



A Global Agenda for Children's Rights in the Digital Age  
**Recommendations for Developing UNICEF's Research Strategy**

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THE LONDON SCHOOL  
OF ECONOMICS AND  
POLITICAL SCIENCE ■



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## Executive summary

The continuously changing and fast-developing information and communication technology (ICT) environment is re-shaping children's lives, for better and for worse, across all parts of the globe. More and more children are using internet and mobile technologies in their daily lives and they are increasingly relying on them to learn, engage, participate, play, work or socialise. Drawing the line between offline and online is becoming close to impossible; almost any experience has an online dimension, whether through a direct engagement by the child or through provision of services designed to improve children's lives.

Even though children's digital access and literacy is growing apace, many of the creative, informative, interactive and participatory features of the digital environment remain substantially underused even by well-resourced children. The untapped opportunities to benefit from the internet are particularly challenging in lower income countries and among socially excluded groups of children. On the other hand, the internet may compound offline risks and negative experiences by children, such as unwanted sexual solicitation, bullying and harassment, and exposure to pornography and other potentially harmful materials.

In order to develop appropriate policy and programme responses, UNICEF, along with other child rights organisations, needs to grasp the implications of these fundamental infrastructural and cultural changes for children. This is already pressing in high income countries, a fast-growing concern in middle income countries, and already in evidence in low income countries.

National and international policy frameworks and guidelines regarding ICT are now being developed, albeit unevenly and more in the global North than South. It is vital that policy is firmly based in evidence, taking into account children's experiences and difficulties. This report asks whether sufficient research currently exists to support evidence-based policy and practice regarding children's rights in relation to internet and mobile technologies. We find that, in four areas, the lack of knowledge and understanding is particularly pressing:

- There is insufficient knowledge of how to support and promote online opportunities so that more children benefit from them.
- The conditions that make some children particularly vulnerable to risk of harm are little understood, so that protective strategies cannot be effectively targeted.
- Most knowledge has been obtained in the global North, and its relevance to the global South is largely untested.
- Although many valuable initiatives are underway worldwide, the lack of comparable baseline data and policy and programme evaluations makes it hard to learn from the experiences of others or to share best practices.

For some years, UNICEF has been researching children's online risk and safety, promoting digital citizenship, and conducting both programmes for awareness-raising among children and for communication for development through the use of ICT. This work has had a range of positive outcomes, but it also faces some problems and it is not reaping the benefits one would expect. Challenges are linked to organisational capacity and investment. They are found in research design, quality, coordination, and dissemination of research findings.

Strikingly, the huge importance of ICT in today's digital, networked society appears not to have been recognised by UNICEF as the wholesale transformation that it surely represents. Internal and external experts interviewed for this report assert that UNICEF should now prioritise attention, investment and action regarding the role of ICT as a cross-cutting theme in all its work, reflecting the fact that ICT is rapidly reshaping children's opportunities and risks worldwide.

We recommend that UNICEF develops a Global Agenda for Children's Rights in the Digital Age. We argue that it is vital to ensure a robust evidence base regarding children's engagement with ICT, to guide policy and action worldwide. The proposed, evidence-based Agenda needs to be grounded in the UN Convention on the Rights of the Child, which offers a framework and structure for addressing provision, protection, and participation rights in relation to children's online as well as offline experiences.

To achieve this, we recommend that UNICEF should pioneer a modular approach to cross-national surveys of children's experiences of ICT. While a standardised survey, administered simultaneously across all countries and regularly updated, is a near-impossible undertaking, a modular survey could be flexibly implemented, combining comparability across countries while being tailored to local conditions.

This would require considerable investment in centralised expertise (both multidisciplinary and multi-method) to design, analyse and apply the findings, as well as significant research management capacity to ensure quality control and timely implementation of methods and recommendations. It would build on the existing and growing motivation of country offices, and ensure that added value is derived from their efforts for the wider global agenda. It would require UNICEF in general, and the Office of Research in particular, to strengthen its research infrastructure through capacity building, establishing and disseminating best practice guidelines, stronger research co-ordination and the building of a robust platform for knowledge sharing. External partnerships will be vital to research this fast-changing and complex environment.

UNICEF is uniquely positioned to collaborate with others, and the report discusses possible partnerships in support of the proposed research strategy. Certainly, it should not lag behind in international deliberations and action in relation to children and ICT. This report recommends that UNICEF takes a lead in ensuring that robust, cross-nationally comparative research is conducted so as to guide policy and practice in maximising the opportunities and minimising the harms associated with ICT for children around the world.

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## 1. Aims and context of the report

### 1.1 Introduction

“There is no single aspect of UNICEF’s activities, whether it be around education, or water and sanitation, or child protection or health that isn’t going to change when you have major internet penetration. When children’s social environment is no longer only physical but also digital, then that’s got to have an impact on almost every aspect of their lives.”

*Christopher De Bono, Head of Communication, UNICEF East Asia and Pacific Regional Office*

A growing body of evidence reveals that, whatever their cultural and geographic context, many children<sup>1</sup> now use information and communication technologies<sup>2</sup> (ICT) as part of their everyday lives. Indeed, as the above quotation makes clear, ICT – especially online and mobile technologies – are no longer an optional add-on to children’s lives but, rather, they are becoming taken for granted, part of the infrastructure. Already in many high and middle income countries and increasingly also in low income countries, children’s activities and opportunities are underpinned by ICT in one way or another. As Figures 1 and 2 show, internet use has steadily increased, particularly in developing countries, and particularly for young people (see Appendix 1).

The main driver of technological innovation, along with mass access to and use of ICT, is substantial commercial and governmental effort to roll out technologies so as to compete in the global economy. Promoting the availability of ICT for business, commerce, education, participation, government and communities is also widely seen as vital to development. This economic and political momentum is also a powerful driver of policy, one that exceeds the capacity of organisations working to optimise children’s digital opportunities or embed child protection and child rights into emerging regulatory frameworks. Many of the emerging legislative and regulatory structures barely mention children, assuming that provision for the general public will suffice when it comes to the

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<sup>1</sup> In this report, ‘children’ are defined as all those under the age of 18, in accordance with the *UN Convention on the Rights of the Child*.

