

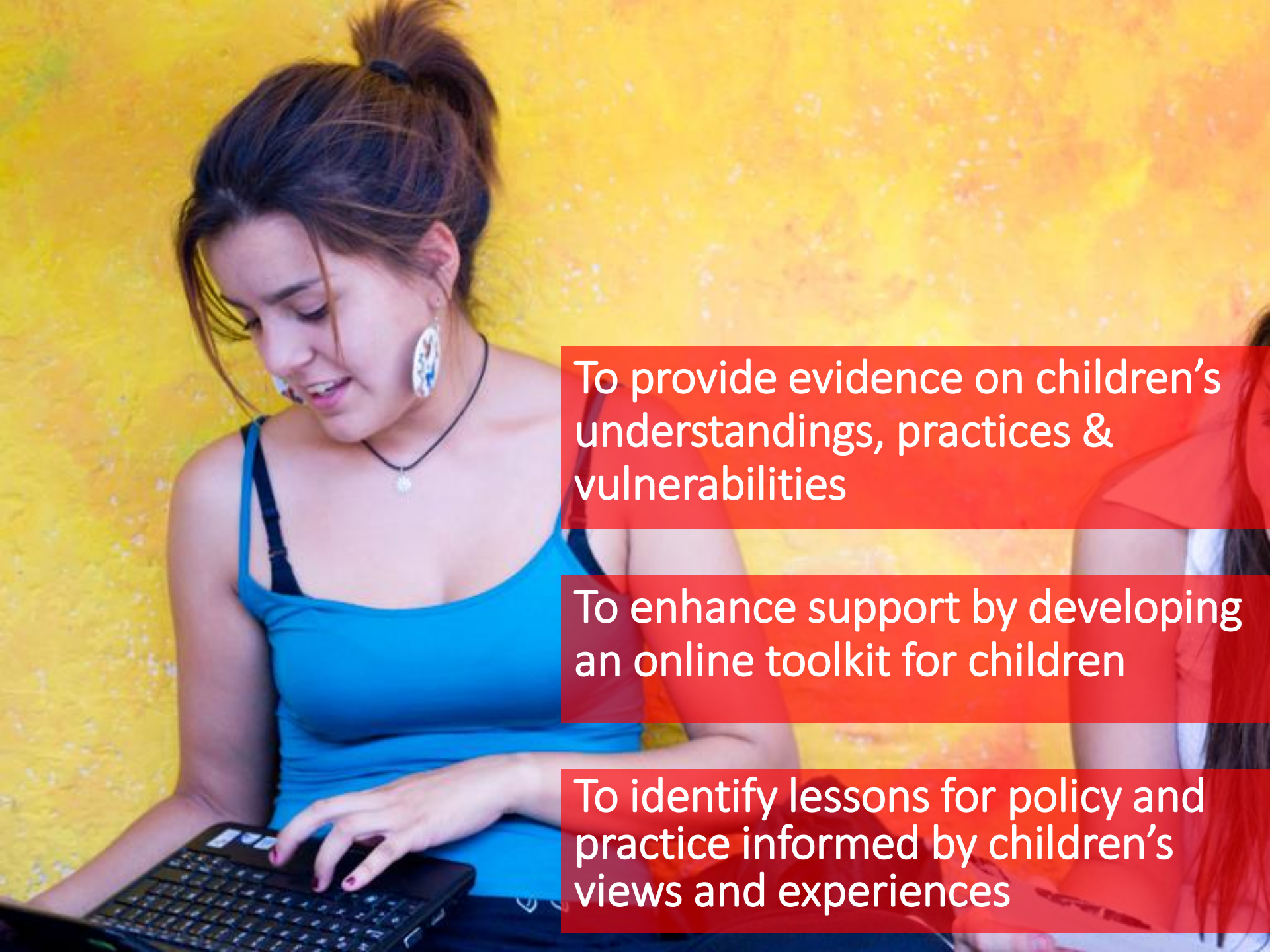
A young girl with brown hair is shown in profile, looking down at a smartphone she is holding. She is wearing large, white, circular headphones with blue patterns. She is also wearing a colorful, knitted scarf with yellow, purple, and red sections. The background is blurred, suggesting an outdoor setting.

