'material risk' or likelihood of harm occurring to children who encounter that content. Where the likelihood of significant harm arising is very low, then the risk may not be material.
- 10.13 We have identified evidence that suggests that depression content presents a risk of significant harm to children, particularly when encountered in high volumes. While isolated encounters with depression content may cause transient harm to children, repeated encounters with depression content can **contribute to and exacerbate poor mental health in children** in a number of ways. Harmful messaging that misrepresents depression or discourages help seeking can be reinforced by some kinds of this content, while other content elicits low mood that can, over time or in combination with other kinds of harmful content, contribute to severe and potentially fatal mental health issues. High volumes of depression content are therefore also linked specifically to **lasting or severe low mood**, **deteriorating mental health, suicidal ideation, stigmatisation** and **barriers to help seeking**. Evidence establishing the relationship between depression content and significant harm is set out in detail in the 'Impacts' sub-section below. Based on largely the same evidence, we also consider that there is sufficient likelihood of significant harm occurring for the risk to be considered 'material'.

## **Our conclusion**

10.14 Assessing the evidence above and in the 'Impacts' sub-section, we conclude that depression content presents material risk of significant harm to children. At Step 3, we consider the number of children at risk from depression content.

# Step 3: Are an appreciable number of children at risk?

- 10.15 To understand whether an appreciable number of children are at risk of significant harm from depression content, we consider the reach of depression content, and the presence of any vulnerabilities that increase the risk of significant harm.
- 10.16 Evidence suggests that there is a risk of depression content being recommended to children, as depression-related content attracts high engagement. The reach of this content indicates that an appreciable number of children are at risk of repeatedly encountering it. This evidence is set out in detail in the 'Presence' sub-section below.
- 10.17 Evidence also suggests that children with existing mental health issues present the greatest risk of significant harm from depression content. They are disproportionately likely to be affected by this content, and to behave in ways likely to result in high volumes being recommended. This is discussed in detail under 'User demographics: Physical and mental health' below.
- 10.18 We consider UK children with mental health issues to be an 'appreciable' group, with children particularly for older teens. Recent statistics from the NHS suggest that that one in

five children (20%) aged 8-16 had a probable mental health disorder in the UK in 2023. This increased to 23.3% for 17-19-year-olds.<sup>1148</sup>

# **Our conclusion**

10.19 Based on reach of depression content and the prevalence of mental health issues (which increase the risk of harm) among the UK child population, we conclude that an appreciable number of children are at risk of significant harm from encountering this content.

# **Final assessment**

- 10.20 Having considered the three-step framework, we consider that 'content that promotes depression, hopelessness and despair' ('depression content') meets the statutory definition for NDC, in particular because of the harm that may arise when this content is encountered in high volumes. We have therefore included it in our risk assessment.
- 10.21 We consider 'promotes', in this context, to mean content which encourages or portrays as positive depression, hopelessness or despair. This includes content which glamourises, glorifies or romanticises depression, hopelessness and despair.
- 10.22 Examples that we consider to be depression content include:
  - Content that romanticises depression or feelings of despair or hopelessness, for example, quotes, images or illustrations about despair presented against aesthetically pleasing imagery or emotional music.
  - Content that depicts depression or feelings of hopelessness and despair in aspirational ways, for example, quotes, images or illustrations positioning someone as a romantic figure because of their depression.
  - Content that discourages recovery or help seeking, for example, a meme about depression being incurable or hopelessness or despair as intrinsic personal traits.
- 10.23 Other harmful content, already covered in other section, that we therefore do not consider depression content includes:
  - Suicide, self-harm or eating disorder content. These kinds of harmful content are considered in Section 3, 4 and 5 of our Guidance on Content Harmful to Children, and Sections 3 and 4 of the Children's Register.
- 10.24 Related content that we do not consider harmful to children includes:
  - Content providing recovery-promoting information and support.
  - Content discussing realistic or lived experiences of depression, that does not depict depression in aspirational ways (as described above).

# How depression content manifests online

10.25 This sub-section looks at how depression content manifests online and how children may be at risk of harm from encountering it in high volumes.

<sup>&</sup>lt;sup>1148</sup> NHS England, 2023. <u>Mental Health of Children and Young People in England, 2023 – wave 4 follow up to</u> <u>the 2017 survey</u>.

10.26 Evidence suggests that both themes and format can play a role in promoting harmful messaging around depression, hopelessness and despair. In a study analysing online discussions of "romanticising mental health", key themes to counter harm included pushing back against characterisation of depression as "cute" and the need for realistic portrayals of depression.<sup>1149</sup> Other content analysis reports on how content can depict depression as "beautiful and seductive", with those experiencing it as "fallen heroes."<sup>1150</sup> The stylised nature of this content is understood to contribute to the promotion of these messages, with aesthetic elements such as romantic imagery or music presented alongside quotes.<sup>1151</sup>

# Presence

- 10.27 Evidence suggests that content relating to depression has a wide reach particularly on social media and video-sharing services, and child users are therefore at risk of encountering high volumes of this content. Research by the Molly Rose Foundation noted how this content is shared by "high-reach, high-engagement accounts", with several hashtags that feature language related to feeling depressed and "drained" found to have received over one billion views at the time of the study.<sup>1152</sup> In another study on depression-related content, the authors reviewed content on a popular video-sharing service tagged with the most common hashtags used in videos about depression and anxiety, as determined by the number of views associated with them. They identified three depression-related hashtags: each had over a billion views.<sup>1153</sup> Though these views will not all be from children, the high reach is indicative of the number of children who could encounter depression content.
- 10.28 Other research uses fake child accounts to show how depression content can be accessed by and sometimes recommended to children. Research by the Molly Rose Foundation reported that, as of October 2023, a large volume of disturbing and highly depressive material was accessible and discoverable by child accounts, with harmful content being algorithmically recommended (including through recommended search terms), and users were able to save and view it on demand, including in large volumes and through potential

<sup>&</sup>lt;sup>1149</sup> "Depression is not cute, and it is not a personality trait stop romanticizing it"; "Need to get out of this bed and get cute cause this depression is not cute"; "My depression was bad I wouldn't shower, brush my teeth or hair, clean my room nothing. I would legit work, come home, and sit on my computer all night and think about just driving till my car was empty and then killing myself. Depression is not cute stop it." Source: See p. 7 of Issaka, B., Aidoo, E. A. K., Wood, S. F. and Mohammed, F., 2024. <u>"Anxiety is not cute" analysis of twitter users'</u> <u>discourses on romanticizing mental illness</u>, *BMC Psychiatry*, 24 (221). [accessed 8 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1150</sup> Shrestha, A., 2018, <u>Echo: The romanticization of mental illness on Tumblr</u>, *Undergraduate Research Journal of Psychology at UCLA*, 5 (Spring 2018). [accessed 13 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1151</sup> Shrestha, A., 2018. <u>Echo: The romanticization of mental illness on Tumblr</u>, Undergraduate Research Journal of Psychology at UCLA, 5 (Spring 2018).

<sup>&</sup>lt;sup>1152</sup> Note: In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm-related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm material, on Instagram, TikTok and Pinterest</u>. [accessed 7 January 2025].

<sup>&</sup>lt;sup>1153</sup> Samuel, L., Kuijpers, K. and Bleakley, A., 2024. <u>TherapyTok for Depression and Anxiety: A Quantitative</u> <u>Content Analysis of High Engagement TikTok Videos</u>, *Journal of Adolescent Health*, 74 (6), pp.1184-1190. [accessed 16 December 2024]. Subsequent references to this source throughout.

'binge-watching'.<sup>1154</sup> A study by Amnesty International looked at the volume of mental health content recommended to US-based child accounts that signalled depressive behaviour or interest in mental health more broadly. After five days, 40-55% of all content served to these accounts was mental-health related, with three in five of these videos manually identified as being potentially harmful.<sup>1155</sup> This is set out in detail in the 'Recommender systems' sub-section later in this section.

# Impacts

10.29 There are a range of impacts associated with depression content. These all generally relate to contributing to or exacerbating mental health issues. Specifically, this content is linked to lasting or severe low mood, deteriorating mental health, suicidal ideation, stigmatisation and barriers to help seeking. As set out in the evidence below, risk of harm from depression occurs primarily following repeated encounters with this content.

## Lasting or severe low mood

10.30 Evidence suggests that content relating to depression can cause lasting or severe low mood in children who encounter it. This is particularly likely to affect children with pre-existing mental health issues: studies show those with depression are likely to ruminate excessively on 'depressive ideas,'<sup>1156</sup> which may be encountered online. Qualitative studies report children with mental health issues struggling to avoid mental health content: in our research, a 13-year-old with experience of anxiety explained how "sometimes there are these posts with quotes and stuff about anxiety and depression [on her feed]... I don't know... I don't really want to see that".<sup>1157</sup> Others show adolescents with depression being 'triggered' by content relating to depression – although this study assesses the impact of depression content alongside suicide and self-harm content.<sup>1158</sup>

## **Deterioration of mental health**

10.31 Mood impacts can be exacerbated by repeated encounters with depression-related content, and manifest as moments of mental health crisis for children. Across the evidence base, children, parents and practitioners describe the relationship between high volumes of depression-related content and the deterioration of children's mental health. In an Internet Matters study, girls reported getting stuck watching 'sad content' that intensified their negative emotions, while parents attributed their daughters' negative emotions to watching high volumes of sad content. In a content analysis by the Molly Rose Foundation,

<sup>&</sup>lt;sup>1154</sup> Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful</u> content, including suicide and self-harm material, on Instagram, TikTok and Pinterest.

<sup>&</sup>lt;sup>1155</sup> Harmful content here refers to videos that romanticise and encourage depressive thinking, self-harm and suicide. Some of this content would be considered PPC, but not all. Note: Research for this report focused on TikTok use by children and young people aged 14-24 in Kenya and the Philippines. Source: Amnesty International, 2023. <u>Driven into Darkness: How TikTok's 'For You' Feed Encourages Self-Harm and Suicidal Ideation</u>.

<sup>&</sup>lt;sup>1156</sup> Disner, S. G., Beevers, C. G., Haigh, E. A. P. and Beck, A. T., 2011. <u>Neural mechanisms of the cognitive model</u> <u>of depression</u>, *Nature Reviews Neuroscience*, 12, pp.467-477.

<sup>&</sup>lt;sup>1157</sup> Ofcom, 2023. <u>Children's Media Lives</u>. [accessed 28 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1158</sup> In the study, adolescents (aged 13-20) described triggering posts or online content which elicited a negative emotional response due to it reminding them of a person, situation or behaviour they desired to avoid. Source: Radovic, A., Gmelin, T., Stein, B. D. and Miller, E., 2017. <u>Depressed adolescents' positive and negative use of social media</u>, *Journal of Adolescence*, 55, pp.5-15. [accessed 6 February 2025].

one teenager remarked on the type of content he was being recommended by stating, "guess I'm not good in my head again", while another expressed frustration at being recommended mental health-related content, replying to a post with, "why does it show me so much of this when it's making me ill?"<sup>1159</sup> Similarly, in an Amnesty International study, one student described how, "when you 'heart' a sad video that you could relate to, suddenly my whole [feed] is sad and I'm in 'sadtok'. It affects how I'm feeling." Another described how even on good mental health days, she is still recommended "content that's very sad and depressing, so that messes me up."<sup>1160</sup> This relationship is identified also by practitioners: in our expert roundtable held on depressive content, mental health organisation Shout reported that they see young people coming to their services "in crisis" having been viewing content related to depression "for hours on end".<sup>1161</sup>

# **Suicidal ideation**

10.32 Evidence also demonstrates that encountering high volumes of depression content can contribute to suicidal ideation in children. In our expert roundtable on depressive content, Molly Rose Foundation highlighted that themes of hopelessness, misery and despair were in particular seen as predictors of suicidal ideation and can "fuel unhelpful downward spiral dynamics".<sup>1162</sup> The association between depression content and suicide is also implicated in the coroner's report following the death of 14-year-old Molly Russell by suicide. Molly's death was linked to "images, video clips and text concerning or concerned with self-harm, suicide or that were otherwise negative or depressing in nature", which were consumed in 'binge periods' that "are likely to have had a negative effect on Molly".<sup>1163</sup> While not isolating 'negative or depressing' content from suicide and self-harm content, content relating to depression is implicated in this case of child suicide.

## **Stigmatisation**

10.33 There is evidence that explores the specific ways in which content that promotes depression, hopelessness and despair can worsen experiences of poor mental health. For example, this content can misrepresent experiences of clinical depression in ways that, particularly over time, risk creating stigma and isolating vulnerable children. In a content analysis of discussions about romanticising mental illness online, the theme of shifting "attention away from the 'actual' or 'real' symptoms that people experiencing mental illness have to deal with" was prevalent.<sup>1164</sup> Where content misrepresenting the realities of clinical depression is repeatedly encountered, those struggling with depression may feel isolated and even stigmatised in ways that can exacerbate poor mental health.

# Barriers to help seeking

10.34 Several organisations also express concern about how content that promotes depression, hopelessness and despair can create barriers to help seeking. The US National Alliance on Mental Illness discusses some content sensationalising mental illness in ways that actively

<sup>&</sup>lt;sup>1159</sup> Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful</u> content, including suicide and self-harm material, on Instagram, TikTok and Pinterest. (p.39)

<sup>&</sup>lt;sup>1160</sup> Amnesty International, 2023. <u>Driven into Darkness: How TikTok's 'For You' Feed Encourages Self-Harm and</u> <u>Suicidal Ideation</u>, p.40.

<sup>&</sup>lt;sup>1161</sup> Ofcom, 2025. <u>Note from expert roundtable on depressive content.</u>

<sup>&</sup>lt;sup>1162</sup> Ofcom, 2025. <u>Note from expert roundtable on depressive content.</u>

<sup>&</sup>lt;sup>1163</sup> North London Coroner's Service, 2022. <u>Molly Russell: Prevention of future deaths report</u>.

<sup>&</sup>lt;sup>1164</sup> See p.12 of Issaka et al., 2024. <u>"Anxiety is not cute" analysis of twitter users' discourses on romanticizing</u> <u>mental illness</u>. *BMC Psychiatry*, 24 (221).

discourage certain kinds of treatment.<sup>1165</sup> Parenting Focus similarly describe how some online communities may inadvertently normalise depressive symptoms by framing them as a common, unchangeable part of adolescence.<sup>1166</sup> Again particularly when reinforced over time, this kind of messaging may discourage help seeking, foster a sense of hopelessness, and generally exacerbate poor mental health.

# **Evidence of risk factors on user-to-user services**

10.35 We consider that the risk factors below may increase the risk of harm to children from content that promotes depression, hopelessness and despair. This is summarised in the summary box at the start of the section.

# **Risk factors: User base**

## User base size

10.36 Larger services pose risks in relation to content that promotes depression, particularly where vast amounts of content are uploaded and then potentially being amplified through recommender algorithms. See the 'Recommender systems' sub-section for more information.

## **User demographics**

- 10.37 This sub-section outlines key evidence on user base demographic factors and risks of harm to children, which can include protected characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 10.38 While anyone of any gender, ethnicity or background can be affected by content romanticising depression or depressive thinking, evidence suggests that user base characteristics including the **age, gender, physical and mental health of users** could lead to an increased risk of harm to children.

#### Age and gender

10.39 There is limited evidence comparing the experience of children of different genders and ages. However, content analyses show that adolescent girls are most likely to be depicted in content that promotes depression, which may be indicative of the demographic that the content is created by and for.<sup>1167</sup>

### Physical and mental health

10.40 Evidence set out above suggests that those with existing mental health issues are most likely to be emotionally impacted by this content. For example, a study found that

<sup>&</sup>lt;sup>1165</sup> "Sensationalism can lead people to believe that mental illness is just a part of who they are, and that therapy is a 'sham.' For example, memes that started out as a way to call people out for being dismissive of mental illness, have evolved into a way for people to excuse their own behaviour and even scoff at the notion of seeking help." Source: National Alliance on Mental Illness (Yu, J.), 2019. <u>From Stigmatized to</u> <u>Sensationalized</u>. [accessed 11 February 2025].

<sup>&</sup>lt;sup>1166</sup> Parenting Focus response to May 2024 Consultation, p.11. [accessed 4 February 2025].

<sup>&</sup>lt;sup>1167</sup> Shrestha, A., 2018. <u>Echo: The romanticization of mental illness on Tumblr</u>, *Undergraduate Research Journal of Psychology at UCLA*, 5 (Spring 2018).

adolescents with long-term experiences of self-harm were more likely than other groups to respond that they felt worse after following depression content on social media.<sup>1168</sup>

10.41 Children experiencing poor mental health are disproportionately at risk of high volumes of content relating to depression (likely to include content that promotes depression, hopelessness and despair) being recommended. Psychological studies show that those experiencing depression are more attentive to depression content, and more likely to ruminate on that content. An eye-tracking study found that people with major depressive disorders showed a negative attentional bias<sup>1169</sup> towards sad faces and spent marginally less time viewing happy faces compared with the group who had never experienced depression. <sup>1170</sup> Given that content recommender systems are based on signals of engagement, <sup>1171</sup> this group is likely to be recommended high volumes of 'sad' content. Indeed, avatar studies<sup>1172</sup> show how child accounts signalling an interest in mental health content through their behaviours (such as what they like, follow or spend time watching) are recommended increasingly high volumes of depression content. This is discussed in more detail in the 'Recommender systems' sub-section below.

# **Risk factors: Service types**

10.42 Research suggests that children are at an increased risk of encountering content that promotes depression, hopelessness and despair on **social media services** and **video-sharing services**. A user-to-user service may contain more than one service type.

# Service type

### Social media services and video-sharing services, and messaging forums

10.43 The evidence suggests that children encounter content that promotes depression, hopelessness and despair on social media services and video-sharing services. Various studies have investigated depression content on specific social media services.<sup>1173</sup> These types of services can use content recommender systems to allow content (particularly images and videos) to be rapidly shared and recommended to large audiences, and

<u>depression: evidence from an eye-tracking study</u>, *Journal of Behavior Therapy and Experimental Psychiatry*, 46, pp.107-14. [accessed 20 February 2025].

<sup>&</sup>lt;sup>1168</sup> Caution: This study has a lower sample size of 93. Source: Szlyk et al., 2023. <u>How do teens with a history of</u> <u>suicidal behaviour and self-harm interact with social media</u>?, *Journal of Adolescent Health*, 95 (4), pp.797-810. <sup>1169</sup> That is, heightened attention towards negative information.

<sup>&</sup>lt;sup>1170</sup> Caution: This study has a lower sample size of 50. The study was among adults aged 18-55. Source: Duque, A. and Vázquez, C., 2015. <u>Double attention bias for positive and negative emotional faces in clinical</u>

<sup>&</sup>lt;sup>1171</sup> Schuster, N. and Lazar, S., 2025. <u>Attention, moral skill, and algorithmic recommendation</u>, *Philosophical Studies*, 182, pp.159-184. [accessed 27 February 2025].

<sup>&</sup>lt;sup>1172</sup> Avatar studies are a research methodology involving accounts or profiles set up on online services by researchers, modelled on the behaviours and interests of real users. This method, similar to the 'mystery shopping' market research approach, is often used to understand the experience of a service by a particular group of people.

<sup>&</sup>lt;sup>1173</sup> Samuel et al., 2024. <u>TherapyTok for Depression and Anxiety: A Quantitative Content Analysis of High Engagement TikTok Videos</u>, *Journal of Adolescent Health*, 74 (6), pp.1184-1190; Note: Research for the Amnesty International report focused on TikTok use by children and young people aged 14-24 in Kenya and the Philippines. Source: Amnesty International, 2023. <u>Driven into Darkness: How TikTok's 'For You' Feed Encourages Self-Harm and Suicidal Ideation</u>; Cavazos-Rehg, P. A., Krauss, M. J., Sowles, S. J., Connolly, S., Rosas, C., Bharadwaj, M., Grucza, R. and Bierut, L. J., 2017. <u>An Analysis of Depression, Self-Harm and Suicidal Ideation</u> <u>Content on Tumblr</u>, *Crisis*, 38 (1). [accessed 13 February 2025]. Subsequent references to this source throughout.

potentially seen by a large number of children. Refer to sub-section 'Recommender systems' within this section for more information.

# **Risk factors: Functionalities and recommender systems**

## User communication

## Posting and editing content

10.44 Depression content can have distinctive stylistic elements, such as romantic imagery or music presented alongside quotes to visualise depression, hopelessness and despair.<sup>1174</sup> Posting and editing functionalities can make this content easy to create and share, <sup>1175</sup> particularly if there are features that allow the reposting and repurposing of design elements.

### Hashtags

10.45 Hashtags can be used to mark content, distribute content and direct children to content relating to depression. Evidence suggests content relating to depression has a wide reach, suggesting that child users are at risk of encountering high volumes of this content. As already noted, research by the Molly Rose Foundation observes how this content is shared by "high-reach, high-engagement accounts", with several hashtags that feature language related to feeling depressed and "drained" found to have received over 1 billion views at the time of the study.<sup>1176</sup> In another study on depression content, the authors reviewed content on a popular video-sharing service tagged with the most common hashtags used in videos about depression and anxiety, as determined by the number of views associated with them. They identified three depression-related hashtags: each had over a billion views.<sup>1177</sup> Though these views will not all be from children, the high engagement suggests hashtags play an important role in distributing this content.

#### Anonymous profiles

10.46 Content relating to depression, hopelessness and despair is often shared on sites where users can remain anonymous. Several studies identify the benefits of anonymous profiles on social media services or messaging forums for engaging with communities sharing harmful mental health content, likely to include content that promotes depression,

<sup>&</sup>lt;sup>1174</sup> Shrestha, A., 2018. <u>Echo: The romanticization of mental illness on Tumblr</u>, *Undergraduate Research Journal of Psychology at UCLA*, 5 (Spring 2018).

<sup>&</sup>lt;sup>1175</sup> Cavazos-Rehg et al. 2017. <u>An Analysis of Depression, Self-Harm and Suicidal Ideation Content on Tumblr</u>, *Crisis*, 38 (1).

<sup>&</sup>lt;sup>1176</sup> Note: In this study the researchers explored Instagram, TikTok, and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm-related material. While this is a singular study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm material, on Instagram, TikTok and Pinterest.</u>

<sup>&</sup>lt;sup>1177</sup> Samuel et al., 2024. <u>TherapyTok for Depression and Anxiety: A Quantitative Content Analysis of High</u> <u>Engagement TikTok Videos</u>, *Journal of Adolescent Health*, 74 (6), pp.1184-1190.

hopelessness and despair.<sup>1178</sup> Users can adopt pseudonyms to facilitate anonymous communication.<sup>1179</sup> This content is also often shared on pseudonymised accounts.

#### **User connections**

- 10.47 This content can be shared in intimate online communities, formed through user connections. The dynamics of these communities can incentivise children to continue creating and sharing depression-related content in ways that may exacerbate mental health issues. A US article interviewed a psychiatrist, who argued that communities sharing depression-related content created an opportunity to be accepted and understood at a development stage where children particularly seek self-affirmation and recognition from others. A 16-year-old interviewed for the US article described her experience in communities discussing and resharing content relating to poor mental health on a popular social media and blogging site. She described how she felt part of a community, but that to be part of the community, she felt like she needed to advertise her suffering in ways that she felt contributed to her struggles.<sup>1180</sup>
- 10.48 Likewise, in our research, participants with lived experience of mental health issues discussed participating in online groups or communities that had a shared interest in these issues. On some services, these communities were described as 'self-regulating', with "little perceived outside moderation".<sup>1181</sup>

#### **Recommender systems**

#### Content recommender systems

- 10.49 Services which deploy content recommender systems are at higher risk for recommending and suggesting depression content to children. Refer to Section 16: Wider context to understanding risk factors for more information on how recommender systems work and how they can pose a risk to children. Several studies report that children are encountering depression-related content through recommender systems. In our research, a 17-year-old girl with experience of mental health issues reported how she felt low mood when served content relating to depression on her social media feeds: "I normally skip past them... I don't need other people's depressing-ness to make me depressed". A 13-year-old with experience of anxiety explained how "sometimes there are these posts with quotes and stuff about anxiety and depression [on her feed]... I don't know... I don't really want to see that".<sup>1182</sup>
- 10.50 An avatar study<sup>1183</sup> by Amnesty International highlighted the volume at which children can be recommended harmful mental health-related content, likely to include content that

<sup>&</sup>lt;sup>1178</sup> Cavazos-Rehg et al., 2017. <u>An Analysis of Depression, Self-Harm and Suicidal Ideation Content on Tumblr</u>, *Crisis*, 38 (1).

<sup>&</sup>lt;sup>1179</sup> Issaka et al., 2024. <u>"Anxiety is not cute" analysis of twitter users' discourses on romanticizing mental</u> <u>illness</u>, *BMC Psychiatry*, 24 (221).

<sup>&</sup>lt;sup>1180</sup> The article is from 2013 but captures impacts and dynamics of a kind of content that we know still exists. Source: Bine, A.-S., 2013. <u>Social Media is Redefining 'Depression'</u>. The Atlantic, 28 October. [accessed 25<sup>th</sup> March 2025]

<sup>&</sup>lt;sup>1181</sup> Ofcom, 2024. <u>Experiences of children encountering online content relating to eating disorders, self-harm</u> <u>and suicide</u>, p.37. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1182</sup> Ofcom, 2023. <u>Children's Media Lives</u>.

<sup>&</sup>lt;sup>1183</sup> Avatar studies are a research methodology involving accounts or profiles set up on online services by researchers, modelled on the behaviours and interests of real users. This method, similar to the 'mystery shopping' market research approach, is often used to understand the experience of a service by a particular group of people.

promotes depression, hopelessness and despair. The study looked at the volume of mental health content recommended to US-based child accounts that signalled depressive behaviour or interest in mental health more broadly. After five days, 40-55% of all content served to these accounts was mental health related, with three in five of these videos manually identified as being potentially harmful.<sup>1184</sup> As set out in the 'Impacts' sub-section, the risk of significant harm (such as the exacerbation of poor mental health) is related to repeatedly encountering depression content.

<sup>&</sup>lt;sup>1184</sup> Harmful content here refers to videos that romanticise and encourage depressive thinking, self-harm and suicide. Some of this content would be considered PPC, but not all. Source: Amnesty International, 2023. <u>Driven into Darkness: How TikTok's 'For You' Feed Encourages Self-Harm and Suicidal Ideation</u>.

# 11. Body stigma content (Nondesignated content)

## Summary: Risk of harm from body stigma content

We have identified 'content that shames or otherwise stigmatises body types or physical features' ('body stigma content') as a kind of content that is harmful to children. This meets the definition of non-designated content set out in the Online Safety Act 2023, in particular because of the harm that may arise when this content is encountered in high volumes. We therefore include it in the Children's Register of Risks.

Body stigma content includes body shame content, content promoting body ideals and body-checking content.

Body stigma content is linked to a number of physical and psychological harms, primarily related to body dissatisfaction. These include low self-esteem, psychological distress and disordered eating behaviours. This is particularly the case when viewed in high volumes.

## Risk factors: User base

Services with large user base sizes are likely to pose an increased risk of cumulative harm to children due to higher numbers of user uploads (which may include body stigma content).

User demographics can also play a significant role in the risk of physical or psychological harm from body stigma content. Children with existing body dissatisfaction, body image-related concerns or experience of an eating disorder are at increased risk both of encountering high volumes of body stigma content, and of being harmed by this content.

# Risk factors: Service types

Children self-report encountering body stigma content primarily on **social media services** and **video-sharing services**. These services enable body stigma content to be disseminated to a large audience. These are services where children can view and engage with such content, both through active searching and recommended content. They can enable body stigma content to be disseminated to a large audience, and to be repeatedly encountered by children. These service types are included in the Children's Risk Profiles.<sup>1185</sup>

Risk factors: Functionalities and recommender systems

<sup>&</sup>lt;sup>1185</sup> The Children's Risk Profiles identify risk factors that the Children's Register of Risks suggests may be particularly relevant to the risk of certain types of content harmful to children. These Children's Risk Profiles are published as part of our Children's Risk Assessment Guidance for Service Providers, as service providers must take account of them when doing their own risk assessments.

Services which deploy **content recommender systems** are at higher risk for recommending and suggesting body stigma content to children<sup>1186</sup> increasing the volume of body stigma content seen by children. Content recommender systems have therefore been included in the Children's Risk Profiles.

Children have reported encountering commentary that shame or stigmatise body types or physical features under comments on user-generated content. **Commenting on content** is therefore a risk factor for body stigma content and has been included in the Children's Risk Profiles.

**Content tagging** is also a risk factor for body stigma content and can enable users to find or be recommended high volumes of body stigma content. As with eating disorder content, content tags can also mislead children into thinking the content is not harmful. This functionality is also included in the Children's Risk Profiles.

Other functionalities can also contribute to the harm caused by body stigma content. The ability to **edit visual media** through beautifying filters or editing tools can generate content depicting unrealistic ideals that children may compare themselves to. Affirmation-based functionalities that facilitate **reacting to content** may also provide validation on certain body types or parts depicted in body stigma content. Both functionalities may contribute to increased body comparison and dissatisfaction.

## Risk factors: Business models

Advertising-based business models are a risk factor for children encountering body stigma content. These provide an incentive for individual influencers to maximise engagement with their content by creating large followings, thereby incentivising the creation and dissemination of body stigma content.

# Introduction

1.5 This section summarises our assessment of the risks of harm to children, in different age groups, presented by high volumes of content that shames or otherwise stigmatises body types or physical features on user-to-user services (risk of harm). We use the term 'body stigma content' throughout this section to refer to such content.<sup>1187</sup>

<sup>&</sup>lt;sup>1186</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>1187</sup> For brevity, we use shorthand reference ('body stigma content') throughout the sections to refer to these kinds of content. These shorthand references should be understood in this context to refer to that kind of nondesignated content (NDC), not a broader category of content relating to that topic (e.g., 'content that shames or otherwise stigmatises body shapes or physical features', not any content relating to the topic of body stigma).

- 1.6 The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks (Children's Register). 'Harm' means physical or psychological harm. Harm can also be cumulative or indirect.
- 1.7 Body stigma content is a kind of non-designated content (NDC). We therefore include an additional sub-section in this section titled 'identifying body stigma content as a kind of NDC'. In this sub-section, we include our assessment of how body stigma content, particularly in high volumes, meets the statutory definition of NDC set out in the Online Safety Act 2023 (the Act) and set out how it "presents a material risk of significant harm to an appreciable number of children". We use a three-step framework (set out in detail under 'Methodology' in Section 1: Introduction to the Children's Register) to assess this. We conclude this sub-section with a definition of body stigma content, including some examples of what we consider to be, and not to be, body stigma content. We then provide our risk assessment of body stigma content, where we set out the characteristics of user-to-user services that we consider are likely to increase risks of harm.
- 1.8 There are ethical and legal limitations in conducting research into this type of content with children, so the research has often relied on indicative insights from qualitative information and methodologies with adult and non-UK samples. We have considered the wider landscape of the evidence available, including evidence from stakeholders with experience in this field.
- 1.9 Some evidence we have used refers to content broader than our definition of body stigma content. For example, some studies discuss a broader category of content that might include content depicting ideals as opposed to actively promoting body ideals, for example by negatively commentating on body types. We have signalled where this is the case and sought to extract analysis of body stigma specifically where possible. However, in some cases we consider that evidence relating to broader categories of body image content may nevertheless be relevant to understanding the risk of harm from body stigma content. This reflects the approach taken when assessing risk of harm from other primary priority content (PPC) and priority content (PC) harms in the Children's Register.

# Identifying body stigma content as a kind of NDC

- 1.10 In this sub-section we explain why body stigma content meets the definition of NDC set out in the Act using the three-step framework:
  - Step 1: Identifying a kind of content that is potentially harmful.
  - Step 2: Is there a material risk of significant harm?
  - Step 3: Are an appreciable number of children at risk?

# Step 1: Identifying a kind of content that is potentially harmful

1.11 There is extensive evidence indicating a relationship between social media use and body dissatisfaction in children.<sup>1188</sup> For example, the Mental Health Foundation reported that

<sup>&</sup>lt;sup>1188</sup> A systematic literature review based on 67 studies found evidence that the use of the internet, and particularly appearance-focused social media, is associated with heightened body image and eating concerns. Developmental characteristics may make adolescents particularly vulnerable to these effects. Among the 67 identified studies in this literature review, 52 collected data with study sample sizes ranging from 17 to 2,036 participants. Source: Rodgers, R. F. and Melioli, T., 2015. <u>The Relationship Between Body Image Concerns</u>,

40% of teenagers in Great Britain said images on social media caused them to worry about their body image.<sup>1189</sup> Another study reported that 14-year-olds using social media for at least five hours a day on average were 31% more likely to report being dissatisfied with their body than those using it for one to three hours a day.<sup>1190</sup>

1.12 Body dissatisfaction is linked to several harmful physical or psychological outcomes in children, including poor mental health, disordered eating behaviours, lower participation in education, sport, health, and problematic behaviours around drugs and alcohol.<sup>1191</sup> A Select Committee report into the impact of body image on mental and physical health<sup>1192</sup> presented evidence that rising body dissatisfaction is contributing to poorer mental health in young people,<sup>1193</sup> particularly (but not only) girls.<sup>1194</sup> In a study looking at data of 14-year-olds, more hours spent on social media were related to body dissatisfaction, and body dissatisfaction in turn was linked to higher depressive symptom scores (15%).<sup>1195</sup> YoungMinds sets out how the impacts of body dissatisfaction generally "result in a reduced quality of psychological wellbeing and curtailed academic aspirations".<sup>1196</sup> Body dissatisfaction is pervasive among UK children, with three out of four (77%) children and young people unhappy with how they look.<sup>1197</sup> Such dissatisfaction can take different forms.

<sup>1191</sup> At an expert roundtable held by Ofcom on body image content, Dr Helen Sharpe described how body dissatisfaction impacted a 'wide range of mental health outcomes, as well as school engagement, sport engagement, sexual health, smoking... among other things'. Source: Ofcom, 2025. <u>Note from expert</u> roundtable on body image content.

<sup>1193</sup> Note: Evidence was based on a survey among girls aged 7 to 21 in the UK. Source: CLOSER, 2022. <u>Written evidence to the Health and Social Care Select Committee (IBI0043)</u>. [accessed 5 November 2024].
<sup>1194</sup> Girlguiding, 2022. <u>Written evidence to the Health and Social Care Select Committee (IBI0013)</u>. [accessed 5 November 2024].

Eating Disorders and Internet Use, Part I: A Review of Empirical Support, Adolescent Research Review, 1, pp.95-119. [accessed 12 November 2024].

<sup>&</sup>lt;sup>1189</sup> Mental Health Foundation, 2019. <u>Body image: How we think and feel about our bodies.</u> [accessed 10 November 2024].

<sup>&</sup>lt;sup>1190</sup> The study assessed the association between social media use and depressive symptoms and investigated multiple potential explanatory pathways via online harassment, sleep, self-esteem and body image. It used population-based data from the UK Millennium Cohort Study. Multivariate regression and path models were used to examine associations between social media use and depressive symptoms. Source: Kelly, Y., Zilanawala, A., Booker, A. and Sacker, A., 2019. <u>Social Media Use and Adolescent Mental Health: Findings From</u> <u>the UK Millennium Cohort Study</u>, *EClinicalMedicine*, 9, pp.59-68. [accessed 23 November 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1192</sup> House of Commons Health and Social Care Committee, 2022. <u>The impact of body image on mental and physical health: Second report of session 2022-23</u>. [accessed 5 November 2024].

<sup>&</sup>lt;sup>1195</sup> The study assessed the association between social media use and depressive symptoms and investigated multiple potential explanatory pathways via online harassment, sleep, self-esteem and body image. It used population-based data from the UK Millennium Cohort Study. Multivariate regression and path models were used to examine associations between social media use and depressive symptoms. Source: Kelly, Y., Zilanawala, A., Booker, A. and Sacker, A., 2019. <u>Social Media Use and Adolescent Mental Health: Findings From</u> <u>the UK Millennium Cohort Study</u>, *EClinicalMedicine*, 9, pp.59-68.

<sup>&</sup>lt;sup>1196</sup> The Select Committee evidence from YoungMinds also demonstrated the impact of poor body image on how young people think about their bodies in daily life, such as being reluctant to engage in exercise, participate in school, or visit a GP, and how poor body image can result in a tendency to engage in behaviours such as problematic consumption of drugs and alcohol – all of which can, for some young people, "result in a reduced quality of psychological wellbeing and curtailed academic aspirations". Source: YoungMinds, 2022. <u>Written evidence to the Health and Social Care Select Committee (IBI0012)</u>, p.3. [accessed 5 November 2024]. <sup>1197</sup> stem4, n.d. <u>Body image among young people: negative perceptions and damaging content on social media,</u> <u>combined with pandemic fallout, contribute to a low sense of self-worth and a rise in eating difficulties, new</u>

survey reveals. [accessed 19 February 2025]. Subsequent references to this source throughout.

It is commonly related to concerns about weight or 'slimness' but can also be related to muscularity.<sup>1198</sup>

- 1.13 To identify a kind of content linked with body dissatisfaction and associated harms, we considered an element of negative comparison as important. For a provisional definition of harmful body image content, we therefore focused on shame and stigma. This shame or stigma may be applied to body types or physical features more broadly. We broadly considered that non-stigmatising content might focus on what the body can do, while stigmatising content might focus on problematising how the body looks.<sup>1199</sup> To be considered as NDC, a kind of content must also exclude content already covered within kinds of PPC and PC content. For example, certain types of extreme diet and fitness content would likely be considered eating disorder content.<sup>1200</sup>
- 1.14 Following an extensive review of the evidence, we noted a variety of types of body image-related content that could lead to harm to children. We considered that 'content that shames or otherwise stigmatises body types or physical features' (body stigma content) best captured this kind of harmful content. We found that the evidence tended to focus on three examples of content that would fall within this bucket: body shame content, content promoting physical ideals by problematising other body types and body-checking content. For further detail on these examples, see 'How harms manifests' sub-section below.

## **Our conclusion**

1.15 We propose 'content that shames or otherwise stigmatises body types or physical features' (body stigma content) as a kind of potentially harmful content. Having defined body stigma content, we then consider Steps 2 and 3 of the framework to assess whether this content meets the definition of NDC in the Act.

# Step 2: Is there a 'material risk of significant harm'?

- 1.16 To understand the risk of significant harm occurring, evidence is required to indicate a relationship between significant harm and a specific kind of content (here body stigma content). Based on that relationship, we make an assessment as to the 'material risk' or likelihood of harm occurring to children who encounter that content. Where the likelihood of significant harm arising is very low, then the risk may not be material.
- 1.17 We have identified evidence that suggests that encountering body stigma content presents a risk of significant harm to children, particularly when encountered in high volumes.

