



POLICY BRIEF

Digital skills among children and young people: Vulnerabilities and at-risk situations

This project has received funding from the European Union's Horizon 2020 Research & Innovation programme under Grant Agreement no. 870612. The information in this deliverable reflects only the authors' views and the European Union is not liable for any use that may be made of the information contained therein.





Policy Brief 3

Digital skills among children and young people
Vulnerabilities and at-risk situations

Leen d'Haenens

29 December 2022

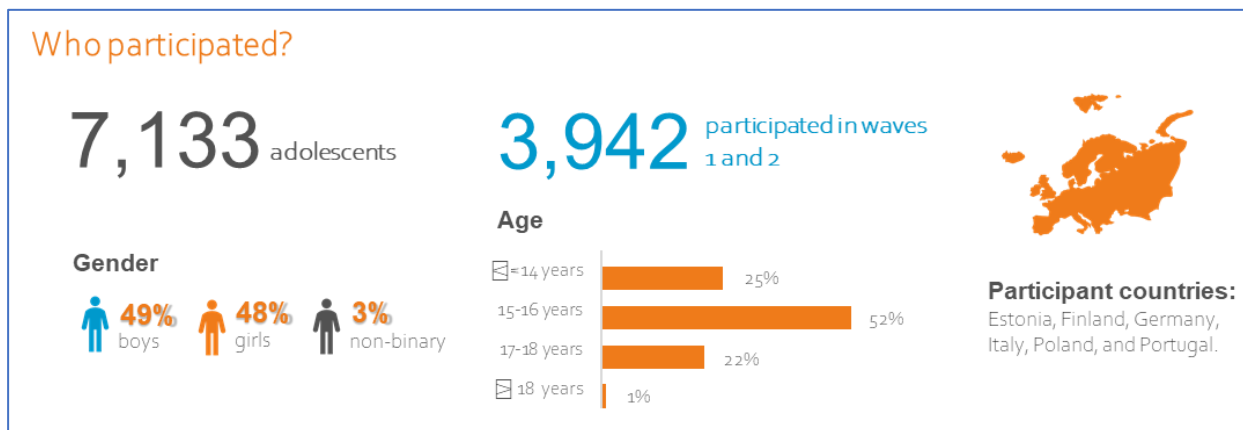


This project has received funding from the European Union's Horizon 2020 Research & Innovation programme under Grant Agreement no. 870612. The information in this deliverable reflects only the authors' views and the European Union is not liable for any use that may be made of the information contained therein.



The third year of the ySKILLS project (2022) was marked by a **second school survey wave** in our six focal countries: Estonia, Finland, Germany, Italy, Poland, and Portugal. Like the first wave, it took place in a period marked by the COVID-19 pandemic.

Figure 1: *Digital skills and contexts – children and young people, wave 2 (N=7,133)*



Infographics showing the initial data **by country** are available on our [website](#) and on [Zenodo](#).

We will be gearing up for the third wave in the spring of 2023.

For the purposes of the ySKILLS project, **digital skills** are a diverse set of (1) technical/operational, (2) information navigation, (3) communication and interaction, and (4) content creation and production skills which are unequally distributed and differ according to a number of individual, social and country characteristics. All skill dimensions have *functional* aspects (understanding technical functionalities and being able to use these) and *critical* aspects (understanding how and why devices and content are produced in certain ways). These are the **building blocks** of the [youth Digital Skills Indicator \(yDSI\)](#), a unique cross-nationally validated measurement tool distributed over perceived digital skill dimensions and actual digital knowledge questions. To be able to participate fully in digital societies, one needs to be skilled in all four dimensions.