<sup>2</sup> Information and communication technologies are defined as any communication device or application, encompassing radio, television, cellular phones, satellite systems, and computer and network hardware and software, as well as associated services and applications such as videoconferencing and distance learning (UNICEF, 2011). Within this broad definition of ICT, this report focuses on children’s experiences of the internet and mobile technology.

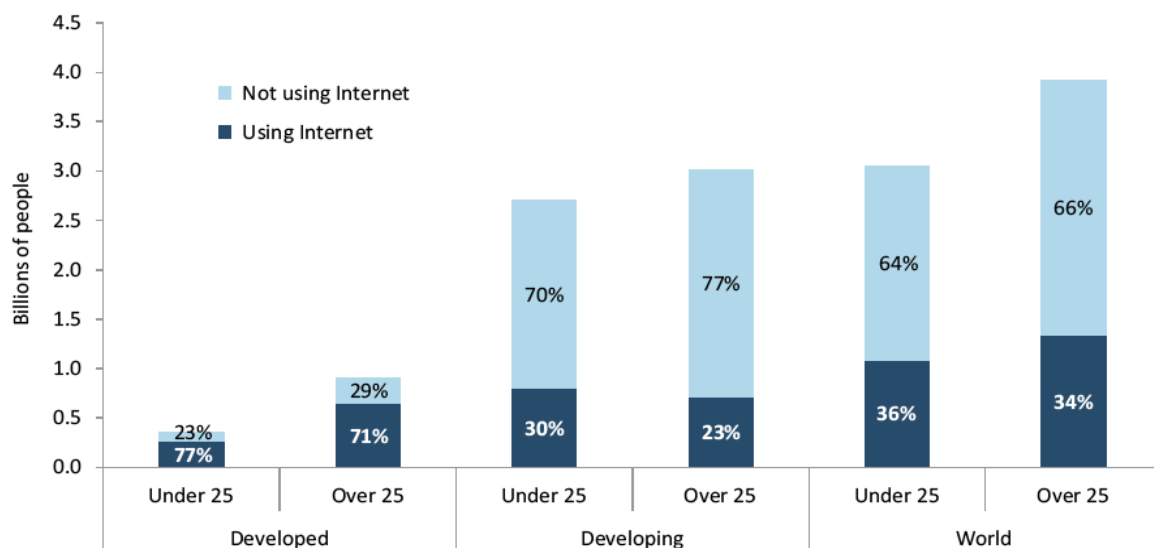


needs of child users. Yet in many developing countries, demographic changes mean that children comprise up to half of the population: meeting their needs is therefore vital.

How can the position of children be recognised and strengthened within this fast changing landscape of technological and social change? The UN *Convention on the Rights of the Child*<sup>3</sup> (UNCRC, 1989) provides an appropriate starting point for advancing online protection, provision and participation within the framework of children's rights. Although formulated in the pre-digital era, the UNCRC establishes basic standards that apply without discrimination to all children worldwide. It specifies the minimum entitlements and freedoms that governments are expected to implement.

Extending the UNCRC to children's media use, the Oslo Challenge<sup>4</sup> (Wheatley Sacino 2012) emphasises that the media and communication environment is integral to many if not all of children's rights. While the detailed application of the UNCRC to the internet and online technologies is yet to be elaborated and tested, it provides a structured framework to organise research and policy action related to children's ICT use (Livingstone & O'Neill, forthcoming).<sup>5</sup>

**Figure 1: Internet usage, by age in developing and developed countries, 2011**



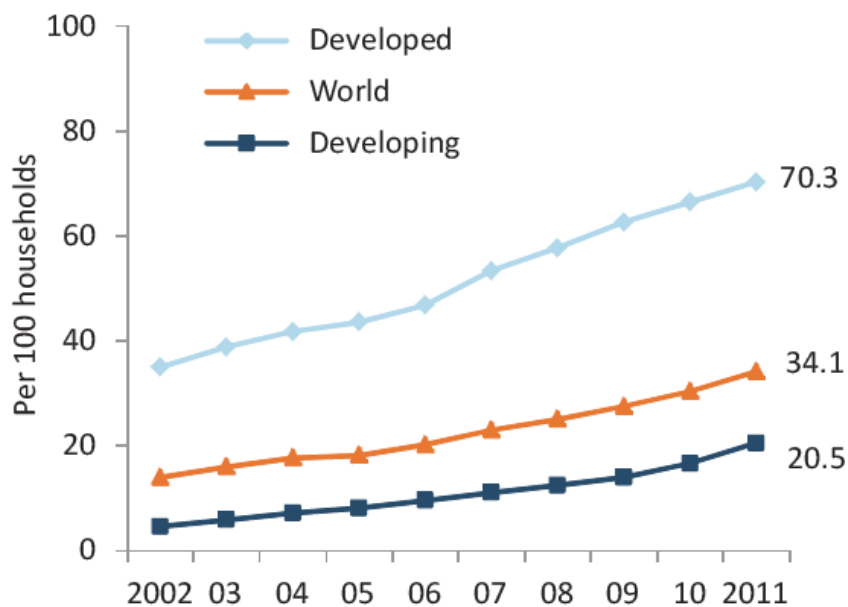
Source: International Telecommunications Union (2012) *Measuring the Information Society*

<sup>3</sup> See <http://www.unicef.org/crc/>

<sup>4</sup> The Oslo Challenge was issued in 1999, full text available in Wheatley Sacino (2012), summary available at <http://www.unicef.org/magic/briefing/oslo.html>

<sup>5</sup> It requires that provision to meet the children's rights takes into account the evolving capacities of the child; this is difficult in relation to the internet where there may be no verifiable identification that a user is a child user, and where the agencies or individuals who usually consider children's interests may be absent.

**Figure 2: Households with Internet access (2002-2011) penetration in developed and developing countries and annual growth.**



Source: International Telecommunications Union (2012) *Measuring the Information Society*<sup>6</sup>

## 1.2 Aims of the report

It is vital to understand the ways in which a changing and fast-developing array of communication technologies are re-shaping children's lives, for better and for worse, across all parts of the globe. UNICEF, along with other child rights organisations, must grasp the implications of infrastructural and cultural changes for children. This report asks whether sufficient research currently exists to support evidence-based policy and practice regarding children's rights in relation to ICT.

