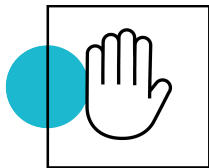


Realising children's rights in the digital age: The role of digital skills

Principle 8: Safety

Embed safety-by-design in policies and product development and use.



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Safety in digital environments requires policy makers and business innovators to take preventive measures proportionate to the risks, remedies, support and care for victims. The principle of safety draws together three sets of children's rights:¹

- Protection against abuse and neglect: considering how digital technologies can be abused to facilitate violence and harm against children or to recruit children for extremist, terrorist or other violent activities.
- Special protection against sexual exploitation and sexual abuse: including the use of digital technologies 'to solicit children for sexual purposes and to participate in online child sexual abuse'.
- Promotion of physical and psychological recovery and social reintegration of child victims: within an environment that encourages good 'health, self-respect and dignity of the child'.

In the digital environment, risks of harm to children manifest in various forms and can be classified according to the 4Cs of content, contact, conduct and contract risks (Livingstone & Stoilova, 2021). The protection of children requires a risk assessment to determine the measures needed; it should not normally come at the cost of children's full enjoyment of the digital environment and other rights.

“To have digital skills means knowing how to stay safe on the internet, not visiting unsafe websites or sharing personal information with strangers as it is dangerous to surf the internet without security.” (teenager, Portugal) (13)

“Playing video games online can be dangerous because you could be playing with people who are lying to you, they can be friendly online but try to meet you and kidnap you in real life.” (Syrian teenager, UK) (26)

European efforts at e-safety education and awareness raising over recent years mean that children are increasingly aware, even hyperaware, of online risks, although this may not be sufficient to protect them against all risks. A children's rights framework emphasises the responsibility of society – especially

¹ [UNCRC](#), Articles 11, 19, 34, 35, 37, 38, 39, 40.

governments and other duty bearers including industry – to protect children from abuse, including sexual abuse, in digital (and non-digital) contexts. This includes ensuring children’s safety in the face of all 4Cs of online risk of harm (content, contact, conduct and contract) ([Livingstone & Stoilova, 2021](#); [Stoilova et al., 2023b](#)). One way that society exercises this responsibility is by promoting children’s digital skills. This strategy is required because the risks children face online may be extreme or overwhelming, and hence it is inappropriate to expect children to develop the digital skills to deal with them (or for their teachers to teach them to). For this reason, efforts to regulate online risks and safety measures are vital in ways that should complement digital literacy, never expecting digital literacy to substitute for failures of policy or regulation (see [Chatzinikolaou et al., 2023](#)). In short, digital literacy policies are important, but cannot be the silver bullet to all online safety problems.

Does gaining digital skills and literacy protect children from online risks? ySKILLS qualitative research found that **most young refugees were aware of online risks, and they have developed a variety of coping strategies** ([3](#)). Similar findings arose from research with children and young people with mental health difficulties, although they often felt alone in having to manage their safety online and, since they encountered extreme content, contact, conduct and contract risks, these could be highly challenging, even overwhelming ([17](#)). Indeed, **finding a way out of difficult situations may be a lonely endeavour**, as interview findings reveal that children rarely sought help or advice when they were in trouble. This was due to do with feeling shame and guilt for engaging in risky behaviour, fearing that adults would not understand and could not be trusted, or being afraid of the consequences ([17](#)).

Even assuming a better regulated digital context in the future, supporting children to gain digital skills requires nuance. Survey findings show that **higher levels of digital skills are associated with more, not less, exposure to risky and potentially harmful online content, including racist and discriminatory content, self-harm and pro-anorexia content, for example** ([23](#)). Moreover, gaining digital skills increases the likelihood that children with emotional problems in particular encounter risky content online ([19](#)). However, **the association between better digital skills and more online risk is shown by longitudinal studies in the evidence review to be indirect, as better skills are linked to more online opportunities, and those, in turn, are linked to more risk** ([14](#), [16](#)). The link from risk to harm remains complex, however: **gaining digital skills means that children know better how to access and find risk online and yet they may be better able to avoid harm by protecting themselves, coping with what they find and/or building digital resilience** ([23](#)). The evidence also suggests that the type of skills matters: critical digital skills, for instance, are not linked to online risk. Moreover, **better digital skills are not linked to more harm, and may even reduce harm, possibly because children with better digital skills appear better able to cope with online risks** ([14](#)).