Let us briefly compare wave 1 and wave 2: the 12-13 year-olds surveyed in 2021 are one year older, and their internet use has increased. Age is often seen as an antecedent to digital skills: unsurprisingly, our 13-14 year-olds indicated a higher degree of perceived digital skills, across all skill dimensions. Their actual digital knowledge has also improved. Their experience of peer support has remained at the same level, while support and help from their parents has dropped very slightly. This is no surprise since parental mediation has been shown to decrease as children grow older. Their perceived self-efficacy remained unchanged, but their views of life and our measure of well-being were less positive than a year ago.



Table 1: *ySKILLS* school survey results, waves 1 & 2 (N=3,942)

Paired samples t-tests

Mean scores	Wave 1 2021	Wave 2 2022	p-value
Internet use (1-9)	5.87	5.95	.021
Digital skills			
Technical/operational	0.55	0.60	.000
Programming	0.06	0.07	.004
Information navigation/processing	0.35	0.37	.000
Communication/ Interaction	0.65	0.66	.015
Content creation/production	0.37	0.39	.000
Digital knowledge	0.49	0.54	.000
Peer support (1-4)	3.31	3.31	.613
Family support (1-4)	3.56	3.55	.040
Self-efficacy (1-4)	2.99	2.98	.166
Well-being			
Positive dimension (1-4)	3.44	3.40	.000
Negative dimension (1-4)	2.37	2.45	.000

Notes: **Internet use** = time spent online during a regular weekday, responses ranging from 1 "little to no time" to 9 "about 7 hours or more". **Peer & family support** = each measured through 3 items, e.g. "I can talk about my problems with my friends/family", from 1 (not true) to 4 (very true). **Self-efficacy** = four-item scale, e.g. "It's easy for me to stick to my aims and achieve my goals", from 1 (not true) to 4 (very true). **Well-being** = six items asking whether participants felt happy, pleased with the way they are, felt that life was enjoyable (positive dimension), or felt that life was meaningless (negative dimension) in the past year, from 1 (never) to 4 (often).

In anticipation of a longitudinal look at the complex relationship between digital skills and well-being (comparing three waves in 2023), and with the expectation that digital skills will have both positive and negative effects on the life satisfaction of children and young people, we set up four in-depth studies to determine whether digital technologies hamper or foster well-being and identify the circumstances (if any) in which digital skills development may be tipping the scales in the positive direction.

Four studies with a focus on vulnerabilities and at-risk situations

Our project is about understanding, measuring, and fostering digital skills in relation to tangible outcomes. We aim to deepen our understanding of how digital skills improve or undermine the well-being of at-risk (vulnerable or disadvantaged) children and young people. Hence, it will be crucial to identify which children and young people are more at risk, (i.e., unable to translate the use of digital technologies into positive outcomes and avoid negative outcomes).

It has become increasingly clear that specific groups of young people—such as the psychologically vulnerable and traditionally marginalised—may be less likely to benefit from online opportunities. Even more troubling: they also may be less able to avoid negative outcomes. Fundamental in our approach is the assumption that the unequal distribution of



outcomes is caused by the unequal distribution of digital skills. Many young people lack advanced and sometimes even basic digital skills, which impedes their participation in increasingly digital societies.

In addition to the second wave of the longitudinal survey, we carried out [four in-depth studies](#). The first two addressed the benefits and challenges of engagement with digital technologies for at-risk (vulnerable and disadvantaged) children and young people such as children and young people with a refugee background, as well as children and young people experiencing internet-related mental health difficulties. The third study focused on ways to achieve more inclusivity in attracting a diverse audience group in an informal learning context such as a workshop on digital skills. The fourth study examined information disorders and the actual information literacy of 12-15 year-olds when faced with mis- and disinformation. Each of these studies includes a comparison between countries that score differently on the [DESI Index](#). This research also provides an opportunity to see whether this DESI Index is also relevant to the outcomes of digital skills and digital inclusion for children and young people.