Our starting point is recent literature reviews which show how research is clarifying when, how and for whom the use of ICT is beneficial or harmful. The resulting knowledge is much valued by policy makers seeking to design, implement and evaluate actions to empower and protect children online. Yet most research to date has been produced in Europe and America, with only sporadic evidence from developing

<sup>6</sup> International Telecommunications Union (2012). *Measuring the information society* (p.8). Geneva: ITU. Retrieved from [http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012\\_without\\_Annex\\_4.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012_without_Annex_4.pdf)

countries. This leaves many parts of the world without a robust, up to date or locally relevant evidence base to guide policy and practice.

Given this context, Professor Sonia Livingstone and Dr Monica Bulger, from the Department of Media and Communications at the London School of Economics and Political Science were commissioned by the UNICEF Office of Research to examine whether it is desirable and feasible for UNICEF to address this situation by undertaking, alone or in partnership, a programme of comparative empirical research regarding children's online empowerment and protection on an international basis.

### 1.3 The challenge for research and policy

Reviews of the available research<sup>7</sup> suggest that children's rights online are far from realised. Notably, although digital access and literacy is growing apace, the evidence shows that many of the creative, informative, interactive and participatory features of the digital environment remain substantially underused even by well-resourced children. The evidence also suggests many ways in which the internet and mobile technologies amplify or extend pre-existing (offline) risks of harm to children's safety, well-being and development.

It is important to recognise that online opportunities and risks tend to go hand in hand, for as children tend to encounter more opportunities, they also experience more risk of harm.<sup>8</sup> Since children are often pioneers in relation to digital innovations in everyday life, the digital dimension of their activities may particularly lack guidance, protection or even foreknowledge from their parents, teachers and communities. On the one hand, children are often left to get on with seeking online opportunities by themselves. But on the other hand, heightened anxiety about young people's ICT use can result in overly restrictive policies that undermine ways in which the internet could empower children with unprecedented opportunities to learn and participate, including in relation to their identity, privacy, sexuality or health.<sup>9</sup>

"Many rights violations are not actually in one area and they're not separated from each other as they often overlap and reinforce each other."<sup>10</sup>

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<sup>7</sup>See Livingstone & O'Neill (forthcoming); O'Neill & Staksrud (2012); Council of Europe (2012); UNICEF (2011a); Livingstone, et al. (2011a); Family Online Safety Institute (2011); Gasser, Maclay & Palfrey (2010); International Telecommunications Union (2010a); de Haan (2009); Quayle, Lööf & Palmer (2008); Internet Safety Technical Task Force (2008); Ainsaar & Lööf (n.d.)

<sup>8</sup>Livingstone, et al. (2011a). *EU Kids Online Final Report*. Retrieved from <http://eprints.lse.ac.uk/39351/>

<sup>9</sup>UNICEF. (2011) *Child safety online: Global challenges and strategies*. Retrieved from [http://www.unicef-irc.org/publications/pdf/ict\\_techreport3\\_eng.pdf](http://www.unicef-irc.org/publications/pdf/ict_techreport3_eng.pdf)

<sup>10</sup>Comment by Gordon Alexander, Director, Office of Research during the workshop to share preliminary findings, Office of Research, Florence, 25-26 February 2013.

For the public, private and third sector organisations working to meet the needs of children in the digital age, recognising this complexity so as to both empower and protect children poses a notable challenge.

The global nature of ICT also poses a distinct challenge, for both practitioners and researchers. Hitherto, most efforts have focused on children's media activities within a national context. But today, societies are globalising, technological networks and services are multinational, and regulatory structures too are becoming increasingly trans-national. Recent reviews have concluded that there is now a strong case to undertake substantial cross-nationally comparative research, in order that children's changing experiences are better understood and that good practice developed in one country can be used to benefit children in others. But just what should be researched remains underspecified.

#### **1.4 UNICEF's role**

UNICEF, the United Nations Children's Fund, is a global organisation with a presence in more than 190 countries and territories around the world. With its rather de-centralised structure, UNICEF works through 165 country offices, regional offices and 36 national committees, with headquarters offices in New York, Copenhagen and Florence.

UNICEF's work is anchored in evidence, knowledge and research generated by the organisation and its partners. In 2012, UNICEF consolidated the Office of Research from what was formerly the Innocenti Research Centre (see United Nations Economic and Social Council, *Harnessing knowledge*, 2011). The Office of Research has a research management function as well as undertaking strategic research so as to build an empirical baseline of global conditions and identify effective interventions and best practice, especially for the most disadvantaged children. In this way, it is expected that countries can benefit from the tried and tested experiences of others, drawing on knowledge generated both within and beyond UNICEF.

Two key documents shape UNICEF's research focus and strategy: *Harnessing knowledge to achieve results for children* (United Nations Economic and Social Council 2011) and the *Medium term strategic plan* (United Nations Economic and Social Council. MTSP, 2005, updated 2011). The current MTSP focuses on UNICEF's efforts to meet the Millennium Development Goals in five areas: young child survival and development; basic education and gender equity; HIV/AIDS and children; child protection from violence, exploitation, and abuse; and policy advocacy and partnerships for children's rights.

The review of the current MTSP underlined the importance of strengthening linkages across sectors and continued emphasis on translating policy into practice and vice

versa, building on a foundation of data and evidence. The proposed 2014-2017 Strategic Plan,<sup>11</sup> which places rights, equity and resilience at the centre of UNICEF's agenda, can serve as a platform for advancing the digital agenda for children, as both users of ICT and beneficiaries of services facilitated by ICT. In short, the potential for developing ICT as a cross-cutting theme in UNICEF's work is likely to be substantial, given the cross-cutting and networked nature of ICT itself.

## **1.5 Methods employed in this report**

The aim of this scoping exercise was to enable the UNICEF Office of Research and other parts of the organisation to determine the future scope and direction of UNICEF's programme of research regarding children and ICT. In the context of a fast-changing environment of digital, networked and mobile media, there are growing expectations for an ambitious and innovative research programme to understand the changing nature of children's access to and use of internet and mobile technologies, their rights and opportunities, and the circumstances that promote empowerment and protection. The present scoping exercise seeks to identify whether such research is already underway by other organisations and whether UNICEF should initiate primary research on an international, comparative basis or, less ambitiously, take on a supportive or advisory role, or one that aims to leverage existing research in the interests of children.