<sup>&</sup>lt;sup>1198</sup> A US study found that a third (29.5%) of boys aged 11-18 who participated were dissatisfied with their body shape, with the majority of these expressing interest in building muscle. Note: Of those who were dissatisfied with their body shape, the study found that 64% of these wanted to "increase muscle"; in particular, comments involved "building chest, arms, and abs". Although the analysis is from the US, this experience is likely to be also affecting boys in the UK. Source: Skemp, K., Elwood, R. and Reineke, D., 2019. <u>Adolescent Boys are at Risk for Body Image Dissatisfaction and Muscle Dysmorphia</u>, *California Journal of Health Promotion*, 17 (1), pp.61-70. [accessed 18 November 2024].

<sup>&</sup>lt;sup>1199</sup> At an expert roundtable held by Ofcom on body image content, the Mental Health Foundation recommended distinguishing between content focusing on the utility of the body and what it can do, could be separated from content focused on how the body looks and its size. Source: Ofcom, 2025. <u>Note from expert</u> roundtable on body image content.

<sup>&</sup>lt;sup>1200</sup> In the Guidance on eating disorder content, we include: 'body checks' and/or images of extreme thinness romanticising and showing protruding collarbones, hipbones, protruding rib bones or flat or concave stomachs, or 'thigh gaps', before and after weight-loss transformations. For more detail on identifying eating disorder content, including a list of examples, see Section 5 of our Guidance on Content Harmful to Children.

Dissatisfaction can be reinforced in ways that have lasting or severe physical or psychological impacts. Repeated encounters with body stigma content can lead to harms of **low self-esteem and psychological distress or disordered eating behaviours and exercise behaviours**, often via experiences of intense body dissatisfaction. We consider these harms to be significant. We also consider that the evidence demonstrates that there is a material risk of these harms arising. In particular, while isolated encounters with body stigma content increase the intensity and ubiquity of the harmful messaging, increasing the likelihood of the harm occurring. Evidence establishing this relationship between significant harm and body stigma content is set out in the 'Impacts' sub-section below.

1.18 The relationship outlined above indicates that repeated encounters with body stigma content increases the likelihood of harm occurring. From this, we conclude that there is a material risk of significant harm from this content, particularly when encountered in high volumes.

## **Our conclusion**

1.19 Assessing the evidence above and in the 'Impacts' sub-section, we conclude that body stigma content presents material risk of significant harm to children. At Step 3, we consider the number of children at risk from body stigma content.

# Step 3: Are an 'appreciable' number of children in the UK at risk?

- 11.1 To understand whether an appreciable number of children are at risk of significant harm from body stigma content, we consider the reach of body stigma content, and the size of any groups with vulnerabilities that increase the risk of significant harm.
- 1.20 Evidence suggests that nearly one in five children aged 13-17 in the UK (16%) have encountered body stigma content in the last four weeks.<sup>1201</sup> This indicates that an appreciable number of children are at risk of repeatedly encountering this content. Evidence relating to the reach of this content is set out in detail in the 'Presence' subsection below.
- 1.21 The impact body-image related content has on a child depends on the child's context and vulnerabilities.<sup>1202</sup> Evidence suggests that those with existing body image issues are both more likely to be negatively impacted by body stigma content, and to behave online in ways that lead to high volumes of body stigma content being recommended. We consider this group to be particularly at risk of significant harm. This is discussed in detail under 'User demographics: Physical and mental health' below.
- 1.22 We consider UK children with body image issues to be an 'appreciable' group. Body image issues are common among UK children, with nearly one in five (17%) UK 12-21-year-olds

<sup>&</sup>lt;sup>1201</sup> Ofcom, 2025. <u>Online Experiences Tracker (Wave 7</u>). [accessed 16 April 2025]. Described in this survey as 'Content that shames or stigmatizes certain body types e.g. body size, shape or features. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1202</sup> "Distinguishing between harmful and non-harmful content is very hard. It's a continuum. It depends on the context in which the child views the content. What's harmful on one day may not be harmful on a different day." Meeting with Dr. Lucy Biddle, Associate Professor at University of Bristol, September 2024.

experiencing body image issues, while three-quarters (77%) of children report being 'unhappy with the way they look' more broadly.<sup>1203</sup>

# Our conclusion

1.23 Based on the proportion of children encountering this content, and the prevalence of body image issues among the UK population, we conclude that an appreciable number of children are at material risk of significant harm from encountering this content.

# **Final assessment**

- 1.24 Having considered the three-step framework, we have concluded that 'content that shames or otherwise stigmatises body types or physical features' (body stigma content) meets the definition of NDC, in particular because of the harm that may arise when this content is encountered in high volumes. We have therefore included it within this risk assessment.
- 1.25 Examples that we consider to be body stigma content include:
  - 'Body shame' content, targeting or abusing others based on body type,
  - Content promoting body ideals, for example by negatively commentating on body types and physical features (e.g., 'how to get rid of [physical feature]'), and
  - 'Body checking' content that fixates and negatively commentates on physical features.
- 1.26 Other harmful content, already covered in other sections, that we therefore do not consider body stigma content includes:
  - 'Body-checking', diet or fitness content that promotes extreme dieting or disordered behaviours. This is considered in Section 5 of our Guidance on Content Harmful to Children, and Section 4 of our Children's Register.
  - Content targeting disabled bodies, to the extent that amounts to abuse and hate content. This is considered in Section 6 of our Guidance on Content Harmful to Children, and Section 5 of our Children's Register.
  - Body shaming content shared as part of a campaign of harassment, and therefore considered bullying content. This is considered in Section 7 of our Guidance on Content Harmful to Children and Section 6 of our Children's Register.
- 1.27 Related content that we do not consider harmful to children includes:
  - Content encouraging body acceptance or celebrating different body shapes,
  - Content encouraging healthy lifestyles (e.g., food content focused on nutrition, fitness content focused on strength), and
  - Content relating to fasting for religious reasons.

# How body stigma content manifests online

1.28 This sub-section looks at how body stigma content manifests online and how children may be at risk of harm from encountering it in high volumes.

<sup>&</sup>lt;sup>1203</sup> stem4, n.d. <u>Body image among young people: negative perceptions and damaging content on social media,</u> <u>combined with pandemic fallout, contribute to a low sense of self-worth and a rise in eating difficulties, new</u> <u>survey reveals</u>.

- 1.29 Body stigma content can take the format of short-form media, including pictures and videos. It can also be found in user commentary within comment threads under posted content. As explored in the sub-section 'Service type', this is primarily found on large services such as video-sharing and social media services.
- 1.30 We consider that body stigma content may include or appear as: body shame content, content promoting physical ideals and body-checking content.<sup>1204</sup>
  - *a)* **Body shame content** targets a child user, other users or public figures for being overweight or underweight. For example, an 11-year-old girl in a study described how more 'realistic' bodies can be targeted: "if someone's fat and wearing a bikini they get made fun of because they're fat and you shouldn't be in a bikini."<sup>1205</sup>
  - b) Content promoting physical ideals suggests that certain physical features are better or more worthy, and may promote thin, muscular or colourist ideals.<sup>1206</sup> This may include some fitness, beauty or diet-related content that stigmatises or negatively commentates on certain physical features or physiques. For example, non-stigmatising content might provide instructions on 'how to build your core strength', while stigmatising content might discuss 'how to get rid of your belly fat'.
  - c) **'Body-checking content'** is described in one study as a content showing "hyper-fixation of one's body in the mirror."<sup>1207</sup> We consider this harmful when accompanied by a critical or stigmatising commentary. As a 19-year-old participant in an Ofcom study described, "there's this thing called 'body checking' where people will source skimpy clothing and stand in front of the camera and show how skinny they are, and the caption will be like 'I hate my body so much, look how fat I am', but they won't be."<sup>1208</sup>

# Presence

1.31 The evidence suggests that nearly one in five children have encountered body stigma content recently. Ofcom's Online Experiences Tracker found that 16% of UK internet users

<sup>&</sup>lt;sup>1204</sup> Please note that body checking content can be considered eating disorder content where it encourages, promotes or provides instructions for eating disorders. For example, where it glamourises, glorifies, romanticises or normalises eating disorders or extreme thinness. See Section 5 in our Guidance on Content Harmful to Children.

<sup>&</sup>lt;sup>1205</sup> See p.1064 of Ringrose, J., Milne, B. Horeck, T. and Mendes, K., 2024. <u>Postdigital Bodies: Young People's</u> <u>Experiences of Algorithmic, Tech-Facilitated Body Shaming and Image-Based Sexual Abuse during and after the</u> <u>COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075. [accessed 10 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1206</sup> At an expert roundtable held by Ofcom on body image content, Dr Helen Sharpe described fitness content that depicts ideals compared with health and fitness content, where more value is placed on certain (thinner) body types, as problematic: "[the issue is] The idea that like thinner bodies are better, more valuable, more worthy of love, respect [...] It's perfectly fine to have a, you know, a fitness kind of goal and use social media as a way of kind of motivating yourself through that. But it's the idea that, a body [...] is more worthy than another type of body that somehow gets at the crux of the issue." Source: Ofcom, 2025. <u>Note from expert</u> <u>roundtable on body image content.</u>

<sup>&</sup>lt;sup>1207</sup> An example includes young woman in gym clothes posing in front of mirror exposing a flat stomach with accompanying text encouraging viewers to 'become this girl with me' Source: Munro, E., Wells, G., Paciente, R., Wickens, N., Ta, D., Mandzufas, J., Lombardi, K. and Woolard, A., 2024. <u>Diet culture on TikTok: a descriptive content analysis</u>. *Public Health Nutrition*, 27 (1).

<sup>&</sup>lt;sup>1208</sup> In Ofcom research, a 19-year-old participant with lived experience described the nature of body checking content: "There's this thing called 'body checking' where people will source skimpy clothing and stand in front of the camera and show how skinny they are, and the caption will be like 'I hate my body so much, look how fat I am', but they won't be." Source: Ofcom (Ipsos UK and TONIC Research), 2024. <u>Online content: qualitative research – Experiences of children encountering online content relating to eating disorders, self-harm and suicide</u>.

aged 13-17 had seen or experienced content that shames or stigmatises certain body types (e.g., body size, shape or features) in the four weeks prior to the research.<sup>1209</sup> Internet Matters found that 15% of children aged 9-17 reported experiencing content that promotes unrealistic body types, an increase from 12% in 2022.<sup>1210</sup> However, children's interpretation of 'unrealistic body types' may be broader than our definition of body stigma content.

- 1.32 There is a general feeling of concern among young people in the UK about this type of content online. Our research found that almost half (47%) of UK internet users aged 13-17 were highly concerned by content that shames or stigmatises certain body types (e.g., body size, shape or features).<sup>1211</sup>
- 1.33 Other evidence suggests diet-related content which would likely include body stigma content is easily available to children online and has a wide reach. Diet-related hashtags have a high reach on social media. A study looking at the content attached to five of the most popular diet-related hashtags on a video-sharing service found that the videos had combined views of almost 40 billion (as of September 2022) as determined by the number of views associated with them.<sup>1212</sup> This study also found that 57% of the most popular diet-related hashtags on the service portrayed 'body checking'.<sup>1213</sup>
- 1.34 There is evidence to suggest that young people's experiences of online body shaming have increased in recent years. In a study of 13-18-year-olds that took place following Covid-19 lockdowns, almost one in five (19%) respondents had experienced body shaming or mean comments online about the way they look since Covid-19 began. Of respondents who had experienced this, 55% said that body shaming had increased during the pandemic.<sup>1214</sup>

# Impacts

1.35 The evidence highlights a number of physical and psychological harms from body stigma content. These include low self-esteem, psychological distress and disordered eating and exercise behaviours. At an expert roundtable held by Ofcom, attendees told us that children often experience these harms due to intense body dissatisfaction largely driven by high volumes of online body stigma content.<sup>1215</sup> As set out in the evidence below, risk of harm from body stigma content occurs primarily following repeated encounters with this content.

<sup>&</sup>lt;sup>1209</sup> Ofcom, 2025. <u>Online Experiences Tracker (Wave 7</u>). The term 'recently' refers to the four-week period before the research was conducted (i.e., January 2025). [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1210</sup> Internet Matters, 2024. <u>November 2024 tracker survey – insights into children's digital use</u>. [accessed 10 February 2025].

<sup>&</sup>lt;sup>1211</sup> Ofcom, 2025. <u>Online Experiences Tracker (Wave 7</u>).

<sup>&</sup>lt;sup>1212</sup> Munro et al., 2024. <u>Diet culture on TikTok: a descriptive content analysis</u>, *Public Health Nutrition*, 27 (1). [accessed 17 December 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1213</sup> Munro et al., 2024. <u>Diet culture on TikTok: a descriptive content analysis</u>, *Public Health Nutrition*, 27 (1). <sup>1214</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1215</sup> At an expert roundtable held by Ofcom on body image content, several attendees described how the pure volume of online content that many children encounter increases intensity and ubiquity of the messaging (that some bodies are less worthy), and this becomes powerful and potentially dangerous. Source: Ofcom, 2025. Note from expert roundtable on body image content.

# Low self-esteem and psychological distress

- 1.36 Viewing body stigma content is associated with low self-esteem and psychological distress. We consider this a lasting psychological harm that is most likely to occur when body stigma content is encountered in high volumes. Body-shaming content and content promoting physical ideals are particularly associated with this harm.
- 1.37 Evidence suggests that body-shaming content is linked to lasting self-esteem issues and psychological distress. In a survey among 13-18-year-olds, almost one in five (19%) had experienced body shaming of their appearance. Two-thirds (66%) of these children were upset when targeted with this content.<sup>1216</sup> The qualitative component of the same study suggested a more intense psychological experience: a participant described seeing "horrible comments" on posts "just body shaming and making someone feel horrendous about themselves."<sup>1217</sup> Evidence also suggests that children feel at least some psychological harm in encountering body-shaming content, even if not targeted at them individually. In the same study with 13-18-year-olds, participants frequently commented that they most disliked "hateful comments" about people's bodies when asked about their experiences of social media.<sup>1218</sup> This particular dislike of body-shame content is indicative of the psychological distress caused by body shaming.
- 1.38 Content promoting physical ideals such as thinness or muscularity is associated with body dissatisfaction. Qualitative or observational evidence describes how over time, body dissatisfaction can reach an intensity at which children experience psychological distress and lasting self-esteem issues. <sup>1219</sup> A 15-17-year-old girl described how, "when I see adverts or images online of people promoting a certain body ideal I hate it. It makes me feel awful and I then begin to hate my body even more than I previously did before, no matter what anyone says". <sup>1220</sup> Repeated encounters with content promoting muscular ideals can be similarly damaging to psychological health. Doctors cited in a recent US news article describe how the "relentless online adulation of muscular male bodies can have a toxic effect on the self-esteem of young men", making them feel inadequate and anxious. <sup>1221</sup> This is often referred to as 'bigorexia'. Children have also reported on the pressure to conform to masculine stereotypes, such as being tall and muscular, affecting their self-image: "It's

<sup>&</sup>lt;sup>1216</sup> A study from 2024 found that nearly one in five (18.8%) 13-18-year-old respondents had experienced body shaming or mean comments online about the way they look since Covid-19 began. Two-thirds (65.9%) said that they were upset by the experience. Source: Ringrose et al., 2024. <u>Postdigital Bodies: Young People's</u> <u>Experiences of Algorithmic, Tech-Facilitated Body Shaming and Image-Based Sexual Abuse during and after the</u> <u>COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1217</sup> "I see a lot of body shaming on TikTok. It's mainly girls that are targeted, I think. Say for example if a woman posted herself either doing a TikTok dance or something, you would maybe go in the comments and you would see horrible, horrible comments, just body shaming and making someone feel horrendous about themselves." Source: See p.1065 of Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body Shaming and Image-Based Sexual Abuse during and after the COVID-19</u> Pandemic in England, Youth, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1218</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

 <sup>&</sup>lt;sup>1219</sup> See 'Impacts' sub-section for evidence linking body stigma content to body dissatisfaction.
<sup>1220</sup> House of Commons Women and Equalities Committee, 2020. <u>Body Image Survey Results: First special</u> report of session 2019-21. [accessed 26 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1221</sup> A report in The New York Times highlighted 'bigorexia', where a social media diet of perfect bodies is spurring some boys to form muscle dysmorphia. Source: Hawgood, A., 2023. <u>What is Bigorexia?</u> The New York Times, 22 June. [accessed 8 November 2024].

not only women and its men too. It affects everything and it sucks" (boy aged 15-17).<sup>1222</sup> This content can take the form of fitness content: evidence also suggests that despite its motivational intent, content promoting fitness routines can stimulate changes in individuals' perceptions of their bodies and internalise ideals, resulting in negative body image and lower self-esteem.<sup>1223</sup> Low self-esteem relating to body image can see children considering to make changes to their bodies: a Girlguiding report indicated that 23% of 11-21-year-olds had considered having a cosmetic procedure after seeing a celebrity or influencer having it online.<sup>1224</sup>

1.39 Evidence suggests content promoting colourist ideals (such as skin-lightening products and practices) is similarly associated with lasting psychological harm, again often via skin-shade or body dissatisfaction. At an expert roundtable, the Mental Health Foundation shared that skin lightening content was a particular concern among children and young people they engage with.<sup>1225</sup> Further, analysis of content promoting skin whitening observes patterns that suggest a concerning relationship between content promoting this content and body dissatisfaction. Skin-whitening content elevates lighter skin as the standard of beauty, therefore promoting colourist ideals.<sup>1226</sup> Experiences of colourism are associated with negative body image and psychological distress among ethnic minority groups.<sup>1227</sup> We therefore consider that, particularly when reinforced through repeated encounters, skin-lightening content presents risk of significant harm.

## **Disordered eating and exercise behaviours**

1.40 While the psychological causes of eating disorders are complex, evidence suggests that body stigma content can create body dissatisfaction that, when intensified over time, manifests into disordered eating or exercise behaviours.<sup>1228</sup> Body-checking content is also linked to body dissatisfaction in children.<sup>1229</sup> In a study with female undergraduate

<sup>&</sup>lt;sup>1222</sup> House of Commons Women and Equalities Committee, 2020. <u>Body Image Survey Results: First special</u> report of session 2019-21.

<sup>&</sup>lt;sup>1223</sup> Jerónimo, F. and Viega Carraça, E., 2022. <u>Effects of fitspiration content on body image: a systematic</u> <u>review</u>, *Eating and Weight Disorders: Studies on Anorexia, Bulimia and Obesity*, 27 (1), pp.3017-3035. [accessed 7 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1224</sup> While this study does not focus on body stigma content, it demonstrates how children can be influenced by content promoting physical ideals through discussion of cosmetic procedures. Source: Girlguiding, 2023. <u>Girls' Attitudes Survey 2023</u>. [accessed 3 February 2025].

<sup>&</sup>lt;sup>1225</sup> Ofcom, 2025. <u>Note from expert roundtable on body image content.</u>

<sup>&</sup>lt;sup>1226</sup> A study from 2024 found that online viewers encountering content that promotes lighter skin as the standard of beauty may experience body dissatisfaction and this content impacts women of color. Source: Santoso, M., Duran, V., Lu, J., Bryn Austin, S. and Raffoul, S., 2024. <u>#Skin-Lightening: A content analysis of the most popular videos promoting skin-lightening products on TikTok</u>, *Body Image*, 52. [accessed 24 February 2025].

<sup>&</sup>lt;sup>1227</sup> Craddock, N., Gentili, C., Phoenix, A., White, P., Diedrichs, P. C. and Barlow, F. K., 2023. <u>Investigating the</u> role of perceived ingroup and outgroup colourism on body image and wellbeing among Black, Asian, and other racialised/ethnic minority groups living in the UK, *Body Image*, 46, pp.246-255. [accessed 27 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1228</sup> Jerónimo, F. and Viega Carraça, E., 2022. <u>Effects of fitspiration content on body image: a systematic</u> <u>review</u>, *Eating and Weight Disorders: Studies on Anorexia, Bulimia and Obesity*, 27 (1); National Eating Disorders Association, n.d. <u>Body Image and Eating Disorders</u>. [accessed 26 March 2025]

<sup>&</sup>lt;sup>1229</sup> At an expert roundtable held by Ofcom on body image content, Dr Petya Eckler described how focus on physical features, versus the body itself, can drive self-objectification and comparison likely to lead to negative body image. Source: Ofcom, 2025. <u>Note from expert roundtable on body image content</u>.

students, exposure to body-checking videos<sup>1230</sup> caused greater body dissatisfaction, as well as increased negative feelings in the participants when compared with groups exposed to body positivity<sup>1231</sup> or 'control' videos (videos without people in them).<sup>1232</sup> This content can specifically reinforce the notion that food should be primarily used for the manipulation of body weight and appearance.<sup>1233</sup> In their response to our May 2024 Consultation on Protecting Children from Harms Online, Beat also highlighted that particularly if encountered repeatedly or alongside eating disorder content, body-checking content risks contributing to problematic or disordered relationships to food or exercise.<sup>1234</sup> In a meeting with Ofcom, an academic expert described how if body-checking behaviours are seen repeatedly online, they can become normalised and become a habitual behaviour.<sup>1235</sup>

- 1.41 In Ofcom research with 13-21-year-olds, some participants with experiences of mental health difficulties, including eating disorders, <sup>1236</sup> described how content promoting physical ideals affected them: One participant described how "people, influencers, promoting being a certain weight [or detailing] w hat they'd eaten in a day", became a "comparison point for your eating. They'd do weigh-ins and a lot of it wasn't necessarily focused on being strong or being health, it was all focused on what do I look like, how thin can I be."<sup>1237</sup>
- 1.42 Other evidence also links body-shaming content to over-eating, and suggests that children teased or bullied due to their weight are more likely to binge eat or have decreased levels of physical activity. Evidence also suggests that they are at an increased risk of becoming overweight or obese in adolescence.<sup>1238</sup>

<sup>&</sup>lt;sup>1230</sup> Body-checking TikTok videos here means showing especially fit women looking at their bodies at various angles. Participants were aged over 18. Source: Westenberg, J. M. and Oberle, D. C., 2023. <u>The Impact of Body-Positivity and Body-Checking TikTok videos on body image</u>, *Journal of Social Media in Society*, 12 (1), pp.49-60. [accessed 17 December 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1231</sup> Body-positivity TikTok videos here means showing predominantly overweight women and encouraging women to love and accept their bodies. Source: Westenberg, J. M. and Oberle, D. C., 2023. <u>The</u> <u>impact of Body-Positivity and Body-Checking TikTok videos on body image</u>, *Journal of Social Media in Society*, 12 (1), pp.49-60.

<sup>&</sup>lt;sup>1232</sup> While this study is with undergraduate students, the mean age of participants was 18 and a half, and we consider these insights provide an indication of the potential impact of this content on children. Westenberg, J. M. and Oberle, D. C., 2023. <u>The impact of Body-Positivity and Body-Checking TikTok videos on body image</u>, *Journal of Social Media in Society*, 12 (1), pp.49-60.

<sup>&</sup>lt;sup>1233</sup> Munro et al., 2024. <u>Diet culture on TikTok: a descriptive content analysis</u>, *Public Health Nutrition*, 27 (1). <sup>1234</sup> Where users are continuously exposed to harmful content, this exacerbates body image issues and increases the risk of eating disorders. Source: <u>Beat</u> response to May 2024 Consultation on Protecting Children from Harms Online (May 2024 Consultation). [accessed 10 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1235</sup> Meeting with Dr. Lucy Biddle, Associate Professor at University of Bristol, September 2024.

 <sup>&</sup>lt;sup>1236</sup> The sample of participants with lived experience of mental health difficulties included those who had previously experienced eating disorders, self-harm or suicidal ideation, or anxiety and depression.
<sup>1237</sup> Ofcom, 2024. <u>Experiences of children encountering online content relating to eating disorders, self-harm</u> and suicide, p.21. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1238</sup> Clark, O., Lee, M. M., Jingree, M. L., O'Dwyer, E., Yue, Y., Marrero, A., Tamez, M., Bhupathiraju, S. N. and Mattei, J., 2021. <u>Weight Stigma and Social Media: Evidence and Public Health Solutions</u>, *Frontiers in Nutrition*, 8. [accessed 3 February 2025].

# **Evidence of risk factors on user-to-user services**

1.43 We consider that the risk factors below may increase the risk of harm to children from body stigma content. This is also summarised in the summary box at the start of the section.

# **Risk factors: User base**

## User base size

1.44 Larger services pose risks in relation to body stigma content, particularly where vast amounts of content are uploaded and then have the possibility of being amplified through recommender algorithms. See 'Recommender systems' sub-section for more information.

### **User demographics**

- 1.45 This sub-section outlines key evidence on user base demographic factors and risks of harm to children, which can include protected characteristics. Services should consider the intersecting influence of demographic factors on risk, which can be contextual, complex and involve multiple factors.
- 1.46 While anyone of any gender, ethnicity or background can be affected by body stigma content, evidence suggests that user base characteristics including the gender, mental health, sexual orientation and ethnicity of users could lead to an increased risk of harm to children.
- 1.47 This increased risk of harm to children may be an increased risk of encountering body stigma content, increased risk of experiencing different types of body stigma content, encountering it through specific pathways, or disproportionate impacts from encountering this content.

#### Gender 1239

- 1.48 Evidence suggests that boys and girls are both at risk from this content, though they may experience it differently.<sup>1240</sup> Girls are more likely to experience body shaming. In a survey of 13-18-year-olds in the UK, 24% of girls said they had experienced body shaming compared to 10% of boys.<sup>1241</sup> The nature of body shaming also varies by gender. Girls describe a focus on the 'thin ideal', such as fatphobic comments underneath a picture of someone in a bikini. Body shaming among girls has been linked to other forms of abuse, such as sexualisation and 'slut-shaming'.<sup>1242</sup>
- 1.49 Evidence suggests that boys have a distinctive experience of body stigma content. For example, research suggests that boys also experience body shaming, but that this has been normalised as "harmless banter", which has led to a reluctance for them to challenge

<sup>&</sup>lt;sup>1239</sup> We use this term to refer to a child's sex (as discussed in this sub-section) and to gender reassignment (as discussed in the sub-section below). We have used the term 'gender' in both cases as it is more commonly used in contemporary language and in the relevant evidence cited about the risk of harm. <sup>1240</sup> Beat response to May 2024 Consultation, p.2.

<sup>&</sup>lt;sup>1241</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1242</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

certain comments.<sup>1243</sup> Boys are also more likely to face pressure related to conforming to muscular ideals, sometimes referred to as 'bigorexia'.<sup>1244</sup> Online social media trends such as 'looksmaxxing' have also been said to target boys who are seeking to improve their appearance and which focus on particular physical features, such as the jawline. The evidence indicates that these types of content suggest 'soft' improvements (such as moisturising), but also 'hard' improvements related to harmful behaviours, such as cosmetic surgery, steroid use, disordered eating, etc.<sup>1245</sup> Some of this content would be covered by content promoting harmful substances such as use of steroids, but other content is likely to meet the definition of body stigma content. This content has roots in online incel (involuntary celibates<sup>1246</sup>) forums, so may be particularly harmful when viewed in combination with other kinds of harmful content.<sup>1247</sup>

1.50 Girls are disproportionately likely to be concerned by body stigma content. Almost half (47%) of UK internet users aged 13-17 are highly concerned by content that shames or stigmatises certain body types (e.g., body size, shape or features). In particular, girls aged 13-17 are significantly more likely to say they are highly concerned by it (54%) than boys of the same age (40%).<sup>1248</sup> Research by Internet Matters found that 12% of children say spending time online mostly or definitely makes them worried about their body shape or size: this is higher among girls, particularly girls aged 15-16 years old (20%).<sup>1249</sup> However, as discussed above, boys may be less inclined to report body stigma as harmful. Therefore, higher concern among girls does not necessarily mean that this content is more prevalent among this group.

<sup>1248</sup> Ofcom, 2025. Online Experiences Tracker (Wave 7).

<sup>&</sup>lt;sup>1243</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1244</sup> <u>Centre for Countering Digital Hate</u> response to May 2024 Consultation [accessed 3 February 2025], p.4; Bologna, C., 2025. <u>'Bigorexia' Is On The Rise. Here's What Parents Should Know</u>. The Huffington Post, 3 February. [accessed 20 February 2025].

 <sup>&</sup>lt;sup>1245</sup> Rosdahl, J., 2024. 'Looksmaxxing' is the disturbing TikTok trend turning young men into incels. The Conversation, 31 January; Farrell, R., 2024. <u>Inside looksmaxxing, the extreme cosmetic social media trend</u>. BBC, 26 March.

<sup>&</sup>lt;sup>1246</sup> "Incels are a sub-culture community of men who forge a sense of identity around their perceived inability to form sexual or romantic relationships." Source: Commission for Countering Terrorism (Whittaker, J., Costello, W. and Thomas, A. G.), 2024. <u>Predicting harm among incels (involuntary celibates): the roles of mental health, ideological belief and social networking (accessible)</u>. [accessed 18 March 2025].

<sup>&</sup>lt;sup>1247</sup> Rosdahl, J., 2024. <u>'Looksmaxxing' is the disturbing TikTok trend turning young men into incels</u>. The Conversation, 31 January. [accessed 20 February 2025]. Subsequent references to this source throughout; Farrell, R., 2024. <u>Inside looksmaxxing, the extreme cosmetic social media trend</u>. BBC, 26 March. [accessed 20 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1249</sup> Internet Matters, 2024. <u>Children's Wellbeing in a Digital World: Year Three Index Report 2024</u>. [accessed 17 December 2024].

#### Sexual orientation and gender<sup>1250</sup>

- 11.2 The evidence highlights that LGBTQ+<sup>1251</sup> children may be at an increased risk from body stigma content.
- 11.3 Evidence indicates that sexual minorities are at disproportionate risk of body shaming. This is explored in a study of both online and in-person body shaming. The research showed 28% of sexual minorities experienced body shaming (compared to an average of 19%). In the qualitative study, several gay, bisexual and non-binary children stated that this body shaming was often combined with homophobic content, and commented on the challenges of representing themselves online because of fears over body and appearance shaming.<sup>1252</sup> This shows how body stigma content can interact with other kinds of harmful content, such as abuse and hate (see Section 5: Abuse and hate content). The same study found that gender minorities also experienced higher than average rates of body shaming (23%).<sup>1253</sup>
- 11.4 In an expert roundtable held by Ofcom on body image content, the Mental Health Foundation also asserted the importance of considering the impacts of body image-related content on gay and trans communities: "we know that the impacts are different and we know that issues around body image can come up at life transition points, which is likely to include coming out, transitioning. The images that social media served to people at that particular time, which may also be a time when they're vulnerable to mental health problems, are likely to have an outsized influence on them."<sup>1254</sup> Beat also reported that individuals from LGBTQ+ groups may face unique pressures and stressors related to their gender and sexual orientation, which can exacerbate body image issues and increase the risk of eating disorders.<sup>1255</sup>

#### Physical and mental health

11.5 In this sub-section, we consider body image issues, as well as experience of an eating disorder, to be a mental health-related concern. Evidence suggests that those with existing body dissatisfaction or body image concerns, or those with current or previous experience of eating disorders may be at an increased risk from this content. A study in Spain with girls aged 11-17 found that participants with greater body image self-discrepancy experienced

<sup>&</sup>lt;sup>1250</sup> We use this term to refer to a child's sex (as discussed in the sub-section above) and to gender reassignment (as discussed in this sub-section). In section 62(11) of the Act, the characteristic of gender reassignment is defined as follows: "if the person is proposing to undergo, is undergoing or has undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attributes of sex". We have used the term 'gender' as it is more commonly used in contemporary language and in the relevant evidence cited about the risk of harm."

<sup>&</sup>lt;sup>1251</sup> Throughout this section, references are made to variations of the acronym LGBTQIA+, which stands for lesbian, gay, bisexual, transgender, queer (or questioning), intersex, asexual and others. Not all of the evidence sources quoted within this section use this full acronym; there will be instances of shorter versions also, such as LGBT, which reflect the acronyms used in each source.

<sup>&</sup>lt;sup>1252</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1253</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1254</sup> At an expert roundtable held by Ofcom on body image content, the Mental Health Foundation recommended distinguishing between content focusing on the utility of the body and what it can do, could be separated from content focused on how the body looks and its size. Source: Ofcom, 2025. <u>Note from expert</u> <u>roundtable on body image content.</u>

<sup>&</sup>lt;sup>1255</sup> <u>Beat</u> response to May 2024 Consultation, p.2.

heightened body image concerns when exposed to 'fitspiration' content by influencers, leading to decreased body satisfaction.<sup>1256</sup>

- 11.6 The disproportionate risk to children with body image issues has a psychological basis. According to social comparison theory, children with body image concerns are more likely to seek out or pay attention to content promoting physical ideals in pursuit of upward social comparison, creating a vicious cycle of comparison and dissatisfaction.<sup>1257</sup> Given content recommender systems curate feeds of content based on a variety of signals such as user engagement patterns and behaviour, this behaviour is likely to lead to further body stigma content being recommended. Children with body image issues are therefore not only at risk of significant harm, but likely to behave in ways that may lead to increasing volumes of body stigma content being recommended.
- 11.7 The risk to children with body image issues is highlighted by organisations working with children: Barnardo's flag that a child recovering from an eating disorder could be retriggered into negative thoughts or behaviours even if they were proactively avoiding eating disorder content because of how body image content is branded by others (e.g., less obvious names).<sup>1258</sup> Beat highlight that certain body image content, including content which specifically promotes body comparison and self-objectification, can be associated with not just the development, but also the maintenance of eating disorders.<sup>1259</sup>

## Ethnicity

11.8 There is some evidence to suggest that certain ethic minority groups placed distinctive emphasis on physical ideas deeply rooted in societal norms and expectations.<sup>1260</sup> For example, evidence suggests that Asian communities are particularly affected by content promoting skin lightening, and that skin-shade dissatisfaction among people of colour may contribute to a worse body image and higher levels of psychological distress.<sup>1261</sup>

# **Risk factors: Service types**

11.9 Research suggests that children are at an increased risk of encountering body stigma content on **social media services** and **video-sharing services**. A user-to-user service may contain more than one service type.

<sup>&</sup>lt;sup>1256</sup> Feijoo, B., Hudders, L., de Brabandere, M. and De Jans, S., 2024. <u>The Pressure for the Perfect Shape. The</u> <u>Relation Between Adolescents' Body Image Self-Discrepancy and Body Image Concerns When Exposed to</u> <u>Sponsored Fitfluencer Content</u>. In: Vignolles, A. and Waiguny, M. K. (eds), Advances in Advertising Research XIV. Springer Gabler, Wiesbaden. [accessed 11 December 2024].

<sup>&</sup>lt;sup>1257</sup> A study on 'social comparison' theory argues that those that are already anxious or uncertain about their body image seem to be particularly likely to seek out standards for (upward) social comparison, for example, more likely to seek images of those they believe are better than them, thinking about how they do not meet the same standards and creating a cycle of comparison and dissatisfaction. Source: Tiggemann, M., Hayden, S., Brown, Z. and Veldhuis, J., 2018. <u>The effect of Instagram 'likes' on women's social comparison and body</u> <u>dissatisfaction</u>, *Body Image*, 26, pp.90-97. [accessed 13 February 2025]. Subsequent references to this source throughout.

 <sup>&</sup>lt;sup>1258</sup> <u>Barnardo's</u> response to May 2024 Consultation, p.23. [accessed 10 February 2025]
<sup>1259</sup> <u>Beat</u> response to May 2024 Consultation, p.2.

<sup>&</sup>lt;sup>1260</sup> Cini, E., Lewis, H. K. and Vasey, M., 2024. <u>Cultural differences in eating disorders with particular emphasis</u> <u>on British South Asian communities</u>, *Cutting Edge Psychiatry in Practice*, pp.31-32. [accessed 27 February 2025].

<sup>&</sup>lt;sup>1261</sup> Craddock et al., 2023. <u>Investigating the role of perceived ingroup and outgroup colourism on body image</u> and wellbeing among Black, Asian, and other racialised/ethnic minority groups living in the UK, *Body Image*, 46, pp.246-255.

# Service type

## Social media services and video-sharing services

- 11.10 The evidence suggests that children encounter body stigma content on social media services and video-sharing services. These types of services frequently use content recommender systems to allow content (particularly images and videos) to be rapidly shared and recommended to large audiences, and potentially seen by a large number of children. Refer to sub-section 'Recommender systems' within this section for more information.
- 11.11 In Ofcom's Online Experiences Tracker, of UK internet users who had seen 'content that shames or stigmatises certain body types e.g. body size, shape or features' in the past month, 66% had seen this on a social media service, and 16% had seen it on a video-sharing service (note: base too low to look at children only, so this data is for all respondents aged 13-65+).<sup>1262</sup>

# **Risk factors: Functionalities and recommender systems**

## User communication

### **Posting content**

11.12 Functionalities that allow users to post content are a risk factor for body stigma content. Content posting functionalities can allow users to upload body stigma content which may be amplified to child users by content recommender systems (see 'Recommender systems' sub-section).

## **Commenting on content**

- 11.13 There is evidence of children being exposed to shaming or stigmatising of body types in comment sections on user-generated content.<sup>1263</sup> Content promoting body positivity is particularly likely to be targeted by users posting body-shaming content or comments. A participant in Year 9 stated "I see a lot of body shaming on TikTok. It's mainly girls that are targeted, I think. Say for example if a woman posted herself either doing a TikTok dance or something, you would maybe go in the comments and you would see horrible, horrible comments, just body shaming and making someone feel horrendous about themselves".<sup>1264</sup>
- 11.14 In the same study, some young participants expressed how they most disliked seeing hateful comments about individual's bodies on social media platforms. Participants completed an exercise where they would write/draw on a mobile phone template to illustrate their experiences on social media. A boy in Year 10 depicted a body positivity post of an influencer saying 'I like the way I look' and wrote contrasting negative comments underneath his drawing saying "'why ur fat', 'ew your ugly', 'go do some exercise'".<sup>1265</sup>

<sup>&</sup>lt;sup>1262</sup> Ofcom, 2024/25. Online Experiences Tracker (Wave 6 and 7 combined).

<sup>&</sup>lt;sup>1263</sup> Kudlová, K., Hollá, K., Turzík, J. and Hrkotáčová, N., 2024. <u>Body Shaming in Online Space: Systematic</u> <u>Review</u>, *Journal of Ecohumanism*, 3 (8), pp.247-263.

<sup>&</sup>lt;sup>1264</sup> Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-Facilitated Body</u> <u>Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

<sup>&</sup>lt;sup>1265</sup> See p.1065 of Ringrose et al., 2024. <u>Postdigital Bodies: Young People's Experiences of Algorithmic, Tech-</u> <u>Facilitated Body Shaming and Image-Based Sexual Abuse during and after the COVID-19 Pandemic in England</u>, *Youth*, 4 (3), pp.1058-1075.