In short, it appears that increasing digital skills among young people brings the opportunities widely hoped for, but because the digital environment itself inextricably links opportunities and risks, children’s skills and opportunities can end up leaving them unsafe. For instance, although the qualitative research found that children’s **digital journeys are linked to fluctuations in mental health, they also contribute to the development of resilience** ([17](#)). Again, the survey findings suggest that the different dimensions of digital skills can play different roles. On the one hand, not being upset from unintended exposure to cyberhate content was linked to lower technical and operational skills, information navigation and processing skills, and programming skills ([18](#)). On the other hand, being upset after intended exposure to sexual content was lower for children with higher communication and interaction skills, technical and operational skills, or content creation and production skills ([18](#)). But when it comes to assessing emotional impact, the limitations of the three-wave survey advise caution as effect sizes were small.

Greater digital skills allow for more effective coping strategies that protect against harm to wellbeing ([23](#)). Digital skills were positively linked to coping behaviours online (such as privacy behaviour, deleting unwelcome messages and blocking senders). More digitally literate children were more likely to delete messages and block senders when experiencing cyberbullying or unwelcome sexting ([16](#)). Children with fewer skills were more upset and less able to cope with sexual images and cyberbullying ([16](#)). Longitudinal research with ySKILLS survey data shows that young people’s digital skills protect against negative effects that intensive Internet use has their psychological and physical wellbeing ([28](#)). Children and young people with mental health difficulties are developing particular digital skills that encompass technical,

informational, communication and creation skills – such as identifying a callous algorithm, recognising extreme spaces or dangerous people, or knowing how to game the system to make a feed more positive or locate ‘safe’ spaces (17). Digitally literate children are not better at avoiding negative online experiences than children with rather limited digital skills, but they possess certain skills that allow them to avoid feelings of harm as a result of an online risk experience (23)

The specific skills needed by more vulnerable children (cf. UNCRC, Article 39) have received little research, policy or pedagogical attention, to the best of our knowledge. Different dimensions of digital skills may play different roles – for instance, greater content creation and production skills increased the chance of children’s exposure of harmful content, while greater informational and navigational skills were linked with lower chances of cyberhate exposure (18).

Children from families with higher family support reported higher communication and interaction skills, which suggests that good family support is positive for communication skills more broadly (18). For instance, in Belgium and Italy parents actively encouraged their children to participate in programming workshops (8). The fact that these children were accompanied by their parents suggests parental interest in their children’s digital education, and their adherence to the normative understanding of programming skills as a gateway to the labour market.

While the popular discourse of parental mediation appears to exhort parents to control, restrict or ban children’s digital activities, ySKILLS research also finds that **enabling parental mediation positively predicts children’s engagement in informational and social activities while restrictive mediation negatively predicts social and entertainment activities** (9). In the ySKILLS longitudinal research (18), **there was a negative effect for restrictive parental mediation on technical and operational skills**. In other words, the individual increase of parental restrictive mediation lowered children’s technical and operational skills. It could be that if parents are actively helping their children, they prevent them from developing technical digital skills, and thus their presence serves as a barrier to children’s autonomous learning.

Additional data

EU Kids Online findings for 9- to 16-year-olds in 19 countries showed that:

- Ten per cent of children reported ‘never’ feeling safe online, while 28% said they ‘always’ felt safe, and for most children, going online was ‘sometimes’ or ‘often’ safe, but not always. Boys were more likely to feel safe than girls, as were older children. Asked whether they found people online to be kind and helpful, results were similarly mixed, and varied considerably by country.
- Between 7% (Slovakia) and 45% (Malta) of children said ‘Yes’ when asked, ‘In the PAST YEAR, has anything EVER happened online that bothered or upset you in some way (e.g., made you feel upset, uncomfortable, scared or that you shouldn’t have seen it)?’ More older than younger children said ‘Yes’, and more girls than boys in some countries.
- These percentages are lower than the percentage of children who reported online risks, implying that not all risk results in harm, as children report it. However, these percentages have substantially increased since the previous EU Kids Online survey in 2010. Older children reported more such negative online experiences than younger children, with few gender differences.
- Two-thirds told a friend or parent, although around one in five told no one what had happened, and few told a teacher or professional whose job it is to help children.
- In most countries, the most common risk children reported was exposure to hate messages – from 4% (Germany) to 48% (Poland). Next most often reported was exposure to gory or violent images or to content showing ways to be very thin or to self-harm. Around one in ten reported being a victim of online bullying, and twice that had been a victim of aggression altogether (on or offline). Girls reported finding online bullying more upsetting than boys.