One obvious question is whether more research is, indeed, needed in this field. Then, given UNICEF's many current activities, and given a diverse and international research environment, an equally important question is whether UNICEF has a unique opportunity or voice in research and if so, what are the considerations in taking this forward? Methods employed to answer these questions were as follows:

- A desk review of existing research reports and literature reviews from UNICEF and other relevant global organisations to review the research landscape regarding children and ICT cross-nationally and to identify pressing research gaps (see References).
- To gauge the reach and impact of UNICEF's publications in this area, selected UNICEF reports were compared with key external reports (see Appendix 2 for list of reports) using Google's classic search engine and Google Scholar to identify which organisations have linked to or cited the reports (for English-language websites only).
- Interviews with 14 UNICEF staff members from a range of offices and locations, selected in conjunction with the UNICEF Office of Research, to explore what research they find valuable, how they use evidence in their work, which research

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<sup>11</sup> <http://www.unicef.org/strategicplan/index.html>

gaps matter most, and how they see UNICEF contributing to the research base henceforth (see Appendix 3 for participants and Appendix 4 for the interview schedule). Interviews were conducted individually or in small group discussions. Most interviews were conducted by Skype, recorded and analysed. To promote candid discussion, quotations from UNICEF staff members included in this report are not attributed to named individuals.

- Interviews with ten prominent external experts familiar with this area of research and with UNICEF's activities (see Appendix 3 for participants and Appendix 5 for the interview schedule). External experts have approved attribution and use of their quotations.
- A two-day meeting was held in Florence with key staff from several parts of the organisation to discuss the report's preliminary findings and to review its draft recommendations.

## 2. Global research trends and key research gaps

### 2.1 The importance of evidence-based policy frameworks

“As we know only too well, at the end of the day and before they will make any changes in policy or practice lots of different interests will ask ‘Where’s the evidence, where’s the data?’ So, absolutely, I think research is vitally important, particularly in the developing world. That’s where UNICEF has a really important job to do.”

*John Carr, Children's Charities' Coalition on Internet Safety, UK*

#### **Policy Frameworks**

Many organisations concerned with children's rights and protection are asking where children's rights sit in relation to emerging policy (and research) frameworks regarding online as well as offline contexts, especially as it becomes ever more difficult to draw the line between online and offline. Particularly challenging is the rapidly changing nature of the technologies and their highly diverse uses, for these are rarely tied to a geographic or cultural location and, further, are largely blind to age, treating children and adults equivalently. Although the UNCRC provides guidance regarding the basic rights to which children are entitled, most countries are only just beginning to develop policy as it relates to the internet.<sup>12</sup>

Generally, existing legislation is held to apply equally to the online domain, although in practice this can be difficult to implement (Staksrud, 2013). Internet governance – whether legislative, co- or self-regulatory – can be contentious (Mansell & Raboy, 2011). Some countries have adopted stiff regulatory practices, in some cases using protection against pornography or hate speech as a justification for blocking, filtering, and monitoring public access to internet content.

To address the rapid pace of technological change, Europe has favoured a multi-stakeholder approach with a strong reliance on industry self-regulation. By contrast, the United States relies heavily on the powers of the Federal Trade Commission (and, to a lesser degree, the Federal Communication Commission). Meanwhile, the effort to develop international regulatory bodies and forms of governance (e.g. World Summit on the Information Society, Inhope, Internet Governance Forum, International

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<sup>12</sup> As noted earlier, the Oslo Challenge (UNICEF 1999) applies the UNCRC to children's media use (see also Livingstone & O'Neill, forthcoming, on its extension to the internet).



Telecommunications Union) to address the complex and global nature of the internet remains somewhat fragile and uneven.

In Europe, key policy frameworks include the EU Agenda for the Rights of the Child (2011)<sup>13</sup> and the Council of Europe Recommendation on Empowering Children in the New Information and Communications Environment (2006).<sup>14</sup> The European Commission's Strategy for a Better Internet for Children (2012)<sup>15</sup> initiative (previously, the Safer Internet Programme) has supported the development of national frameworks for creating safer online environments for children (O'Neill & Staksrud 2012). Through INHOPE,<sup>16</sup> a European network of hotlines, and INSAFE,<sup>17</sup> a European network of awareness raising centres, the Safer Internet Programme developed a support infrastructure that provided targeted and proportionate responses to children's online needs.

The duration and reach of these initiatives varies depending on government and institutional support. For example, the reach of Insafe programmes extends globally, with Safer Internet Day<sup>18</sup> 2013 celebrated in over 100 countries and 16,150 schools, with varying levels of training, support and awareness raising programmes.

Major initiatives such as the Internet Safety Technical Task Force<sup>19</sup> (2008) and the Online Safety and Technology Working Group<sup>20</sup> (2009-2010) in the United States brought together policymakers, industry leaders, academics, and other expert consultants to develop frameworks for risks that children face online, recommending initiatives to reduce the possibilities of harm and to increase opportunities for learning and participation.

### The importance of evidence-based policy

"We would like to be in a position to say to governments, 'it hasn't happened yet but this is what you might think about doing... in terms of frameworks to make sure that when it does happen, children get the most benefit from it and are exposed to the least risk' and that requires a broader understanding ... of how kids engage [with ICT]."

*UNICEF staff member*

<sup>13</sup> Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0060:FIN:EN:PDF>

<sup>14</sup> Retrieved from <https://wcd.coe.int/ViewDoc.jsp?id=1041181>

<sup>15</sup> <https://ec.europa.eu/digital-agenda/node/286>

<sup>16</sup> <http://www.inhope.org>

<sup>17</sup> <http://www.saferinternet.org/>

<sup>18</sup> <http://www.saferinternetday.org>

<sup>19</sup> <http://cyber.law.harvard.edu/research/isttf/RAB>

<sup>20</sup> <http://www.ntia.doc.gov/legacy/advisory/onlinesafety/index.html>

In the absence of global regulation in this area, especially in the developing world where mobile access to internet is now developing fast (see Appendix 1), policy guidance from organisations such as UNICEF is particularly needed. Ensuring the policy is grounded in the appropriate evidence is complex because policy itself exists at multiple levels, is sometimes contested, and is often more asserted than effectively implemented. The same may be said for evidence – this too can be contested in its interpretation and scope.