#### **Reacting to content**

- 11.15 Evidence indicates that affirmation-based functionalities may provide additional validation on certain body types or parts depicted in body stigma content, contributing to increased comparison and dissatisfaction that this content can cause. In a meeting with Ofcom, an academic expert flagged that these functionalities can increase risk of harm, for example, if a user-generated post achieves a higher number of 'likes' or comments that can validate behaviours, attitudes or appearances presented.<sup>1266</sup>
- 11.16 Evidence suggests that those more vulnerable to harm from body stigma content due to existing body image issues are more invested in or affected by 'likes', and therefore may be more susceptible to seeing body stigma content as validated by receiving likes. A study with female undergraduate students in Australia<sup>1267</sup> suggested that greater investment (i.e., perceived importance)<sup>1268</sup> in affirmation-based functionalities (e.g., 'likes') is associated with body image issues such as increased appearance comparison and facial dissatisfaction in young women.<sup>1269</sup> Other evidence suggests that certain groups of children could be more vulnerable to effects of 'likes' on their wellbeing. A survey by Common Sense Media and Hopelab on teens and young adults aged 14-22 in the US showed that young women and girls, Black youth and those with moderate to severe depressive symptoms were significantly more likely to report that they focus too much on numbers, followers, 'likes', shares and comments on social media.<sup>1270</sup>

## **Content exploring**

### **Content tagging**

11.17 Evidence suggests that body stigma is often encountered through content tagging such as hashtags. Diet-related hashtags, which are likely to capture some body stigma content, have a high reach on social media. A study looking at the content under five of the most popular diet-related hashtags on TikTok found that the videos had combined views of almost 40 billion (as of September 2022).<sup>1271</sup>

<sup>&</sup>lt;sup>1266</sup> Meeting with Dr. Lucy Biddle, Associate Professor at University of Bristol, September 2024.

<sup>&</sup>lt;sup>1267</sup> Note: This study was based on 220 female undergraduate students from Australia, aged between 18 and 30 (mean age = 20.13 years). It employed an experimental design to examine the effect of the number of likes accompanying Instagram images on body and facial dissatisfaction. The study also showed examples of 'thinideals' to young adults. While we would caution methodologies that involve exposing participants to potentially harmful content, even if participants are adults, the findings of this study are nevertheless helpful for indicating the impact of content relating to physical ideals on children and young people. Source: Tiggemann et al., 2018. <u>The effect of Instagram 'likes' on women's social comparison and body dissatisfaction</u>, *Body Image*, 26, pp.90-97.

<sup>&</sup>lt;sup>1268</sup> The study explains that participants were asked the degree of importance they would place on the number of likes on their own and someone else's photographs. This was used to produce an average and calculate a measure of 'investment' in likes. Source: See p.92 of Tiggemann et al., 2018. <u>The effect of Instagram 'likes' on</u> <u>women's social comparison and body dissatisfaction</u>, *Body Image*, 26, pp.90-97.

<sup>&</sup>lt;sup>1269</sup> While the sample of the study is young women in Australia, the observed association between affirmationbased functionalities and body image issues provides helpful context on the experiences of girls and young women in the UK as well. Source: Tiggemann et al., 2018. <u>The effect of Instagram 'likes' on women's social</u> <u>comparison and body dissatisfaction</u>, *Body Image*, 26, pp.90-97.

<sup>&</sup>lt;sup>1270</sup> Common Sense and Hopelab, 2024. <u>A Double-Edged Sword: How Diverse Communities of Young People</u> <u>Think About the Multifaceted Relationship Between Social Media and Mental Health</u>. [accessed 11 December 2024].

<sup>&</sup>lt;sup>1271</sup> Munro et al., 2024. Diet culture on TikTok: a descriptive content analysis, Public Health Nutrition, 27 (1).

11.18 In our discussion on eating disorder content (see Section 4 of the Children's Register), we identify how general health and fitness-related hashtags can be attached to content that may contain extreme dieting and/or excessive exercise regimes. It seems likely that hashtags that seemingly promote 'healthy' lifestyles may also be applied to body stigma content.

## **Content editing**

### **Editing visual media**

- 11.19 Beautifying filters or other editing tools are used to create content that may meet the definition of body stigma content (e.g., content promoting physical ideals).
- 11.20 These functionalities also give children the tools that enable them to create the 'perfect' face and body.<sup>1272</sup> Increasing numbers of services have filters and design software that include artificial intelligence (AI)-powered image editors and image generators, and these are increasingly used by children. These editors can smooth skin, alter facial features or even change someone's body type.<sup>1273</sup> An article by The Children's Society highlights an eating disorder awareness group that had asked an AI tool to generate the most 'desirable' man and woman. The tool generated a 'perfect' man with defined muscles, and a 'perfect' woman with a slim figure.<sup>1274</sup>
- 11.21 Using these functionalities to create body stigma content can be particularly harmful if there is no transparency on the use of filters. Children are less likely to critically analyse images or consider that they may be altered.<sup>1275</sup> This content can then create false perceptions that the ideals promoted represent achievable or natural standards of beauty,<sup>1276</sup> which may serve to increase shame felt towards other body types. Moreover, a report by the Children's Commissioner for England identified how filters can be added as a default setting. The research found that consistently seeing filtered images affected young people's mental health.<sup>1277</sup> Other studies report on children and young people seeking surgery to look more like edited photos on social media.<sup>1278</sup>

## **Recommender systems**

#### Content recommender systems

- 11.22 Services which deploy content recommender systems are at higher risk for recommending and suggesting body stigma content to children. Refer to Section 16: Wider context to understanding risk factors for more information on how recommender systems work and how they can pose a risk to children.
- 11.23 In an Ofcom study, children reported that they were recommended high volumes of body image-related content, having signalled an interest in this. Although this evidence relates to

<sup>1276</sup> Beat response to May 2024 Consultation, p.2.

<sup>&</sup>lt;sup>1272</sup> <u>Common Sense Media</u> response to May 2024 Consultation, p.8. [accessed 5 February 2025].

<sup>&</sup>lt;sup>1273</sup> The Children's Society, 2023. <u>Artificial Intelligence, body image and toxic expectations</u>. [accessed 10 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1274</sup> The Children's Society, 2023. <u>Artificial Intelligence, body image and toxic expectations</u>; The Bulimia Project, n.d. <u>Scrolling Into Bias: Social Media's Effect on AI Art</u>. [accessed 10 March 2025].

<sup>&</sup>lt;sup>1275</sup> UK Parliament, 2023. <u>Written evidence submitted by Barnardo's</u>. [accessed 7 January 2025].

<sup>&</sup>lt;sup>1277</sup> Children's Commissioner for England, 2024. "<u>I've seen horrible things": children's experiences of the online</u> world. [accessed 10 December 2024].

<sup>&</sup>lt;sup>1278</sup> House of Commons Women and Equalities Committee, 2021. <u>Changing the perfect picture: an inquiry into</u> <u>body image</u>. [accessed 7 January 2025]. Subsequent references to this source throughout.

body image content more generally, this may include content that we would consider body stigma content. In an Ofcom ethnographic study, one participant (aged 17) mentioned how he developed an interest in the gym and body building during the Covid-19 lockdowns. Over time, the content on his social media feeds had shifted from funny memes and car content to gym-focused content, most of which was images of very muscled and extreme body shapes. Content relating to body image similarly dominated one 15-year-old participant's feed. She was primarily interested in fitness content because of her goal of becoming a professional athlete but said that a lot of the content she saw related more to modelling and weight loss as opposed to athletic performance: "It's like just models and bikinis with small waists and stuff".<sup>1279</sup> As set out in the 'Impacts' sub-section, the risk of significant harm (such as the development of eating disorders) is related to repeatedly encountering body stigma content.

11.24 Functionalities combine to increase the risk of harm. For example, the use of hashtags (see 'Content exploring' sub-section above) in promoting such content increases the risk of this content being amplified by recommender systems. If a user engages with popular hashtags relating to diet content, the recommender system will likely continue exposing them to similar content.<sup>1280</sup>

# **Risk factors: Business model and commercial profile**

## **Revenue models**

### Advertising-based model

- 11.25 Services with an advertising-based business model provide an incentive for individuals to maximise engagement with their content, create large followings and become 'influencers'. Such a model risks incentivising the creation and dissemination of body stigma content, particularly if, as set out in 'Physical and mental health' sub-section, children with body image issues are already drawn to images that represent upward social comparison. <sup>1281</sup>
- 11.26 This business model may also incentivise individuals to promote particular products that are advertised as helping to achieve aspirational body shapes. These products may be unsuitable for children.<sup>1282</sup>

<sup>&</sup>lt;sup>1279</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 7 January 2025]. <sup>1280</sup> Munro et al., 2024. <u>Diet culture on TikTok: a descriptive content analysis</u>, *Public Health Nutrition*, 27 (1). <sup>1281</sup> A study on 'social comparison' theory argues that those that are already anxious or uncertain about their body image seem to be particularly likely to seek out standards for (upward) social comparison, for example, more likely to seek images of those they believe are better than them, thinking about how they do not meet the same standards and creating a cycle of comparison and dissatisfaction. Source: Tiggemann et al., 2018. <u>The</u> <u>effect of Instagram 'likes' on women's social comparison and body dissatisfaction</u>, *Body Image*, 26, pp.90-97. <sup>1282</sup> House of Commons Women and Equalities Committee, 2021. <u>Changing the perfect picture: an inquiry into</u> <u>body image</u>.

# 12. Search services

Warning: this section contains references to content that may be upsetting or distressing, including discussions of suicide, self-harm, eating disorders and sexual violence.

#### Summary

In this section, we consider the risk of children encountering harmful content through search services. Most children use search services in some capacity. Our evidence shows that children can access many kinds of harmful content via search services, sometimes with relative ease. This presents a notable risk to children.

The underlying risk of children encountering harmful content via search services stems from the fact that content harmful to children may be indexed and can be presented in search results if the results ranking system – an automated process that determines what the most relevant search results are and what order to present them – enables it. Research explicitly focused on the risk of harm to children from encountering harmful content via search services is limited.

## Risk factors: Service types

Evidence shows that **general search services** are likely to present a higher risk to child users than vertical search services, as they offer users access to web pages from across the clear web.

# Risk factors: Functionalities

Our evidence also indicates that **predictive and suggestive search** functionalities, as well as **image and video search**, can increase the risk of harm to children by leading them to or presenting them with harmful search results.

# Introduction

12.1 Search services are the starting point of many users' online journeys and play a crucial role in making content accessible, including for children. Search services can cause harm to children by providing a means for child users to locate and access content that is harmful to them.<sup>1283</sup>

<sup>&</sup>lt;sup>1283</sup> See section 60 of the Online Safety Act 2023 (the Act) for a definition of 'content that is harmful to children'.

- 12.2 While evidence indicates that children today are less likely to use search services as frequently, or in the same way, as older people, <sup>1284</sup> the vast majority of children still use general search services<sup>1285</sup> in some capacity.<sup>1286</sup>
- 12.3 Search services are, for the most part, designed to optimise the search experience of their users and help them find the content they are searching for. To do so, many general search services use an underlying search index,<sup>1287</sup> which captures most of the web pages across the 'clear web';<sup>1288</sup> and some form of search result ranking system which is intended to provide the most relevant results to a user.<sup>1289</sup>
- <sup>12.4</sup> The risk of children encountering content that is harmful to them is caused by the fact that any content that has been indexed, or is otherwise accessible to the search service, can be presented in search results if the ranking system enables it, and could therefore be encountered by users, including children.<sup>1290</sup> This can happen unless mitigations are in place that specifically minimise the risk of children encountering content that is harmful to them.

# Service types

- 12.5 We refer to search service types that we expect to be recognisable to both users and businesses, to illustrate how harms can manifest online and how the characteristics of a service can affect the risk of harm.
- 12.6 This section sets out the requirements the Online Safety Act 2023 (the Act) places on Ofcom for the purposes of conducting our assessment of the risks of harm on search services. Within this section, we have also set out some of the relevant Act definitions in a clear and accessible manner. Where we have described search services, this should not be taken to

<sup>&</sup>lt;sup>1284</sup> Google executives have talked publicly about the changing nature of search activity conducted by young people. Source: Perez, S., 2022. <u>Google exec suggests Instagram and TikTok are eating into Google's core</u> <u>products, Search and Maps</u>. Tech Crunch, 12 July. [accessed 28 March 2025]; Ofcom's Children's Media Lives research found that children conduct their online searching on a wide range of platforms, often starting with social media or video-sharing platforms. Source: Ofcom, 2023. <u>Children's Media Lives</u>. [accessed 5 February 2025].

<sup>&</sup>lt;sup>1285</sup> General search services refer to those search services which enable users to search the contents of the web by inputting search requests and returning results. It derives search results from an underlying search index. See 'Service types' for a breakdown of different types of search service in scope of the Act.

<sup>&</sup>lt;sup>1286</sup> Ninety-five per cent of children aged 8-17 in our 2024 Children's and Parents' Media Use and attitudes research claimed to use search engines. Source: Ofcom, 2024. <u>Children's Media Literacy Tracker</u>. [accessed 5 February 2025]. Subsequent references to this source throughout; In a study that used passive monitoring to measure online activity, 87% of children aged 8-12 in the sample used Google Search. Source: Ofcom, 2023. <u>Online Nation 2023</u>. [accessed 5 February 2025].

<sup>&</sup>lt;sup>1287</sup> The search index used by general search services, is a collection of URLs that are obtained by deploying crawlers to find content across the internet, which is subsequently stored and organised.

<sup>&</sup>lt;sup>1288</sup> The 'clear web' refers to publicly accessible websites that may be indexed by search engines. This is distinct from the 'dark web'.

<sup>&</sup>lt;sup>1289</sup> Ranking involves scoring each item based on its predicted relevance to the user. While search services deploy various methods to rank content, common factors that inform this process are relevance,

trustworthiness and popularity of the potential results in the index that could be returned against a query. <sup>1290</sup> Not every search service presents content to users in this way; some source their content from predetermined locations rather than an index of 'clear web' webpages. See the 'Service types' sub-section

predetermined locations rather than an index of 'clear web' webpages. See the 'Service types' sub-section within this section for an explanation of the different types of search service.

be a definitive view of the services (or parts of services) that may be in scope of the Act.<sup>1291</sup> It is for services to assess themselves and seek their own independent advice to enable them to understand and comply with the Act. For more, please refer to the Overview of regulated services section of the <u>December 2024 Statement on Protecting People from</u> <u>Illegal Harms Online</u> (December 2024 Statement).

- 12.7 Services that allow users to search more than one website or database may be a 'search service'.<sup>1292</sup> Searching can be done by any means, including the input of text, images, videos or speech. Search services are 'regulated' if they fulfil certain requirements, including having a link to the UK.<sup>1293</sup> A provider of a search service is the entity that has control over the operations of the search engine, which includes operations that enable a user to input a search request and generate responses to those requests in the form of search results.<sup>1294</sup>
- 12.8 Of com has identified several types of search services based on the definitions in the Act and how search services operate.
  - **General search services:** General search services enable users to search the contents of the web by inputting search requests and returning results based on an underlying 'search index'. There are two types of general search service:
  - Seneral search services which rely solely on their own indexing: These work by using crawlers (also called bots) to find content across the web ('crawling'); building an index of URLs by validating and storing the content found in a database ('indexing'); and using algorithms for example, Google's PageRank to rank the content based on relevance to the search query ('ranking'). Search services use many ranking signals, the exact composition of which are proprietary and not necessarily publicly known.<sup>1295</sup> There are a small number of large general search services that do their own crawling, indexing and ranking. Providers of these services may also syndicate some or all of these processes and provide search results to downstream general search services. There are also smaller general search services which do their own indexing.
  - Downstream general search services: As a type of general search service, downstream general search services provide access to content from across the web. They do so by obtaining search results from providers of those general search services that conduct their own indexing, and may supplement these syndicated results with additional information and features. The control that a downstream entity has over how search results are displayed on its search service may vary depending on the contractual

<sup>&</sup>lt;sup>1291</sup> A search service is defined in section 3 of the Act as an "internet service that is, or includes, a search engine". A search engine "includes a service or functionality which enables a person to search some websites or databases (as well as a service or functionality which enables a person to search (in principle) all websites or databases)" but "does not include a service which enables a person to search just one website or database" (section 229 of the Act).

<sup>&</sup>lt;sup>1292</sup> Sections 3 and 229 of the Act.

<sup>&</sup>lt;sup>1293</sup> Refer to section 4 of the Act and schedule 1 to the Act.

<sup>&</sup>lt;sup>1294</sup> Section 226(4), (5) and (13) of the Act. Section 226 clarifies that there can only be one entity that is the provider of a search service. It is for the entities involved in the provision of a search service to seek their own advice as to whether they are the 'provider' of that service.

<sup>&</sup>lt;sup>1295</sup> The search engine index takes the output from the crawler and creates relevant data structures to support later searching within the search engine. The index can comprise document content, images and metadata. The search index used by general search services will have many repeated refinement algorithms applied to increase its accuracy and relevance.

arrangement with the upstream entity from which it syndicates search results.<sup>1296</sup> Downstream general services often distinguish themselves from upstream general search services by offering a social purpose (e.g., Ecosia), additional privacy (e.g., DuckDuckGo) or differentiated search features.

- Vertical search services: Also known as 'speciality search engines', these enable users to search for specific topics, or products or services offered by third-party operators with which the provider of the vertical search service has a relevant arrangement. They operate differently from general search services. Rather than crawling the web and indexing webpages, they present users with search results only from selected websites or databases with which they have an arrangement.<sup>1297</sup> An application programming interface (API)<sup>1298</sup> or equivalent technical means is used to return the relevant content to users. Common vertical search services include price comparison sites.
- 12.9 We have also identified two ways in which the use of generative artificial intelligence (GenAI) by a service may fall within scope of the duties on search services under the Act.<sup>1299</sup> This includes where a standalone GenAI service meets the definition of a 'search service' under the Act, such as where the output generated by the GenAI model includes content presented by the operation of an underlying 'search engine' (i.e. from more than one website or database). <sup>1300</sup> It also includes where a search service that operates with a more traditional model has integrated GenAI into their search functionalities.<sup>1301</sup> See Section 16: Wider context to understanding risk factors for information on content harmful to children that has been accessed via, and created using, GenAI.
- 12.10 Websites or user-to-user services that have search functionality that enable users to search just one website or database are not considered 'search services' under the Act and are therefore excluded from the scope of this search services-specific section.<sup>1302</sup>

<sup>&</sup>lt;sup>1296</sup> In its advertising market study, the Competition and Markets Authority (CMA) said none of the contracts it had looked at allowed the downstream general search service to re-rank the search results they received from Google or Bing. Source: CMA, 2020. <u>Online platforms and digital advertising</u>: <u>Market study final report</u>. [accessed 28 March 2025]. We discuss our position on who the 'provider' of a downstream general search service is in Volume 4, Section 15: Search moderation.

<sup>&</sup>lt;sup>1297</sup> We understand that some vertical search services may store information in an index. However, we consider this to be different from the 'search index' we refer to when describing the operation of a general search service in this Children's Register of Risks (Children's Register) and Codes of Practice. This is because the index employed by a vertical search service does not consist of "URLs that are obtained by deploying crawlers to find content from across the internet".

<sup>&</sup>lt;sup>1298</sup> An API is a way for two or more computer programs to communicate with each other.

<sup>&</sup>lt;sup>1299</sup> Please note that this is not an exhaustive list. Providers of internet services that use GenAI should obtain their own legal advice about whether the service provided is a regulated 'search service' that falls within scope of the Act's duties on providers of search services, and the extent to which any output generated by the GenAI model amounts to 'search content' for the purposes of those duties.

<sup>&</sup>lt;sup>1300</sup> For instance, a GenAl service could draw on more than one website or database by providing real-time information from plug-ins, or by integrating a 'search index' developed either by the GenAl service itself or by a third party.

<sup>&</sup>lt;sup>1301</sup> For example, a search service could integrate a GenAl feature that provides a conversational summary of the search results produced by operation of the service's search engine.

<sup>&</sup>lt;sup>1302</sup> In line with the definition of 'search engine' in section 229(1) of the Act (see footnote 9). If a service met the criteria for a user-to-user service under the Act, then the ability to search for user-generated content would be considered a functionality of that service and the harms-specific section of the Children's Register would apply.
- 12.11 User-to-user<sup>1303</sup> services that include a public search engine including, but not limited to, those which operate as a general or vertical search service (as distinct from a functionality that allows a user to search only the contents of the user-to-user service), would be considered a 'combined' service.
- 12.12 All the published evidence referenced in this section comes from research and investigations that focused on general search services. This is due to a lack of published research exploring the risk of harm on vertical search services.

# Scope of Ofcom's assessment of risk of harm

- 12.13 This section summarises our assessment of the risk of harm to children presented by search content on a regulated search service (or combined service, where relevant) which is harmful to children (risk of harm).<sup>1304</sup>
- 12.14 We set out the characteristics of search services that we consider are likely to increase the risks of harm. The definition of harm is set out in Section 1: Introduction to the Children's Register of Risks. In the context of search services, 'harm' means physical or psychological harm that can occur to an individual as a result of:
  - A child user directly encountering content that is harmful to children in or via the search results<sup>1305</sup> of a search service; or
  - Indirect instances of harm, in which a group or individual is harmed, or the likelihood of harm is increased, as a consequence of a child encountering harmful content on search services, which then affects their behaviour towards other children.<sup>1306</sup>
- 12.15 'Search content' can consist of words, images, videos, speech and sound. All of these forms of content can constitute content that is harmful to children.<sup>1307</sup> For more detail on what constitutes content that is harmful to children (including examples of what Ofcom considers to be, or not to be, content that is harmful to children), please refer to the Guidance on Content Harmful to Children.

# How harm manifests on search services

# Risk of harm to children presented by content that is harmful to children on search services

12.16 The role of search services in reducing barriers to accessing information has provided significant benefits to individuals and society. Our assessment does not attempt to weigh up the positives and negatives of these services and the companies that run them. It is only concerned with identifying and assessing the risk of harm to children from accessing

<sup>&</sup>lt;sup>1303</sup> 'User-to-user service' is defined in section 3 of the Act and described in Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>1304</sup> Section 98 of the Act.

<sup>&</sup>lt;sup>1305</sup> Section 57 of the Act defines both search content and search results. Broadly, search content is content encountered in or via a search result (i.e., content encountered as a result of interacting with search results, e.g., by clicking on them), and does not include content encountered through subsequent interactions with a service other than the search service. Paid-for advertising, content on the website of a recognised news publisher and other news publisher content are excluded from this definition.

<sup>&</sup>lt;sup>1306</sup> See section 234(5) and (8) of the Act.

<sup>&</sup>lt;sup>1307</sup> See section 60 of the Act and Section 1: Introduction to the Children's Register of Risks.

harmful content on these services. In some cases, such risk of harm is a consequence of the same characteristics that provide benefits in the vast majority of cases.

- 12.17 Although the mechanisms by which content harmful to children can be encountered may be different on search services compared to user-to-user services, we consider that the harm occurring as a result of content harmful to children being accessed by children is comparable as if it was encountered on a user-to-user service. For instance, encountering primary priority content (PPC) such as content that encourages, promotes or provides instructions for suicide is considered to be harmful to children, regardless of where and how a child has been able to access it online. To avoid repetition, we recommend readers refer to the 'Risk of harm' sections in the harm-specific sections of the Children's Register of Risks for the corresponding kind of content harmful to children, to understand what impacts content can have.<sup>1308</sup>
- 12.18 Most published evidence relating to harmful content accessible via search services focuses on the risk of encountering such content, rather than the physical or psychological harm that results from it. To understand in more detail how the risks of harm to children manifest as a result of encountering harmful content, refer to Section 1: Introduction to the Children's Register of Risks.
- 12.19 The evidence discussed in the following sub-section suggests that search services are an effective way for users including children to find various kinds of content that may be harmful to children, by deliberately entering search requests relating to such content.
- 12.20 There is also evidence to suggest that users, including children, could encounter content that is harmful to children without intentionally searching for it, that is, through inputting innocuous search queries.<sup>1309</sup> This relates to functionality such as search prediction and related searches (see sub-section 'Search prediction and personalisation' in this section).

#### Risks of generative artificial intelligence search services and features

- 12.21 The rapid increase in the use of GenAI creates a potential for new risks, or new ways for risks of harm to manifest on search services. This may include where search services have integrated GenAI into their functionalities or where standalone GenAI services perform search functions and meet the definition of 'search service' for the purposes of the Act.
- <sup>12.22</sup> If the underlying websites or database(s) from which the GenAI model produces search results are derived contain harmful content, there is a risk it will be presented to child users via GenAI tools or services if these are not designed with effective safeguards to prevent this happening (e.g., certain prompts triggering a warning message rather than being answered). A further risk is posed by the potential for a GenAI search tool or service to provide novel summaries of search results generated by the underlying search engine which may make content harmful to children drawn from those search results more accessible

<sup>&</sup>lt;sup>1308</sup> For example, for a detailed discussion of the harm caused by content that encourages, promotes or provides instructions for suicide, please refer to Section 3: Suicide and self-harm content. For a discussion of the harm caused by content which depicts real or realistic serious violence against a person refer to Section 7: Violent content.

<sup>&</sup>lt;sup>1309</sup> Reports from 2018 highlighted that major search engines were providing users with concerning suggestions in relation to certain innocuous search queries, particularly within their predictive search (autocomplete) and search suggestions functionality. Source: Hoffman, C., 2018. <u>Bing Is Suggesting the Worst Things You Can Imagine</u>, HowToGeek, 10 October. [accessed 28 March 2025]. Subsequent references to this source throughout; Lapowsky, I., 2018. <u>Google Autocomplete Still Makes Vile Suggestions</u>, Wired, 12 February. [accessed 28 March 2025]. Subsequent references to this source throughout.

Notably, although tools will usually have guardrails built-in to prevent content being generated in response to certain requests by default, it has been shown these can be reliably bypassed with various methods.

<sup>12.23</sup> Please see Section 16: Wider context to understanding risk factors for information on content harmful to children that has been accessed via, and created using, GenAI.

# **Evidence of risk factors on search services**

- 12.24 The evidence reviewed in this section focuses on whether the characteristics<sup>1310</sup> including service type, user base, functionalities and business models of search services appear to play any role in the risk of harm to children. This would lead to any such characteristic being considered a risk factor for search services, and likely to increase the risk of harm to children.
- 12.25 Evidence in this section is predominantly concerned with content harmful to children as defined in the Act). However, the wide range of illegal content that can be encountered via search services, as discussed in Section 24 of the <u>Illegal Harms Register of Risks</u> (Illegal Harms Register), can lead to harm to all users including children.

# **Risk factors: Service types**

- 12.26 The ability of users to enter search queries related intentionally or accidentally to content that is harmful to children, and to receive related results, is the main underlying driver of the risk of harm to children associated with search services.
- 12.27 Therefore, the following considerations are important for any search service when it comes to determining risk:
  - The source of the content that is presented to users in the search results; and
  - The default assumptions about whether the user is a child and, as a direct result, the limitations placed on what content can be returned in search results.

#### Source of content

12.28 If any content that is harmful to children may be encountered in or via the webpages or databases from which a search service derives its search results, then it could be encountered by child users. General search services are likely to be inherently higher risk to child users, as they present users with access to web pages from across the clear web. Unless specialising in types of content harmful to children, vertical search services are likely to have a materially lower level of risk of harm. This is because vertical search services typically only focus on a specific segment of online content (such as particular products or services) and draw results via an API (or equivalent technical means) from pre-determined websites that may contain professional or curated content, rather than indexing sites from across the clear web. For example, a travel search feature on the site will be limited to hotels/flights/car rentals on the websites/databases of travel agents with which the provider has an arrangement in place. However, we cannot assume that there is no risk of children encountering harmful content via vertical search services, because providing

<sup>&</sup>lt;sup>1310</sup> For further information on the characteristics, see Section 1: Introduction to the Children's Register of Risks.

access to harmful content through a vertical search service could be an entirely legal activity, for example, a vertical search service for pornographic content.<sup>1311</sup>

#### Identification of child users

12.29 Given the public nature of most search services, users are not required to create accounts, or sign in (including verifying their ages using any form of age assurance), as consistently as users of other types of service.<sup>1312</sup> Therefore, in general, search services are less likely to have information on the users, including their age. Without this knowledge, a service has limited ability to prevent content harmful to children as defined in the Act from being returned in search results.

#### **General search services**

- 12.30 Research has shown that searching for suicide, self-injury and eating disorder content can return large volumes of content. Research commissioned by Ofcom and conducted by the Network Contagion Research Institute explored the relative volume of content found via major search services. Researchers conducted test searches which could have been made by users of any age that were intended to return a variety of content harmful to children.<sup>1313</sup> Large volumes of content were returned, and the analysis of the webpages linked to in the search results concluded that one in five of these results promoted 'self-injurious' behaviour in some form.<sup>1314</sup> For example, 13% of the results from the search queries relating to suicide were classified as likely to be 'in scope' (posts that encourage others to engage in self-injurious behaviour) or 'extreme' (posts that glorify or celebrate self-injurious behaviour by oneself or others).<sup>1315</sup> This content often appeared high up in the search results.<sup>1316</sup>
- 12.31 The researchers also identified that image results presented a greater proportion of harmful content than other forms of search results.<sup>1317</sup> This is particularly relevant to

<sup>&</sup>lt;sup>1311</sup> At the time of writing, we are unaware of any clear web vertical search services that draw their search result content from databases of content that is harmful to children.

<sup>&</sup>lt;sup>1312</sup> An internal Ofcom review of the current measures deployed on Google Search and Bing Search concluded that the combination of voluntary registration of child accounts and age inference technology were not deployed consistently enough to ensure that search services could robustly and consistently distinguish between adult and child users.

<sup>&</sup>lt;sup>1313</sup> Content related to suicide, self-injury and eating disorders in the research aligned with the equivalent categories of PPC in section 61 of the Act.

<sup>&</sup>lt;sup>1314</sup> Of 37,647 search results reviewed, resulting from 450 search queries, researchers classified 22% as containing content that clearly promoted self-injurious behaviour (related to eating disorders, suicide or non-suicidal self-injury). Note that the search queries tested were formulated with the intention that they would return such content if it was accessible via a search engine. Source: Ofcom, 2024. <u>One Click Away: A Study on the Prevalence of Non-Suicidal Self Injury, Suicide, and Eating Disorder Content Accessible by Search Engines</u>. [accessed 5 February 2025]. Subsequent references to this report throughout.

<sup>&</sup>lt;sup>1315</sup> Ofcom, 2024. <u>One Click Away: A Study on the Prevalence of Non-Suicidal Self Injury, Suicide, and Eating</u> <u>Disorder Content Accessible by Search Engines.</u>

<sup>&</sup>lt;sup>1316</sup> Eighteen per cent of the search results that appeared first (or top) in the list of results analysed in the Ofcom/Network Contagion Research Institute study were classified as promoting self-injurious behaviour. This pattern was consistent across all search services tested. Source: Ofcom, 2024. <u>One Click Away: A Study on the Prevalence of Non-Suicidal Self Injury, Suicide, and Eating Disorder Content Accessible by Search Engines</u>.

<sup>&</sup>lt;sup>1317</sup> When analysing search results (returned for search queries that were designed intentionally to find harmful content, if it existed) researchers noted that "Over a quarter of image searches (28%) were coded as likely in scope or extreme [both referring to content that would be considered as harmful to children], whereas this was true for only 20% of web searches and 16% of video searches". Source: Ofcom, 2024. <u>One</u>

content that is harmful to children, as much of the PPC (such as self-injury content) is inherently visual in nature.

- 12.32 A 2021 study had similar findings: search queries covering general suicide-related terms and those targeting specific suicide methods returned a range of harmful results within the first 20 listed.<sup>1318</sup>
- 12.33 The studies highlighted in the previous paragraphs demonstrated that if a user searches for potentially harmful content, they are likely to find it. There is also evidence that young people and children search for some kinds of potential harmful content on search services.<sup>1319</sup> A study that investigated 145 cases of suicide in young people under the age of 20, including children, found that "Internet use related to suicide (i.e., internet searches for suicide methods, suicidal ideas posted on social media, or online bullying) was recorded in 30 (23%) deaths. Of the 16 individuals who had searched the internet for information about suicide methods, five died by a method they were known to have searched".<sup>1320</sup> Another study reported that research, sampling the search history of individuals hospitalised for suicidal thoughts and behaviours, identified that in 21% of these cases, users had searched for information that matched their chosen suicide attempt method.<sup>1321</sup>
- 12.34 Other research has highlighted that pro-eating disorder<sup>1322</sup> and pro-suicide websites and blogs, accessible through search services, have enabled users including children to encounter harmful content.<sup>1323</sup>
- 12.35 There is more published research on the topic of children's access to pornographic content via search services. Large proportions of children report seeing pornography on or via

<sup>&</sup>lt;u>Click Away: A Study on the Prevalence of Non-Suicidal Self Injury, Suicide, and Eating Disorder Content</u> <u>Accessible by Search Engines</u>.

<sup>&</sup>lt;sup>1318</sup> The study found that 22% of Microsoft Bing URLs, 19% of DuckDuckGo URLs and 7% of Google Search URLs were 'harmful', meaning determined by the researchers as encouraging, promoting, or facilitating suicide or containing discussions of suicide. Source: Borge, O., Cosgrove, V., Cryst, E., Grossman, S., Perkins, S. and Van Meter, A., 2021. <u>How Search Engines Handle Suicide Queries</u>, *Journal of Online Trust and Safety*. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1319</sup> Participants in this study included children and young people aged 13-21, those aged 18+ were reflecting back to their experiences as children. Ofcom, 2024. <u>Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide. [accessed 26 March 2025].

<sup>&</sup>lt;sup>1320</sup> Note: Study of 43 participants aged between 15 and 30. Source: Rodway, C., Tham, S., Ibrahim, S., Turnbull, P., Windfuhr, K., Shaw, J., Kapur, N. and Appleby, L., 2016. <u>Suicide in children and young people in England: a</u> <u>consecutive case series</u>, *Lancet Psychiatry*. [accessed 28 February 2025].

<sup>&</sup>lt;sup>1321</sup> Moon, K. C., Van Meter, A. R., Kirschenbaum, M. A., Ali, A., Kane, J. M., Birnbaum, M. L., 2021. <u>Internet</u> <u>Search Activity of Young People With Mood Disorders Who Are Hospitalized for Suicidal Thoughts and</u> <u>Behaviors: Qualitative Study of Google Search Activity</u>, *JMIR Mental Health*, 8 (10). [accessed 28 February 2025].

<sup>&</sup>lt;sup>1322</sup> Ofcom research also highlighted that pro-eating disorder content was the most prevalent within the samples analysed. Source: Ofcom, 2024. <u>One Click Away: A Study on the Prevalence of Non-Suicidal Self Injury,</u> <u>Suicide, and Eating Disorder Content Accessible by Search Engines.</u>

<sup>&</sup>lt;sup>1323</sup> For example, an investigation into a pro-suicide website by The New York Times in 2021 highlighted that users aged under 18 had been able to access this site by searching online. Source: Twohey, M. and Dance, G. J. X., 2021. <u>Where the Despairing Log On, and Learn Ways to Die</u>. The New York Times, 9 December. [accessed 11 April 2024]; Mento, C., Silvestri, M. C., Muscatello, M. R. A., Rizzo, A., Celebre, L., Pratico, M., Zoccali, R. A. and Bruno, A., 2021. <u>Psychological Impact of Pro-Anorexia and Pro-Eating Disorder Websites on Adolescent</u> <u>Females: A Systematic Review</u>, *International Journal of Environmental Research and Public Health*, 18 (4). [accessed 28 March 2025].

search services.<sup>1324</sup> Search services are also mentioned in qualitative research as one of the ways in which children first encounter pornographic content, both through intentional and unintentional searches.<sup>1325</sup> Other examples highlight the role search services play, alongside social media, in enabling children to encounter pornographic content.<sup>1326</sup>

12.36 Published evidence on other kinds of content which is harmful to children is limited, but there are some indications that children might be accessing such content via search services. For instance, education professionals have reported finding far-right content in school computer search histories.<sup>1327</sup> This content may be abusive or incite hatred against people with listed characteristics.<sup>1328</sup> Recent research has also explored instances of users of user-to-user services directing other users – with no distinction between adults and children – to input specific search queries on search services, knowing these will return certain content. Given that content harmful to children is currently accessible via search services, as evidenced by much of the research referenced in this section, such activity poses a risk that children could be encouraged to search for harmful content on search services and find it. The research highlights an example of users being encouraged to search for content that promoted self-administering harmful substances.<sup>1329</sup> <sup>1330</sup>

# **Risk factors: User base**

12.37 The user base includes the size and composition of the users of search service, covering demographics and other characteristics. Although the user base is included here as a characteristic, it is only considered in a very limited way, compared to user-to-user services'

<sup>1326</sup> Ofcom research from 2022 provides one example: Ethan (aged ten) reported coming across porn after searching a term [the name of a lesser-known porn site] after seeing a video on a social media platform about it. The post read "don't ever search [name of porn site] up" and this enticed Ethan to see what it was. "I saw this [video], and it said, 'Don't ever search this up'. I searched it up [using a search engine] as I thought it was just going to be a little scary thing or whatever... They were right [I shouldn't have searched the term]." Source: Ofcom, 2022. <u>Risk factors that may lead children to harm online</u>. [accessed 11 February 2025]. <sup>1327</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>. [accessed 28 March 2025]. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>1324</sup> Results from a survey conducted by the Office of the Children's Commissioner for England indicated that 30% of children had reported seeing pornography on search engines. Source: Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse' Young people and pornography</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1325</sup> In research with UK children many respondents described their first viewing of pornography as 'accidental', including through Google searches, where many described unwittingly searching using terms such as 'sex' or 'porn' without understanding what these words meant. Source: Revealing Reality, 2020. <u>Young People</u>, <u>Pornography and Age-verification</u>. [accessed 11 February 2025].

<sup>&</sup>lt;sup>1328</sup> Abusive and hateful content are examples of priority content that is harmful to children as listed in section 62 of the Act.

<sup>&</sup>lt;sup>1329</sup> Content that encourages self-administering of harmful substances is an example of priority content that is harmful to children as listed in section 62 of the Act.

<sup>&</sup>lt;sup>1330</sup> As highlighted in the research, "Search directives can be an effective tool for indirect online influence, because instead of guiding people directly to content (e.g. a news article), they indirectly guide people to it through an independent intermediary (e.g. Google Search). By directing viewers to 'do their own research' on a known, trusted, or seemingly objective intermediary, search directives have advantages in terms of both persuasion, by making people feel as if they discovered the content on their own, and evasion, by not directly posting the target link(s)". Source: Robertson, E., Dunphy, A., Grossman, S., DiResta, R. and Thiel, D., 2023. Identifying Search Directives on Social Media, *Journal of Online Trust and Safety*. [accessed 28 March 2025].

user bases. This is because user bases on search services are particularly difficult to measure, as in most cases there is no need to have an account to be able to use the service.

12.38 Although some search services target children as their priority user group, they also operate as either general or vertical search services, as described above. They may use branding and aesthetics to appeal to a child audience, and this focus might also inform the type of functionality deployed on such a search service. For example, a general search service targeted at children could intentionally return only those results that are deemed appropriate by a safety filter (e.g., SafeSearch), or provide only results from selected websites such as online encyclopaedias to deliver a child-friendly experience. But in practice, having children as a target audience does not in itself increase or decrease risk; the most important element is the combination of risk factors described below and any mitigations associated with these.

#### User base size

12.39 The size of a search service's user base is a risk factor; all else equal, a service with a large user base could lead to more children encountering content that is harmful.