Carried out in Belgium, Denmark and Italy, the [first study](#) taught us that a "free" and "open door" approach to setting up workshops around digital skills does not necessarily mean that it will achieve its inclusivity goal, even when all materials are provided free of charge by the organisation. Apart from initiatives specifically tailored towards generally underrepresented groups (including girls, children from lower socioeconomic status (SES) households, and ethnic minorities), workshops on digital skill development are mostly attended by upper- to middle-class boys. Organisers and moderators appear unable to attract a diverse group of participants. The extent to which parents view programming as beneficial to their children's future performance appears to be one of the main incentives for participating in digital skills workshops, along with the child's genuine interest in the topic.

The [second study](#) examined **12-15 year-olds** in Belgium, the Czech Republic and Finland in **dealing with online misinformation and disinformation**. We focus here only on one component of this multi-method study: the credibility evaluation test, designed to examine the extent to which these young people are able to distinguish between truth and falsehood, how they arrive at these judgments, and the role of digital skills in these processes. Participants in this study were generally well aware both of the presence of misinformation and disinformation on the internet and social media and the importance of credibility assessment skills to build resilience and avoid being misled. However, their knowledge of key credibility features—elements of the news message that signal credibility—seemed rather superficial and limited to source and visual features. They did not always seem aware of less visible and less straightforward elements.

The third in-depth study confirmed that **refugee children and young people** need to adapt to major life changes as a result of forced migration. [Previous research](#) shows that refugee children and young people can be very active media users, a fact made possible by the omnipresence of smartphones. This study addressed the paradox of young people being both socially marginalised and intense media users. Although united by their experiences of forced migration, they are extremely diverse in their experiences, journeys, aspirations including with respect to digital technologies. Some of our respondents had never used a smartphone before



they came to Europe. This diversity is also related to the various urban contexts (Athens, Brussels, Leuven, and London) they now live in as well as the local reception infrastructures and support systems. We observed how **digital skills have become life skills**, with smartphones being key to navigating their journey. Digital skills also contribute to their well-being, helping them connect with their families and friends, and constituting a crucial integration pathway in a new cultural and linguistic environment.

The [fourth study](#) deals with **young people experiencing internet-related mental health difficulties** and responds to the growing concerns that social and peer-to-peer interaction on the internet—especially in the context of harmful user-generated content shared in niche groups—may cause or worsen mental health difficulties. This study took place in London and Oslo, where the cultures of childhood are very different. As revealed by prior EU Kids Online comparative findings, Norway tends to emphasize child empowerment, while in the UK the approach is more protective. Among other things the study explored the relevance of help-seeking (online or offline) and coping skills in supporting or undermining a child’s resilience, and strove to identify the vulnerabilities of young people facing mental issues—not in terms of their digital skills, for they seem to be highly skilled and sophisticated users of digital technologies. We have a paradox of sorts here, inasmuch as low mental well-being seems to be linked with well-developed digital skills. The acquisition of digital skills seems to be a double-edged sword, both helpful and harmful.

Our four studies have important **policy implications** and highlight the need for improvements in several areas. The **key lessons** that can be drawn from the evidence gathered as part of this Policy Brief may be summarised as follows:

Governments should help the youth sector create and sustainably develop "**tailored**" **digital skills initiatives**, as those have shown promise for vulnerable and underrepresented children.



Efforts to further boost the **information navigation and processing skills** of young people should be encouraged by governments so that schools and media literacy agencies can continue fine-tuning programmes aimed at further developing the digital skills of children and young people.



We must be wary of the potentially negative impact of **increased skepticism** toward mainstream news media, with users turning to alternative sources. The goal should be to produce news and information **users** skilled in **critical thinking** rather than jaded and gullible ones.



There is a crucial need for **structural and policy measures** providing refugee children and young people with access to a meaningful or institutional form of **education** that facilitates their settlement and integration.



Governments should make sure that educators and other relevant professionals can **support** the well-being of vulnerable and at-risk children and young people in relation to their digital lives.



Regulation needs to be put into place to limit the risks to children and young people posed by the actions of commercial providers of digital products and services, especially the large platforms.