Nonetheless, there is consensus that policy should be evidence-based, for evidence can help to:

- Ascertain the scale and incidence of existing problems;
- Identify priorities and policy needs;
- Reveal emerging issues;
- Contextualise or interpret puzzles and problems;
- Help resolve practical challenges;
- Identify and share existing good practices;
- Enable the targeting of specific interventions;
- Evaluate the outcomes of interventions or policies.

Empirical research is drawn upon by research users for a mix of reasons – the timeliness, relevance and value of their results, the breadth and depth of the evidence, the reputation of the organisation and the effort put into disseminating recommendations to policy makers and working directly with them. For the research producer, meeting all these criteria is demanding.

Moreover, while the fast pace of technological rollout challenges governments and other stakeholders to respond quickly, it also adds pressure for research to be up-to-date. This makes it particularly hard to take the time to research critical gaps (for example, regarding the needs of vulnerable populations) or resolve research puzzles, since the temptation is to keep updating the broad brush picture rather than develop the kind of complex analysis that could help policy address the specific needs and contexts of diverse groups.<sup>21</sup>

In short, the production of evidence-based policy is not to be undertaken lightly, and UNICEF is right to give serious consideration to the question of whether it can play a

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<sup>21</sup> This rapid pace presents challenges to researchers in terms of developing relevant research designs and staying up to date with data on opportunities and risks. It also presents obstacles in terms of funding and focus, with governments often eager to be knowledgeable about the most current trends rather than developing long-term understanding of trends in use. ECPAT and EU Kids Online try to anticipate technological change in their research designs by including use questions that are both independent of specific platforms and platform-specific.

significant role in the unfolding agenda of research on children and digital, online, and mobile technologies internationally.

## 2.2 Main research producers

“Quantitative, analytical and comparative studies are rare and not necessarily focused on children... [Further], the current understanding of the prevalence of risk is ... largely based on a limited number of well-researched countries; for other countries, few data may be available. Risk prevalence varies and further comparative research would help to understand factors which influence differences among countries and regions.”

*The Protection of Children Online: Risks Faced by Children Online and Policies to Protect Them (OECD, 2011)*

Recent years have seen the development of a significant body of evidence on children's experiences, albeit largely concerned with the global North, which is precisely designed to guide policy making in relation to children's empowerment and protection online. In addition to a now-substantial academic literature on children's internet use, much though not all of it European and North American, our review of external reports identified eight main organisations<sup>22</sup> which have produced strongly policy-relevant, recent and cross-nationally comparative research on children's empowerment and protection in relation to internet and mobile technologies.

### Empirical and/or desk research

Some of these organisations conduct primary research, which is optimal but also the most demanding approach. Others rely on desk research, reviewing the growing body of academic and action research in relation to education, skills, participation, identity, health, parenting and friendship. For example, Plan International's *Fast Talk* focus group study (De Pauw, 2011) interviewed adolescents face to face in order to understand girls' use of technologies, though with relatively small sample sizes (37 girls in 13 countries). Of those producing widely cited regional research, two organisations conducted face to face interviews, ECPAT (which interviewed 2,019 11-18 year-olds in parts of Africa and

<sup>22</sup> These eight organisations are EU Kids Online (Better Internet for Kids and London School of Economics), the Berkman Center for Internet and Society (Harvard University), End Child Prostitution, Child Pornography & Trafficking of Children for Sexual Purposes (ECPAT), Family Online Safety Institute (FOSI), International Telecommunications Union (ITU), Organisation for Economic and Co-Operation and Development (OECD), Crimes Against Children Research Center (University of New Hampshire) and Plan International.

Latin America) and EU Kids Online (which interviewed 25,142 European 9-16 year-olds).<sup>23</sup> UNICEF's collaboration with Harvard's Berkman Center relies on surveys completed by children at school and through digital youth clinics to produce its country reports.<sup>24</sup>

A literature review conducted for this report showed that the most frequently cited work is produced by ITU, OECD, Eurostat, EU Kids Online, Pew Internet & American Life Project, Harvard's Berkman Center and the Crimes Against Children Research Center. These reports also tend to cite each other, though they are also cited by academic studies, smaller NGOs, and various national governments. The external and internal interviewees most often cited the reports by EU Kids Online, Plan International, UNICEF, Child Exploitation and Online Protection Center (CEOP),<sup>25</sup> Crimes Against Children Research Center, and ECPAT as influential in informing policy. UNICEF staff, along with external experts, found these particularly useful for their in-depth exploration of children's internet use, especially citing EU Kids Online for its large dataset that is comparable across countries in Europe.<sup>26</sup> CEOP's and the Crimes Against Children Research Center's studies of criminal trends in abuse<sup>27</sup> were frequently cited as valuable (CEOP, 2012a and 2012b; Wolak, Finkelhor & Mitchell, 2012; Wolak, Finkelhor & Mitchell, 2005). Plan International and the Young Lives study were noted for their unique longitudinal datasets (Fancy et al., 2012; Plan International, 2010; Wilson & Huttly, 2003).

### Lack of data on children in population surveys regarding ICT

Further, a number of organisations produce reliable statistics on the growth of the information society more generally, albeit with a focus on adults or households rather than children. The most widely cited surveys, from OECD and Eurostat, include respondents aged 16-74, and similarly, ITU includes those aged 15-74 (OECD 2011a; Eurostat 2011; ITU 2010b). The UN Conference on Trade and Development report on ICT indicators for development<sup>28</sup> likewise relies on household data from national statistics offices, Eurostat, and OECD surveys (Roberts, 2008). Particularly evident in its

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<sup>23</sup> See Bose & Coccaro (2013); Garcia de Diego (2012); Livingstone, et al. (2011a).

<sup>24</sup> Of particular note is the bottom-up model, which begins with interest expressed at the country office level and is followed by a desk review of a country's digital landscape. Then a small-scale, generally not nationally representative exploratory survey is performed. A benefit of this research is that it is flexible and provides timely research. A drawback is that currently data are not comparable across countries.