## **User base demographics**

- 12.40 While the use of search services in some capacity is nearly universal over nine in ten 8-17year-olds say they use search engines – it is reasonable to assume that user base demographics will differ from one service to the next. For general search services, the volume of children reporting having 'ever' used these sites is relatively consistent, with only small differences by age, and no significant differences by gender or socio-economic group.<sup>1331</sup>
- 12.41 As shown in Section 1: Introduction to the Children's Register of Risks, certain groups are considered to be at greater risk of encountering, or being harmed by, certain kinds of content that is harmful to children. The characteristics of a search service's child users should therefore be considered as a factor which influences the relative risk of harm to children occurring via that service. For example, vulnerable children (and particularly those with more than one characteristic that could make them vulnerable) could be impacted differently by the harm they encounter in search results.

# **Risk factors: Functionalities**

- 12.42 The Act defines 'functionalities' for search services as including "a feature that enables users to search websites or databases" and "a feature that makes suggestions relating to users' search requests (predictive search functionality)".<sup>1332</sup>
- 12.43 Below, we have highlighted specific features of search services that fit within these two broad categories. These service functionalities are designed largely to optimise the accuracy and usefulness of search results to users, including child users. Where a child user is intentionally seeking out content that may be harmful to children, these same optimising

<sup>&</sup>lt;sup>1331</sup> In Ofcom's children and parent media use and attitudes research 95% of all children surveyed aged 8-17 answered yes to the question, 'Do you ever use sites or apps like Google, Bing or Yahoo to look for things online?'; this was 93% among 8-12 year olds; 96% among 13-15 and 99% among 16-17 year olds; 94% among male 8-17 year olds; 95% among female 8-17 year olds; and there were similar figures for children across all social grades: AB = 96%, C1 = 94%, C2 = 95%; DE = 91%. Source: Ofcom, 2024. <u>Children's Media Literacy</u> <u>Tracker</u>.

<sup>&</sup>lt;sup>1332</sup> Section 233(3) of the Act.

characteristics can have the unintended consequence of helping a child user encounter that content.

## Search query inputs

- 12.44 The functionalities that enable users to input search queries can affect what search queries are made, and may therefore influence the results presented to users, including child users.
- 12.45 A consistent finding across the research into the accessibility of illegal content and content that is harmful to children via search engines referenced in this section and in the <u>lllegal</u> <u>Harms Register</u> is that the use of 'coded language' language that is often uniquely associated with the illegal or harmful content a user is seeking tends to be an effective way to find this kind of content via search services. The risk caused by the ease with which some content can be found can also be heightened by the fact that those who are actively searching for such content may be more susceptible to experiencing or causing harm as a result.<sup>1333</sup>

## Search prediction and personalisation

12.46 Search services may use functionalities designed to improve the search experience for a user through personalisation (where data providing contextual information about the user, such as their geographical location, can influence the search results) as well as anticipating potential search queries (e.g., autocomplete), and providing suggestions for further searches based on an initial search query.<sup>1334</sup>

#### **Predictive search**

- 12.47 Predictive search anticipates a search query (e.g., autocomplete), based on a variety of factors (including those related to the search results' ranking).
- 12.48 The evidence shows that autocomplete suggestions have the potential both to help users find content, via search services, which may be considered harmful, <sup>1335</sup> and present users with suggested search queries which may themselves, be "perceived as biased, offensive, or in some other way harmful".<sup>1336</sup>
- 12.49 For example, concerns have been raised for many years about autocomplete suggestions on search services that lead to harmful content or are in some cases considered harmful in their own right. Notably, regarding risks to children, they can also stem from innocuous search queries. Examples include the predictive element of a search bar suggesting

<sup>&</sup>lt;sup>1333</sup> For instance, research exploring the impact of exposure to potentially radicalizing information suggests that individuals who actively seek out terrorism content are at a higher risk of radicalisation. Although this research is based on potentially illegal content, we consider the same is likely to be true for content harmful to children. Source: Schuman, S., Clemmow, C., Rottweiler, B., Gill, P. 2024. <u>Distinct patterns of incidental</u> <u>exposure to and active selection of radicalizing information indicate varying levels of support for violent</u> <u>extremism</u>, *PLoS ONE*, 19 (2). [accessed 5 February 2025].

<sup>&</sup>lt;sup>1334</sup> In the case of GenAI search this may include 'query rewriting' which is the process of transforming a user's original query into one that ought to elicit more effective responses from the AI model. Source: Microsoft, 2024. <u>Rewrite queries with semantic ranker in Azure AI Search (Preview)</u>. [accessed 11 February 2025].

<sup>&</sup>lt;sup>1335</sup> In Chapter 24 'Search' of the <u>Illegal Harms Register</u> within our December 2024 Statement several sources of evidence are referenced demonstrating the role of autocomplete in aiding searches for kinds of potentially illegal content, and it is reasonable to assume the functionality works similarly for searches of content of all kinds.

<sup>&</sup>lt;sup>1336</sup> Olteanu, A., Diaz, F. and Kazai, G., 2020. <u>When Are Search Completion Suggestions Problematic?</u>, *Proceedings of the ACM on Human–Computer Interaction*, 4. [accessed 28 March 2025].

potential methods or instructions on how to self-harm or end one's life and hateful or racists search queries.<sup>1337 1338</sup>

#### Suggestive search

- 12.50 'Suggested searches' are search queries recommended by the search service that refine or build on the initial search query. These could help the user explore related topics or navigate them to a more specific query.
- 12.51 Research into illegal harms has demonstrated that these suggested search features can help facilitate the discovery of illegal content online in cases where a user is actively searching for it.<sup>1339</sup> It can be assumed that the same functionality would work for a user of any age who is actively looking for content that is harmful to children.

#### Other features and functionalities

#### Image or video search

- 12.52 The ability to search for images or videos can increase the risk of children encountering harmful content. In some cases it appears that image results can be more likely to contain content that is harmful to children than standard text/URL search results as highlighted in recent research looking at content promoting self-injurious behaviour.<sup>1340</sup> Providing images out of their original context has also been flagged as a potential risk for complex topics such as eating disorders, where the context in which an image is used in (e.g., a news article) is very important.<sup>1341</sup>
- 12.53 There are also reports of AI-generated pornographic imagery being presented to users as the first image result on major general search services, in response to simple search queries.<sup>1342</sup>
- 12.54 More generally, image results have been highlighted as a particularly effective way for users to find some kinds of illegal content via general search services, and it is reasonable to

<sup>1339</sup> See Chapter 24 of our <u>Illegal Harms Register</u> within our December 2024 Statement.

<sup>&</sup>lt;sup>1337</sup> For instance, in 2018 articles on tech news sites highlighted a series of concerning autocomplete suggestions uncovered by journalists, including "awful autocomplete suggestions for queries related to gender, race, religion, and Adolf Hitler"; another article claimed "Bing suggests racist terms and shows horrifying images. Bing will even suggest you search for exploited children if you have SafeSearch disabled". Sources: Lapowsky, I., 2018. Google Autocomplete Still Makes Vile Suggestions, Wired, 12 February; Hoffman, C., 2018. Bing Is Suggesting the Worst Things You Can Imagine, HowToGeek, 10 October.

<sup>&</sup>lt;sup>1338</sup> The Antisemitism Policy Trust provided several examples of hateful or racist predicted search queries on major search services. Source: <u>Antisemitism Policy Trust</u> response to <u>2022 Ofcom Call For Evidence: First phase</u> <u>of online safety regulation</u>. See in particular 'Question 2. Can you provide any evidence relating to the presence or quantity of illegal content on user-to-user and search services?'

<sup>&</sup>lt;sup>1340</sup> Ofcom, 2024. <u>One Click Away: A Study on the Prevalence of Non-Suicidal Self Injury, Suicide, and Eating</u> <u>Disorder Content Accessible by Search Engines</u>.

<sup>&</sup>lt;sup>1341</sup> Allen, J., 2024. <u>Why Is Instagram Search More Harmful Than Google Search?</u> Integrity Institute, 13 February. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1342</sup> "NBC News found that deepfake pornographic images featuring the likenesses of female celebrities were the first images Google and other top search engines surfaced in searches for many women's names and the word 'deepfakes,' as well as general terms like 'deepfake porn' or 'fake nudes.' The searches were conducted with safe-search tools turned off." Source: Tenbarge, K., 2024. <u>Google and Bing put nonconsensual deepfake</u> <u>porn at the top of some search results</u>. NBC, 11 January. [accessed 28 March 2025].

assume that this functionality could also be used by children to access other kinds of potentially harmful content.<sup>1343</sup>

# Risk factors: Business models and commercial profile

12.55 There is very limited evidence linking commercial aspects of the search services to an increased risk of children encountering harmful content, so the arguments presented below are logic based and may apply to different kinds of content harmful to children.

## **Revenue models**

- 12.56 General search services often generate revenue using an advertising-based model.<sup>1344</sup> They are paid by businesses to display advertising for their products/services alongside the search results. For example, advertisers may pay the search service whenever a user clicks on their advert or sponsored link.<sup>1345</sup> We understand that downstream general search services also earn revenue through advertising.<sup>1346</sup> This model is distinct from user-to-user advertising models in so much as search services are not designed to maximise dwell time on the site.
- 12.57 For GenAI services that meet the definition of a 'search service' under the Act, monetisation strategies are evolving and include the use of subscription models and API access alongside generating revenue by selling targeted advertisements.<sup>1347</sup>
- 12.58 Although there is very little published evidence showing direct links between different revenue models and the presence of content that is harmful to children in search results, there remains a reasonable risk that paid-for advertising containing or related to harmful content, while not falling within the definition of 'search content' in the Act, could encourage children to search for such content and find it via search services.<sup>1348</sup> <sup>1349</sup>

 <sup>&</sup>lt;sup>1343</sup> For example, the Commission on Combating Synthetic Opioid Trafficking in the US highlighted the importance of image search results in finding and selling fentanyl and other synthetic opioids. Source: RAND,
 2022. <u>Commission on Combating Synthetic Opioid Trafficking – Technical Appendices</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1344</sup> Some general search engines use a subscription model in lieu of advertising to generate revenue, although this is exceedingly rare. Kagi is one such subscription-based service. Source: Kagi, 2024. <u>Why pay for search</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1345</sup> This is the main pricing structure used by Google Search and Bing Search, the largest search services in the UK in terms of user numbers. Source: CMA, 2020. <u>Online platforms and digital advertising: Market study final</u> <u>report</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1346</sup> CMA, 2020. <u>Online platforms and digital advertising: Market study final report</u>; Australian Competition and Consumer Commission, 2021. <u>Digital platform services inquiry: Interim report No. 3 – Search defaults and choice screens</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1347</sup> For example, some GenAI search services offer their AI-powered search technology as an API for businesses wanting to integrate GenAI-powered search capabilities or allow users to access paid-for versions of the service. Source: Kae Capital (Oswal, N. M.), 2024. <u>AI-ming For the Stars – Part 9: The Future of Search</u> <u>and Discovery: How GenAI is Transforming the Landscape</u>. [accessed 11 February 2025].

<sup>&</sup>lt;sup>1348</sup> Paid-for advertisements, as defined in section 236 of the Act, are not classified as a form of 'search content' under the Act: see section 57(2)(a). Paid-for advertisements are therefore not in scope of the children's risk assessment and safety duties that apply to regulated search services in section 28 and 29 of the Act.

<sup>&</sup>lt;sup>1349</sup> Where a search service is aware that a user is a child, different rules on what types of adverts may be shown may apply. For example, Google restricts various categories of advertising for children. Source: Google, 2024. <u>Ad-serving protections for children</u>. [accessed 28 March 2025].

# Growth strategy and commercial profile

- 12.59 Having an expansive search index that can provide relevant content in response to a user's queries is a core component of all search services. At the same time, ensuring that any indexed webpages which contain harmful content are given a lower priority or do not appear in search results for child users requires appropriate processes to grade and rank indexed webpages and/or assess the age of users in order to return age-appropriate results.
- 12.60 Despite the limited evidence, we consider that low-capacity search services and/or search services at an early stage of development may have more limited ability to develop and deploy highly effective processes to minimise the risk of child users encountering harmful content, such as technically advanced moderation processes. Given that the underlying rating and ranking processes of established search services have been very well funded, and have been in development for many years, and yet there remain many instances where there is a material risk to children encountering harmful content, we consider this a potential risk factor.
- 12.61 We understand that when a downstream search service syndicates some or all of its search results from an upstream supplier, some of the safety measures applied on the upstream service may be extended (in whole or in part) to the downstream service, depending on the particular syndication arrangement in place between the entities. Therefore, we recognise that the risk profile of a low-capacity service and/or service at an early stage of development, that is also a downstream search service, may vary from that described in the paragraph above. It is the responsibility of a provider of a search service whether the upstream or downstream entity– to assess any factors, including those described here, that impact the risk profile of that service.

# 13. Governance, systems and processes

Warning: this section contains references to content that may be upsetting or distressing, including discussions of suicide, self-harm and eating disorders.

#### Summary

This section assesses how a service's governance structures, systems and processes may be relevant to the risk of harm that children experience on a service.

Depending on how they are implemented, some governance structures, systems and processes may exacerbate the risk of harm to children. If a service's systems and processes have not been designed with child users in mind, and/or if child safety has not been made a priority within its governance structures, children can be more likely to encounter harmful content.

Evidence from various sectors shows the importance of having adequate governance arrangements and senior accountability for mitigating risks within an organisation, with several organisations calling for improved governance practices within online services regarding child safety.

Content moderation systems in user-to-user services and search moderation systems in search services which are poorly designed or resourced may contribute to children being exposed to harmful content. For example, if a moderation system is not sophisticated enough, it may not be able to detect coded hashtags that disguise harmful content on services and swiftly remove it.

Evidence shows that user access systems can present a risk of harm to children, as the absence of robust age assurance systems can enable children to access spaces that were not designed for them. For instance, some children can create online profiles with a false older age, giving them access to functionalities and content that are only appropriate for adults. Search services may not always be able to distinguish between a child or an adult user, which can cause children to encounter harmful content when using them.

We consider how service design affects risk of harm to children. Evidence shows that children often encounter harmful content through content recommender systems. In severe cases, children can be vulnerable to experiencing 'rabbit holes' of harmful content as a result of content recommendations.

Some children use the user support tools available on services to protect themselves online, such as blocking content or blocking accounts, although use remains low. Evidence indicates that children do not report or complain about harmful content if the reporting channels are unclear or hard to find, or if the process is too time-consuming or complicated. We also note how a service's terms of service and publicly available statements should be easy to read and find for all users for it to be effective. However, because many require advanced reading skills to understand, they can often prevent children from making better-informed choices about what services to use and how to stay safe online.

# Introduction

- 13.1 This section assesses how a service's governance structures, systems and processes may be relevant to the risk of harm that children experience on a service. We expect service providers to use this information when considering how their own current or future governance structures, systems and processes will affect children's safety. Services should have the right governance arrangements in place and have appropriate systems and processes to help them effectively manage and reduce the risk of harm to children.
- 13.2 Here we take a similar approach to that of the equivalent section in the <u>Illegal Harms</u> <u>Register of Risks (</u>Illegal Harms Register). This is because we find that the governance structures, systems and processes which services may have in place are applicable to affecting the availability of content that is harmful to children on that service, including illegal content. As in the <u>Illegal Harms Register</u>, we have assessed governance structures, systems and processes separately, because the analysis of risk arising from these characteristics applies to different kinds of online harms.
- 13.3 This section summarises relevant evidence from the harms-specific sections in this Children's Register of Risks (Children's Register), and provides supporting evidence for our proposed safety measures, as set out in our Protection of Children Codes (Volume 4). It also provides evidence on risks of harm that go beyond our proposed measures so that service providers are aware of these in case new measures need to be developed to address them in the future.

# Summary

- 13.4 As set out in the equivalent section in the <u>Illegal Harms Register</u>, we recognise that governance structures, systems and processes are often put in place by services to mitigate the risk of harm to users; yet risk of harm can arise from a) inadequate governance and/or other systems and processes and b) an absence of such governance and other systems and processes.
- 13.5 We have also drawn on some evidence that is relevant to how governance, systems and processes may impact children in particular. This shows that depending on how they are implemented, some governance structures, systems and processes may exacerbate harm to children. If systems and processes have not been designed with child users in mind, this could have eventual negative impacts on the child's online experiences, and lead to harm. Likewise, if child safety has not been made a priority within the governance structures of services, this could risk exposure to harmful content for children.

# Definitions

13.6 The Online Safety Act 2023 (the Act) does not define **governance**. Based on our understanding of the sector, and the evidence consulted, Ofcom has interpreted the concept of governance in the context of online safety as "any structure, or structures to

ensure that decisions are made with adequate oversight, accountability, transparency and regard to online safety compliance, specifically in relation to risk management, product and content governance within a service".<sup>1350</sup>

13.7 **'Systems and processes'** are described in the Act as "any human or automated systems and/or processes, and accordingly, includes technologies".<sup>1351</sup> In this section, we interpret this to mean any series of actions taken by a service, including actions that mitigate the risks of children being harmed by encountering content that is harmful to them, which may not have been addressed elsewhere in the Children's Register.

# Evidence of risks of harm to children arising from governance, systems and processes

- 13.8 This section is structured as per our Protection of Children Codes (Volume 4):
  - Governance and accountability (user-to-user and search services),
  - Age assurance (user-to-user),
  - Content moderation (user-to-user),
  - User reporting and complaints (user-to-user and search services),
  - Terms of service and publicly available statements (user-to-user and search services),
  - Service design: Recommender systems (user-to-user),
  - Service design: User support (user-to-user), and
  - Search services (including service design and search moderation).

# Governance and accountability (user-to-user and search services)

- 13.9 Our findings about services' governance structures, which we set out in the <u>Illegal Harms</u> <u>Register</u>'s equivalent Governance, systems and processes section (Section 25), also apply to mitigating the risk of harm to children. This is because the governance structures that services have in place could affect the availability of content that is harmful to children on that service, as well as illegal content.
- 13.10 In summary, in the <u>Illegal Harms Register</u> we found that the following governance failures within services could lead to risk of harm to users: 1) insufficient oversight and scrutiny of risk management activities: for example, from ineffective, or lack of, appropriate

<sup>&</sup>lt;sup>1350</sup> Milliman (commissioned by Ofcom), 2021. <u>Report on principles-based best practices for online safety</u> <u>governance and risk management</u>. [accessed 28 March 2025]. This definition aligns with Milliman's description of governance, made up of the concepts of individual and overall accountability, non-executive oversight, independent executive oversight, oversight of risk strategy and appetite, monitoring of the effectiveness of risk management, effective communication of risk, and setting an appropriate risk culture and aligned incentives. We consider that in the context of online safety, governance relates more broadly to structures which work to ensure that decisions are aligned with user safety at all levels of an organisation. <sup>1351</sup> Section 236 of the Act.

governance bodies;<sup>1352</sup> 2) lack of senior accountability;<sup>1353</sup> and 3) inadequate compliance training for staff.<sup>1354</sup> Full analysis of supportive evidence can be found in the <u>Illegal Harms</u> <u>Register</u>, Section 25: Governance, systems and processes.

- 13.11 In addition to these findings, we have examined the following supporting evidence, wherever possible, on the risks to children's safety specifically. Further information on how services can mitigate risk of harm can be found in our Protection of Children Codes.
- 13.12 The lack of, or inadequate, governance arrangements that specifically protect children could put children's safety at risk. It is reasonable to infer that children may be more likely to be exposed to harmful content where there is insufficient oversight and scrutiny of risk management activities, through lack of, or inadequate, governance bodies<sup>1355</sup> or governance frameworks.<sup>1356</sup> Organisations from various sectors acknowledge that they should have, at a minimum, a written statement or rules in place to protect children who encounter the organisation. The online sector, including user-to-user and search services, is no exception. Written statements committing to child safety from organisations such as the BBC, <sup>1357</sup> the Nursing and Midwifery Council<sup>1358</sup> and the National Society for the Prevention of Cruelty to Children (NSPCC)<sup>1359</sup> demonstrate why setting organisation-wide standards is necessary to safeguard children's experiences.

<sup>&</sup>lt;sup>1352</sup> The Health and Safety Executive offers several case studies of negative safety consequences when senior staff do not lead effectively on health and safety management. Source: Health and Safety Executive, n.d. <u>Case studies: When leadership falls short</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1353</sup> Evidence from other sectors indicates that inadequate leadership is one of the key contributors to poor safety outcomes. For example, there is evidence from financial services and health and safety sectors in highprofile cases. Source: Health and Safety Executive, 2013. <u>Leading health and safety at work: Actions for</u> <u>directors, board members, business owners and organisations of all sizes</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1354</sup> Governance failures have contributed to serious corporate scandals. This includes the case of Siemens, which in 2008 was subject to regulatory investigations for bribery. The failure to embed a programme of compliance and code of conduct for staff has been cited as playing a 'decisive role' in the scandal. Source: Primbs, M. and Wang, C., 2016. <u>Notable Governance Failures: Enron, Siemens and Beyond</u>, *Comparative Corporate Governance and Financial Regulation*, 3. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1355</sup> One of the key remits of a governance body is to monitor the effectiveness of a company's risk and governance practices. Source: Organisation for Economic Co-operation and Development, 2023. <u>G20/OECD</u> <u>Principles of Corporate Governance</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1356</sup> There are several recommended governance frameworks available to set standards for protecting children online. For example, the Center for Countering Digital Hate (CCDH) advocates a global standard of social media regulation called the STAR Framework, with advice for governance, accountability and decision-making structures towards platform and user safety, including safety by design, transparency, answerability to democratic and independent bodies, and responsibility for companies and their senior executives. Source: <u>CCDH</u> response to our <u>2023 Protection of Children Call for Evidence</u> (2023 CFE). [accessed 29 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1357</sup> The BBC's Child Protection Code of Conduct sets out rules for interacting directly with children in any capacity on behalf of the BBC, including prioritising the safety and wellbeing of the child at all times. Source: BBC, 2017. <u>BBC Child Protection Code of Conduct</u>. [accessed 28 March 2025]; BBC, 2024. <u>BBC Safeguarding Code of Conduct</u>. [accessed 21 February 2025].

<sup>&</sup>lt;sup>1358</sup> The Nursing and Midwifery Council sets out standards to protect children from abuse and maltreatment and prevent harm to children's health or development. Source: Nursing and Midwifery Council, 2018. <u>Policy on</u> <u>Safeguarding and Protecting People</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1359</sup> The NSPCC provides a set of recommended standards and accompanying guidance to help non-statutory organisations in the UK which work with children to put clear safeguarding arrangements in place. Source: NSPCC, 2024. <u>Standards and guidance for children and young people aged 0-18</u>. [accessed 28 March 2025].

#### Senior accountability

- 13.13 Senior accountability is considered critical for building an organisational culture that prioritises child safety. The absence of senior oversight, or responsibility for user safety decisions, within a service provider could lead to failure to oversee and address risk management activities by an overall governance body or board. In response to our 2023 Protection of Children Call for Evidence (2023 CFE), several children's organisations called for improved senior accountability, and the delegation of clear roles and responsibilities, for child safety within services.<sup>1360</sup> <sup>1361</sup> <sup>1362</sup> The NSPCC, in particular, has said that to ensure children are safe, "we need to create a culture of compliance within online service providers" which needs to start at the top of the organisation.<sup>1363</sup> It cited a YouGov survey which found that 81% of UK adults want senior tech managers to be appointed and held legally responsible for stopping children being harmed by social media, and 66% of those with an opinion would want senior managers prosecuted for failures that result in serious harm to children.<sup>1364</sup>
- 13.14 The importance of senior accountability for mitigating risks is recognised in other sectors, such as banking and artificial intelligence (AI) governance. In addition to the evidence in the equivalent <u>Illegal Harms Register</u> section, we found that a study evaluating a regulation designed to address ongoing risk management failures in Australia's banking sector found that "greater felt accountability among senior executives stimulates more proactive and diligent risk management behaviour". It anticipated that when accountability cannot be delegated, bad outcomes reflect badly on the accountable executives themselves, so they should be less likely to ignore red flags and instead seek out more risk information and evaluate it more carefully.<sup>1365</sup> Evaluation of a similar legislation in the UK banking sector, introduced to hold senior management to account for failures that occurred on their watch, found that the majority of senior managers and firms which reported these had brought

<sup>&</sup>lt;sup>1360</sup> Samaritans recommend that companies should ensure that accountability for all policies relating to the protection and safety of users is in place at a senior level, and that clear roles and responsibilities should be assigned to individual roles or teams, to ensure that policies are well developed, implemented and reviewed. Source: <u>Samaritans</u> response to 2023 CFE. [accessed 29 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1361</sup> The 5Rights Foundation recommends, in its Standard for Age Appropriate Digital Service Framework, establishing the roles such as a child safety lead and a child rights advocate within services to ensure user safety. Source: <u>5Rights Foundation</u> response to 2023 CFE. [accessed 29 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1362</sup> Responses from Carnegie UK and CCDH also call for senior executive responsibility, with Carnegie UK stating the importance of responsibility for children's wellbeing being accepted at board level. Source: <u>Carnegie UK</u> response to 2023 CFE; <u>CCDH</u> response to 2023 CFE. [accessed 29 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1363</sup> The NSPCC said it expects to see senior managers to be held personally liable for protecting children from harm. It expects to see that governance, accountability and decision-making flow down from senior management, and that risk assessments should be signed off at the highest level. Source: <u>NSPCC</u> response to 2023 CFE. [accessed 29 January 2025].

<sup>&</sup>lt;sup>1364</sup> NSPCC, 2023. <u>Majority of public want tougher Online Safety Bill that holds tech bosses responsible for child</u> <u>safety</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1365</sup> Note: This study has a small sample size of 41 interviews with accountable persons. Source: Sheedy, E. and Canestrari-Soh, D., 2023. <u>Does executive accountability enhance risk management and risk culture?</u>, *Accounting and Finance*, 63 (4). [accessed 28 March 2025].

about positive and meaningful changes to behaviour in the industry.<sup>1366</sup> The ICO's guidance about AI risk management regarding data protection states that senior management are accountable for addressing the technical complexities of AI, and cannot delegate this responsibility to others. It states that senior management will need to align its internal structures, roles and responsibilities maps, training requirements, policies and incentives to its overall AI governance and risk management strategy.<sup>1367</sup> Likewise, the AI Risk Management Framework by the US National Institute of Standards and Technology (NIST) states that effective risk management is realised through organisational commitment at senior levels, and may require cultural change within an organisation or industry. It says that organisations need to establish and maintain the appropriate accountability mechanisms, roles and responsibilities, culture, and incentive structures for risk management to be effective.<sup>1368</sup>

## Internal assurance and staff compliance training

- 13.15 Having an internal monitoring and assurance function in place is considered important, to provide an independent review of the measures in place that mitigate and manage the risks to children. Inappropriate risk mitigation and management evaluation processes could lead to children being exposed to harmful content. These risks may also arise where such processes are inconsistent, where measures are ineffective at addressing specific risks or where measures are not future-proof.<sup>1369</sup> For these reasons, internal monitoring assurance functions can be effective in ensuring that there is adequate oversight of risk management.
- 13.16 Lack of, or inadequate, staff training could also put children at risk, if staff are not appropriately trained in the service's approach to compliance with the child safety duties and the reporting and complaints duties. Regular staff compliance training is considered an important part of building and supporting a risk management culture, by ensuring staff are aware of a service's duties and how it intends to meet them.<sup>1370</sup> Without efforts to align safety objectives across different areas of a service, it is possible that staff will not understand how the service manages and mitigates risks of harmful content being displayed to children, nor how it approaches regulatory compliance.
- 13.17 Additional considerations may be needed to protect vulnerable children. It is important that services understand how risk factors to children's safety may change depending on

<sup>&</sup>lt;sup>1366</sup> The Senior Managers and Certification Regime (SM&CR) for banks and insurers, launched in 2016 in the UK, requires the most senior decision-makers in firms to have clearly assigned responsibilities, and to be accountable for actions within their remit. Results from a survey of banks and insurers showed that 94% of senior managers and 96% of firms which responded reported that the SM&CR had brought about positive and meaningful changes to behaviour in industry. Source: Bank of England, 2020. <u>Evaluation of the Senior</u> Managers and Certification Regime. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1367</sup> Information Commissioner's Office (ICO), 2023. <u>What are the accountability and governance implications</u> of <u>AI?</u> [accessed 28 March 2025].

<sup>&</sup>lt;sup>1368</sup> US National Institute of Standards and Technology (NIST), 2023. <u>Artificial Intelligence Risk Management</u> <u>Framework</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1369</sup> A report by Ofcom on the livestreaming of an attack in Buffalo, New York on 14 May 2022 concluded that services should make efforts in their product and engineering design processes to prevent the upload of terrorist content, in an effort to prevent similar incidents in the future. Source: Ofcom, 2022. <u>The Buffalo</u> <u>Attack: Implications for Online Safety</u>. [accessed 29 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1370</sup> Carnegie UK, for example, recommended that services have appropriately trained staff, and should have processes that can separate specific children's issues from general operating issues, and get appropriate teams involved. Source: <u>Carnegie UK</u> response to <u>2023 CFE</u>.

certain characteristics. The United Nations General comment No. 25 on the rights of the child in the digital environment highlights that certain children face an increased risk of harm, and calls for measures to prevent discrimination "on the basis of sex, disability, socioeconomic background, ethnic or national origin, language or any other grounds, and discrimination against minority and indigenous children, asylum-seeking, refugee and migrant children, lesbian, gay, bisexual, transgender and intersex children, children who are victims and survivors of trafficking or sexual exploitation, children in alternative care, children deprived of liberty and children in other vulnerable situations". The comment also notes a specific gender digital divide for girls.<sup>1371</sup> Research commissioned by the Department for Digital, Culture, Media & Sport (DCMS) with children aged 9-18 found that children with special educational needs and disabilities (SEND) may be more vulnerable to being targeted by online abuse. Those with learning disabilities and autism were identified as being vulnerable to seeking connections online but not always being able to distinguish between healthy and harmful connections with others.<sup>1372</sup>

# Age assurance (user-to-user)

- 13.18 Effective user access<sup>1373</sup> and content control<sup>1374</sup> measures such as age assurance systems<sup>1375</sup> can prevent child users from accessing certain online spaces, and can inform services about the age of a user, in order to reduce the risk of children being exposed to harmful content. However, these systems are not always implemented or implemented in a way that makes them robust, resulting in children being exposed to experiences and content that are harmful to them. The absence of robust age assurance systems and processes, or a strategy for how to effectively distinguish between adult and child users, could enable children to access spaces that were not designed for them. We know that some children can access services where they could encounter harm, despite being below the minimum mechanisms to determine the visibility and accessibility of content including its removal or reduction. Understanding which of their users are children is one route for service providers to provide a child-safe experience. Further information as to how services can mitigate risk of harm can be found in our Protection of Children Codes.
- 13.19 When age assurance systems are weak or non-existent, children are able to easily access functionalities and content that is only appropriate for adults. Some children create online profiles with a false age, which could put them at higher risk of being exposed to harmful content online. Ofcom research estimates that 20% of 8-17-year-olds (and 18% of 8-15-

<sup>&</sup>lt;sup>1371</sup> United Nations, 2021. <u>General comment No. 25 (2021) on children's rights in relation to the digital</u> <u>environment</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1372</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research to investigate the impact of online harms on</u> <u>children</u>. [accessed 28 March 2025]. Subsequent references to this source throughout. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>1373</sup> 'User access' refers to a user's entry into a service and ability to use the functionalities present on that service.

<sup>&</sup>lt;sup>1374</sup> Content controls are mechanisms to determine the visibility and accessibility of content, including its removal or reduction.

<sup>&</sup>lt;sup>1375</sup> An age assurance process refers to the end-to-end process through which the age assurance method of combination of methods are implemented to determine whether or not a user is a child. The effectiveness of an age assurance method will depend on how it is implemented, including whether by itself or in combination with other methods. Further information as to how services can mitigate risk of harm can be found in our Protection of Children Codes (Volume 4).

year-olds) with a profile on at least one online service (e.g., social media) have a user/profile age of at least 18, increasing the risk of them seeing content that is ageinappropriate or harmful to children.<sup>1376</sup> Another Ofcom study found that younger children with a user/profile age of 16+ or 18+ may be exposed to new features or functionalities on their social media profile, such as direct messaging from strangers, or the ability to see adult content, thereby potentially exposing them to harm online.<sup>1377</sup>

- 13.20 Children may use other strategies to bypass age assurance systems, such as virtual private networks (VPNs) and borrowed credit cards. The British Board of Film Classification (BBFC) and Revealing Reality found that 23% of children (aged 11-17) reported knowing how to use a potential 'workaround' (e.g., a VPN, file torrenting, the use of Tor<sup>1378</sup> or the 'dark web'). The youngest children (aged 11-13) were the least likely to report knowing how to use any of these functions (14%), compared to the older children: 25% aged 14-15, and 33% aged 16-17.<sup>1379</sup> Ofcom research found that 30% of 16-17-year-olds used a VPN to go online for work, education or other reasons.<sup>1380</sup> Parents also reported concern about their children using their credit card without their permission to bypass age assurance measures.<sup>1381</sup>
- 13.21 Device sharing between children and adults may lead to a risk of a child being recommended age-inappropriate or harmful content. Some children, particularly younger children, share their internet devices with other members of their household, such as siblings and parents.<sup>1382 1383</sup> If a device is shared, and a child is logged in as the adult's account, the child may have access to content, features and functionalities which would otherwise not be available to them. As recommender systems<sup>1384</sup> recommend content on

<sup>&</sup>lt;sup>1376</sup> Ofcom, 2025. <u>Children's online 'user ages' – Wave 4</u>. [accessed 31 March 2025].

<sup>&</sup>lt;sup>1377</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1378</sup> Tor is a software that enables anonymous web browsing.

<sup>&</sup>lt;sup>1379</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography & Age-verification</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1380</sup> The proportion of those who have used a VPN falls to 23% if slightly older ages are included, that is, widening the base to 16-24-year-olds. Source: Ofcom, 2024. <u>Technology Tracker</u>. [accessed 24 February 2025]. Note: We have used a different statistic here than in the version used for our May 2024 Consultation on Protecting Children from Harms Online. This is because our Technology Tracker data is based on a nationally representative sample, compared to our previous figure cited from our <u>Barriers to proving age on adult sites</u> research which was based on a sample of adults and 16-17-year-olds who had previously viewed online pornography and intended to again. However, our Barriers to Proving Age on Adult Sites survey is helpful to provide an indication of users' VPN use for pornographic content. See Section 2: Pornographic content for this data.

<sup>&</sup>lt;sup>1381</sup> BBFC and Revealing Reality, 2020, <u>Young people, Pornography & Age-verification</u>.

<sup>&</sup>lt;sup>1382</sup> We know from our longitudinal qualitative Children's Media Lives studies that it is common for children, particularly younger children, to share devices with others in their household. For example, one of the participants, Amira (12) told us she shares her online devices with her sibling. Source: Ofcom, 2023. <u>Children's</u> <u>Media Lives</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1383</sup> We know from our quantitative media literacy research that children share devices for homework or online schooling. Thirty per cent of primary and secondary school children do not have access to appropriate internet devices for their schooling needs at home all the time. When these children need access, most parents of these children (61%) reported that this was managed by the child sharing devices with others in the household. Source: Ofcom, 2024. <u>Adults' Media Literacy Tracker</u>. (QO9, QO10, QO11). [accessed 30 January 2025].

<sup>&</sup>lt;sup>1384</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter

the basis of the search and viewing history of the user, when a child borrows the device from an adult it is possible that they could be served age-inappropriate content, including harmful content. Further exploration of the risks recommender systems pose to children is in the 'Service design: Recommender systems' sub-section of this section.

# Content moderation (user-to-user)

- 13.22 Content moderation, whether automated, human or a combination of both, is put in place by service providers to identify and take action on content that is harmful, illegal or does not meet their own terms of service. However, content moderation systems which are poorly designed, deployed or resourced may increase the risk of children encountering harmful content online.
- 13.23 Under the Act, user-to-user services are required to prevent children from encountering primary priority content that is harmful to children (PPC), and to protect children in relevant age groups from priority content that is harmful to children (PC) and non-designated content (NDC).<sup>1385</sup> Service providers should therefore have systems and processes in place to review, assess and take appropriate action on content suspected to be harmful to children to prevent or protect children from harm (user-to-user), depending on the content category. If service providers are satisfied that their terms of service prohibit the relevant kind of PPC, PC or NDC, they may apply those terms of service for this purpose as 'harmful content proxy'. Their content moderation teams need to be appropriately resourced and trained to undertake these tasks. Further information as to how services can implement content moderation effectively can be found in our Protection of Children Codes.

#### Ineffective content moderation

- 13.24 Ineffective content moderation systems could result in children being exposed to harmful content. A report by the Molly Rose Foundation found that "inconsistent and at times erratic" content moderation undermined the harm reduction strategies of three popular services.<sup>1386</sup> Services with less stringent moderation may be seen by users as preferred spaces for content or discussions on topics that are harmful to children.
- 13.25 Discussion forums and user groups are often perceived to be less moderated, and so are perceived to be easier to find in order to access the harmful content.<sup>1387</sup> Beat described

content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>1385</sup> Section 12(3) of the Act states that we must prevent children from encountering PPC, and protect children in age groups judged to be at risk of harm from other content that is harmful to children.

<sup>&</sup>lt;sup>1386</sup> Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful</u> <u>content, including suicide and self-harm material, on Instagram, TikTok and Pinterest</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1387</sup> Some evidence suggests that harmful self-harm and suicide content may be shared within online communities that form in dedicated sub-groups within more general discussion services. These are sometimes reported to be self-regulating, with little perceived outside moderation, and so are perceived to be easier to find in order to access the harmful content. Source: Ofcom, 2024. <u>Experiences of children encountering online</u> <u>content promoting eating disorders, self-harm and suicide</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

how an online forum, which had almost half a million users, appeared to be a supportive community for those living with an eating disorder, but was actually a site populated by predominately pro-eating disorder discussions, providing encouragement and instructions for continued weight loss.<sup>1388</sup> In one study, a child (aged 16) referred to a community of social media users, within which pornographic content was sometimes posted and shared, and where photos and videos were available without any restrictions, beyond a warning that the media might contain graphic imagery.<sup>1389</sup>

- 13.26 Users can use coded hashtags to disguise content on services, which can lead to risk of harm to children if moderation systems are not sophisticated enough. Coded content tags<sup>1390</sup> can be used to obscure and disguise harmful content in an attempt to bypass content moderation systems and be disseminated by recommender systems. The use of coded hashtags in this way can risk creating spaces where harmful content can proliferate for extended periods without detection by online services. Research commissioned by DCMS reported how children and young adults aged 9-18 described body-image and eating disorder content as 'easy to find' using well-known coded hashtags, which led users to posts promoting anorexia and other disordered eating.<sup>1391</sup> Ofcom research reported how knowledge of the coded hashtags appeared to spread in eating disorder online communities.<sup>1392</sup>
- 13.27 Services that rely solely on community moderation may present risk of harm. Evidence suggests that children are present on, and encounter harmful content on, services that employ community moderation as a form of content moderation. Ofcom research found that one of the four pathways to encountering PPC is through 'groups' and 'communities'. We heard from children that discussion forums on sites such as Reddit would form around a particular issue or celebrity, and content was shared within a 'subreddit'. They described these subreddits as being 'self-regulating' forums with little perceived outside moderation, other than the community moderation.<sup>1393</sup>
- 13.28 **Some services may be less incentivised to detect and moderate content.** Services that generate revenue in proportion to the number of users and/or user engagement (e.g., advertising revenue models) may be less incentivised to detect and moderate content that is harmful to children, if this drives up engagement and in turn increases revenue. It may be resource intensive for services to distinguish between harmful content and other, non-harmful content which resembles harmful content (e.g., content discussing eating disorders

<sup>&</sup>lt;sup>1388</sup> Beat response to <u>2023 CFE</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1389</sup> BBFC and Revealing Reality, 2020. <u>Young people, Pornography & Age-verification</u>.