Children's data and privacy online: Exploring the evidence

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To provide evidence on children's understandings, practices & vulnerabilities

To enhance support by developing an online toolkit for children

To identify lessons for policy and practice informed by children's views and experiences

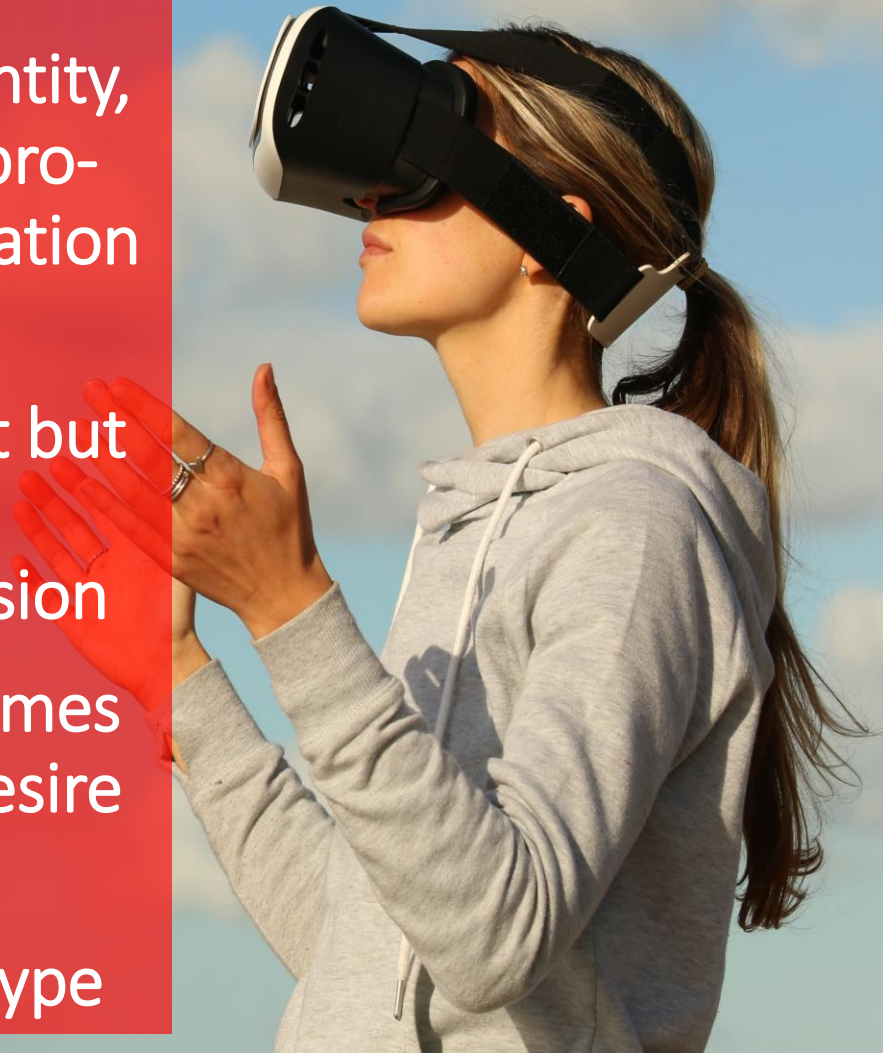


Literature review and expert consultation to identify what we know

Workshops with children aged 11-16 (years 7, 9, 11), parents and teachers

Child deliberation panels for policy and educational recommendations

- Privacy is “neither a right to secrecy nor a right to control, but a right to appropriate flow of personal information” (Nissenbaum)
- Privacy vital for autonomy, identity, intimacy, responsibility, trust, pro-social behaviour, sexual exploration
- Online platforms provide opportunities for development but introduce & amplify risks; overprotection hinders expression
- Understanding of privacy becomes more complex with age; the desire for privacy also increases
- Understanding varies by data type



Interpersonal privacy

Data given

X

X

Institutional privacy

Data given

X

Inferred data

Commercial privacy

Data given

Data traces

Inferred data

Socio-cultural

Children

Privacy

Legal

Socialisation
Capability
Wellbeing
Rights

Risk & opportunity

Interpersonal
Commercial
State
Public

**Data and
privacy
online**

Media
literacy

Regulation

Social norms
& practices

Data economy

Design

Technological

Infrastructure
Affordances

Responsibility

Digital



Systematic evidence mapping:

- How do children understand, value and negotiate their privacy online?
 - What are the digital skills, capabilities or vulnerabilities with which children approach the digital environment?
 - What are the significant gaps in knowledge about children's online privacy and commercial use of data?
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- Search: 19 databases yielded 9,119 search items + 279 expert suggestions
 - Analysis: 131 empirical studies, 266 framing studies

Children's privacy protection

- Children as 'naïve experts': lack of concern, oversharing, underestimate consequences
- Children deploy a range of privacy protection strategies
- Privacy concern does not necessarily trigger protective behaviours
- Sense of control over information and audience affect disclosure
- Trust influences disclosure of sensitive information as it minimises perceived risk



Children's privacy protection

- Controlling parents have suppressive effect—reducing privacy risk BUT also frequency of use, digital skills and online opportunities
- Active mediation is more empowering: more autonomous decisions, coping and learning from mistakes
- A parent-centred approach, however, reinforces existing privileges



Differences among children

- Child development
- Media literacy
- Socio-economic inequalities
- Gender differences
- Vulnerability



5-7 years

- Can identify some information as sensitive (and hide from parents) (Kumar et al 2017)
- Tracking or monitoring initially not seen as a privacy concern (Gelman et al 2018)
- Gradually developed sense of ownership and independence
- Confident users but narrow range of activities, low risk awareness
- No clear understanding of online privacy protection (Chaudron 2018)

A young boy with dark hair, wearing a blue shirt and a dark vest, is sitting on a light-colored couch. He is wearing large black headphones and looking down at a tablet device he is holding in his hands. The background is a plain, light-colored wall. The entire image has a semi-transparent red overlay at the bottom, which contains the text and list.

8-11 years

- Struggle to identify risks or distinguish what applies offline/online
- Gaps in ability to decide about trustworthiness or identify adverts (Ofcom 2017)
- Privacy risks associated with ‘stranger danger’ (Raynes-Goldie & Allen 2014, Children’s Commissioner 2017)

A young child with dark, curly hair is wearing large, white and black headphones. They are looking down at a tablet device held in their hands. The background is a plain, light-colored wall. The image is overlaid with a semi-transparent red banner at the bottom containing text.

8-11 years

- Starting to understand risks of sharing (Kumar et al 2017)
- Gaps in understanding privacy terms and conditions
- Privacy management is rules not internalised behaviour
- See monitoring more positively than adults (e.g. safety)
- Interactive learning shown to improve awareness and transfer to practice (Zhang-Kennedy et al 2016, 2017)

12-17 years

- Older teens share more, to more people, and across different platforms (Xie & Kang 2015)
- Privacy risks mainly seen as interpersonal, not commercial or institutional (Steijn & Vedder 2015)
- Not oblivious of privacy risks: careful consideration of information disclosure (Wisniewski et al 2015)
- Weighing risks and opportunities, BUT: decisions influenced by immediacy/desire for benefits more than distant/uncertain risks
- Online as 'personal space' for self-expression, socialising, with concerns about parental intrusion
- Understanding of online restrictions and monitoring by the school (Cortesi et al 2018)



12-17 years

- Awareness of 'data traces' (e.g. ads) and device tracking (e.g. location) BUT hard to make personal connection
- Little knowledge of data flows and infrastructure - data as static (Bowler et al 2017)
- Little awareness of future implications of data traces
- Mixed evidence about feeling in control of data – 'in control' (Chi 2018), 'little control' (Emanuel & Fraser 2014)
- Privacy risk as a 'learning process' - retrospective behaviour

Challenges

- Children's online activities are the focus of a multitude of monitoring and data-generating processes
- Children aren't able to fully understand and consent
- Children and adults differ in views of privacy online, risks and protection
- Design and architecture can incentivise disclosure and risk-taking or prevent privacy protection
- Longer-term implications are hard to predict
- Some children are more vulnerable than others
- Children are rarely involved in decision-making

Recommendations



- An age-appropriate approach to data and privacy online
- Vital balance between protection and autonomy
- Media literacy and privacy education at an early age
- Focus on individual differences and psychological factors
- Support children by supporting adults
- Improve the privacy affordances of the online environment
- No discrimination based on personal data
- Better evidence base, including children's voices