<sup>25</sup> <http://ceop.police.uk/>

<sup>26</sup> Comparable data allows for an understanding of how economic, cultural, legislative, and educational contexts may be shaping technology use. Data comparable across countries improves understanding of potential universalities or particularities in children's take up of opportunities, their vulnerabilities to online threats, and their general practices related to socialising and finding information.

<sup>27</sup> <http://www.ceop.police.uk/publications/>

<sup>28</sup> Retrieved from [http://unctad.org/en/Docs/LCW190\\_en.pdf](http://unctad.org/en/Docs/LCW190_en.pdf)

2008 report is the variance in starting ages, with Eurostat collecting data for ages 16-74 and other countries starting as young as 3 years (United States and Macao) or as old as 18 (Canada) (p. 43-44).

Perhaps the most relevant of recent reports, *Measuring the Information Society* published in 2012 by the ITU, provides usage and subscription statistics over time for developed and developing countries.<sup>29</sup> However, the report's age breakdown of over or under 25 years old lacks sufficient granularity for analysis in relation to children in particular. Similarly, the European Commission's Digital Agenda Scoreboard relies on Eurostat data (European Commission, 2012), among others, and is also limited to reporting data for those aged 16-74. Children aged under 15 are generally absent from much of the analysis generated from these global surveys. The limited availability of data focusing on younger children renders them invisible in key research-informed discussions of access, use, and activities.

The International Telecommunications Union (ITU) and the Organisation for Economic Co-operation and Development (OECD) do collect and report international data, although their recent reports addressing child protection issues relied on desk research, a government survey.<sup>30</sup> Data is also produced by Eurostat, Eurobarometer, World Bank, the National Statistics Offices, and the UN Statistics Office, although findings are not always directly comparable.<sup>31</sup>

### 2.3 Key debates and dilemmas in research

To address the complexity of issues arising from children's ICT use, research must move beyond charting access and use to encompass the complexities of risk and opportunity across diverse contexts. Only thus can children's rights of provision, protection and participation be adequately met in relation to the internet and online technologies – as emphasised by several influential reports recently published (UNICEF, ECPAT, Plan International, EU Kids Online, ITU, OECD).

<sup>29</sup> Retrieved from [http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012\\_without\\_Annex\\_4.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/publications/mis2012/MIS2012_without_Annex_4.pdf)

<sup>30</sup> The ITU's *Child online protection initiative* (2009) surveyed governments in 51 countries regarding child internet safety infrastructure within their country.

<sup>31</sup> While the ITU has the most up to date figures on who has access, the level of measurement is always at the household; this means that while ITU might confirm, for example, that children are in the household, they cannot specify whether or which children have access and cannot provide any data on children's access outside the home. Although seemingly a basic question, determining who has access and how they are accessing the internet remains a challenge. Even for countries well covered by child-focused research, such as Europe and Australia, statistics require constant updating to stay current.

As these reports make clear, there are many complex issues involved, and different organisations have different emphases in how they address them. It may therefore be helpful to note the key recurring debates and dilemmas in this field, including the progress that has been made in conceptualising the challenges of researching children and ICT (Livingstone, 2009).

### Bias towards the global North

“There is a lot of extrapolation in terms of the way that children use online engagement in western countries and how they use them in developing countries. The barriers to children accessing these tools are obviously completely different, depending on where they are... So there are specificities that are lost when research is not sufficiently contextualised, which is important. A lot of the policy and legislative work comes from developed countries, from OECD countries, and that is an issue as well, in terms of adopting that in developing countries where issues can be quite different.”

*Keshet Bachan. Coordinator of Because I am a Girl report. Plan International*

The geographic focus of existing research tends to be in the global North, in Europe, the United States, and Canada, although strong work is also emerging from Australia and areas of Latin America, South East Asia and Africa. While promising work is beginning in developing countries, it is unclear to what extent findings in the global North will be applicable to children’s activities in developing areas.

One view is that ‘early adopter’ countries experience problems and test out solutions before ICTs reach other countries, permitting lessons to be learned from the former to the latter. A counter view is that in developing countries, the conditions of both adoption (e.g. mobile before landline) and use (because of linguistic, economic or cultural factors) are so different that it would be hazardous to generalise from the global North to the South. In practice, as both interviewees and available research suggest, there are notable similarities in children’s practices of use across countries.

As each country gains mass internet access, online use is initially unrestricted, and so risks are relatively high, if not always recognised. Meanwhile, policy and safety provision for children is initially low. As the diffusion process advances in a country, an early techno-optimism tends to switch into a moment of moral panic, when the public (and the media) realises the extreme and sometimes dangerous things that can happen online. This tends to result in calls for action that is initially punitive. But generally policy in a country becomes gradually more nuanced, prioritising education and awareness raising more than restrictive regulation.

### **Defining risk and harm**

There is much confusion about what constitutes risk of harm in online (as well as in offline) contexts. Risk (e.g. exposure to pornography) and harm (e.g. distorted sexual identity resulting from exposure to pornography) are easily confused. This confusion means that evidence of risk is often taken as a proxy for harm (since the latter is particularly intractable in terms of reliable measurement). It is still uncertain how far the internet is harmful in comparison with other threats to children's safety and rights (or, in comparison with past threats – for example, is cyber-bullying worse than the bullying that has long preceded it). What is now needed is a contextualised account of the conditions which lead to vulnerability or which build resilience.

### **Balancing opportunities and risks**

While often treated as binary conditions, online empowerment and protection normally co-exist in the lives of young users. Recent studies by ECPAT (Bose & Coccaro, 2013; Garcia de Diego, 2012) and Plan International (Bachan & Raftree, 2011) of children in parts of Latin American, Asia, and Africa find that the internet provides a space for socialising and self-expression as well as learning and entertainment. But these same studies find that the internet can be dangerous for some, reporting that they encounter inappropriate, sometimes disturbing content online or receive unwanted and sometimes frightening messages.

As internet use becomes more thorough-going, across populations and across spheres of activity, ensuring that both opportunities and risks are recognised and addressed can prove difficult. Policies tend to emphasise one or the other, failing to recognise that online opportunities bring risks with them, while efforts to manage risks can limit children's online opportunities. Also challenging is that opportunities should ideally reach all children, while resources devoted to reducing risk of harm are often best targeted on those who are especially vulnerable (if they can be reliably identified, which is often not possible), although this may to a certain extent be achieved by awareness raising or safety-by-design for all. In a world of limited resources, determining the optimal balance between online provision, protection and participation is difficult.