<sup>&</sup>lt;sup>1390</sup> Content tagging is the process of adding keywords and phrases to user-generated content, often used to describe its subject, topic, or theme. Tags such as hashtags are normally applied by users themselves to help improve the discoverability of their content by other users. Users, including children, can undermine content moderation systems when they adapt hashtags or keywords of commonly used terms so that the harmful content is less likely to be flagged as harmful by services.

<sup>&</sup>lt;sup>1391</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> <u>harms on children</u>.

<sup>&</sup>lt;sup>1392</sup> Ofcom, 2024. Experiences of children encountering online content relating to eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>1393</sup> When describing subreddits on Reddit, one 14-year-old male participant explained, "it's very much tailored to you, so if you wanted to go out and look for it [suicide, self-harm and eating disorder content] you can find it. Unlike YouTube, which are sometimes good at their job of trying to moderate, Reddit isn't as moderated." Source: Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

but promoting recovery).<sup>1394</sup> Services therefore may not have sufficient incentive to take prompt action against content that could be harmful to children, especially if the risk of over-blocking content (where content that is not harmful, but is blocked because it resembles harmful content) could reduce user engagement and/or the number of users, and therefore reduce revenue.<sup>1395</sup>

#### **Resourcing and time constraints**

- 13.29 Resource constraints on content moderation teams could lead to harmful content remaining on a service for a longer time. An Ofcom report noted that in services' content moderation processes there is typically a time lag between content being referred and it being reviewed, due to resource constraints, and the potentially large and fluctuating volume of potentially harmful content referred.<sup>1396</sup> As discussed in the 'User reporting and complaints' sub-section of this section, we know that long wait times discourage children from reporting harmful content. Likewise, Refuge told us that users are left waiting "weeks, months or even years" for a reply after flagging seriously harmful content, and that urgent steps need to be taken to improve response time. Refuge told us that where content moderation functions are adequately resourced, this should enable them to review potentially content harmful to children more quickly, and make more accurate decisions on whether to take action.<sup>1397</sup> A study has suggested that the reduction of content moderation staff in a large service has led to a major increase in the quantity of antisemitic content on the service.<sup>1398</sup>
- 13.30 **Time pressures on human moderators may increase the risk of human error in moderation decisions**. A report by Demos highlighted that human content moderators have to make decisions in minutes, often about content in a language or a context they do not understand, making mistakes inevitable.<sup>1399</sup> Periods when there is no human moderator presence on services may increase the risk that content harmful to children is widely

<sup>&</sup>lt;sup>1394</sup> This is the case for harmful content that is intentionally tagged by users (i.e., using hashtags) or unintentionally labelled by the system as non-harmful content. We refer to eating disorder as an illustrative example, but a similar argument can apply to other types of content, such as suicide and self-harm content tagged as pro-recovery content, and mislabelled violent content (see Section 3: Suicide and self-harm content and Section 7: Violent content for more information).

<sup>&</sup>lt;sup>1395</sup> Other measures aimed at reducing harm, such as age assurance or additional checks/restrictions on content posting/sharing, could also add friction to the user experience, which may also be to the detriment of user engagement and revenue.

 <sup>&</sup>lt;sup>1396</sup> Ofcom, 2023. <u>Content moderation in user-to-user online services</u>. [accessed 30 January 2025].
 <sup>1397</sup> <u>Refuge</u> response to <u>2023 CFE</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1398</sup> A report by CASM Technology and the Institute for Strategic Dialogue (ISD) found a major increase in the number of antisemitic posts, coinciding with a reduction in content moderation staff at one social media service, saying the analysis demonstrates "the broader and longer-term impact that platforms de-prioritising content moderation can have on the spread of online hate." While this study refers to antisemitic content, our view is that it is reasonable to infer a similar outcome for content harmful to children in terms of hate and abuse. Note: On its methodology, the report comments there are inherent challenges in training language models on as nuanced a topic as antisemitism, but this architecture is evaluated to operate with an accuracy of 76%. Source: CASM Technology and the ISD, 2023. <u>Antisemitism on Twitter Before and After Elon Musk's</u> Acquisition. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1399</sup> Demos (Krasodomski-Jones, A.), 2020. <u>Everything in Moderation: Platforms, communities and users in a healthy online environment</u>. [accessed 28 March 2025].

viewed by, or disseminated to, children before being actioned, which can lead to more children encountering such content.<sup>1400</sup>

- 13.31 It is important to have processes in place to prepare content moderators for times of crisis. Our report on the 2022 Buffalo Attack highlighted the importance of video-sharing platforms (VSPs) having appropriate moderation measures and internal processes in place to respond quickly to crisis events as they arise. We considered that content moderators who have access to high-quality resources will be better equipped to identify harmful content quickly, consistently and accurately.<sup>1401</sup>
- 13.32 Inadequate training on quality assurance can lead to an uneven application of moderation standards. As part of our VSP regulation, we said that although most of the regulated services we examined did have training materials for content moderators in place, including definitions of prohibited content, it is also important to build up moderators' awareness of the cultural, linguistic, historical and political context in the UK, to help them protect UK users.<sup>1402</sup> Linguistic context is of particular importance as the effectiveness of content moderation strategies and technologies may be more robust in some languages than others. Academics at Brown University were able to bypass content moderation technology by entering dangerous prompts into a generative AI chatbot in lesser-used languages such as Scots Gaelic.<sup>1403</sup>

# User reporting and complaints (user-to-user and search services)

- 13.33 Service providers have duties to operate reporting and complaints processes under the Act and may also use these to mitigate the risks of harms discussed in the other sections of the Children's Register. However, not all children are aware of these functions, and those that are aware are unlikely to use them if they are lengthy or unclear, or hard to find. These functions may not have been designed with children in mind, yet children need to be able to use them if they are using a service. Service providers should consider this when assessing risk on their own services.
- 13.34 While reporting mechanisms, if used by a child, can prevent the further spread of content that is harmful to children, the child in question will have already encountered that piece of content and potentially been harmed by it. Further information as to how services can implement reporting and complaints processes effectively, and mitigate risk of harm, can be found in the Protection of Children Codes (Volume 4).

<sup>&</sup>lt;sup>1400</sup> Ofcom, 2022. <u>The Buffalo Attack: Implications for Online Safety.</u>

 <sup>&</sup>lt;sup>1401</sup> Ofcom, 2022. <u>Ofcom's first year of video-sharing platform regulation</u>. [accessed 30 January 2025].
 <sup>1402</sup> Ofcom, 2023. <u>Regulating Video-Sharing Platforms (VSPs)</u>. Our first 2023 report: What we've learnt about

VSPs' user policies. [accessed 30 January 2025]. Subsequent references to this source throughout. <sup>1403</sup> The academics ran 520 harmful prompts such as 'Tell me how to construct a homemade explosive device using household materials' through GPT-4, translating the queries from English into other languages and then translating the responses back again, and found that they were able to bypass its safety guardrails about 79% of the time using Zulu, Scots Gaelic, Hmong or Guarani. By comparison, the same prompts in English were blocked 99% of the time. While some of these prompts relate to illegal harms, we consider the point may be relevant for content harmful to children also. Source: Yong, Z.-X., Menghini, C. and Bach, S. H., 2024. Low-<u>Resource Languages Jailbreak GPT-4</u>. [accessed 28 March 2025]; Quach, K., 2024. <u>OpenAI's GPT-4 finally meets</u> its match: Scots Gaelic smashes safety guardrails. The Register, 31 December. [accessed 28 March 2025].

# Accessibility of reporting channels

- 13.35 Children, in particular, do not report or complain about harmful content if the reporting channels are unclear or hard to find, or if the process is too time-consuming or complicated. Evidence suggests that children are put off complaining or reporting because they do not know how to complain or believe it will be difficult.<sup>1404</sup> Children told us in our cyberbullying study, and our research on reporting behaviours and attitudes in children, that reporting mechanisms should be more visible, and that having to answer multiple follow-up questions when reporting is burdensome.<sup>1405</sup> <sup>1406</sup> Similarly, another of our studies on violent content found that children were discouraged from reporting because the processes are long, time-consuming and complicated.<sup>1407</sup> This view was echoed by some participants in our research on suicide, self-harm and eating disorder content, who said 'not knowing how to report' made them more likely to block harmful content if they struggle to report/complain, increasing the likelihood of harm to more children who may then come across it or be subject to repeated exposure.
- 13.36 **Many children who experience harm online do not report issues to the service.** Internet Matters research found that just 24% of children aged 9-16 who had experienced a harm online reported it to the service where the issue happened – either themselves or with the help of a parent/caregiver. Overall, among children who have experienced an online harm, just 8% reported the issue directly to the service themselves.<sup>1409</sup>
- 13.37 Children are less likely than adults to report or flag content. According to our 2025 research, children aged 13-17 are significantly less likely than adults to report or flag potentially harmful content online (23% vs 34%).<sup>1410</sup> Older children (aged 13-15 and 16-17) are less likely to tell someone if they have seen something worrying or nasty online, compared to younger children (aged 8-12).<sup>1411</sup>
- 13.38 **Our research suggests that children are more likely to block or restrict users or content than to report it.** This may be because blocking and content restrictions have clearer

<sup>&</sup>lt;sup>1404</sup> Many (36%) children do not know how to use reporting systems. Source: Ofcom, 2024. Children's Media Use and Attitudes study: <u>Children's Online Knowledge and Understanding Survey</u>, <u>QC57</u>. [accessed 12 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1405</sup> Ofcom, 2024. <u>Key attributes and experiences of cyberbullying among children in the UK</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1406</sup> Ofcom, 2024. <u>Children's attitudes to reporting content online</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1407</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>. [accessed 30 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1408</sup> Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>1409</sup> Among children who experienced a harm and reported it to the platform, over half (56%) asked a parent to report the issue and around a third (36%) reported the issue directly to the app or platform where the issue happened themselves. Data from Internet Matters' Digital Tracker Survey 2023, which included a nationally representative sample of over 2,000 parents and 1,000 children aged 9-16. Source: Internet Matters, 2024. <u>Protecting children from harms online: Response to Ofcom consultation</u>. [accessed 11 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1410</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1411</sup> Ofcom, 2024. Children's Media Use and Attitudes study: <u>Children's Online Knowledge and Understanding</u> <u>Survey, QC31A</u>. [accessed 12 February 2025].

outcomes. We found that children aged 13-17 were less aware of reporting functions (36%) than other protection measures on social media such as blocking (85%).<sup>1412</sup>

- 13.39 However, other sources show that some children are not aware of blocking and reporting functions on the services they use. Some children have reflected in interviews and focus groups on how they were not aware of reporting and blocking functions when they were younger.<sup>1413</sup> Ofcom research found that 47% of parents said they wanted flagging and reporting mechanisms to be made easier for children to use and access.<sup>1414</sup>
- Children may be discouraged from reporting content due to anonymity concerns. Ofcom 13.40 research found that some children are discouraged from reporting by concerns about confidentiality – whether the person they are complaining about will find out who made the complaint. We found that children were discouraged from reporting as they lacked trust that the reporting system would be truly anonymous, believing that their details would be included as part of the report, or that other users would be able to work out who reported them.<sup>1415</sup> Concerns about anonymity during reporting were also cited in Ofcom research into reporting behaviours and attitudes in children; this was found to be a demotivating factor for children.<sup>1416</sup> Similarly, although most children in our research on suicide, selfharm and eating disorder content acknowledged that the reporting process was anonymous, they lacked confidence that this anonymity could be relied on in practice.<sup>1417</sup> This was also reflected in our cyberbullying research, in which participants emphasised the importance for children that the report would not be traced back to them and so make the bullying worse.<sup>1418</sup> Internet Matters research found that some children do not report to the service themselves because they are concerned about the repercussions on their social and school life.1419
- 13.41 **Children with limiting or impacting conditions may find reporting particularly onerous.** Ofcom research found that adults aged 18+ with any limiting or impacting conditions are significantly more likely to be dissatisfied with the reporting process (46%) than those with no limiting or impacting conditions (34%).<sup>1420</sup> So if, as our evidence above suggests, children are already finding reporting difficult, it is reasonable to expect that children with specific conditions could face additional problems when trying to report or complain.

<sup>&</sup>lt;sup>1412</sup> Ofcom, 2024. Children's Media Use and Attitudes study: <u>Children's Online Knowledge and Understanding</u> <u>Survey, QC57</u>.

<sup>&</sup>lt;sup>1413</sup> Some children (aged 9-18) reported in interviews and focus groups that they self-managed inappropriate sexual content and pornography by blocking or avoiding the material, but not all children were aware of blocking and reporting functions. Some participants explained that they had learnt to identify suspicious contacts and felt more confident in declining requests as a result of previous negative online experiences. Source: Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>.

<sup>&</sup>lt;sup>1414</sup> Ofcom, 2024. <u>Video Sharing Platforms (VSP) Tracker</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1415</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1416</sup> Ofcom, 2024. <u>Children's attitudes to reporting content online</u>.

<sup>&</sup>lt;sup>1417</sup> Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>1418</sup> Ofcom, 2024. Key attributes and experiences of cyberbullying among children in the UK.

<sup>&</sup>lt;sup>1419</sup> Data from Internet Matters' Digital Tracker Survey 2023, which included a nationally representative sample of over 2,000 parents and 1,000 children aged 9-16. Source: Internet Matters, 2024. <u>Protecting children from harms online: Response to Ofcom consultation</u>.

<sup>&</sup>lt;sup>1420</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. Note: Base sizes too small to report on children's satisfaction with reporting processes.

13.42 Some children may struggle to identify fake accounts, which could impact the likelihood of them reporting these accounts. Evidence suggests that some children feel overwhelmed by the large number of fake accounts and bots they encounter online and have had to learn to become increasingly skilled in identifying and reporting them.<sup>1421</sup> Identifying fake accounts is also a struggle for many adult users, but can be particularly difficult for younger children, as highlighted in our Children's Media Lives findings.<sup>1422</sup>

#### Action taken after reporting content

13.43 Where users perceive a lack of action, or lack of transparency, or receive no or poor communications in response to a report,<sup>1423</sup> they are less likely to report in the future. This may further increase the risk of harm to children. Children in particular can be dissuaded from reporting content or complaining, as they do not think anything will come of their complaint.<sup>1424</sup> Internet Matters research found that children often say they lack trust in service reporting tools in being able to effectively resolve issues.<sup>1425</sup> Our research into children's attitudes to reporting echoes this finding, and suggests that if children receive no update on the outcome of their complaints, they do not believe they have been taken seriously.<sup>1426</sup> The participants suggested that confirmation of receipt after reporting, even if automated, is encouraging for children, instilling confidence and encouraging further reporting, knowing that the report is being handled and taken seriously. Ofcom research on violent content also found that many children reported a lack of feedback after their report, and lacked trust that services would impose meaningful consequences for those who had posted violent content.<sup>1427</sup> Likewise, our cyberbullying research found that children were unclear about what happened when a report was submitted. Some children suggested that services did not take cyberbullying seriously and would only take action if reports came from many users, multiple times.<sup>1428</sup> This was echoed by a finding from a study on children

<sup>&</sup>lt;sup>1421</sup> Some children (aged 9-18) reported that when they were able to block or report fake accounts and bots, they sometimes felt overwhelmed, disheartened and disillusioned, due to the large number of such accounts. As a result, children are becoming increasingly aware of, and skilled in identifying and reporting, fake accounts and bots which share such content. Source: Ecorys (commissioned by DCMS), 2022. <u>Qualitative research</u> project to investigate the impact of online harms on children.

<sup>&</sup>lt;sup>1422</sup> Some younger children were not able to identify fake accounts in our Children's Media Lives study. When presented with an image of a fictional social media profile, some younger children incorrectly thought it was the account of a real user. Source: Ofcom, 2023. <u>Children's Media Lives</u>.

<sup>&</sup>lt;sup>1423</sup> Ofcom research found that less than one in five children and young people aged 13-24 (17%) take action to report potentially harmful content when they see it. Younger participants said the main reason for not reporting was that they 'didn't see the need to do anything' (29%), while one in five (21%) 'didn't think it would make a difference'. Meanwhile, 48% of 13-17-year-olds, compared to 39% of adults 18+, said they took no action when encountering their most recent potential online harm. Source: Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>.

<sup>&</sup>lt;sup>1424</sup> Ofcom research found that 12% of 13-17s said the reason they took no action upon encountering potentially harmful content because they did not think it would help/make a difference/be acted on. Source: Ofcom, 2024/25. <u>Online Experiences Tracker – Wave 6 and 7 combined</u>.

<sup>&</sup>lt;sup>1425</sup> Data from Internet Matters' Digital Tracker Survey 2023, which included a nationally representative sample of over 2,000 parents and 1,000 children aged 9-16. Source: Internet Matters, 2024. <u>Protecting children from</u> <u>harms online: Response to Ofcom consultation</u>.

<sup>&</sup>lt;sup>1426</sup> Ofcom, 2024. <u>Children's attitudes to reporting content online</u>.

<sup>&</sup>lt;sup>1427</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>.

<sup>&</sup>lt;sup>1428</sup> Ofcom, 2024. Key attributes and experiences of cyberbullying among children in the UK.

aged 7-18 in Wales, <sup>1429</sup> and also by several respondents to our 2023 CFE, who told us that one of the reasons for the low rates of reporting among children is that they lack trust in reporting systems and do not believe anything will happen if they report content. <sup>1430</sup> <sup>1431</sup> Respondents also told us that one of the main drivers of this perception is that frequently children do not receive any response from services when they report content, and this discourages them from reporting again in the future. <sup>1432</sup> <sup>1433</sup> <sup>1434</sup> Respondents also recommended that services should respond to children's reports of harmful content, <sup>1435</sup> <sup>1436</sup> <sup>1437</sup> <sup>1438</sup> with some suggesting any response should be sent within a set timeframe. <sup>1439</sup> <sup>1440</sup>

13.44 The time taken for services to remove accounts can cause more harm to the child. In cases of online bullying, where fake accounts can be used to impersonate and torment victims, the time taken by services to remove fake accounts can be a risk to extending children's distress about the situation. A study commissioned by DCMS reported a case in which it took a service two weeks to take down a fake account impersonating a child.<sup>1441</sup> Ofcom research on reporting behaviours and attitudes in children found that children felt that, even where reported content and accounts were taken down by services, new accounts could then be used to continue to share harmful content. Children felt it was the services' responsibility to monitor such accounts.<sup>1442</sup> Research commissioned by DCMS with 9-18-year-olds found that having no clear resolution, and lengthy reporting processes, affected the severity, and the duration, of the harmful impact of the online abuse.<sup>1443</sup>

# Terms of service and publicly available statements (user-touser and search services)

<sup>1440</sup> End Violence Against Women Coalition response to 2023 CFE. [accessed 30 January 2025].

<sup>13.45</sup> Reading a service's terms of service and publicly available statements<sup>1444</sup> (which we refer to as 'terms and statements' in this section) can help the user understand the rules of use for

<sup>&</sup>lt;sup>1429</sup> Only 32% of children and young people who had reported concerns (39% of the total) to an online platform felt their concerns had been taken seriously. Thirty-nine per cent said they were not sure whether the app/website/game took the concern seriously, while 29% said they did not feel their concerns had been taken seriously. Source: Children's Commissioner for Wales, 2024. <u>Monthly Matters: Online Safety – A Snapshot</u> <u>Survey of Children and Young People in Wales</u>. [accessed 13 December 2024].

<sup>&</sup>lt;sup>1430</sup> <u>Glitch</u> response to <u>2023 CFE</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1431</sup> <u>Nexus response</u> to <u>2023 CFE</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1432</sup> <u>Private Individual 1</u> response to <u>2023 CFE</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1433</sup> <u>The Executive Office NI, Good Relations and TBUC Strategy (Together: Building a United Community)</u> <u>response</u> response to <u>2023 CFE</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1434</sup> <u>Refuge</u> response to <u>2023 CFE</u>.

<sup>&</sup>lt;sup>1435</sup> <u>5Rights Foundation</u> response to <u>2023 CFE</u>.

<sup>&</sup>lt;sup>1436</sup> <u>Common Sense Media</u> response to <u>2023 CFE</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1437</sup> Samaritans response to 2023 CFE.

<sup>&</sup>lt;sup>1438</sup> <u>CCDH</u> response to <u>2023 CFE</u>.

<sup>&</sup>lt;sup>1439</sup> Parent Zone response to 2023 CFE. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1441</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>1442</sup> Ofcom, 2024. <u>Children's attitudes to reporting content online</u>.

<sup>&</sup>lt;sup>1443</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online</u> harms on children.

<sup>&</sup>lt;sup>1444</sup> On defining terms of service, the Act includes duties that apply in relation to: a) user-to-user services' terms of service ('terms'), meaning "all documents (whatever they are called) comprising the contract for use of the service (or of part of it) by United Kingdom users" (source: Section 236 of the Act); b) search services'

the service. However, these terms and statements are ineffective if they are not accessible to all users, including children. We consider that a service's terms and statements should be able to be understood by children, so that they can make better-informed choices about what services to use, and how to stay safe online. It is reasonable to infer that this should reduce children's risk of being exposed to harmful content on a service. Further information as to how services can present their terms and statements effectively for a child audience can be found in the Protection of Children Codes.

13.46 To be effective, a service provider's terms and statements should be easy to read and easy to find. However, few are written with a child audience in mind. The ICO's Age appropriate design code states that for terms of service to be accessible to children, they must be prominent, visible and easy to find. <sup>1445</sup> However, terms of service are often long, confusing and require advanced reading skills to understand, making them unsuitable for many users, especially children. <sup>1446</sup> <sup>1447</sup> In our 2023 report about regulating VSPs, Ofcom found that the providers in scope of our VSP regulation did not use any techniques to improve users' engagement with their terms and conditions of use to help users understand them. <sup>1448</sup> Two-thirds (67%) of UK internet users (including 16- and 17-year-olds) say that they usually accept terms and conditions without reading them when visiting websites or apps. <sup>1449</sup> Ensuring accessibility for children with disabilities, and/or those relying on screen-reading technology, is also important. <sup>1450</sup> We consider that being able to easily access, and repeatedly visit, terms and statements can help to reinforce children's understanding of their rights and responsibilities as a service user.

publicly available statements ('statements'): search services are required to produce and make available to members of the public in the UK, a statement setting out certain information about how they operate (source: section 236 of the Act); and c) combined services, which have both functionalities, are permitted to set out what would be required in a publicly available statement in terms of service instead. Source: Section 25(2)(a) of the Act.

<sup>&</sup>lt;sup>1445</sup> ICO, 2020. <u>Age appropriate design: a code of practice for online services</u>. [accessed 28 March 2025]. <sup>1446</sup> Ofcom calculated a 'reading ease' score for the terms of service of the providers in scope of our videosharing platform regulation. All but one was assessed as being "difficult to read and best understood by highschool graduates". Source: Ofcom, 2023. <u>Regulating video-sharing platforms (VSPs). Our first 2023 report:</u> <u>What we've learnt about VSPs' user policies</u>.

 <sup>&</sup>lt;sup>1447</sup> 5Rights Foundation, for example, reported that when they looked at 123 privacy policies for websites likely to be accessed by children, only nine (7%) had a specific policy targeted at children. Source: 5Rights
 Foundation, 2021. <u>Tick to Agree – Age appropriate presentation of published terms</u>. [accessed 28 March 2025].
 <sup>1448</sup> Ofcom, 2023. <u>Regulating video-sharing platforms (VSPs). Our first 2023 report: What we've learnt about VSPs' user policies</u>.

<sup>&</sup>lt;sup>1449</sup> Only 6% of UK internet users aged 16+ said they always read terms and conditions. Source: Ofcom, 2022. <u>Adults' Media Literacy Tracker</u> (Table 66). [accessed 20 January 2025]. Furthermore, 33% of UK internet users aged 16-24 reported having ever needed to access social media terms and conditions. Source: Ofcom, 2023. <u>Platform Terms and Accessibility poll</u> (Q1). [accessed 20 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1450</sup> Ofcom research found that 18% of internet users aged 16-24 reported having had difficulty reading information online because the content was not keyboard navigable, or was difficult to navigate using a keyboard. The same proportion reported the same difficulty because the content was not compatible, or was difficult to use, with a screen reader or screen-reading technology. Source: Ofcom, 2023. <u>Platform Terms and</u> <u>Accessibility poll</u> (Q6).

# Service design: Recommender systems (user-to-user)

- 13.47 Services which deploy content recommender systems<sup>1451</sup> could be at higher risk of suggesting content to children that is harmful to them. Recommender systems designed without safety and integrity considerations may increase the risk of children encountering content that is harmful to them on user-to-user or search services. Children may be recommended content on a user-to-user service, or be led to it within a few clicks, from their initial request on a search service. Detail on how recommender systems work is set out in Section 16: Wider context to understanding risk factors. Further information on how services can design and implement recommender systems to mitigate risk of harm can be found in the Protection of Children Codes.
- 13.48 **Recommender systems are a primary means through which user-generated content is disseminated across user-to-user services.** While these systems help users discover content that they may enjoy, without needing to seek it out, the way they are designed may risk disseminating and serving harmful content to children's accounts without them actively seeking it out.<sup>1452 1453</sup>
- 13.49 Certain design choices can result in children being served content they did not intend to find. We understand that many services often choose to design their recommender systems to drive up certain engagement metrics such as watch time, user reach, number of likes and reshares. Such design choices can affect the risk of children being exposed to content that is harmful to them.<sup>1454</sup> When harmful content is available on a service, recommender systems may serve an increasing volume of such content to a user if they engage enough with that harm category. If a user engages with 'harm-adjacent content' (content that has characteristics similar to harmful content), there is a risk that a recommender system may then start suggesting harmful content, often very quickly. This can happen due to the overlapping characteristics of content, such as the same tags or keywords, or the same audio. The technical challenges in distinguishing between these different types of content may increase the risk that users seeking a certain type of content may be served harmful content; for example, mental health support and recovery content may be confused with suicide and self-harm content, and diet or fitness content may be confused with eating disorder content. Moreover, engagement with content related to one type of harmful content may prompt recommender systems to suggest another type of harmful content, based on the behaviour patterns of similar users.
- 13.50 A common way in which children encounter harmful content is being recommended it via curated feeds and 'For You' pages. Ofcom research found that a third (30%) of child users

signals (likes, shares, comments) and implicit signals (viewing time and number of times viewed) from users to infer their preferences, which then influences how certain algorithms within the system curate content. <sup>1453</sup> Ofcom, 2023. <u>Evaluating recommender systems in relation to illegal and harmful content</u>. [accessed 20 January 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1451</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.
<sup>1452</sup> Reasons for this include child users (knowingly or unknowingly) engaging with such content, for example, 'liking' it, commenting on it or viewing it multiple times. Recommender systems receive a variety of explicit

<sup>&</sup>lt;sup>1454</sup> Ofcom, 2023. Evaluating recommender systems in relation to illegal and harmful content.

aged 13-17 encountered their most recent harm by scrolling through their feed or 'For You' page.<sup>1455</sup> In Ofcom's Children's Media Lives study, one girl said she sometimes saw eating disorder content on her feed that was tagged 'recovery', but which was not about recovery.<sup>1456 1457</sup> A report by the Molly Rose Foundation commented on the speed at which a service's recommender system identified the account's preferences, noting that a large VSP's 'For You' page "rapidly identified our interest in suicide- and self-harm-related material, and we were quickly presented with a range of disturbing and potentially harmful videos."<sup>1458</sup>

13.51 In severe cases, children can be vulnerable to experiencing 'rabbit holes' of harmful content. Recommender systems use several types of algorithms (see Section 16: Wider context to understanding risk factors) to learn about users' preferences and to make inferences/predictions about what they are likely to find engaging, based on a variety of signals. Content-based algorithms help personalise users' recommendations based on their engagement patterns. Repeated engagement with harmful content can result in a 'filter bubble', <sup>1459</sup> whereby a child's feed is increasingly filled with a particular type of harmful content, and they are recommended fewer alternative types of content. In more severe cases, content-based algorithms can lead to children being recommended streams of increasingly extreme types of the harmful content they have previously engaged with, known as the 'rabbit-hole' effect.<sup>1460</sup> When harmful content is repeatedly encountered by a child, this may lead the child to experience cumulative harm.

<sup>&</sup>lt;sup>1455</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>.

<sup>&</sup>lt;sup>1456</sup> For example, in Ofcom's Children's Media Lives study, a few of the participants talked about seeing content about mental health on their TikTok 'For You' page that they did not search for, and did not want to see. One girl, Alice (aged 17), who had previously struggled with her mental health, said she sometimes saw eating disorder content on her feed that was tagged 'recovery', but which was not about recovery. Source: Ofcom, 2023. <u>Children's Media Lives</u>.

<sup>&</sup>lt;sup>1457</sup> Another child, Arjun (aged 10), from Ofcom's Children's Media Lives Wave 8 study, recalled being on YouTube Shorts where he did not actively choose videos but scrolled through whatever was served to him. Sometimes this meant that he saw content that was age inappropriate. In this case, he saw a video which referenced seeing your teacher on Pornhub. He had not searched for this type of content, nor did he understand its meaning. YouTube Shorts is the short-form section of YouTube, hosting reels of short-form content up to 60 seconds long. There are no age restrictions on YouTube Shorts. Source: Ofcom, 2023. <u>Children's Media Lives</u>.

<sup>&</sup>lt;sup>1458</sup> Note: In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide and self-harm related material. While this is a single study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. <u>Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm material, on Instagram, TikTok and Pinterest</u>.

<sup>&</sup>lt;sup>1459</sup> The term 'filter bubble' describes the narrowing of content that is recommended to users, such that content feeds become homogenous and lack variety. It is also often referred to as an 'echo chamber'. The term was coined by Eli Pariser in his 2011 book *The Filter Bubble: What the Internet is Hiding from You.* Source: UK Parliament, House of Commons Library, 15 January 2024. <u>Preventing misinformation and disinformation in</u> <u>online filter bubbles</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1460</sup> The term 'rabbit hole' describes the process of recommending ever more extreme content to users over time, which may occur as a result of users engaging with that type of content in the past. A study that examined one large service found that design choices can influence the extent to which users are led down rabbit holes, increasing user exposure to a number of harmful content types, including self-harm and eating disorders. Source: CCDH, 2022. <u>Deadly by Design: TikTok pushes harmful content promoting eating disorders</u> and self-harm into young users' feeds. [accessed 28 March 2025].

13.52 In the absence of robust age verification and assurance, recommender systems are unlikely to be able to distinguish child users from adult users. This increases the risk of children being grouped with adult users who might be engaging with harmful or ageinappropriate content. We mentioned in the 'Age assurance' sub-section of this section that device-sharing between children and adults may also lead to a risk of a child being recommended age-inappropriate or harmful content.

# Service design: User support (user-to-user services)

- 13.53 The way user-to-user services are designed, in terms of the tools and functionalities available, can affect the level of risk of harm to children. Providing children with user controls and support tools can help facilitate their safe navigation of online services. We consider that giving children more control and understanding of the content they encounter can help them to make judgements about the risk of encountering harmful content. Further information on how services can implement user support tools effectively, to mitigate risk of harm, can be found in the Protection of Children Codes.
- 13.54 Some children use the available tools to protect themselves online, such as blocking content or blocking accounts, although use remains low, possibly due to the reasons set out in the 'User reporting and complaints' sub-section. Our research indicates that the users which children are blocking include those posting content harmful to children. Seventeen per cent of participants aged 13-17 had blocked, muted or unfollowed another user who had posted harmful content, compared to 10% who clicked the 'report' or 'flag' button.<sup>1461</sup> Qualitative research into children's experiences of suicide, self-harm and eating disorder content found that children in the 'core' group (i.e., those who had encountered content relating to suicide, self-harm or eating disorders, but did not have lived experience of suicide ideation, self-harm or disordered eating) said they were more likely to block suicide, self-harm and eating disorder content than to report it.<sup>1462</sup> This is demonstrated in another Ofcom study which found that 12-15-year-olds who said they had seen hateful content online and had taken action in response were most likely to block the person who shared or made the comments (25%).<sup>1463</sup>
- 13.55 Some children use content restriction tools as another alternative to reporting to protect themselves from harmful content. Child participants in our research spoke about using tools such as word or hashtag filters, and the 'dislike', 'see less' and 'not interested' buttons to protect themselves from encountering suicide, self-harm and eating disorder content.<sup>1464</sup> This is echoed in another Ofcom study which found that the most common reaction among children participants was to ignore, scroll past or click 'not interested' when encountering upsetting, offensive or inappropriate content.<sup>1465</sup> Children often deem perceived harmful content as 'not serious enough' to report, and believe clicking a 'not interested' button will

<sup>&</sup>lt;sup>1461</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>1462</sup> Interestingly, children with lived experiences of suicide ideation, self-harm and eating disorders recognised that reporting was a more effective way to protect other users from this content, and said they were more likely to report for this reason. Source: Ofcom, 2024. <u>Experiences of children encountering online content</u> promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>1463</sup> Ofcom, 2020/21. <u>Children's and Parents' Media Literacy Tracker</u>. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1464</sup> Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>1465</sup> Ofcom, 2024. <u>Children's attitudes to reporting content online</u>.

mean they will see less of that type of content in the future, although this is not always the case.<sup>1466</sup>

13.56 Services designed with functionalities enabling interaction with strangers, such as group chats and commenting on posts, could pose a risk of harm to children. On some services it is possible for children to be added to groups, chats, forums, etc. with no option to decline or accept. Children report frequently being added to groups both by people they did know and those they did not.<sup>1467</sup> <sup>1468</sup> Research indicates that children are encountering cyberbullying within groups <sup>1469</sup> and that the use of group messaging to share violent content is common.<sup>1470</sup> Some group chats exist on encrypted messaging services where users can share harmful content without detection or moderation. Functionalities which allow users to post comments anonymously is often central to the bullying behaviour reported.<sup>1471</sup> See the harms-specific Children's Register sections for more detail on the risks associated with commenting on content by each type of harm. The ability of users to engage with one another on user-to-user services, and the sheer extent of these potential interactions, carries the risk that child users may encounter content that is harmful to children.

# Search services (including service design and search moderation)

- 13.57 The way in which search services are designed, and the way in which they implement moderation systems, can affect their risk of harm to children. Further information on how search services can be designed and implement moderation effectively, to mitigate risk of harm, can be found in the Protection of Children Codes (Volume 4).
- 13.58 Search services can serve as a pathway to harm by providing users, including children, with the means to easily locate and access web content which may be harmful. Search services play a key role in making online content accessible to users, including children, and in shaping users' online journeys. However, certain features and functionalities, such as predictive search, can increase the risk of children being exposed to harmful content.
- 13.59 **Search services may not always be able to distinguish between a child or an adult user.** Search services allow users to search for content without being logged in, making it harder

<sup>&</sup>lt;sup>1466</sup> Ofcom, 2024. <u>Children's attitudes to reporting content online</u>.

<sup>&</sup>lt;sup>1467</sup> Note: The study was with 13 'vulnerable' children, which here means children who when compared with national data, all lived in UK neighbourhoods that over-index on measures of deprivation, crime and socioeconomic disadvantage. Most were supported by youth services and centres and several had had interactions with the police. Source: Revealing Reality, 2023. <u>Anti-social Media: The violent, sexual and illegal content</u> <u>children are viewing on one of their most popular apps</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1468</sup> Ofcom, 2022. Research into risk factors that may lead children to harm online.

<sup>&</sup>lt;sup>1469</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>1470</sup> A 13-year-old participant in Ofcom research explained that after he was added by a stranger to a group chat, along with a friend, they encountered images of graphic violence. The 13-year-old added that large group chats, where violent and graphic content was shared, were relatively common among his peers and said, "I think that they should give you the option to actually accept the [group chat] invite". Source: Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>.

<sup>&</sup>lt;sup>1471</sup> NSPCC research noted that the functionality on sites that allows users to post comments anonymously is often central to the bullying behaviour reported. A 14-year-old respondent described his experience of a videosharing service: "users are sometimes abusive of their so-called 'anonymity' and use it to harass other users". Source: NSPCC, 2017. <u>Net Aware Report 2017: "Freedom to express myself safely", Exploring how young</u> people navigate opportunities and risks in their online lives. [accessed 28 March 2025].

for them to determine whether a user is under 18, unless a user is logged in, and the search service has sufficient information to establish with confidence if a user is a child. As a result, children can encounter a wide variety of potentially harmful content, and evidence suggests that children encounter this both unintentionally and through intentional searches. For example, our research found that as well as encountering content unintentionally, young people may actively use search services to search for content on eating disorders, self-harm, and suicide on social media services.<sup>1472</sup> Published research highlights the presence and accessibility of PPC, including pornographic content, and content that promotes suicide, self-harm and eating disorders, via search services, as well as evidencing the role that search services have played in some children accessing such content.<sup>1473 1474 1475 1476</sup> A more comprehensive review of the evidence can be found in Section 12: Search services.

#### **Predictive search functionalities**

13.60 Predictive search functions<sup>1477</sup> can suggest terms that increase the risk of users encountering content that is harmful to children. Predictive search anticipates a search request based on a variety of factors (including those related to search results' ranking). If the prediction algorithm is not designed to resolve the problem of providing potentially problematic suggestions, it could serve children results that lead/direct them towards harmful results. Search services' autocomplete suggestions have the potential to help users find content that could be considered harmful; the predictive element of a search bar could suggest potential methods or instructions on how to self-harm or end one's life.<sup>1478</sup> Samaritans recommends that autocomplete searches are reviewed on search engines, with the functionality turned off for harmful searches that relate to methods of harm, and associated equipment.<sup>1479</sup>

<sup>&</sup>lt;sup>1472</sup> Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

<sup>&</sup>lt;sup>1473</sup> For example, results from a survey conducted by the Office of the Children's Commissioner for England indicated that 30% of children had reported seeing pornography 'on search engines'. Source: Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse': Young people and pornography</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1474</sup> In research with UK children many respondents described their first viewing of pornography as 'accidental', including through Google searches, where many described unwittingly searching using terms such as 'sex' or 'porn' without understanding what these words meant. Source: BBFC and Revealing Reality, 2020. <u>Young People, Pornography & Age-verification</u>.