## Understanding vulnerability

Vulnerability results from demographic factors such as low socio-economic status or young age: for example, disabled children are not only more likely to be bullied offline but they face a high likelihood of being bullied online. Research also shows that vulnerability can result from psychological factors, with children who are abused or neglected at home, or who have recently experienced an emotional trauma, being more vulnerable online (Wolak & Finkelhor, 2011; Ybarra et al., 2007; Wolak, et al., 2005;). Conditions of internet use also matter: for instance, constant internet access means that many children now use the internet unsupervised, or late at night when their resilience is low, as noted in a forthcoming UNICEF report of children in Kenya (Gigli & Marles, forthcoming).

Vulnerability depends on the support system surrounding the child, and the range of vulnerability factors affecting children in poorer countries regarding ICT is barely known. Even in wealthy countries, research shows that children with parents who do not use the internet are likely to be less digitally literate; likewise, in educational contexts in which teachers do not use the internet, children are likely to have lower digital skills (Livingstone & Palmer, 2012).

Regardless of geographic or cultural context, research shows that children who are vulnerable offline are more likely to be vulnerable online (Ybarra et al., 2007). Yet some children find themselves vulnerable online even though no obvious offline risk factors exist (Livingstone & Palmer, 2012). Debates continue over the focus of future research in relation to risks, vulnerability and resilience.

## Regulatory challenges

Arguments promoting children's rights in relation to the online domain are often (mis)heard first and foremost as a call for restrictions of adult freedoms, raising concerns about censorship. Particularly problematic is that the call to protect children's rights online gets bound up in difficult political debates about censorship and trust in states (Livingstone, 2011). The political dimensions of this issue clearly have implications for research as different constituencies attempt to use data to justify their position.

The online environment presents a challenge in terms of responsibility and authority related to rights and risk assessment. It remains unclear who is responsible when a child does experience harm as a result of online activities, especially on transnationally-owned sites or services. It may not even be clear where the risk lies – whether with the website, service, or platform, the infrastructure or the user. Pinpointing responsibilities

within a complex value chain, identifying feasible points of intervention, and resolving uncertainties over jurisdiction are all continuing challenges.

### **Listening to children**

In relation to both opportunities and risks online, it is common to conceive of children as passive recipients of provision or victims of harm. While undoubtedly they can play both roles, it has been important to many researchers and policy makers to recognise children's agency within the wider agenda of children's rights. This is not to blame children when risks are encountered, and nor is it to advocate a laissez-faire approach to online benefits (on the assumption that they are the digital natives who can be left to find their own way). But it is important to recognise that children themselves are one of a number of actors who shape the online domain which children inhabit. It is also important to recognise that it is perfectly natural for children and young people to want to explore and experiment in all sorts of ways.

Children's voices should be valued and listened to both in terms of explaining motivations, perceptions and experiences but also in contributing to debates about appropriate policy directions. With this in mind, EU Kids Online produced an influential typology of online risks (and opportunities) built around children as recipients, participators and agents, to guide research and policy. The hope is to avoid very conservative policies being put in place, with many restrictions on what a child can do when they go online. For these are likely to deprive the child of valuable learning opportunities or ways of building their resilience, and it may channel their online behaviour into altogether riskier environments which they can access outside the home or their school.

## 2.4 Evidence to inform the promotion of children's rights online

"I think we have always overestimated the link between risk and harm, and now that we are looking at a "Better internet", it's time that we looked more at the empowering aspects. And taking risks is actually becoming empowered, because once we take a risk we better understand the nature of risk and so build resilience."

*Janice Richardson, European Schoolnet and Insafe Awareness Raising Network, Safer Internet*

Research on children's experiences of internet and mobile technologies tracks the conditions under which such experiences are beneficial or harmful and it also informs the policy initiatives designed to enhance opportunities and manage risks. UNICEF's Communication for Development initiative, whereby communication is both an instrument of delivery and mode of empowerment, is an example of research informing policy and programming in this area, particularly their forthcoming report on girls' uses of ICTs in developing countries.<sup>32</sup>

### Empowerment through increased awareness and improved skills

UNICEF's *State of the World's Children Report* for 2011 defines the so-called "digital natives" as those growing up immersed in digital technologies who seamlessly integrate these technologies into their everyday life (Brazier, 2011).<sup>33</sup> Technology use, it is hoped, offers a means of self-expression, learning, and participation. How far are these benefits taken up? Several factors co-occur in children's lives that may improve or impede take-up of online opportunities, such as developmental stage, parental support, and socio-demographic levels. The EU Kids Online framework, now evidenced in Europe, Australia, and Brazil, reveals a 'ladder of opportunities' showing that most children engage in certain basic activities first, but progressively fewer climb the ladder to take up the more creative and participatory activities (Livingstone et al., 2011b, p. 33). This framework is useful in understanding or even predicting trends for different stages of internet diffusion.

Of central importance is improving children's digital skills. In countries with a mature internet presence, there is a trend toward efforts that empower children by providing appropriate knowledge and skills training to minimise risk of harm. These efforts take the

<sup>32</sup> See [http://www.c4d.undg.org/system/files/Integrating\\_ICTs\\_into\\_C4D\\_Strategies\\_09-11-11%20.doc](http://www.c4d.undg.org/system/files/Integrating_ICTs_into_C4D_Strategies_09-11-11%20.doc)

<sup>33</sup> [http://www.unicef.org/sowc2011/pdfs/SOWC-2011-Main-Report\\_EN\\_02092011.pdf](http://www.unicef.org/sowc2011/pdfs/SOWC-2011-Main-Report_EN_02092011.pdf)

form of awareness raising, skills training, and parental mediation. For example, Safer Internet Day,<sup>34</sup> coordinated by Insafe and celebrated in more than 90 countries, provides community awareness raising involving children and their schools, teachers and parents.