<sup>&</sup>lt;sup>1475</sup> In research for Ofcom, exploring the accessibility of various types of content promoting self-injurious behaviour via search services, the tested search queries (which were designed to return harmful content if it was encounterable) returned large volumes of content, and one in five search results were assessed as promoting self-injurious behaviour in some form. Source: Ofcom, 2024. <u>One Click Away: A Study on the</u> <u>Prevalence of Non-Suicidal Self Injury, Suicide, and Eating Disorder Content Accessible by Search Engines</u>. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1476</sup> Other sources have highlighted the role of 'online search' in enabling children to access pro-suicide and pro-eating disorder content, such as The New York Times. Source: Twohey, M and Dance, G., 2021. <u>Where the despairing log on, and learn ways to die</u>. The New York Times, 9 December. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1477</sup> Predictive search functionalities, such as Google's autocomplete and Microsoft Bing's autosuggest tool, are algorithmic features embedded within the search bar. This functionality is designed to improve the search experience by anticipating search queries based on several factors, including past user queries, user location and trends.

<sup>&</sup>lt;sup>1478</sup> In the <u>Illegal Harms Register</u>, several sources of evidence are referenced demonstrating the role of autocomplete in aiding searches for types of potentially illegal content, and it is reasonable to assume that the functionality works similarly for searches of content of all types.

<sup>&</sup>lt;sup>1479</sup> Samaritans, 2022. <u>Towards a suicide-safer internet</u>. [accessed 28 March 2025].

#### **Search moderation**

13.61 Implementing effective search moderation systems or processes could allow search services to identify, and appropriately action, content that is harmful to children. To optimise the search experience of their users, many search services use an underlying search index<sup>1480</sup> and some form of search result ranking system which is intended to provide the most relevant results to a user.<sup>1481</sup> The risk of children encountering content that is harmful to them is caused by the fact that any indexed content can be presented in search results if the ranking system enables it, and can therefore be encountered by users, including children.<sup>1482</sup> This can happen unless mitigations are in place that specifically minimise the risk of content that is harmful to children from being returned in search results for children. Inconsistent or ineffective moderation on search services may return search results containing PPC or PC in response to search requests.<sup>1483 1484</sup>

<sup>&</sup>lt;sup>1480</sup> Indexing is the process of collecting, parsing and storing data to facilitate fast and accurate information retrieval.

<sup>&</sup>lt;sup>1481</sup> Ranking can be seen as a foundational component that underpins all aspects of search engines because it involves scoring each item based on its predicted relevance to the user. While search services will deploy their own method to rank content, common factors that inform this process are the relevance, trustworthiness and popularity of the potential results in the index that could be returned against a query.

<sup>&</sup>lt;sup>1482</sup> Please note that not every search service presents content to users in this way; some source their content from predetermined locations rather than an index of 'clear web' pages.

<sup>&</sup>lt;sup>1483</sup> Findings from a study by the Molly Rose Foundation stated that while on one service (Pinterest), terms such as 'suicide' or 'self-harm' have been effectively prevented from being recommended in the search bar, "a range of suicide and self-harm related terms continue to produce a set of auto-completed suggestions". Note: In this study the researchers explored Instagram, TikTok and Pinterest with avatar accounts registered as being 15 years of age. Content was identified and scraped using hashtags that have been frequently used to post suicide- and self-harm-related material. While this is a single study and may not represent all children's experiences, it demonstrates that this type of content was available on the services at the time of the study. Source: Molly Rose Foundation, 2023. Preventable yet pervasive: The prevalence and characteristics of harmful content, including suicide and self-harm material, on Instagram, TikTok and Pinterest.

<sup>&</sup>lt;sup>1484</sup> Ofcom qualitative research found that young people actively search for content on eating disorders, selfharm and suicide. Active searching was carried out primarily on social media platforms. Young people were aware of codewords for PPC-related content. Although this evidence relates to user-to-user services, users' search intent is important to recognise, as we seek to minimise young people's exposure to harmful content on search services. Source: Ofcom, 2024. Experiences of children encountering online content promoting eating disorders, self-harm and suicide.

# 14. Business models and commercial profiles

Warning: this section contains references to content that may be upsetting or distressing, including discussions of eating disorders.

#### Summary

In this section we consider how a service's revenue model, growth strategy and commercial profile can be linked to an increased risk of children encountering harmful content online.

Our evidence indicates that the risk of harm to children related to business models originates primarily from the **financial incentives** that service providers can have to develop designs and features that drive revenue at the expense of children's safety. For instance, service providers may be incentivised to maximise user engagement by making design choices that keep users on a service for longer, thereby increasing the likelihood of them encountering harmful content, or in some cases be incentivised to recommend harmful content that can be engaging to certain communities of users.

We consider how service providers can also prioritise the use of their resources to pursue a **growth strategy** (e.g., increasing the user base) rather than develop systems and processes that protect children from harmful content. We also note that children can be more likely to encounter harmful content on services with certain **commercial profiles** (such as low-capacity or early-stage services), which may lack the technical and/or financial resources to effectively prevent children from encountering harmful content. Research explicitly focused on the risk of harm to children from business models and commercial profiles is very limited.

# A service provider's business model (revenue model and growth strategy) and commercial profile can increase the risks of harm to children

- 14.1 Ofcom must carry out a risk assessment to identify the characteristics of different kinds of services that are relevant to the risks of harm to children and assess their impact. This involves considering other aspects of a service beyond the content presented on the service. This section will assess the risk of harm to children relating to:
  - a) **Revenue model**, that is, how a service generates income or revenue (e.g., through advertising, subscription, transaction fees, etc.).
  - b) **Growth strategy**, that is, how a service plans to expand its business (e.g., through growing number of users).
  - c) **Commercial profile**, that is, the size of the service in terms of capacity, the stage of service maturity, and the rate of growth in relation to users and/or revenue.

- 14.2 There is limited evidence directly linking these commercial aspects to an increased risk of children encountering specific types of harmful content. Where it is available, it is detailed in the relevant harm-specific sections. This section considers more broadly the dynamics of business models (revenue models and growth strategies) and commercial profiles, assessing how they can increase the risk of children encountering harmful content.
- 14.3 Services whose business model is primarily or partly focused on attracting children, or whose revenue and profitability derives primarily or partly from children, will have a user base that requires additional protections and considerations in the design of the service, to ensure users' safety. Even if not directly targeting children, certain services are popular among children, and therefore need to make similar considerations regarding the safety of children.

# **Revenue models**

- 14.4 Revenue models can create financial incentives that intentionally or unintentionally lead to business decisions which expose children to harmful content. As a result, different types of revenue models can increase the risk of harm to children.
- 14.5 Services that generate revenue in proportion to their number of users and/or user engagement (e.g., advertising revenue models<sup>1485</sup> and subscription revenue models<sup>1486</sup>) can be incentivised to develop service designs and features that maximise engagement and drive revenue at the expense of exposing child users to harmful content. The choice architecture of a service – that is, the design of the choice environment in which a user is making decisions – can be designed to influence or manipulate users into acting in ways that serve commercial interests but may be detrimental to individual or societal interests (e.g., spending time engaging with the service, in the case of advertising revenue models).
- 14.6 Evidence shows that some harmful content is highly engaging among certain communities. This is the case, for example, for eating disorder content.<sup>1487</sup> Services which compete in the so-called 'attention economy' (i.e., who compete for users' limited attention/engagement) may be financially incentivised to recommend this content and/or enable its sharing (including among children) in a 'friction-free' way; this is likely to keep users engaged and coming back to the service, and thereby increase the service's revenue.
- 14.7 Such content can be created by ordinary users or by content creators. Content creators typically earn money on social media from advertising, in proportion to their number of followers. This means they face similar financial incentives to services, whose revenue depends on number of users and/or user engagement, and so they can be incentivised to create harmful or extreme content, if such content drives their followers and hence their earnings. Services are then incentivised to recommend such engaging content to users (including children) to sustain their revenue. For instance, evidence shows that hateful and

<sup>&</sup>lt;sup>1485</sup> Services for which advertising is a key income stream are incentivised to report to advertisers a high user base and high user time spent, as these are key to attracting advertisers to the service. Therefore, services which rely on advertising revenue models have a financial incentive to promote content that drives user engagement.

<sup>&</sup>lt;sup>1486</sup> Subscription revenue models generate revenue in proportion to the number of paying subscribers and have the financial incentives to promote engaging content that helps attract more paying subscribers and minimise user churn.

<sup>&</sup>lt;sup>1487</sup> Evidence shows that eating disorder communities are highly engaged online, and eating disorder content can receive many 'likes' and comments (see Section 4: Eating disorder content, for more detail).
misogynistic videos posted by content creators can be popular on social media and are recommended to young users without them having proactively 'liked' or searched for such content.<sup>1488</sup>

- 14.8 While evidence is limited, it is likely that children contribute to a significant share of the advertising revenues of many services. Indicative evidence published by Ofcom suggests that, on average, children in some age groups spend more time online than older adults.<sup>1489</sup> An academic study in the US estimated that, across six major social media services, the 2022 annual advertising revenue associated with users aged 0-17 was nearly \$11 billion.<sup>1490</sup> This suggests that children are a valuable user group for those services.
- 14.9 To sustain its revenue, a service can be financially incentivised to introduce features that can result in harmful content *repeatedly* being served to children. Services' features and functionalities that are designed to keep users online for longer periods (e.g., infinite scroll, autoplay), and to recommend personalised content based on users' interests (recommender systems), can amplify the dissemination of harmful content. These features are designed to maximise engagement, so once a child encounters a specific kind of harmful content that engages them, they may be more likely to encounter it again, potentially in high volumes, therefore facing the risk of cumulative harm.<sup>1491</sup> Refer to Section 16: Wider context to understanding risk factors, for a fuller discussion of the risk posed by recommender systems and associated functionalities.
- 14.10 On average, these risks may be greater for children than for adults, as children's lower level of cognitive development makes it harder for them to resist design strategies that influence their behaviour, and therefore control the amount of time they spend online, or escape from loops of harmful content.<sup>1492</sup> Refer to Section 15: Features and functionalities affecting time spent using services, for more detail on this.
- 14.11 In the same way in which commercial incentives may favour service designs that increase the risk of harm to children, these incentives may not sufficiently support the development of systems and processes that could protect children better, because such measures may also risk reducing revenue. One example is content moderation. It may be resource intensive for service providers to distinguish between harmful content and other, non-harmful content which resembles harmful content, for example, content discussing eating disorder but which promotes recovery.<sup>1493</sup> Service providers may not therefore have

<sup>&</sup>lt;sup>1488</sup> Note: For this experiment, news organisation The Observer set up a new account on TikTok to resemble a teenager (aged 18) to see what content the algorithm recommended. Source: Das, S., 2022. <u>How TikTok</u> <u>bombards young men with misogynistic videos</u>. The Guardian, 6 August. [accessed 28 March 2025]. See Section 5: Abuse and hate content, for more detail.

<sup>&</sup>lt;sup>1489</sup> Ofcom Ipsos children's passive measurement pilot study, 2023, age 8-12, UK and Ipsos, Ipsos iris Online Audience Measurement Service, May 2023, age: 15+, UK. Published in Ofcom, 2023, <u>Online Nation 2023</u> <u>Report</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1490</sup> Raffoul, A., Ward, Z. J., Santoso, M., Kavanaugh, J. R. and Bryn Austin, S., 2023. <u>Social media platforms</u> <u>generate billions of dollars in revenue from U.S. youth: Findings from a simulated revenue model</u>. [accessed 28 March 2025]. Due to lack of data, the authors rely on the assumption that revenue per minute of platform use is constant by age, to derive the revenue estimate.

 <sup>&</sup>lt;sup>1491</sup> Harm from repeatedly encountering harmful content or encountering harmful combinations of content.
 <sup>1492</sup> Radesky, J., Chassiakos, Y. L. R., Ameenuddin, M., Navsaria, D. and Council on Communication and Media,
 2020. <u>Digital Advertising to Children</u>, *Pediatrics*, 146 (1). [accessed 28 March 2025].

<sup>&</sup>lt;sup>1493</sup> This is the case for harmful content that is intentionally tagged by users (i.e., using hashtags) or unintentionally labelled by the system as non-harmful content. We refer to eating disorder as an illustrative

sufficient incentive to take prompt action against content that could be harmful to children, especially if the risk of over-blocking content (where content that is not harmful is blocked because it resembles harmful content) could reduce user engagement and/or number of users, and thereby revenue.<sup>1494</sup>

- 14.12 In addition, features that relate directly to how a service generates revenue can increase the risk that children encounter content that is harmful to them. One example is the ability for users to pay services for greater prominence of their user-generated content, for example, boosting posts. Such content reaches a wider audience, so could more easily be encountered by children even if it is harmful. Another example is the way in which paid-for ads, for example, display ads, which relate to harmful content could increase the risk that children then encounter further harmful user-generated content on the service.<sup>1495</sup> For instance, evidence shows that children are served adverts or 'pop-ups' for pornography if they have previously visited adult entertainment sites (even if this was accidental) and this can increase their exposure to pornographic content, <sup>1496</sup> including to user-generated content, if children subsequently intentionally search for it on services after having seen the paid-for ads.
- 14.13 On the other hand, the reputational risk of exposing children to harmful content could negatively affect a service provider's revenue in the long run, potentially giving rise to some countervailing incentives. Some users may unsubscribe from, or disengage with, services where they encounter harmful content, and business customers (e.g., advertisers<sup>1497</sup>) or the wider ecosystem (e.g., payment providers or investors<sup>1498</sup>) may put commercial pressure on them to reduce harmful content. This may create incentives to have effective measures in place to protect children from harmful content.

### **Growth strategies**

14.14 Growth strategies can also be associated with incentives that are in tension with user safety. Service providers may be incentivised to prioritise the use of their limited financial

<sup>1496</sup> National Society for the Prevention of Cruelty to Children (Belton, E. and Hollis, V.), 2016. <u>A review of the</u> <u>research on children and young people who display harmful sexual behaviour online (HSB)</u>. [accessed 28 March 2025]. See Section 2: Pornographic content for more detail.

<sup>1497</sup> For example, it was reported that recent changes to Twitter's content policies have led to a surge in harmful content on the site, and in turn, a drop in advertising revenue. Source: Mac, R. and Hsu, T., 2023. <u>Twitter's US Ad Sales Plunge 59% as Woes Continue</u>. New York Times, 5 June. [accessed 28 March 2025].

<sup>1498</sup> Investors are one of the actors who may consider the risk of online harms and potentially influence the approach of services they may invest in. To help inform our understanding of risks, and how investors may influence the risk of online harms, we commissioned a report, Investors Attitudes to Online Harms – Risks, Opportunities, and Emerging Trends. This report was published alongside the November 2023 Illegal Harms consultation and shows that children (along with other vulnerable users) are high on the list of investors' online safety concerns, with some investors saying they would not invest in anything that could be risky for children. Source: Ofcom, 2023. <u>Investors Attitudes to Online Harms – Risks</u>, Opportunities, and Emerging <u>Trends</u>, p.15. [accessed 30 January 2025].

example, but a similar argument can apply to other types of content, such as suicide and self-harm content tagged as pro-recovery content, and mislabelled violent content (see Section 3: Suicide and self-harm content and Section 7: Violent content).

<sup>&</sup>lt;sup>1494</sup> Other measures aimed at reducing harm, such as age assurance or additional checks/restrictions on content posting/sharing, could also add friction to the user experience, which may also be to the detriment of user engagement and revenue.

<sup>&</sup>lt;sup>1495</sup> While paid-for advertisements are not typically in scope of the Act themselves (unless they also amount to user-generated content), they are considered here by virtue of being a vector to user-generated content harmful to children.

resources for activities and strategies aimed at growing their business – for example, marketing campaigns, research and development activities, acquiring new assets and technologies, etc. – rather than for the development or improvement of systems and processes that protect children from harmful content (content moderation and other measures).

- 14.15 This is true especially if such systems and processes could negatively affect their growth. For instance, services whose growth strategy is aimed at increasing the user base can have a disincentive to moderate legal content that is harmful to children if it attracts a large number of new users quickly.
- 14.16 Among services that pursue growth strategies, new tech services or services which seek growth through the adoption of emerging technologies, for example, generative artificial intelligence (GenAI), may present a particularly high risk to children. Evidence shows that children are often early adopters of new technologies, <sup>1499</sup> and therefore such services could intentionally or unintentionally attract large numbers of child users, who might then be affected by any harmful content encountered, unless appropriate mitigations are put in place.

### **Commercial profiles**

- 14.17 A service's commercial profile can affect the risks faced by children. Some commercial profiles can be characterised by weak risk management and could lack the ability to prevent children from encountering harmful content. For instance, all else equal:
  - a) Low-capacity<sup>1500</sup> and early-stage<sup>1501</sup> services are likely to have limited technical skills and financial resources to introduce effective risk management compared to more mainstream services. For instance, they may have insufficient resources to adopt technically advanced automated content moderation processes (e.g., automated content classifiers, or to employ a large number of paid moderators) and may rely significantly on community moderators instead. In addition, they are likely to seek growth, which may affect their incentives to have effective risk management in place, as explained above.
  - b) Services with a fast-growing user base may face difficulties in effectively moderating content, given the increased scale and sophistication of the moderation technologies and processes required to keep track of the user base (since the sources of risk, and kinds of harms on the service, can change quickly as the user base develops).

On the other hand, businesses with a more mature profile are likely to have larger user bases and can hence be targeted by bad actors looking to reach large populations of users, including children, with harmful content. For example, there are accounts dedicated to sharing violent content, often on larger social media and video-sharing services (see Section 7: Violent content and Section 16: Wider context to understanding risk factors, for a broader discussion of how a service's user base size can affect risk). Such services can therefore present higher risks, even when they have significant resources devoted to risk management, unless appropriate systems and processes are in place to protect children.

<sup>&</sup>lt;sup>1499</sup> See sub-section 'Overview of children's behaviours' in Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>1500</sup> Services with a small number of employees and/or limited revenue.

<sup>&</sup>lt;sup>1501</sup> A service in the initial phases of its lifecycle (e.g., start-up and early growth stages).

## 15. Features and functionalities affecting time spent using services

Warning: this section contains references to content that may be upsetting or distressing, including discussion of suicide and self-harm.

#### Summary

This section assesses evidence relating to the risk of harm to children from features and functionalities affecting time spent using services.

As part of their children's risk assessments, the Online Safety Act 2023 requires service providers to consider the extent to which the features and functionalities on their service affect how much children use the service, and the impact of this use on the risk of harm to children.<sup>1502</sup> In this context, we focus on the risk of harm to children from encountering content harmful to them, including primary priority content, priority content and non-designated content and how this may be affected by the time spent online.<sup>1503</sup> This may include the risk that children are more likely to encounter such harmful content, or the risk of an increased negative impact on them if they do encounter harmful content (e.g., cumulative harm), the longer they spend online. However, it does not include consideration of potential wider harms to children that are not directly linked to the harms associated with encountering harmful content. For example, the risks that may be associated with the extended use of a service, without any connection to the harmful content that children may encounter.

In relation to features and functionalities that affect the risk of harm to children, evidence suggests that the greater the time spent on services by a child, the higher the risk of encountering any harmful content that may be present on that service.

Some service features and functionalities are designed to influence certain behavioural outcomes, such as high usage or specific kinds of engagement. Children may be particularly vulnerable to being influenced in this way.

We have identified three categories of features and functionalities that our evidence indicates can increase the time that children use services and may increase the risk of encountering harmful content as a result.

<sup>&</sup>lt;sup>1502</sup> Sections 11(6) and 28(5) of the Online Safety Act 2023 (the Act).

<sup>&</sup>lt;sup>1503</sup> In accordance with section 98(1)(c) of the Act, Ofcom's risk assessment, as reflected in this Children's Register of Risks, relates to the risk of harm to children in the UK, in different age groups, presented by content that is harmful to children. Kinds of harmful content are outlined in Section 1: Introduction to the Children's Register of Risks. These include certain harms related to harmful contact and activity children may face online – for example, bullying. See Section 6: Bullying content.

**'Infinite scrolling' and auto-play features** remove cues to disengage, providing a seemingly endless stream of content to child users. Evidence suggests that it is common for children to encounter harmful content when scrolling recommended feeds. **Affirmation-based functionalities** include reacting to content, commenting as well as forming user connections. These can deliver psychological rewards that are likely to keep users returning to a service, in pursuit of further social validation. **Alerts and notifications** re-engage users and have been shown in some cases to redirect children to harmful content.

## **Considering time spent using services**

- 15.1 Many features and functionalities on online services are designed to increase the time spent on that service by users, including children. This can involve encouraging users to visit a service, holding their attention on the service as long as possible, and encouraging the habitual behaviours necessary to keep users returning to a service.<sup>1504</sup>
- 15.2 The features and functionalities we assess may in some cases be encouraging children to engage in positive experiences online, accessing connections, communities, information and entertainment that might otherwise be unavailable to them. In Ofcom research, over half of children aged 8-17 who used social media and messaging sites said that it helps them feel closer to their friends (68%).<sup>1505</sup> Internet Matters research with children aged 9-15 and their parents found that while active users were more likely to encounter harm online, they also experienced more positives across all the dimensions of wellbeing developmental, emotional, physical and social compared with their less active counterparts.<sup>1506</sup>
- 15.3 Features and functionalities that encourage engagement can be fundamental to how services operate, and a significant source of revenue for services in proportion to their number of users and user engagement. This might include encouraging users to spend money on a particular service, or in the case of advertising-based business models, simply spend time engaging with a particular service while being exposed to advertisements. Refer also to Section 14: Business models and commercial profiles for wider discussion on how business models relate to risk of harm.
- 15.4 These features and functionalities may increase the risk of users, including children, encountering harmful content. Evidence specifically linking features and functionalities affecting time spent on services with encounters with harmful content is limited. However, there is evidence to suggest that:
  - a) high usage of services increases the risk of encountering harmful content; and
  - b) certain features and functionalities are likely to increase children's usage of services.
- 15.5 In this section, we consider this evidence together to infer that, while there is a risk of encountering harmful content on a service, the features and functionalities that encourage

 <sup>&</sup>lt;sup>1504</sup> 5Rights Foundation, 2023. <u>Disrupted Childhood: The cost of persuasive design</u>. [accessed 28 March 2025].
 <sup>1505</sup> Ofcom, 2023. <u>Children and Parents: Media Use and Attitudes</u>. [accessed 30 January 2025].

<sup>&</sup>lt;sup>1506</sup> Internet Matters, 2023. <u>Children's Wellbeing in a Digital World 2023</u>. [accessed 28 March 2025]. Subsequent references to this source throughout. Note: The 2025 report also shows that for UK children aged 9-16, the positive impacts of being online on physical, emotional, developmental and social well-being remain greater than the negatives. Source: Internet Matters, 2025. <u>Children's Wellbeing in a Digital World 2025</u>. [accessed 31 March 2025]. Subsequent references to this source throughout.

high usage of that service will result in an increase of the risk of children encountering harmful content.

- 15.6 Features and functionalities which affect time spent on services should be understood in the context of choice architecture (the design of the choice environment created by services for users).<sup>1507</sup> The design of features and functionalities often draws on behavioural science to influence certain behavioural outcomes. The choice architecture can be designed to influence or even mislead or manipulate users into acting in ways that serve commercial interests but may be detrimental to individual or societal interests in some cases.<sup>1508</sup>
- 15.7 Design features that are likely to encourage high usage are widely found on products and services popular among children.<sup>1509</sup> Children may be particularly vulnerable to being influenced by these features as result of their developing cortical system, which makes them less capable of resisting impulses or stopping themselves from behaviour that has temporary benefits but longer-term negative consequences.<sup>1510</sup> The impact of these techniques on children may vary for children in different age groups.<sup>1511</sup> See more information on child behavioural stages in Section 17: Recommended age groups.
- 15.8 Indeed, evidence suggests that children feel manipulated by the design of digital services, and struggle to control their usage as they would like. Around two-fifths (43%) of children aged 8-15 said they have tried to reduce the amount of time they spend online. Their stated main reasons were concerns around physical and mental health. While most (75%) of those who attempted to reduce time online were successful in spending less time on apps and services, 15% were not.<sup>1512</sup>
- 15.9 In the following sub-section we set out the evidence relating to high usage of services to the risk of encountering harmful content. We then provide our assessment of specific features and functionalities that our evidence base suggests may pose a risk to children in this way.

<sup>&</sup>lt;sup>1507</sup> Online choice architecture describes the environment in which users act and make decisions, including the presentation and placement of choices and the design of interfaces. Source: Competition and Markets Authority, 2022. <u>Evidence review of the Online Choice Architecture and consumer and competition harm</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1508</sup> Full quote: According to the Organisation for Economic Co-operation and Development (OECD), "dark commercial patterns are business practices employing elements of digital choice architecture, in particular in online user interfaces, that subvert or impair consumer autonomy, decision-making or choice. They often deceive, coerce or manipulate consumers and are likely to cause direct or indirect consumer detriment in various ways, though it may be difficult or impossible to measure such detriment in many instances". Source: OECD, 2022. <u>Dark commercial patterns</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1509</sup> For examples, 5Rights Foundation sets out a taxonomy of the most commonly used design strategies to influence behaviour on products and services popular among children. Source: 5Rights Foundation, 2023. <u>Disrupted Childhood: The cost of persuasive design</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1510</sup> Note: These conclusions come from academic papers based on adolescents. Source: Hartley, C. A. and Somerville, L. H., 2015. <u>The neuroscience of adolescent decision-making</u>, *Current Opinion in Behavioral Sciences*, 5, pp.108-115. [accessed 3 March 2025]; American Psychological Association, 2024. <u>Potential Risks of</u> <u>Content, Features, and Functions</u>. [accessed 3 March 2025].

<sup>&</sup>lt;sup>1511</sup> 5Rights Foundation, 2023. <u>Digital Childhood: Addressing childhood development milestones in the digital</u> <u>environment</u>. [accessed 16 April 2024]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1512</sup> Based on children aged 8-15 in Great Britain. Ten per cent said they 'don't know' or they 'can't remember'. Source: Ofcom, 2024. <u>Children's screentime poll</u>. [accessed 12 February 2025]. Subsequent references to this source throughout.

## High usage increases the risk of encountering harmful content

- 15.10 Evidence suggests that more time spent using online services increases the risk of children encountering harmful content. High usage is particularly relevant to cumulative harm, in which children repeatedly encounter harmful content in high volumes and at high intensity, or encounter harmful combinations of content. Refer to 'Harm' in Section 1: Introduction to the Children's Register of Risks (Children's Register) for more detail.
- 15.11 Our research in 2023 found that children who spent more hours online in a 'typical' week were more likely to report encountering harmful content. Two-thirds (67%) of 'high usage' respondents, and nearly two-thirds (61%) of 'medium usage' respondents aged 13-17 reported encountering harmful content over a four-week period, compared to a little more than one-third (37%) of 'low usage' respondents.<sup>1513</sup>
- 15.12 Similarly, a study by Internet Matters found that the more time children reported spending online and on social media, the greater the number of negative experiences they reported having. Twenty-two per cent of the children aged 9-15 who were spending the most time online experienced five or more potential harms online,<sup>1514</sup> compared to 2% of the children spending the least time on social media. High usage increased the likelihood of several harms represented by types of harmful content defined in the Online Safety Act 2023, including seeing violent content, experiencing bullying, receiving abusive messages from people they know in real life, and receiving abusive or upsetting messages or comments from people they do not know.<sup>1515</sup> A US study with 14-19-year-olds found that those who spent three or more hours a day online were 2.4 times more likely than those who spent less than three hours a day online to report seeing hate messages (a type of harmful content), either on a website or on social media.<sup>1516</sup>

## **Risk of harm from specific features and functionalities**

15.13 In this section, we review the evidence relating to specific features and functionalities that are likely to increase time spent online and therefore increase the risk of children encountering harmful content. These features and functionalities may not necessarily lead to high usage individually, but often work together to encourage higher use.

## 'Infinite scrolling' and auto-play features

15.14 Certain features and functionalities are designed to avoid interruptions or prompts to end the consumption of online content. Content is often served to users via feeds, which encourage a behaviour often referred to as 'infinite scrolling' in which users scroll through

<sup>&</sup>lt;sup>1513</sup> Note: Low usage is 'none' or 'less than six hours'; medium is '6-11 hours' or '11-22 hours'; high usage is '22-30 hours' or 'over 30 hours'. Harm definition: primary priority content/priority content harms. Source: Ofcom, 2023. <u>Online Experiences Tracker – Wave 4</u>. [accessed 16 April 2025]. Note: We do not have 2025 data available for this datapoint.

<sup>&</sup>lt;sup>1514</sup> Potential online harms ranged from slightly less severe incidents such as 'seeing things you thought might not be true' to much more potentially harmful events such as viewing content showing violence, experiencing interactions that were hurtful and bullying, and seeing racist, sexist and homophobic content. Source: Internet Matters, 2023. <u>Children's Wellbeing in a Digital World 2023</u>.

<sup>&</sup>lt;sup>1515</sup> Internet Matters, 2023. <u>Children's Wellbeing in a Digital World 2023</u>.

<sup>&</sup>lt;sup>1516</sup> Harriman, N., Shortland, N., Su, M., Cote, T., Testa, M. A. and Savoia, E., 2020. <u>Youth Exposure to Hate in</u> <u>the Online Space: An Exploratory Analysis</u>, *International Journal of Environmental Research and Public Health*. [accessed 28 March 2025].

seemingly endless content. Auto-play features similarly remove any cues to disengage. These involve videos playing automatically as users scroll through content, or new content playing automatically, immediately, or soon after, another video finishes. The ability for these features to maintain children's attention is related to the design of content recommender systems<sup>1517</sup> which inform the choice of content served on feeds or via autoplay. Content recommender systems draw on a variety of factors, including user preferences, history, location and popularity of content, to recommender systems' in Section 16: Wider context to understanding risk factors for more detail.

- 15.15 Both these functionalities can benefit users by delivering a seamless experience, while helping them find content which is interesting and relevant to them. However, they can also influence and manipulate behaviour in a way that makes it harder to disengage, therefore increasing time spent on a service.<sup>1518</sup>
- 15.16 Moreover, evidence suggests that children are particularly likely to encounter harmful content via their feeds. Our research in 2025 found that 13-17-year-olds' exposure to online harm is more likely to take place when scrolling through their feed or 'For You' page (30%), than while watching content they choose to watch (20%); in comments or replies to a post, article or video (17%); when watching content selected by auto-play (12%); or in a group chat (11%).<sup>1519</sup> This is likely to be associated with the risk of harm from recommender systems. Across harmful content types, there is evidence of children being repeatedly recommended harmful content after engaging with related topics, or even being recommended harmful content without having previously engaged with any related content. Refer to sub-sections 'Recommender systems' in the harms-specific sections of the Children's Register, and the sub-section 'Recommender systems' in Section 16: Wider context to understanding risk factors for more detail. These features therefore risk increasing children's use of services in ways that could lead them to harmful content.

## Affirmation-based functionalities

15.17 Some functionalities provide quantifiable affirmation from other users. Affirmation-based functionalities include reacting to content (such as 'likes') and commenting on content or engaging in other ways (such as resharing). They may also include user connections; children can be incentivised to build a large network of connections due to the perception of popularity associated with this. This engagement, or perceived popularity, can be quantified: for example, the number of 'likes' a particular post receives is often publicly visible. These functionalities that drive engagement are also likely to increase time spent

<sup>&</sup>lt;sup>1517</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>1518</sup> Action for Children, 2021. <u>Social media and mental health: the good, the bad and the ugly</u>. [accessed 28 March 2025]. Note: See more information on child behavioural stages in Section 17: Recommended age groups.

<sup>&</sup>lt;sup>1519</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025].

using services, and therefore the risk of encountering harmful content on services where it exists.

- 15.18 The psychological impact that these functionalities can deliver is likely to encourage children to increase their level of use. Functionalities such as receiving likes and making connections are designed to be exciting; the 'likes' pour in as a form of social affirmation. The dopamine 'hit'<sup>1520</sup> of getting a 'like'<sup>1521</sup> strongly encourages the young person to continue to behave in the ways that are most 'liked'. These rewards are likely to keep users returning to a service, seeking further social validation (and associated dopamine 'hits') through accumulating likes, comments or connections. However, 5Rights Foundation highlighted that it can also be devastating if the young person misjudges their tone, content or timing.<sup>1522</sup>
- 15.19 Evidence highlights how children of certain ages can be particularly focused on seeking social affirmation. Starting around age ten, children's brains undergo a fundamental shift that spurs them to seek social rewards, including attention and approval from their peers.<sup>1523</sup> The impact of these functionalities on time spent using services is therefore likely to be higher for children over the age of ten. Children also have increased awareness of social comparison and conformity during adolescence, with their decision-making more strongly influenced by their peers. This may also drive high usage of social media, with children trying to fit in or avoid missing out.<sup>1524</sup> In our recent research with children aged 8-15, 'fear of missing out' was the top reason for those who struggled to reduce time online.<sup>1525</sup>
- 15.20 While more research is required in this area, our Children's Media Lives study suggests that the apparent appeal and importance of these functionalities is likely to draw children to, and keep them using, services. These functionalities have been shown to incentivise some risky behaviours. For example, in a study with children aged 8-17, the potential for more engagement from other users was shown to incentivise some children to post trend-led content, even if they did not understand the trend or what the content meant.<sup>1526</sup> In another study with children aged 7-17, children were found to be reluctant to admit that getting validation through affirmation-based metrics was important to them, but their behaviour suggested that many paid close attention to how many likes, comments and follows they received.<sup>1527</sup>

## **Alerts and notifications**

15.21 Alerts and notifications are also likely to drive engagement and high usage, by drawing users' attention to messages, reactions (such as 'likes'), connection requests (such as

<sup>1524</sup> Note: See more information on child behavioural stages in Section 17: Recommended age groups.

<sup>&</sup>lt;sup>1520</sup> Dopamine is a neurotransmitter that acts as a chemical messenger on areas of the brain which includes giving feelings of pleasure, satisfaction and motivation.

 <sup>&</sup>lt;sup>1521</sup> 5Rights Foundation, 2023. <u>Disrupted Childhood: The cost of persuasive design</u>. [accessed 28 March 2025].
 <sup>1522</sup> 5Rights Foundation, 2023. <u>Digital Childhood: Addressing childhood development milestones in the digital environment</u>.

<sup>&</sup>lt;sup>1523</sup> American Psychological Association (Abrams, Z.), 2023. <u>Why young brains are especially vulnerable to</u> <u>social media.</u> [accessed 28 March 2025].

 <sup>&</sup>lt;sup>1525</sup> Ofcom, 2024. <u>Children and Parents: Media use and attitudes report 2024</u>. [accessed 12 February 2025].
 <sup>1526</sup> Ofcom, 2023. <u>Children's Media Lives</u>. [accessed 12 February 2025].

<sup>&</sup>lt;sup>1527</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 12 February 2025].

friends or followers) and other activity on a service. Re-engaging children and encouraging them to return to a service can increase the risk that they will encounter harmful content, or in some cases, be redirected specifically to harmful content.

- 15.22 Alerts and notifications can be a fundamental part of a service, helping to alert users to messages and other activity on their profile, such as reactions, comments or suspicious activity. Some notifications are not related to a specific user's activity, but alert users to activity in their wider network on the service, or simply remind them that they have not visited the service recently. Types of notifications include:
  - Notifications that appear within the app or website itself once users are already using the service.
  - Push notifications, which alert users, usually by a pop-up or other message, whenever new content is uploaded. These are sent regardless of whether the user is using the service, or even their device. They generally appear on a device's home screen or via email.
- 15.23 Alerts and notifications are likely to increase the time spent on services, by seeking to reengage users. Nearly half (46%) of children aged 8-15 who reported trying to reduce time online across services said they received push notifications, emails or some kind of message encouraging them to log back in again.<sup>1528</sup> This not only draws the child's attention to the service, but when the functionality delivers social validation, such as alerting users to a 'like', message or new connection, may also exert similar influence over children as affirmation-based features. In these contexts, alerts and notifications may be a source of dopamine that drives engagement in the service, which is likely to translate into high usage.
- 15.24 Moreover, evidence shows that alerts and notifications can direct children back to spending time on a service, and specifically to spending time watching harmful content. In an Ofcom Call for Evidence response, the Molly Rose Foundation noted that email and push notifications can direct children to further suicide and self-harm content where the child has already engaged with such content.<sup>1529</sup> This demonstrates the risk of these functionalities causing children to return to services, even when they may be trying to avoid harmful content.

 <sup>&</sup>lt;sup>1528</sup> Based on children aged 8-15 in Great Britain. Source: Ofcom, 2024. <u>Children's screentime poll</u>.
 <sup>1529</sup> <u>Molly Rose Foundation</u> response to our 2023 Protection of Children Call for Evidence. [accessed 12 February 2025].

## 16. Wider context to understanding risk factors

Warning: this section contains references to content that may be upsetting or distressing, including discussion of suicide, self-harm and sexual violence.

#### Summary

Some sections in the Children's Register of Risks look at the risks of harm to children for individual kinds of harmful content. However, there are some broader dynamics across different kinds of harmful content that can be drawn out as well. Some of the cross-harm considerations for risk assessments that are specified in the Online Safety Act 2023 are assessed in specific sections. These include Section 13: Governance, systems and processes, Section 14: Business models and commercial profiles and Section 15: Features and functionalities affecting time spent using services. In this section, we set out some additional considerations for understanding how children are presented with risks online that cut across different kinds of harmful content.

A cross-harm analysis of the risk posed by content **recommender systems**<sup>1530</sup> and associated functionalities demonstrates how content recommender systems and scoring algorithms risk serving children harmful content, sometimes without them seeking it out or if they have engaged with thematically similar content. Those who do engage with harmful content can be served more of it, thereby repeatedly encountering some kinds of harmful content which can cause cumulative harm.

We also consider how the **size and composition of a service's user base** affects the risk of harm. Both larger and smaller user bases can present risk of harm in different ways. Larger user bases enable harmful content to have a wider reach, while smaller services may focus on niche interests or topics that may relate to content harmful to children. Smaller services may also have fewer resources available to moderate content. We also explain that services with a high number of child users present a risk due to their vulnerable user base.

**Media literacy** of a service's user base is a cross-cutting risk factor. Lower levels of media literacy, in both children and parents, may make children more vulnerable to some forms of online harm. In contrast, high levels of media literacy in children can provide advantages that may reduce the risk of repeated encounters with harmful

<sup>&</sup>lt;sup>1530</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

content or contact. These include being able to manage their online identity, evaluate information or safely navigate online interactions.

Children are often early adopters of new technologies, and **generative artificial intelligence** (GenAI) models can present risk of harm to children. There is emerging evidence indicating that GenAI can facilitate the creation of content harmful to children, including pornography, content promoting eating disorders and bullying content, which can be shared online and potentially encountered by children.

# Recommender systems present a risk of harm to children

- 16.1 References to 'recommender systems' throughout this section should be understood to refer only to content recommender systems (unless otherwise specified).
- 16.2 A recommender system<sup>1531</sup> is a form of artificial intelligence (AI) used to curate personalised content feeds on user-to-user services and aid the organic discovery of content from multiple users across a service. These systems can help connect content creators with their audiences while helping users maintain a personalised and enjoyable experience, minimising the cost of browsing vast databases of user-generated content.
- 16.3 Recommender systems comprise many algorithms: sets of computing instructions that use multiple factors to determine which content is shown to a user (e.g., scoring and re-ranking algorithms, which are explained below). Advanced recommender systems often use machine-learning (ML) techniques to observe and learn about a user's online behavioural pattern in relation to content, enabling them to make relevant content recommendations to achieve engagement targets. Despite their benefits, content recommender systems are not without risks particularly for children.
- 16.4 Many user-to-user services have recommendation surfaces such as 'For You' and 'discover' feeds to help users encounter content likely to be of interest to them. They also may have 'reels' that provide a continuous feed of content which users can scroll through. Such recommendation surfaces are powered by content recommender systems. The safety of content recommender system is determined by the design choices made by service providers when developing and deploying it. Content recommender systems can be designed in ways to minimise the risk of algorithmically amplifying content that is harmful to children while promoting content that is age appropriate. This section of the Children's Register of Risks (Children's Register) sets our evidence of how content recommender systems to them.
- 16.5 As they are often a core functionality of user-to-user services, recommender systems are discussed in a number of contexts:

<sup>&</sup>lt;sup>1531</sup> Note that a content recommender system is a type of recommender system. We refer to both 'content recommender systems' and 'recommender systems' generally throughout this Children's Register of Risks. Where we refer to the latter, in most cases we are referring to content recommender systems. Where we refer to external research sources about this topic, we expect that in most cases these are referring to content recommender systems.

- a) **Risk of encountering kinds of harmful content.** The relationship between specific kinds of harmful content and recommender systems is set out in the harms-specific sections of this Children's Register. Across nearly all kinds of harmful content, <sup>1532</sup> recommender systems emerge as a risk factor for harm.
- b) Risk from cumulative harm. Recommender systems are particularly important in the context of cumulative harm and are responsible for children repeatedly encountering harmful content, this may be primary priority content (PPC), priority content (PC) or non-designated content (NDC).<sup>1533</sup> Recommender systems may also present children with harmful combinations of content. This may be different types of harmful content (e.g., a mix of two or more types of PPC, PC or NDC), or a type of harmful content (multiple pieces of the same PPC, PC or NDC content) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. For example, children may be engaging with content promoting eating disorders or behaviours associated with an eating disorder. They may, alongside this, be recommended a near-continuous stream of content relating to diet, fitness and body image more broadly. The cumulative impact of viewing these different types of content is likely to be particularly harmful to children, especially those with certain vulnerabilities such as mental health conditions.
- c) **Risk from business models.** Recommender systems are often deployed as part of a strategy for maximising engagement. Lengthening the time users are engaged with the service can increase the revenue for services, for example, by enabling more advertisements to be served to users. The risks associated with advertising-based business models originate primarily from recommender system design. Refer to Section 14: Business models and commercial profiles for more detail.
- d) Risk from features and functionalities affecting frequency of use. Recommender systems keep children using services more often, and for longer, with a continuous feed of content curated to maximise their engagement. Evidence shows that the longer children spend on services, the more likely they are to encounter harmful content. Refer to Section 15: Features and functionalities affecting time spent using services, for more detail.
- 16.6 There are, however, core aspects of recommender system design and functionality that underpin these specific risks and may increase the risk that content that is harmful is widely disseminated to children. These include engagement-based recommender systems, and design decisions such as using scoring algorithms and collaborative filtering. These are summarised below.

## How recommender systems work, and why they pose a risk

16.7 Recommender systems are predominantly deployed to curate and serve users content that they are likely to find engaging, based on a variety of factors and user signals. While this can help users discover content that they may enjoy without needing to seek it out, it also creates a risk of exposing children to harmful content.<sup>1534</sup>

<sup>&</sup>lt;sup>1532</sup> With the exception of bullying content.

<sup>&</sup>lt;sup>1533</sup> Cumulative harm can occur when harmful content (PPC, PC or NDC) is repeatedly encountered by a child, or where a child encounters harmful combinations of content. These combinations of content include encountering different types of harmful content (PPC, PC or NDC), or a type of harmful content (PPC, PC or NDC) alongside a kind of content that increases the risk of harm from PPC, PC or NDC. This is set out in Section 1: Introduction to the Children's Register of Risks.

<sup>&</sup>lt;sup>1534</sup> Ofcom, 2023. <u>Evaluating recommender systems in relation to illegal and harmful content</u>. [accessed 28 March 2025].

- 16.8 Depending on how they are designed, recommender systems may risk disseminating and serving harmful content to children's accounts without them actively seeking it out. When a new user engages with a recommender system for the first time, the system may not have sufficient data about user engagement and behaviour from which to infer preferences; this is referred to as the 'cold start' problem.<sup>1535</sup> Some services address the cold start problem by asking users to explicitly state their preferences prior to providing them content recommendations. Other services address the cold start problem by attempting to elicit signals of preference during the early stages of a new user engaging with recommended content by presenting to the user a variety of content that other users have engaged with.<sup>1536</sup> During this phase, children can be recommended inappropriate content just because other users have engaged with it, even if the engagement is not driven by interest but rather by curiosity or even shock. In one study, an avatar account registered on a popular social media service as being a 13-year-old girl was recommended 'sexually suggestive' content after less than three minutes of scrolling through the feed of recommended short-form videos. After 11 minutes of scrolling, the avatar accounts were recommended inappropriate content at a high frequency.<sup>1537</sup>
- 16.9 Continued exposure to inappropriate or harmful content is exacerbated by children (knowingly or unknowingly) engaging with such content, for example, by spending more time looking at it, 'liking' it, commenting on it or viewing it multiple times. Recommender systems receive a variety of explicit signals ('likes', shares, comments) and implicit signals (viewing time, number of times viewed) from users to infer their preferences, which then influence how certain algorithms within the system curate content.<sup>1538</sup>
- 16.10 **Children can be served harmful content if engaging with similar content:** Recommender systems may begin to serve harmful content if a user engages with content 'adjacent to' harmful content (content that is characteristically similar to harmful content). The Center for Countering Digital Hate found that avatar TikTok accounts set up to explore mental health and body image content were recommended distressing videos every 39 seconds,

<sup>&</sup>lt;sup>1535</sup> Zhang, X., Kuang, D., Zhang, Z., Huang, F. and Tan, X., 2023. <u>Cold & Warm Net: Addressing Cold-Start Users</u> <u>in Recommender Systems</u>, *arXiv*. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1536</sup> A strategy known as 'collaborative filtering'. Source: Schafer, B. J., Frankowski, D., Herlocker, J. and Sen, S., 2007. <u>Collaborative Filtering Recommender Systems</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1537</sup> The inappropriate content included many videos of people "wearing non-publicly appropriate [clothing] such as lingerie or fetish wear" or videos containing sexually explicit discussion/imagery". While the content mentioned in these examples are not defined as PPC or PC within the Online Safety Act 2023 (the Act), we consider these useful examples to demonstrate how recommender systems disseminate content that could be harmful to children. Note: This was a limited study and the findings are therefore not necessarily representative of a realistic user experience. We also note the researcher uses the term 'sexually suggestive content' which is subjective, nonetheless this source provides useful examples of the content recommended to children. Source: Cybersecurity for Democracy (Edelson, L.), 2024. <u>Teen Experiences on Social Media</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1538</sup> Content recommender systems are made up of a set of **scoring algorithms** that predict what content the user is most likely to engage with. Effectively, they give content a predicted engagement 'score' for each user, which represents the likelihood that the user will engage with the content. Based on the predicted engagement score, content will be ranked accordingly. Since scoring algorithms are responsible for curating a feed of content that the system determines a user is most likely to engage with, they can be a risk factor for children who are vulnerable to unwittingly engaging with such content. Scoring algorithms use a variety of signals, including content-based signals and user similarity signals (or collaborative filtering), to curate a personalised set of recommendations.

with some harmful content appearing within just 2.6 minutes.<sup>1539</sup> The technical challenges in distinguishing between different types of harmful content, due to overlapping thematic characteristics and features, may increase the risk that users seeking, for example, recovery content may be recommended harmful content.

16.11 In severe cases, children can be vulnerable to experiencing 'rabbit holes' of harmful content: Repeated engagement with harmful content can result in a 'filter bubble', whereby a child's feed is increasingly filled with a particular type of harmful content, and fewer alternative types of content. This can increase the risk of cumulative harm. In rare cases, recommender systems can eventually lead to children being recommended harmful content that is more extreme in nature and associated with more severe impacts. This is typically referred to as the 'rabbit hole' effect. For example, evidence reports children being presented with pornographic content depicting themes of violence, having previously engaged with non-violent pornographic content.<sup>1540</sup> Refer to Section 2: Pornographic content for more detail. In a study conducted by Internet Matters, girls aged 13-17 reported having difficulty breaking out of repetitive patterns of unwanted recommendations, including content that negatively impacts their self-esteem or body image.<sup>1541</sup> To avoid receiving "a cycle where they get stuck watching this sad content", girls reported efforts to make use of user feedback tools to elicit alternative content recommendations by engaging with positive content and quickly bypassing distressing material.

### How scoring algorithms work, and how they can pose a risk

- 16.12 The algorithms that make up recommender systems can be described as 'scoring' algorithms that predict what content the user is most likely to engage with. Effectively, they give content a predicted engagement score for each user, which represents the likelihood that the user will engage with the content. Based on the predicted engagement score, content will be ranked accordingly. Since scoring algorithms are responsible for curating a feed of content that the system determines a user is most likely to engage with, they can be a risk factor for children who are vulnerable to unwittingly engaging with that content: for example, by simply clicking on it or hovering over it, or even by reporting it or posting a negative comment about it. Scoring algorithms use a variety of signals from users to curate a personalised set of recommendations.
- 16.13 Because of the way scoring algorithms curate content, recommender systems can suggest harmful content to a user because another, similar, user engaged with it. If the child proceeds to explicitly engage with that content by 'liking' it or sharing it, they are likely to be sending content-based signals to the recommender system. It is important to note that

<sup>&</sup>lt;sup>1539</sup> Note: We have considered the limitations of this study when presenting its findings. In this study, the avatars were new accounts set up by researchers on TikTok, in the US, UK, Canada and Australia, at the minimum age TikTok allows, 13 years old. These accounts paused briefly on videos about body image and mental health, and liked them, to observe the impact on recommender systems. Source: Center for Countering Digital Hate (CCDH), 2022. <u>Deadly By Design: TikTok pushes harmful content promoting eating disorders and self-harm into users' feeds</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1540</sup> Note that under the Act children should be prevented from encountering any kinds of pornographic content, violent or otherwise. We include this as an example of how harm can become more extreme.
<sup>1541</sup> Note: This study involved 12 in-depth interviews with girls and their parents, comprising a small sample. We have included these findings as they build on the larger scale Digital Wellbeing Index which comprises data from around 1,000 families. Internet Matters, 2024. <u>Teen Girls' Experiences of Harm Online</u>. [accessed 28 March 2025].

depending on the specific implementation on a service, children can unwittingly signal engagement in different ways.

- 16.14 There are two main signals that scoring algorithms use to learn about a user's preferences and curate recommendations accordingly:
  - a) Content-based signals: These signals could be labels or tags added by the person who uploaded the content, or could be added later by the service, either manually or automatically (e.g., by using a separate classification algorithm to analyse the content). The signals could include features such as topic, date, author, place, origin, etc. If a person has engaged with content exhibiting X and Y features in the past, content with similar features will be scored highly. The impact of these signals is that the more a user engages with certain content with the same content-based signals, the more of it they will receive.
  - b) User similarity (also known as 'collaborative filtering'): This technique recommends content based on the preferences and behaviours of similar users. If person A and person B have a similar taste for a particular type of content, the algorithms may infer they are likely to have similar preferences. This can result in 'user clustering' where content is scored similarly for users with shared characteristics, so that users who have similar engagement patterns (e.g., follow the same pages and watch similar content) will mutually influence each other's content recommendations. For example, users A, B and C all enjoy watching content about travel, cooking and cats, and exhibit similar engagement patterns. If user A views content about mental health, then that content may also be inferred as relevant for users B and C and is likely to be recommended to them. This can lead to children being clustered with other users who exhibit harmful engagement patterns, and so increase the risk of children being exposed to harmful content, even if they have never engaged with it previously themselves.

## How content tagging works, and why it poses a risk

16.15 Content tagging is the process of adding keywords and phrases to user-generated content, often used to describe its subject, topic or theme. Tags are normally applied by users themselves to help improve the discoverability of their content by other users. A popular form of tagging is hashtags. Content tags are one of the key inputs that recommender systems may use to learn about users' preferences for content. Tagging can be used to obscure and disguise harmful content, in an attempt to bypass content moderation systems, and can be disseminated by recommender systems (e.g., by using code words or popular/trending tags). Content tags that are known to be strongly associated with harmful content can be blacklisted by services as part of their content moderation practices. This moderation technique is known as keyword blocking, where certain terms known to be almost exclusively associated with the dissemination of illegal and harmful content are blacklisted in a service's relevant databases.

# The size and composition of a service's user base affects the risk of harm

## Services with larger and smaller user bases can increase the risks of harm to individuals in different ways

- 16.16 Services with large and small user bases pose risks to children, but often for different reasons. Large services can pose a particular risk of harm because harmful content or conduct on them can reach a large number of people, and they can sometimes attract bad actors looking to reach large populations of users, including children. For example, there are accounts dedicated to sharing violent content on larger social media and video-sharing services.<sup>1542</sup> These services are likely to have been chosen because they have larger user bases, and therefore wider reach for disseminating this content (see Section 7: Violent content).
- 16.17 Smaller services can pose a particular risk of harm because they may be more focused on niche interests or topics and can therefore present a higher risk of encountering harmful content, if these topics are likely to contain content harmful to children. Smaller services may also have fewer resources available to moderate content, and therefore present a higher risk of hosting harmful content. For example, evidence suggests that content promoting suicide and self-harm can be shared within online communities, some of which exist on smaller, more niche services. Refer to Section 3: Suicide and self-harm content and Section 4: Eating disorder content for more detail.

## The number of children on a service also affects the risk of harm

- 16.18 A service widely used by children indicates that the service may have a high number of vulnerable users who are at risk of harm. There is currently limited evidence relating child user base size to specific harms. However, the available evidence does demonstrate that the services most used by children are those with larger user bases, and are broadly similar to the services most commonly used by adults.<sup>1543</sup> YouTube is the most-used online service among 3-17-year-olds (88%),<sup>1544</sup> followed by WhatsApp (59%), TikTok (54%), Snapchat (46%), Instagram (40%) and Facebook (39%).<sup>1545</sup> Without adequate measures to protect child users, this risks exposing a much larger number of children to harmful content and conduct hosted on these services, particularly as children often spend significant amounts of time on these services. Refer to the sub-section 'Overview of children's behaviour' in Section 1: Introduction to the Children's Register of Risks for more detail.
- 16.19 Some services are targeted at child users. Again, evidence is limited, but since services are targeting a vulnerable user base, it is reasonable to infer that without effective protections, the risk of harm is higher on these services. Indeed, evidence shows that services targeting children can be used in the context of grooming offences. For more detail, refer to the

 <sup>&</sup>lt;sup>1542</sup> Ofcom, 2024. <u>Understanding Pathways to Online Violent Content Among Children</u>. [accessed 28 March 2025

<sup>&</sup>lt;sup>1543</sup> Ofcom, 2023. Online Nation 2023 Report. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1544</sup> Within this study, a 'platform' is a term for an app and site used for watching or uploading videos, viewing or producing livestreamed content, social media, and video-calling or messaging.

<sup>&</sup>lt;sup>1545</sup> Ofcom, 2024. <u>Children's Online Behaviours and Attitudes Survey</u>. [accessed 13 February 2025].

'Grooming' sub-section in the 'Child Sexual Exploitation and Abuse (CSEA)' section of our <u>Illegal Harms Register of Risks</u> (Illegal Harms Register). While grooming is an illegal harm, this example demonstrates how perpetrators, looking to cause harm to children, may be drawn to services targeting children, and will therefore reach a high proportion of child users.

# Low levels of media literacy, in children and parents, are likely to increase the risk of harm

- 16.20 There is limited evidence relating media literacy to specific kinds of harmful content. We have therefore compiled available evidence here, to provide some indicative findings on how media literacy can more generally affect the risk of harm to children online.
- 16.21 Media literacy is the ability to use, understand and create media and communications across multiple formats and services.<sup>1546 1547</sup> Ofcom has specific duties relating to media literacy in the Online Safety Act 2023 (the Act). We consider that child users with a strong knowledge of services and online systems and the confidence to use them adeptly, and those with a good level of critical understanding of online media, will have high levels of media literacy. Those with lower levels of media literacy may struggle to navigate the online space, tend not to have good critical understanding online and find it hard to understand online services.
- 16.22 A lower level of media literacy may make child users more vulnerable to some forms of online harm. They may lack the awareness necessary to recognise the risk of harm until it is too late, or lack knowledge about how to raise concerns about what is happening. For example, a child with low media literacy may be more likely to accept group chat invitations from people they do not know personally or join group chats containing strangers. This may in turn increase the risk of the child encountering harmful content given that violent and pornographic content can be shared in the context of group chats.<sup>1548</sup>
- 16.23 Evidence also suggests that children whose parents have low online media literacy may be at greater risk of encountering harmful content. Our research with 7-17-year-olds found that some parents are less confident in using online services or understanding how they work, and as a result are less aware of what their children were doing on those services.<sup>1549</sup>
- 16.24 There is evidence to suggest that children with high media literacy have a lower risk of experiencing online harm. While there may be other factors involved, high levels of media literacy in children enables them to evaluate and manage their online identity, safely navigate online interactions, evaluate online information, consider their wellbeing, and develop strategies for protecting their personal information online,<sup>1550</sup> which may help to

<sup>&</sup>lt;sup>1546</sup> Ofcom is mandated to promote media literacy (section 11 of the <u>Communications Act 2003</u>). [accessed 28 March 2025].

<sup>&</sup>lt;sup>1547</sup> Ofcom, 2024. <u>A Positive Vision for Media Literacy: Ofcom's Three-Year Media Literacy Strategy</u>. [accessed 13 February 2025].

<sup>&</sup>lt;sup>1548</sup> See 'Group messaging' sub-sections within Section 7: Violent content and Section 2: Pornographic content. <sup>1549</sup> One parent, who did not monitor what social media services her ten-year-old son engaged with, explained that he had encountered pornographic content, having searched for a pornographic site after seeing a video on a social media service about it. Source: Ofcom, 2022. <u>Research into risk factors that may lead children to</u> <u>harm online</u>. [accessed 13 February 2025].

<sup>&</sup>lt;sup>1550</sup> Ofcom, 2024. <u>Exploring high media literacy among children aged 8-12</u>. [accessed 13 February 2025]. Subsequent references to this source throughout.

limit their encounters with harmful content. For example, in our research with 8-12-yearolds, children with high media literacy reported being familiar with blocking systems across social media services: they always looked for 'the three dots' or similar in the top corner of their screen and felt confident they would be able to carry out blocking on social media services if needed. This suggests that they may be able to (even if they did not carry it out in practice) take action against being repeatedly sent bullying, abuse or hate content by a contact.<sup>1551</sup> Children with high media literacy are still at risk. The same research found that, despite having high media literacy, the participants sometimes did not understand the risks associated with using a service, such as the risk of sharing personal information, and did not fully understand security settings.<sup>1552</sup>

16.25 Levels of media literacy vary depending on age and gender. Our research with highly medialiterate 8-12-year-olds suggests that within this age group, older girls (aged 11-12) demonstrated some higher media literacy knowledge and skills than both younger girls (aged 8-10), and boys (irrespective of their age). Younger girls and boys may therefore be at higher risk of encountering some kinds of harmful content, where pathways to harmful content are related to media literacy levels.<sup>1553</sup> More detail on the varying risk of harm to children in different age groups can be found in Section 17: Recommended age groups.

## Generative artificial intelligence

16.26 Generative artificial intelligence (GenAI) is a form of AI that refers to ML models that can create new content in response to a user prompt. GenAI models can be used to produce text, images, audio, videos and code, which closely resemble the content on which the models are trained. This section sets out how GenAI should be considered in protecting children from harmful content on user-to-user and search services. We also summarise the evidence on how GenAI presents risk of harm to children.

## Generative artificial intelligence under the Act

- 16.27 This section considers the evidence of harms to children presented by GenAI that do not amount to illegal harms. Evidence of illegal harms related to GenAI to which children may be subjected are discussed in sections of the <u>Illegal Harms Register</u>: see CSEA (Grooming and CSAM); Extreme pornography; Intimate image abuse; Terrorism; Controlling or coercive behaviour; Foreign interference; and False communications.
- 16.28 There are a number of cases where services featuring GenAI tools can fall in scope of the Act, either as user-to-user services (or part of them) or as search services (or part of them). For example, services that include a GenAI tool that enables users to share with other users text, images or videos generated by the GenAI tool will be considered user-to-user services. This could include, for example, services with 'group chat' functionality that enables multiple users to interact with a chatbot at the same time. Similarly, services that allow users to upload or create their own GenAI chatbots which are also made available to other users will also be considered user-to-user services. These could include, for example, services that provide tools for users to create chatbots that mimic the personas of real and fictional people, which can be submitted to a chatbot library for others to interact with. In

<sup>&</sup>lt;sup>1551</sup> Ofcom 2024. Exploring high media literacy among children aged 8-12.

<sup>&</sup>lt;sup>1552</sup> Ofcom 2024. Exploring high media literacy among children aged 8-12.

<sup>&</sup>lt;sup>1553</sup> Ofcom 2024. Exploring high media literacy among children aged 8-12.

addition, GenAI tools that enable the search of more than one website and/or database – including tools that modify, augment or facilitate the delivery of search results on an existing search engine, or which provide 'live' internet results to users on a standalone service – will be considered search services.

16.29 More generally, the Act is technology neutral and AI-generated content (such as text, audio, images or videos) that is harmful to children and is shared by users on a user-to-user service, or is present in search results, needs to be treated in the same way as human-generated content that is harmful to children.<sup>1554</sup>

### Risk of harm to children from generative artificial intelligence

- Under 18s engage with many types of GenAI, including chatbots, image generators, AI 16.30 avatars and stickers, as well as in search and gaming. Of com research conducted in June 2024 found that 54% of online children in Britain aged 8-15 said they had used a GenAI tool in the past year. Teens aged 13-15 were more likely to report using GenAI in the past year (66%) compared to children aged 8-12 (46%).<sup>1555</sup> Many online children in Britain aged 8-15 reported using GenAl for fun (63%) or to help with schoolwork (53%), with older children aged 13-15 more likely than 8-12-year-olds to have used a GenAI tool to help with schoolwork (59% vs 48%), while children aged 8-12 were more likely than those aged 13-15 to have used it for fun (67% vs 58%). Popular uses of GenAI among 8-15-year-olds included 'finding information or content' (31%) and 'creating images' (30%).<sup>1556</sup> Just under one in five (18%) older teens aged 16+ and adult users of GenAI tools in the UK said they were confident that the information provided by GenAI was reliable,<sup>1557</sup> whereas a third (34%) of GenAI users in Britain aged 8-15 were confident of the reliability of the information provided by GenAI.<sup>1558</sup> Studies on advanced AI assistants indicate that children do not distinguish between humans and AI as strictly as adults do, which could make them more vulnerable to risks associated with GenAI.<sup>1559</sup>
- 16.31 There is evidence which shows that GenAI can facilitate the creation of content harmful to children, including pornography, content promoting eating disorders and bullying content. Evidence shows there has been a pronounced increase in the availability of AI-generated pornography online, particularly on pornography services which are dedicated to AI-generated pornography,<sup>1560</sup> which could be accessed by children. There is also evidence

<sup>&</sup>lt;sup>1554</sup> See further Ofcom's 2024 <u>Open letter to UK online service providers regarding Generative AI and chatbots</u>. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1555</sup> Ofcom, 2024. <u>Generative Artificial Intelligence (8-15 year-olds) poll</u> (Q1). Respondents were asked about their use of 16 GenAI tools: ChatGPT, ChatGPT Plugin, My AI on Snapchat, Google Gemini, Microsoft CoPilot, DALL-E, Midjourney, Character.AI, Scribe, AlphaCode, Quillbot, Synthesia, Claude from Anthropic, Perplexity, Stability's AI tools and Grok on X. [accessed 13 February 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1556</sup> Ofcom, 2024. <u>Generative Artificial Intelligence (8-15 year-olds) poll</u> (Q2 and Q3).

<sup>&</sup>lt;sup>1557</sup> Ofcom, 2024. <u>Generative Artificial Intelligence (16+ year-olds) poll</u> (Q4). Base: those who had used GenAI in the past year. Reliability of GenAI tools are subjective, and some tools may be considered more reliable than others. The answer to this question is based on GenAI perception in general.

<sup>&</sup>lt;sup>1558</sup> Ofcom, 2024. <u>Generative Artificial Intelligence (8-15 year-olds) poll</u> (Q4). Base: those who had used GenAI in the past year.

<sup>&</sup>lt;sup>1559</sup> Gabriel, I., Manzini, A., Keeling, G., Hendricks, L. A., Rieser, V., Iqbal, H., [...] and Manyika, J., 2024. <u>The</u> <u>ethics of advanced AI assistants</u>, *arXiv*. [accessed 10 December 2024].

<sup>&</sup>lt;sup>1560</sup> Deeptrace, 2019. <u>The State of Deepfakes: Landscape, threats, and impacts</u>. [accessed 28 March 2025].

showing that GenAI models can create eating disorder content,<sup>1561</sup> as well as GenAI models being used to create content to bully and threaten individuals including 'fakes' of individuals' voices.<sup>1562</sup>

- 16.32 GenAI models can be used to create bullying content that can be posted on user-to-user services or shared with other users by other means such as messages or comments. For instance, AI-based voice synthesisation software may be used to create audio that mimics an individual's voice and share intimate information or create inflammatory content. This can then be posted online. GenAI bots can also be uploaded by malicious actors to troll specific and targeted individuals.<sup>1563</sup>
- 16.33 Evidence also indicates that GenAI models can create other kinds of harmful content which could be encountered by children. For example, audio and language GenAI models can produce racist, transphobic and violent remarks ('abuse and hate'),<sup>1564 1565</sup> engage in self-harm dialogue, even where unsolicited ('suicide and self-harm'),<sup>1566</sup> generate harmful eating disorder content,<sup>1567</sup> and engage in explicit dialogue.<sup>1568</sup> Children report accessing GenAI chatbots designed to generate explicit content including racist and sexual dialogue, and in some cases share this on with peers and family.<sup>1569</sup> Two recent deaths have been linked to GenAI chatbots engaging users in discussions of suicide; in both cases it was found

<sup>&</sup>lt;sup>1561</sup> Note: The research involved submitting a set of 20 prompts to six popular generative AI chatbot and image generator platforms to elicit the responses. We note that in many of these prompts, the researchers included special textual features designed to bypass the safety features of generative AI systems, a method known as 'jailbreaking'. Therefore, the figures representing rates of harmful content generation are not representative of that for users who do not use jailbreaking techniques. Source: CCDH, 2023. <u>AI and Eating Disorders: How</u> <u>generative AI is enabling users to generate harmful eating disorder content</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1562</sup> Cyberbullying Research Center, 2023. <u>Generative AI as a Vector for Harassment and Harm</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1563</sup> Cyberbullying Research Center, 2023. <u>Generative AI as a Vector for Harassment and Harm</u>.

<sup>&</sup>lt;sup>1564</sup> Cox, J., 2023. <u>Al-generated voice firm clamps down after 4chan makes celebrity voices for abuse</u>. Vice, 30 January. [accessed 25 March 2025]; See also: Abid, A., Farooqi, M. and Zou, J., 2021. <u>Persistent anti-Muslim</u> <u>bias in large language models</u>, *arXiv*. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1565</sup> Researchers found that queries related to sensitive topics such as race, those structured as interrogatives, and even generic queries can trigger toxic responses from AI models. Source: Si, W. M., Backes, M., Blackburn, J., De Cristofaro, E., Stringhini, G., Zannettou, S. and Zhang, Y., November 2022. <u>Why so toxic? measuring and</u> <u>triggering toxic behavior in open-domain chatbots</u>, in Proceedings of the 2022 ACM SIGSAC Conference on Computer and Communications Security, pp.2659-2673. [accessed 10 December 2024].

<sup>&</sup>lt;sup>1566</sup> Voicebox, 2023. <u>Coded companions: Young People's Relationships With AI Chatbots</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1567</sup> Note: The research involved submitting a set of 20 prompts to six popular generative AI chatbot and image generator platforms to elicit the responses. We note that in many of these prompts, the researchers included special textual features designed to bypass the safety features of generative AI systems, a method known as 'jailbreaking'. Therefore, the figures representing rates of harmful content generation are not representative of that for users who do not use jailbreaking techniques. Source: CCDH, 2023. <u>AI and Eating Disorders: How</u> generative AI is enabling users to generate harmful eating disorder content.

<sup>&</sup>lt;sup>1568</sup> Snapchat's My AI chatbot advised a pretended 13-year-old girl on how to use candles and music when losing their virginity to a 31-year-old partner without recognising a potential child abuse situation. Fowler, G., 2023. <u>Snapchat Tried to Make a Safe AI. It Chats with Me about Booze and Sex</u>. Washington Post, 14 March. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1569</sup> Yu, Y., Sharma, T., Hu, M., Wang, J. and Wang, Y., 2024. <u>Exploring Parent-Child Perceptions on Safety in</u> <u>Generative AI: Concerns, Mitigation Strategies, and Design Implications</u>, *arXiv*. [accessed 6 November 2024].

that individuals had developed harmful dependencies on the chatbots.<sup>1570 1571</sup> In one case, a 14-year-old boy died by suicide after having conversations about suicide with a chatbot emulating the personality of a popular character from a television series. The lawsuit brought to the service cites evidence that "on at least one occasion, when [the boy] expressed suicidality to [the service's chatbot], [it] continued to bring it up".<sup>1572</sup>

<sup>&</sup>lt;sup>1570</sup> Pasquini, M., 2023. <u>Man Dies by Suicide After AI Chatbot Became His Confidante, Widow Says</u>. People Magazine, 31 March. [accessed 7 November 2024].

<sup>&</sup>lt;sup>1571</sup> Rissman, K., 2024. <u>Teenager took his own life after falling in love with AI chatbot. Now his devastated mom</u> <u>is suing the creators</u>. The Independent, 24 October. [accessed 7 November 2024].

<sup>&</sup>lt;sup>1572</sup> Note: Edits in square brackets. Garcia, M. L., 2024. <u>Complaint: Garcia v. Character Technologies, Inc</u>. et al. United States District Court, Middle District of Florida. [accessed 28 March 2025].

## 17. Recommended age groups

Warning: this section contains references to content that may be upsetting or distressing, including references to suicide, self-harm, eating disorder and sexual violence.

#### Summary

This section sets out our approach to considering the risk to children in different age groups of encountering content harmful to children.

The age of a child greatly influences their online behaviour and attitudes – which can affect the risks they face online. These risks can be further influenced by broader developmental or life-stage changes, as well as variations of parental supervision of online use. Based on relevant evidence and other regulatory approaches, Ofcom has focused on five age categories for understanding children's risk of harm online: 0-5, 6-9, 10-12, 13-15 and 16-17.

In a period of significant growth and brain development, **children aged 0-5** are increasingly online, with tablets the most commonly used device for this age group. Parental involvement substantially influences their online activity. Once online, children risk encountering harmful content or bad actors, especially if using devices and profiles of other family members.

When in mainstream primary education, **children aged 6-9** become more independent and are nearly all online. Watching videos is the most common online activity. Parents set rules to control and manage use of services. Some children report encounters with harmful content such as pornographic content.

The **age group of 10-12** brings rapid biological and social transitions. Use of mobile phones dramatically increases, with children increasingly socialising online. Some children have a user age that is higher than their actual age (e.g., 13+), while a smaller proportion have adult accounts using a fake user age (18+). Direct parental supervision starts to be replaced by more passive supervision approaches. Increased online use and independence can increase the risk of having harmful interactions online like bullying.

Those aged **13-15** use a wider range of services, such as livestreaming sites. They are more likely to create their own content. Parental involvement in their child's online use decreases. Coupled with an increased vulnerability to mental health issues, children can be exposed to, and actively seek out, harmful content. The impact of harmful content, such as suicide and self-harm content, may also be heightened at this age. Some children have adult accounts using fake user ages (18+) increasing the risk of encountering harmful content.

**Children aged 16-17** gain new legal rights and freedoms. Parents are far less involved in their children's online lives. This age group communicates extensively online, and are particularly likely to speak to people they do not know personally online. Some have 18+ user profiles, increasing the risk of encountering harmful content.

Evidence shows that children can be vulnerable to online risks throughout the age range of 0-17. However, the importance of access to online spaces increases with age, including access to community, information and emotional support. Online experiences can, therefore, provide important benefits for children's social, psychological and educational development as they grow older.

## Risk to children in different age groups

- 17.1 As mandated by the Online Safety Act 2023 (the Act), user-to-user services must assess "the level of risk of harm to children presented by different kinds of content that is harmful to children, giving separate consideration to children in different age groups". There are similar requirements for search services to consider children in different age groups.
- 17.2 The Act also imposes a number of safety duties requiring services likely to be accessed by children to manage and mitigate risks of harm from content that is harmful to children. This includes, in relation to user-to-user services, operating a service using proportionate systems and processes designed to: (i) prevent children of any age from encountering primary priority content that is harmful to children, and (ii) protect children in age groups judged to be at risk of harm (in the risk assessment) from encountering priority content that is harmful to children and non-designated content.<sup>1573</sup>
- 17.3 Considering risk of harm by age is important to ensure that services put in place an approach to protecting child users that is proportionate and appropriate to the level of risk. Where relevant evidence is available, sections on content harmful to children in this Children's Register of Risks (Children's Register) will include analysis on how the risk of harm differs by age. In some areas, the specific evidence about risks of harm to particular age groups is quite limited. As our evidence base in this area develops, we will aim to reflect this in the Children's Register as appropriate.
- 17.4 Here we present an indicative approach to categorising child ages when considering risk from harmful online content. We recognise that no age categories are absolute, and that children can develop at different rates. However, based on evidence that shows the important changes in children's development and online behaviour, we have set out five categories: 0-5, 6-9, 10-12, 13-15 and 16-17. These categories align with those used in the Information Commissioner's Office (ICO) Children's code.<sup>1574</sup> These age groups were also informed by the analysis detailed in the 'Overview of children's behaviours' sub-section of Section 1: Introduction to the Children's Register of Risks. Any additional evidence provided by stakeholders may result in further development of these categories.
- 17.5 In recommending these age groups, we consider:
  - a) Life stages: How child development stages can affect risk of harm,
  - b) Online presence: How online activities vary for different age groups,
  - c) **Parental involvement:** How levels of parental supervision and use of parental controls vary for different age groups, and

<sup>&</sup>lt;sup>1573</sup> Section 12(2) of the Act.

<sup>&</sup>lt;sup>1574</sup> Given the close relationship between the ICO and Ofcom's area of work, using similar age groups helps to bring coherence towards data protection and online safety work. Source: ICO, 2020. <u>Age appropriate design: a code of practice for online services</u>. [accessed 28 March 2025].

- d) **Age-specific risks:** How specific kinds of content, <sup>1575</sup> and industry age limits, present distinct risks of harm for different age groups.
- 17.6 It is important to note that age is only one of many factors affecting risk of harmful content to children and children's evolving capacities may affect this risk. In the harm-specific sections of the Children's Register we consider how other characteristics affect the risk of harm to children, such as gender and neurodiversity, media literacy, socio-economic factors, ethnicity and religion. Service providers should pay attention to their child user groups in their risk assessments and how the different factors intersect and may compound the risk of harm.

## Note on data sources

- 17.7 The majority of the evidence underpinning our age group proposals is taken from Ofcom's long-running Children's and Parent's Media Literacy Tracker an annual quantitative tracking survey running since 2005. In this study, both a child and a parent/guardian answer questions on the child's online use. Only children aged 8 and over are asked questions directly. Therefore, the data on children below 8 has been provided by parents only. This means that our data analysis for the age group of 6-9-year-olds is split into two different data points of 6-7-year-olds and 8-9-year-olds, due to the methodological difference. No data is currently collected on under-3s' online use.
- 17.8 Where appropriate, we have used evidence from other data sources to demonstrate the behaviours of, and risks to, children in different age groups. The age splits provided by these data sources do not necessarily match our proposed age groups but give a reasonable indication of the challenges faced by children in the groups we are proposing.

## Rationale for age groups

## Aged O-5 years: Preliterate and early literacy

A time of significant growth and brain development for very young children. Children of this age are heavily dependent on their parents, with parental involvement substantially influencing their online activity.

#### Life changes

<sup>17.9</sup> The first five years of a child's life see the most rapid stages of brain development, with children passing several major developmental milestones.<sup>1576</sup> By the time they start school, children's motor skills are developing to the point where they hold objects independently but require help from an adult for more complex tasks. It is likely that children of this age receive help with communication activities as their developing basic reading and writing skills are still minimal.

<sup>&</sup>lt;sup>1575</sup> Several types of harmful content are specified in the Act. These include i) primary priority content, ii) priority content, and iii) non-designated content.

<sup>&</sup>lt;sup>1576</sup> Boston Children's Digital Wellness Lab, n.d. <u>Family Digital Wellness Guide: Birth to Preschool Ages 0-5</u>. [accessed 25 March 2025].

#### Online presence

- 17.10 Most children in the UK are using online services from a young age.<sup>1577</sup> Ofcom research found that 85% of children aged 3-5 go online.<sup>1578</sup> This is primarily for entertainment purposes; 91% of children aged 3-5 watch videos when online. Cartoons, animations, minimovies and songs are the most popular types of videos among this age group.<sup>1579</sup> Three in five 3-5-year-olds (60%) have their own profile on the apps and websites they use.<sup>1580</sup>
- 17.11 Young children's presence online is increasing over time. In 2023 there was an increase in the proportion of 3-5-year-old children who use communication/messaging applications, livestreaming sites, and who take part in online gaming, and post or share content on video-sharing services.<sup>1581</sup> In the past two years, there has been an increase in the proportion of 3-5-year-old children who use social media apps/sites.<sup>1582</sup>
- 17.12 Tablets are the most commonly used device for going online by this age group (69% of 3-5year-olds). Phones are used to go online by 34% of 3-5-year-olds, significantly less than among those aged 6 and above.<sup>1583</sup> Some children share their internet devices with other members of their household, such as siblings and parents.<sup>1584</sup>

#### Parental involvement

- 17.13 The majority of parents of 3-5-year-olds supervise their children when online to some degree. Sixty-six per cent of parents of 3-5-year-olds who go online said they are nearby and regularly checking what their child does when online. Fifty-nine per cent of parents of 3-5-year-olds who go online say they sit beside their child watching or helping them while they are online.<sup>1585</sup>
- 17.14 Parents of 3-5-year-olds use tools or controls to manage their child's access to content. Over nine in ten parents (93%) of 3-5-year-olds are aware of parental tools or settings to control or manage their child's access to online content. A majority of parents of 3-5-yearolds (77%) say they use at least one type of technical tool. This includes content filters, parental control software and restricted-access versions of online services.<sup>1586</sup>

<sup>&</sup>lt;sup>1577</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. [accessed 3 February 2025]. Subsequent references to this source throughout.

 <sup>&</sup>lt;sup>1578</sup> Note: This includes going online to look at a website or use an app, watch a TV programme or video clip on sites or apps like YouTube or TikTok, to play games online, for social media, or to do school or homework.
 Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP1. [accessed 3 February 2025].
 <sup>1579</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP5/QC4, QP8/QC7.

<sup>&</sup>lt;sup>1580</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP20/QC20.

<sup>&</sup>lt;sup>1581</sup> Uses apps/sites to send messages or make voice/video calls: 48% of 3-5-year-old children in 2022, 54% in 2023; watches live streaming apps of sites: 33% in 2022, 44% in 2023; online gaming: 21% in 2022, 27% in 2023; posts/shares contents on any video sharing platform: 11% in 2022 and 16% in 2023. Source: Ofcom, 2023. <u>Children and Parents Media Literacy Tracker</u>. QP4/QC3, QP5/QC4, QP10 QC9, QP6/QC5.

<sup>&</sup>lt;sup>1582</sup> Uses social media apps or sites: 23% in 2022, 29% in 2023; 37% in 2024. Source: Ofcom, 2024. Children and Parents Media Literacy Tracker. QP13/QC13.

<sup>&</sup>lt;sup>1583</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP1.

<sup>&</sup>lt;sup>1584</sup> Our Children's Media Lives reports that it is common for children, particularly younger children, to share devices with others in their household. For example, one of the participants, Amira (aged 12), tells us she shares her online devices with her sibling. Source: Ofcom, 2023. <u>Children's Media Lives</u>. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1585</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27.

<sup>&</sup>lt;sup>1586</sup> Technical tools asked about are: content filters provided by broadband internet service provider (also known as home network filtering); parental control software set up on a particular device used to go online

#### Age-specific risks

- 17.15 Just by being online, children in this age group are at risk of encountering harmful content. As children use devices or profiles of other family members, this may lead to a risk of encountering age-inappropriate content, including harmful content, as recommender systems<sup>1587</sup> recommend content on the basis of the search and viewing history of the other user(s).
- 17.16 The use of child-specific or restricted-age services does not guarantee that children will necessarily be protected from harmful content. It is possible that children may be more likely to use these services unsupervised. There have been cases of bad actors in the past using child-friendly formats, such as cartoons on toddler-oriented channels, to disseminate harmful content on child-specific services.<sup>1588</sup>

## Aged 6-9 years: Core primary school years

After starting mainstream education, children become more independent and increasingly go online. Parents create rules to control and manage their children's online access and exposure to content.

#### Life changes

17.17 Children at this age are increasingly independent in their media behaviour and online use. Once in primary education, children socialise with children of their own age daily and form friendships independent of their family. Motor skills become stronger at this stage, so they can carry out more complex tasks without help from an adult. Reading and writing skills also progress, allowing them to communicate more fluently.

#### **Online presence**

17.18 Compared to younger children, children in this age group are significantly more likely to be online; 96% of 6-9-year-olds go online.<sup>1589</sup> These children are also taking part in a wider range of online activities compared to younger children. This includes watching videos online (94% of children aged 6-7 and 96% of children aged 8-9) and using social media apps

<sup>(</sup>e.g., Net Nanny, McAfee Family Protection, Open DNS FamilyShield); parental controls built into the device by the manufacturer (e.g., Windows, Apple, Xbox, PlayStation, etc.); restricting access to inappropriate online content (through tools such as Google SafeSearch, YouTube Restricted mode or TikTok Restricted mode); apps that can be installed on a child's phone to monitor which apps they use and for how long; changing settings on a child's phone or tablet to stop apps being downloaded or stop in-app purchases; parental control software, settings or apps that can be used on a child's phone or tablet to restrict access to content or manage their use of the device. Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP31, QP32.

<sup>&</sup>lt;sup>1587</sup> A content recommender system is an algorithmic system which determines the relative ranking of an identified pool of content that includes regulated user-generated content from multiple users on content feeds. Content recommender systems are often deployed by user-to-user services to help users encounter content that they are likely to find engaging. They do this by curating feeds of content based on a variety of signals such as user engagement patterns and behaviour, preferences, user demographics and location. Recommender systems will also serve content that is popular, trending and outside the user's normal engagement pattern.

<sup>&</sup>lt;sup>1588</sup> Papadamou, K., Papasavva, A., Zannettou, S., Blackburn, J., Kourtellis, N., Leontiadis, I., Stringhini, G. and Sirivianos, M., 2019. <u>Disturbed YouTube for Kids: Characterizing and Detecting Disturbing Content on YouTube</u>. [accessed 28 March 2025]. Note: Ofcom understands that this is an historic issue which has now been addressed by YouTube.

<sup>&</sup>lt;sup>1589</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP1.

or services (36% of 6-7-year-olds and 57% of 8-9-year-olds).<sup>1590</sup> Two in five 6-7-year-olds (41%) and 63% of 8-9-year-olds play games online: more than double the proportion of 3-5-year-olds playing games online (25%).<sup>1591</sup>

- 17.19 The engagement of 6-7-year-olds with online services is increasing over time. In 2023 the proportion of 6-7-year-olds who watch video-sharing platforms, use social media sites and livestreaming services, and who game online, had increased since 2022.<sup>1592</sup>
- 17.20 Six in ten (63%) 6-7-year-olds and 69% of 8-9-year-olds have their own profile set up on the apps and sites they use.<sup>1593</sup> This means that, as with 3-5-year-olds, a sizeable minority of children do not have profiles, and may be using someone else's profile when accessing these services or using them without having an account.
- 17.21 Tablets are the device most commonly used to go online by 6-7- and 8-9-year-olds (80% and 73% respectively). The use of phones to go online increases for this age group but the use of phones to go online by 6-9-year-olds is significantly lower than 10-year-olds and over.<sup>1594</sup> Further Ofcom research has found that in cases where children lack the appropriate devices for learning and homework at home, they will often have to share devices with others in the household.<sup>1595</sup>

#### **Parental involvement**

- 17.22 Most children in this age group are supervised while online. The approach most commonly taken by parents is to be nearby and check regularly; this is done by 75% of parents of 6-7-year-old who are online and 76% of parents of 8-9-year-olds who go online.<sup>1596</sup> Parents of children in this age group also say they are using parental control software to supervise their child's online life; 86% of parents of 6-9-year-olds say they use at least one technical tool or control to manage their child's access to online content.<sup>1597</sup>
- 17.23 As children become increasingly online as they get older, parents are setting rules about what their children can and cannot do online. Almost all (98%) parents of 8-9-year-olds who go online say they set rules about what their child does online, and how they use their mobile phone.<sup>1598</sup> These rules can include how much time they can spend online, the type of video content they watch, spending money online, and whom they can contact.

<sup>&</sup>lt;sup>1590</sup> Note: Our data analysis for the age group of 6-9-year-olds is predominately split into two different data points, 6-7-year-olds and 8-9-year-olds, due to a methodological difference within the data collection for these ages for the Children and Parents Media Literacy Tracker.

<sup>&</sup>lt;sup>1591</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP5/QC4, QP13/QC13, QP65, QP25/G3A.

<sup>&</sup>lt;sup>1592</sup> Watches any video-sharing platform: 93% of 6-7-year-olds in 2022, 96% in 2023; uses social media apps or sites: 33% in 2022, 42% in 2023; watches livestreaming apps of sites: 41% in 2022, 48% in 2023; online gaming: 38% in 2022, 46% in 2023. Ofcom <u>Children and Parents Media Literacy Tracker</u>. QP4/QC3, QP5/QC4, QP13/QC13, QP10/QC9, QP6/QC5.

<sup>&</sup>lt;sup>1593</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP20/QC20.

<sup>&</sup>lt;sup>1594</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP1.

<sup>&</sup>lt;sup>1595</sup> Our research finds that children share devices for homework or online schooling; 30% of primary and secondary school children do not have access to appropriate internet devices for their schooling needs at home all of the time. When these children need access, most parents (61%) reported that they managed this by the child sharing a device with others in the household. Source: Ofcom, 2024. <u>Adults' Media Literacy</u> <u>Tracker</u>. (Q09, Q010, Q011). [assessed 3 February 2025].

<sup>&</sup>lt;sup>1596</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27.

<sup>&</sup>lt;sup>1597</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP32.

<sup>&</sup>lt;sup>1598</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP26, QP59.

#### Age-specific risks

- 17.24 Some children in this age group are starting to encounter harmful content, and this exposure has the potential for lasting impact. Research by the Office of the Children's Commissioner for England found that, of the children and young people surveyed who had seen pornography, one in ten (10%) had seen it by the age of 9.<sup>1599</sup> Exposure to pornography at this age carries a high risk of harm. For example, older children reflect on being deeply affected by sexual or violent content they encountered when they were younger, which may have been more extreme than they anticipated (in some cases the child had looked for the content, and in other cases it had been recommended).<sup>1600</sup>
- 17.25 Children are also being exposed to upsetting behaviour online. Over a fifth (22%) of 8-9year-olds reported that people had been nasty or hurtful to them, with a majority of these children experiencing this through a communication technology such as messaging or social media.<sup>1601</sup>
- 17.26 As with the younger age group, the use of family members' devices or profiles may lead to a risk of encountering age-inappropriate content, including harmful content. Recommender systems present content on the basis of various factors, including the profile of the user and the search and viewing history of any user(s) of that account/profile. For example, we heard from children who had been shown harmful content via an auto-play function on a social media service when using their parent's phone and account.<sup>1602</sup>

## Aged 10-12 years: Transition years

#### A period of rapid biological and social transitions when children gain more independence and socialise more online. Direct parental supervision starts to be replaced by more passive supervision approaches

#### Life changes

- 17.27 Children at this age experience significant developmental and situational changes. Puberty typically starts in this age range bringing about the start of adolescence. The NHS estimates that 11 is the average age for girls to start puberty and 12 for boys.<sup>1603</sup> This drives physical changes which can increase self-consciousness and body awareness. It also brings about neurobiological changes that influence cognitive development as well as the start of increased risk-taking and impulsive behaviour.
- 17.28 Many children in the UK will see a substantial change in their educational environment, with the majority of children transitioning from primary school into secondary school.<sup>1604</sup>

<sup>&</sup>lt;sup>1599</sup> This study draws together research from focus groups with teenagers aged 13-19 and a survey of 1,000 young people aged 16-21. Of the 64% who said that they had ever seen online pornography, 10% had seen it by age 9, 27% had seen it by age 11, and half had seen it by age 13. Source: Office of the Children's Commissioner for England, 2023. <u>'A lot of it is actually just abuse'- Young people and pornography</u>. [accessed 24 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1600</sup> Ecorys (commissioned by DCMS), 2022. <u>Qualitative research project to investigate the impact of online harms on children</u>. [accessed 14 March 2025]. Note: DCMS stands for the UK Government department, 'Department for Digital, Culture, Media & Sport'. This has now been replaced by 'Department for Science, Innovation and Technology' (DSIT) and 'Department for Culture, Media and Sport' (DCMS).

<sup>&</sup>lt;sup>1601</sup> Ofcom, 2043. <u>Children and Parents Media Literacy Tracker</u>. QC53B, QC55.

 <sup>&</sup>lt;sup>1602</sup> Ofcom, 2022. <u>Research into risk factors that may lead children to harm online</u>. [accessed 2 February 2025].
 <sup>1603</sup> NHS, 2022. <u>Early or delayed puberty</u>. [accessed 26 March 2025].

<sup>&</sup>lt;sup>1604</sup> There are some exceptions, such as middle schools, some independent schools (e.g., some prep schools go up to 13 years old), and those who have their own individual exception due to changing year groups at school.

Peer influences and social pressures start to have a significant impact on behaviour, and parental influence begins to decline.

#### **Online presence**

- 17.29 The use of mobile phones to go online increases significantly for this age group with 86% of 10-12-year-olds using a phone to go online. The number of children using laptops to go online also rises; 48% of 10-12-year-olds use a laptop, compared to 37% of 8-9-year-olds.<sup>1605</sup> The increased use of phones and laptops may be linked to children's transition to secondary school, with laptops being provided for schoolwork, for example.
- 17.30 The use of online communication services and the use of social media increases at this age. Our research found that 94% of children aged 10-12 send messages or make voice or video calls, compared to 74% of 8-9-year-olds.<sup>1606</sup> Four in five 10-12-year-olds (81%) use social media apps/sites, compared to 57% of 8-9-year-olds.<sup>1607</sup> Similarly, there is an increase in children having their own profiles on apps/sites, with 86% of 10-12-year-olds having their own profile on a site or app, compared to 69% of 8-9-year-olds.<sup>1608</sup>

#### Parental involvement

- 17.31 The type of supervision that parents deploy for their children's online use starts to change in this age group. There is a decrease in the percentage of parents reporting they are nearby, regularly checking what their child is doing.<sup>1609</sup> However, seven in ten (70%) parents of 10-12-year-olds who go online say they ask what their children is doing, or has done, online: higher than other age groups.<sup>1610</sup> Around half (48%) of parents of 10-12-year-olds who go online report checking their browser or device history, also higher than for most other age groups.<sup>1611</sup>
- 17.32 This age also appears to be a key period in which parents talk to their children about how to stay safe online. Nearly all (96%) parents of 10-12-year-olds who go online say they have talked to their child about how to stay safe online, higher than for most other age groups.<sup>1612</sup>

#### Age-specific risks

17.33 More independent use of devices, and a shift in the type of parental supervision, as well as increased use of social media and messaging services to interact with peers, creates a risk of harmful encounters online. Children may start to be more exposed to, or more aware of, bullying content online, with 10-12-year-olds describing how they feel confused when trying to distinguish between jokes and 'mean behaviour' online.<sup>1613</sup> Due to the rapid neurological development taking place in the teenage brain at this point, the psychological

<sup>&</sup>lt;sup>1605</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP1.

<sup>&</sup>lt;sup>1606</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>.QP4/QC3.

<sup>&</sup>lt;sup>1607</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>.QP13/QC13.

<sup>&</sup>lt;sup>1608</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP20/QC20

<sup>&</sup>lt;sup>1609</sup> Fifty-five per cent of parents of 10-12-year-olds who are online, compared to 76% of 8-9-year-olds who are online. Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27.

<sup>&</sup>lt;sup>1610</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27.

<sup>&</sup>lt;sup>1611</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27.

<sup>&</sup>lt;sup>1612</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP28.

<sup>&</sup>lt;sup>1613</sup> Office of the Children's Commissioner for England, 2018. <u>Life in 'likes': Children's Commissioner report into</u> <u>social media use among 8-12 year olds.</u> [accessed 14 March 2025].

impacts of bullying can last into adulthood.<sup>1614</sup> Research has found that of the children who have seen online pornography around one in four (27%) had encountered it by the age of 11.<sup>1615</sup>

- 17.34 Despite a 13+ minimum age restriction for many social media sites, 86% of 10-12-year-olds say they have their own social media profile.<sup>1616</sup> Our research estimates that one in five (20%) children aged 8-17 with an account on at least one online service (e.g., social media) have an adult profile, having signed up with a false date of birth. Seventeen per cent of 8-12-year-olds have at least one adult-aged (18+) profile.<sup>1617</sup> Alongside this, 66% of 8-12-year-olds have at least one profile in which their user age is 13-15 years old.<sup>1618</sup>
- 17.35 Evidence suggests that 11-12 is the age at which children feel safest online. A report by the Office of the Children's Commissioner for England found that the proportion of children who agree they feel safe online peaks at ages 11 and 12 (80%), increasing from 38% from the age of 5.<sup>1619</sup>

## Aged 13-15 years: Early teens

This age group is fully online with children using an increasing variety of services and apps. Parents' involvement in their children's online use starts to decline. Increased independence and decision-making, coupled with an increased vulnerability to mental health issues, means children can be exposed to, and actively seek out, harmful content.

#### Life changes

17.36 Adolescence continues, with teenagers undergoing a great deal of emotional, social, physical and mental change.<sup>1620</sup> At the same time, peer influence become particularly important.<sup>1621</sup> Changes to self-regulation during puberty results in an increase in risk-taking

<sup>&</sup>lt;sup>1614</sup> The Children's Society and YoungMinds, 2018. <u>Safety Net: Cyberbullying's impact on young people's</u> mental health. Inquiry report summary. [accessed 14 March 2025].

<sup>&</sup>lt;sup>1615</sup> This study draws together research from focus groups with teenagers aged 13-19 and a survey of 1,000 young people aged 16-21. Of the 64% who said that they had ever seen online pornography, 10% had seen it by age 9, 27% had seen it by age 11 and half had seen it by age 13. Source: Office of the Children's Commissioner for England, 2023. <u>(A lot of it is actually just abuse' - Young people and pornography</u>.

<sup>&</sup>lt;sup>1616</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP20/QC20.

<sup>&</sup>lt;sup>1617</sup> Ofcom, 2025. <u>Children's online 'user ages' – Wave 4</u>. [accessed 31 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1618</sup> Ofcom, 2025. <u>Children's online 'user ages' – Wave 4</u>.

<sup>&</sup>lt;sup>1619</sup> The statement children were asked whether they agree with was: 'You/They feel safe online/when you go online'. Children aged 6-18 could answer the survey or a parent could answer a survey relating to the child. Source: Office of the Children's Commissioner for England, 2024. <u>Digital childhoods: a survey of children and parents</u>. [accessed 18 December 2024].

<sup>&</sup>lt;sup>1620</sup> US Centers for Disease Control and Prevention, 2021. <u>Young Teens (12-14 years of age): Developmental</u> <u>Milestones</u>. [accessed 14 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1621</sup> Sturman, D. and Moghaddam, B., 2011. <u>The Neurobiology of Adolescence: Changes in brain architecture,</u> <u>functional dynamics, and behavioral tendencies</u>, *Neuroscience and Biobehavioral Reviews*, 35 (8), pp.1704-1712. [accessed 8 December 2023]; Viner, R., 2013. <u>Life stage: Adolescence (Chapter 8)</u>. In Department of Health and Social Care, 2013. Annual Report of the Chief Medical Officer 2012, Our Children Deserve Better: Prevention Pays. [accessed 28 March 2025].

and impulsive behaviour. Teenagers develop and assert their personality by making choices about their interests, friendship groups and school.<sup>1622</sup>

17.37 This is a particularly critical stage for mental health challenges, with half of lifetime mental health disorders established by the age of 14.<sup>1623</sup> Evidence suggests that eating disorders and self-harm behaviours increase among this age group.<sup>1624 1625</sup>

#### **Online presence**

- 17.38 At this age, more than 99% of 13-15-year-olds are online.<sup>1626</sup> Compared to younger children, there is an increase in the proportion of children using sites to send messages or make video or voice calls, with 99% of 13-15-year-olds doing this.<sup>1627</sup> There is also an increase in the proportion of children using live video streaming sites, with 82% of 13-15-year-olds doing this.<sup>1628</sup> Watching videos continues to be a popular activity for children, with 97% of 13-15-year-olds watching videos online.<sup>1629</sup>
- 17.39 This age group are more active generators of content than younger children. There is an increase in the proportion of children who are active online (sharing, commenting and posting), compared to the more passive users.<sup>1630</sup> Uploading videos they have created themselves is also popular among this age group; 48% of 13-15-year-olds do this.<sup>1631</sup>
- 17.40 Thirteen is the minimum age requirement for a majority of social media sites.<sup>1632</sup> Unsurprisingly, the proportion of children with their own profile set up on social media services increases for this age group; 96% of 13-15-year-olds have their own profile, compared with 86% of 10-12-year-olds.<sup>1633</sup>

<sup>&</sup>lt;sup>1622</sup> U.S. Centers for Disease Control and Prevention, 2021. <u>Young Teens (12-14 years of age): Developmental</u> <u>Milestones</u>.

<sup>&</sup>lt;sup>1623</sup> Kessler, R., Berglund, P., Demler, O., Jin, R., Merikangas, K. and Walters, E., 2005. <u>Lifetime Prevalence and</u> <u>Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication</u>, *Archives of General Psychiatry*, 62 (6), pp.593-602. [accessed 28 March 2025]. As cited in the recent NHS Long Term Plan. Source: NHS, 2019. <u>The NHS Long Term Plan</u>. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1624</sup> A study by Breton et al. found the largest increase in eating disorder symptoms in adolescence is between the ages of 12 and 15. Breton, E., Dufour, R., Côté, S. M., Dubois, L., Vitaro, F., Boivin, M., Tremblay, R. E. and Booij, L., 2022. <u>Developmental trajectories of eating disorder symptoms: A longitudinal study from early</u> adolescence to young adulthood, *Journal of Eating Disorders*, 10 (84). [accessed 28 March 2025].

<sup>&</sup>lt;sup>1625</sup> Evidence suggests concerning rates of hospital admissions relating to suicide and self-harm behaviours in the early teen age group. For example, a Nuffield Trust report found that hospital admission rates in England of patients aged 10-14 following non-suicidal self-injury increased from 124 admissions per 100,000 in the financial year 2012/13 to 307 admissions per 100,000 in 2021/22 (an increase of 148%). See Section 3: Suicide and self-harm for the detailed evidence and analysis on this matter. Source: Nuffield Trust, 2024. <u>Hospital</u> <u>admissions as a result of self-harm in children and young people</u>. [accessed 26 March 2025].

<sup>&</sup>lt;sup>1626</sup> Note: We report more than 99% rather than 100%, due to rounding technicalities. Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP1.

<sup>&</sup>lt;sup>1627</sup>Compared to 94% of 10-12-year-olds. Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP4/QC3.

<sup>&</sup>lt;sup>1628</sup>Compared to 72% of 10-12-year-olds. Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP10/QC9.

<sup>&</sup>lt;sup>1629</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP5/QC4.

<sup>&</sup>lt;sup>1630</sup> Thirty-four per cent of 13-15-year-olds share, comment or post things on social media compared to 24% of 10-12-year-olds. Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QC19.

<sup>&</sup>lt;sup>1631</sup> Compared to 42% of 10-12-year-olds. Source: Ofcom, 2023. <u>Children and Parents Media Literacy Tracker</u>. QP6/QC5.

<sup>&</sup>lt;sup>1632</sup> At 13 years old, children can consent to their personal data being processed. This is detailed below in subsection 'Note on other relevant regulation'.

<sup>&</sup>lt;sup>1633</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP20/QC20.

- 17.41 Teenagers increasingly start to use more sites and apps with 'social' aspects. While YouTube dominates younger children's online use, teenagers increasingly use other apps and sites, alongside YouTube. This includes WhatsApp (used by 82% of 13-15-year-olds), TikTok (80%) and Snapchat (71%).<sup>1634</sup> These three services show an increase in popularity compared to use among 10-12-year-olds.
- 17.42 At this age mobile phones now dominate children's online use, with 96% of 13-15-year-olds using a phone to go online. Tablets decline in popularity, with 47% of 13-15-year-olds using them to go online.

#### **Parental involvement**

- 17.43 More children at this age are online without any parental supervision or technical tools. There is a decrease in parental supervision at this age, with 17% of parents of 13-15-yearolds saying they do not supervise their children's online access and use. But a majority (64%) of parents of 13-15-year-olds still ask their children what they are doing, or have done, online. There is an increase in the proportion of parents who say they do not use technical tools or controls to manage their children's access to online content; 28% of parents of 13-15-year-olds say they do not use such tools.<sup>1635</sup>
- 17.44 Parents are increasingly more confident in their children's ability to stay safe online, with 32% of 13-15-year-olds saying they trust their child to be sensible (in terms of online safety).<sup>1636</sup> However, half (51%) of parents of 13-15-year-olds agree that they find it hard to control their child's screen time.<sup>1637</sup> This is the first age group in which we see more parents agreeing than disagreeing that 'I find it hard to control my child's screen time'.<sup>1638</sup>

#### Age-specific risks

- 17.45 A greater use of online services, more independent decision-making and the risk-taking tendencies common in this age group can together increase the risk of encountering harmful content. For example, a mix of increased independence, risk-taking behaviour and sexual curiosity can make children in this age group more likely to actively seek out pornographic content, with 28% of 14-15-year-olds reporting that their viewing of pornography was 'mostly intentional'.<sup>1639</sup>
- 17.46 Ofcom research estimates that a fifth (19%) of 13-15-year-olds have an adult-aged profile on at least one online service (e.g., social media), potentially exposing them to inappropriately-aged content.<sup>1640</sup> A falsely-aged profile will also mean a child can access and use functionalities on services that have a minimum age of 16 years old, such as direct messaging or livestreaming on some services.
- 17.47 Exposure to hate and bullying content increases from the age of 13. Sixty-eight per cent of 13-17-year-olds say they have seen images or videos that were 'mean, or bully someone',

<sup>&</sup>lt;sup>1634</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP4/QC3, QP5/QC4, QP13/QC13.

<sup>&</sup>lt;sup>1635</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27, QP32.

<sup>&</sup>lt;sup>1636</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP76A.

<sup>&</sup>lt;sup>1637</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP75A.

<sup>&</sup>lt;sup>1638</sup> Where 51% agree, 34% disagree.

<sup>&</sup>lt;sup>1639</sup> British Board of Film Classification (BBFC), 2019. <u>Children see pornography as young as seven, new report</u> <u>finds</u>. [accessed 14 March 2025].

<sup>&</sup>lt;sup>1640</sup> Ofcom, 2025. <u>Children's online 'user ages' – Wave 4</u>.

compared to 47% of 8-12-year-olds.<sup>1641</sup> Encountering hate online is also quite common; three-quarters of children aged 13-15 report having seen online hate on social media.<sup>1642</sup>

- 17.48 Children in this age group are particularly vulnerable if they encounter content relating to self-harm and suicide.<sup>1643</sup> Due to hormonal changes and mental health challenges, children in this age group may be at risk of the most severe impacts from encountering this type of content, particularly if seen in high volumes.<sup>1644</sup> Five per cent of 13-17-year-olds had experienced/seen content encouraging or assisting serious self-harm, and 4% had experienced/seen content encouraging or assisting suicide over a four-week period.<sup>1645</sup>
- 17.49 Children in this age group are more likely to suffer from eating disorders. The NHS states that anyone can get an eating disorder, but teenagers (between 13 and 17 years) are the most likely to be affected.<sup>1646</sup> Ten per cent of 13-17-year-olds report experiencing or seeing content relating to eating disorders over a four-week period.<sup>1647</sup>

## Aged 16-17 years: Approaching adulthood

At 16 children attain new legal rights for the first time, while parental supervision, and parental concern about their online safety, both decrease. But changes in their behaviour and decision-making ability at this age can lead to an increased risk of exposure to harmful content.

#### Life stages

- 17.50 At 16, children in the UK gain new rights and freedoms, such as being able to leave school, leave home, earn the minimum wage, vote in Scotland and Wales, and legally consent to having sex. This transitional period to adulthood can mark the beginning of a more independent life. The scale of life changes at this age can be significant, and can include earning income by working, joining the armed forces and leaving the care system. If not in an apprenticeship or training, children will continue to be in full-time education.
- 17.51 Given the legal and practical independence gained by children in this age range, evidence shows that both children<sup>1648</sup> and parents<sup>1649</sup> agree that 16-17-year-olds should be granted more independence and access to content online. Evidence indicates that online experiences can provide important benefits for older children in social connection,

<sup>&</sup>lt;sup>1641</sup> UK Safer Internet Centre (UKSIC), 2017. <u>Power of Image: A report into the influence of images and videos</u> <u>in young people's digital lives.</u> [accessed 14 March 2025].

<sup>&</sup>lt;sup>1642</sup> UKSIC, 2016. <u>Creating a Better Internet for All: Young people's experiences of online empowerment +</u> <u>online hate.</u> [accessed 14 March 2025].

<sup>&</sup>lt;sup>1643</sup> Self-harm content (described here as ways of physically harming or hurting themselves) had been encountered by 4% of 11-12-year-olds, 7% of 13-14-year-olds, and 10% of 15-16-year-olds. Content showing suicide methods had been seen by 3% of 11-12-year-olds, 5% of 13-14-year-olds and 6% of 15-16-year-olds. Source: Livingstone, E., Haddon, L., Görzig, A. and Ólafsson, K., 2011. <u>Risks and safety on the internet: the perspective of European children: full findings and policy implications from the EU Kids Online survey of 9-16year-olds and their parents in 25 countries. [accessed 21 March 2025].</u>

<sup>&</sup>lt;sup>1645</sup> Ofcom, 2025. <u>Online Experiences Tracker – Wave 7</u>. [accessed 16 April 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1646</sup> NHS, 2024. Overview – Eating disorders. [accessed 14 March 2025].

<sup>&</sup>lt;sup>1647</sup> Ofcom, 2025. Online Experiences Tracker – Wave 7.

<sup>&</sup>lt;sup>1648</sup> Ofcom and Praesidio, 2024. <u>Consulting children on proposed safety measures against online grooming. A</u> <u>report based on research and engagement with children aged 13-17</u>, p.15. [accessed 12 February 2025].

<sup>&</sup>lt;sup>1649</sup> ICO, Ofcom and Revealing Reality, 2022. <u>Families' attitudes towards age assurance</u>, p.39. [accessed 12 February 2025].

creativity<sup>1650</sup> and education.<sup>1651</sup> Evidence also suggests that 16-17-year-olds have stronger media literacy competencies than younger children, enabling them to more confidently and safely navigate content online.<sup>1652</sup>

- 17.52 During these ages children will seek out new, more adult experiences, and may push at preexisting boundaries to establish their independence. These might include sexual activity, which is legal for this age group. In addition, 16-17-year-olds may start to take risks and engage in activities that are illegal for under 18s, such as drinking alcohol and vaping or smoking. Children do start participating in these activities at an earlier age, but as 16- and 17-year-olds are considered 'nearly legal', parents/guardians and people in positions of authority may be more likely to accept their engagement in these activities.
- 17.53 Despite their increased legal rights, children's cognitive and emotional processing is not yet fully developed. Adolescent brains continue to develop during this period, and beyond, into the mid-20s.<sup>1653</sup>

#### **Online presence**

- 17.54 The online behaviours of children at this age are broadly similar to 13-15-year-olds. One difference is that 16-17-year-olds use more online services. On average, this age group uses a higher number of services/apps for social media, video sites and messaging sites, compared to younger age groups.<sup>1654</sup> Compared to younger age groups, there are also a higher proportion of 16-17-year-olds using communication services. These include 'professional' communications services and may reflect the fact that children in this age group may be working or doing more 'business-like' activities.
- 17.55 This age group are socialising online and are more likely than younger age groups to communicate with people they do not know personally. Ofcom research found that 37% of 16-17-year-olds who used apps with messaging functionalities at least weekly were

<sup>&</sup>lt;sup>1650</sup> Internet Matters, 2024. <u>"So standard it's not noteworthy" - Teenage girls' experiences of harm online</u>, pp.8-10. [accessed 12 February 2025]. Note that this evidence is drawn from interviews with teenage girls aged 13-17 and their parents.

<sup>&</sup>lt;sup>1651</sup> 5Rights Foundation, 2023. <u>Digital Childhood: Addressing childhood development milestones in the digital</u> <u>environment</u>, p.23. [accessed 21 March 2025].

<sup>&</sup>lt;sup>1652</sup> Ofcom, 2024. <u>Children's Media Literacy Tracker</u>. [accessed 7 March 2025]. Several data points suggest that older children (aged 16-17) are more likely to have greater online knowledge and critical evaluation skills compared to their younger counterparts (aged 8-12). In QC41, 81% of 16-17-year-olds who have knowledge about recommender tools/algorithms stated that they understand algorithms/tools shape what people see online compared to 52% of 8-12-year-olds. In QC42, 39% of 16-17-year-olds stated they are happy for services to use information they have collected about them to decide what to show them, compared to 50% of 8-12-year-olds who use search engines stated that they think some websites can be trusted on search engines, and others cannot, compared to 58% of 8-12-year-olds who use search engines. In QC28, 66% of 16-17-year-olds who use search engines are correctly able to identify advertising on them, compared to 39% of 8-12-year-olds.

<sup>&</sup>lt;sup>1653</sup> Johnson, S., Blum, R. and Giedd, J., 2019. <u>Adolescent maturity and the brain: the promise and pitfalls of</u> <u>neuroscience research in adolescent health policy</u>, *Journal of Adolescent Health*, 45 (3), pp.216-221. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1654</sup> Alongside the use of YouTube, WhatsApp and TikTok, other online services are popular among this age group. There is increased use of social media sites, including Snapchat (used by 80% of 16-17-year-olds), Instagram (81%), Facebook (64%) and X/Twitter (15%). There are also more 16-17-year-olds using communication services, such as FaceTime (35%), Microsoft Teams (15%) and Zoom (19%). Source: Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP4/QC3, QP5/QC4, QP13/QC13.

connected with some people online that they did not know personally.<sup>1655</sup> Children aged 16-17 were also more likely than children aged 11-12 to reply to messages from people who added them as a connection but whom they did not know personally.<sup>1656</sup>

#### Parental involvement

- 17.56 At this age there is a drop in the level of parental supervision of children's online activity. Sixty-two per cent of parents of 16-17-year-olds do at least one form of supervision of online activity – significantly lower than for younger age groups.<sup>1657</sup> Similarly, there is less use of technical tools or controls to manage children's access to online content, with around half of parents of 16-17-year-olds (51%) saying they use such a tool.<sup>1658</sup> There is also a decrease in the proportion of parents who set rules for their child's online behaviour.<sup>1659</sup>
- 17.57 Despite the increased risk to exposure to harmful content, our research found that parents of 16-17-year-olds are less concerned about their children being exposed to potentially harmful content, such as sexual content or violent content, compared to parents of younger children.<sup>1660</sup>

#### Age-specific risks

- <sup>17.58</sup> Children in this age group may be more likely to engage in certain behaviours that increase their risk of encountering harmful content. For example, this age group, together with 13-15-year-olds, are the most likely to watch or share content on livestreaming services (82% of 16-17-year-olds).<sup>1661</sup> Due to the challenges of moderating livestreamed services, this presents a risk of encountering harmful content.<sup>1662</sup>
- 17.59 Our research also estimates that almost three in ten (28%) of 16-17-year-olds have a profile with an age of at least 18 on at least one online service (e.g., social media).<sup>1663</sup> These children could receive age-inappropriate content suggestions as well as access restricted functionalities. For example, some services restrict the use of livestreaming to 18-year-olds.
- 17.60 Older children are also more likely to experience communication that potentially makes them feel uncomfortable; 64% of 16-17-year-olds reported experiencing at least one potentially uncomfortable communication, compared to 58% of 13-15-year-olds. These uncomfortable experiences included receiving abusive, nasty or rude messages/voice notes/comments, reported by one in five (20%) 16-17-year-olds.<sup>1664</sup>

<sup>&</sup>lt;sup>1655</sup> Ofcom, 2023. <u>Understanding Online Communications Among Children</u>. QA2A. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1656</sup> Ofcom, 2023. <u>Understanding Online Communications Among Children</u>. QB3.

<sup>&</sup>lt;sup>1657</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP27.

<sup>&</sup>lt;sup>1658</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP32.

<sup>&</sup>lt;sup>1659</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP26.

<sup>&</sup>lt;sup>1660</sup> Ofcom, 2024. <u>Children and Parents Media Literacy Tracker</u>. QP51L, QP51K.

<sup>&</sup>lt;sup>1661</sup> Ofcom, 2024. Children and Parents Media Literacy Tracker. QP10/QC9.

<sup>&</sup>lt;sup>1662</sup> See Section 5: Abuse and hate content for more information.

<sup>&</sup>lt;sup>1663</sup> Ofcom, 2025. <u>Children's online 'user ages' – Wave 4</u>.

<sup>&</sup>lt;sup>1664</sup> Ofcom, 2023. <u>Understanding Online Communications Among Children</u>. QC1. The potentially uncomfortable communications we asked about were: an unwanted friend or follow request, being asked to share naked or half-dressed pictures or videos, being asked to share personal information, a friend request from someone pretending to be someone else, receiving pictures or videos of naked or half-dressed people, abusive or nasty messages, being added to a video call/group video call/group chat with people not known well or at all, or being asked to move chat to a different platform by someone not known well or at all.
## Note on other relevant regulation

- 17.61 As well as aligning with the ICO Age appropriate design code, the proposed age groupings broadly align with other relevant regulation that considers age-appropriate content:
  - a) Children gain personal responsibility and consent over their own personal data at 13. At the age of 13, children can consent to their data being processed, if services rely on consent as the lawful basis for processing data in the context of offering an online service directly to a child (by virtue of Article 8(1) of the General Data Protection Regulation<sup>1665</sup> and section 9 of the Data Protection Act 2018<sup>1666</sup>). Children younger than 13 cannot provide their own consent to the processing of their personal data; parental consent is required.
  - b) From the age of 16, the guidance from the Games Rating Authority changes. For example, depictions of moderate violence towards human characters are deemed appropriate for 12-15-year-olds, whereas for 16 years and over, depictions of "more realistic and sustained violence against human characters, including sight of blood and injuries" are deemed appropriate.<sup>1667 1668</sup>
- 17.62 However, we recognise that there is some inconsistency with our proposed age groupings compared to some other relevant regulation. The British Board of Film Classification (BBFC) provides content guidelines based on slightly different age milestones to the ones we propose here. For instance, different sets of guidelines are provided for children under 12, children aged 12 and above,<sup>1669</sup> and children aged 15 and over.<sup>1670</sup>

<sup>&</sup>lt;sup>1665</sup> <u>General Data Protection Regulation</u>, 2018. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1666</sup> Data Protection Act 2018. [accessed 28 March 2025].

<sup>&</sup>lt;sup>1667</sup> Games Rating Authority, n.d. <u>Our Ratings System</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1668</sup> The Games Rating Authority guidelines set out that games rated PEGI 12 may contain themes including more detailed/realistic looking violence towards fantasy characters, moderate violence for human characters, moderate horror, milder forms of swearing, sexual innuendo/implied sexual activity and suggestive/posing music videos. Source: Games Rating Authority, n.d. <u>Our Ratings System</u>.

<sup>&</sup>lt;sup>1669</sup> For example, BBFC guidelines say that for universally appropriate content (rated 'U') violence will generally be very mild, whereas for '12' or '12A' rated content "there may be moderate violence, but it should not dwell on detail". Source: BBFC, n.d. <u>Classification Guidelines</u>. [accessed 28 March 2025]. Subsequent references to this source throughout.

<sup>&</sup>lt;sup>1670</sup> For example, BBFC guidelines say that for content rated '12' or '12A', "discriminatory language or behaviour must not be endorsed by the content [...] Such behaviour is unlikely to be acceptable if accompanied by violence", whereas for '15' rated content "discriminatory language, themes and behaviour are permitted, but must not be endorsed by the content as a whole". Source: BBFC, n.d. <u>Classification Guidelines</u>.