In discussing children's rights online with UNICEF and external interviewees, there was broad agreement that, in addition to protective strategies, children should be empowered to protect themselves and to learn strategies for positive participation:

“Self-determination, it's about skills – beyond the rights, because rights are difficult to enforce – if you want to go beyond the rights, beyond parenting, beyond the schooling. It's about how children can make choices, the best choices, how they can be informed, how they can get information, how they can cross-check information, how they can actually take action, it's self-determination, the ability to take charge of themselves. At the very least, we need to give them the means beyond the rights to do that.”

*Lee Hibbard, Coordinator for Information Society & Internet Governance, Council of Europe*

Although formats and depth vary, a focus on skills training – already evidenced in several reports and reviews by UNICEF and others – reflects the widespread belief that children are agents in the empowerment and safeguarding process and can choose strategies that maximise opportunities and reduce some of the risks they encounter online. Sometimes, as ECPAT found in parts of Africa<sup>35</sup> and Latin America,<sup>36</sup> skills training takes the form of a simple flyer posted in a cyber café.

In other cases, such as those of Serbia<sup>37</sup> and Croatia,<sup>38</sup> a systematic training programme is offered through schools, with a particular focus on, for instance, reducing violence online. In the United States, the Powerful Voices for Kids programme<sup>39</sup> provides digital and media literacy training for children through a school-university partnership. This includes a broad training in critical approaches to digital media as well as media production through coordinated lesson plans with the schools and summer programmes.

Children's rights can also be promoted by others. Considerable efforts go into encouraging parental mediation by programmes such as Insafe<sup>40</sup> and the UK Council for

<sup>34</sup> See <http://www.saferinternetday.org>

<sup>35</sup> Bose, A., & Coccaro, R. (2013). *Understanding African children's use of information and communication technologies (ICTs): A youth-led survey to prevent sexual exploitation online*. Bangkok: ECPAT International. Retrieved from [http://www.ecpat.net/EI/EI\\_publications.asp](http://www.ecpat.net/EI/EI_publications.asp)

<sup>36</sup> Garcia de Diego, S. (2012). *Understanding the use of ICTs by children and young people in relation to their risks and vulnerabilities online specific to sexual exploitation: A youth-led study in Latin America*. Bangkok: ECPAT International. Retrieved from [http://www.ecpat.net/EI/Publications/ICT/ICT%20Research%20in%20LatinAmerica\\_ENG.pdf](http://www.ecpat.net/EI/Publications/ICT/ICT%20Research%20in%20LatinAmerica_ENG.pdf)

<sup>37</sup> See [http://www.unicef.org/serbia/support\\_4696.html](http://www.unicef.org/serbia/support_4696.html)

<sup>38</sup> See [http://www.unicef.org/ceecis/reallives\\_7858.html](http://www.unicef.org/ceecis/reallives_7858.html)

<sup>39</sup> See <http://mediaeducationlab.com/powerful-voices-kids>

<sup>40</sup> As part of its mandate to raise awareness and promote safe and responsible internet use, Insafe offers online resources and training opportunities to parents and caregivers: <http://www.saferinternet.org/online-issues/parents-and-carers>

Child Internet Safety (UKCCIS, 2009; see also Balkam & Gifford, 2012). Parents and carers mediate children's internet use by talking about their activities, discussing different scenarios and the possible outcomes, and being available while the child is online to answer questions (Sonck, Nikken & de Haan, 2013). Research shows that children are more likely to report unwanted or upsetting contacts or content to parents who themselves understand the internet or who have been available and open to discussions of internet use with the child (Livingstone et al., 2011b).

As yet, few awareness campaigns have been formally evaluated for their effectiveness in influencing children's online behaviours. Awareness raising and skills development programmes encounter particular difficulties in developing countries where there is frequently very low parental involvement. As the EU Kids Online Brazil study shows, however, there is potential for inter-generational learning in which children can learn safe use with their parents and participate in providing training for learning and empowerment to older generations (Barbosa, 2013). Improved digital literacy skills are often linked to increased awareness of potential risks and confidence in addressing them. However, this confidence may not translate into preventative action. Other factors, such as psychological and demographic, may outweigh the contribution of digital skills (Sonck & de Haan, 2013). The diffuse nature of awareness campaigns and often also of skills training presents a challenge for evaluation. Similarly, individual programmes vary considerably in their approach and efficacy. Consistently, parental mediation is shown to be the most effective means of improving children's digital literacy, reducing risky behaviours, and strengthening resilience (Pasquier, Simões & Kredens, 2012).

### Safeguarding efforts

"Unfortunately, too often, when the digital world hits – or anything to do with adolescence – hits a policymaker, they see it in terms of risk rather than opportunity. And they tend to prescribe rather than empower."

*UNICEF staff member*

From research in middle- and lower-income countries, it is clear that limited understanding of children's internet use, at national, local, and individual levels results in more restrictive approaches to safeguarding children. UNICEF interviewees voiced concerns about governments using child protection as an excuse for filtering. At the programming level, all respondents saw a need to emphasise the opportunities afforded by technology in order to balance fears of risk.

When countries engage in blocking, filtering, or censoring content on the internet, they need to be mindful of the potential for unintended consequences. In Kenya, for example,

where pornography is illegal and legal penalties extend to minors, children demonstrate significantly higher rates of seeking out, viewing, and collecting pornography than any other developing or developed country included in this review (Gigli & Marles, forthcoming).

While research is still very limited for developing countries, emerging patterns clearly show that where parents and teachers have less training and support in internet use, children engage in more risky behaviours online, such as contacting strangers, sharing pictures with strangers and providing personal information (Livingstone, et al. 2011b).

Protection and prevention services provide a further degree of safeguarding. While established programmes for offline child protection exist in many countries, provisions for online child protection are limited. Child Helpline International<sup>41</sup> provides an abuse hotline that includes phone service, online reports and, in some areas, walk-in services. Covering emotional, physical, and sexual abuse, the helpline is available in 136 countries. In their 2011 report, data from Child Helpline's offices shows a steady increase in the number of calls related to online content and contacts, as well as calls about internet safety, while these still comprised a small percentage of all calls.<sup>42</sup>

As recommended in *Child Safety Online* (2011), effective safeguarding demands a consistent and meaningful response. International organisations such as the Council of Europe and Internet Governance Forum are exploring options for transnational internet governance. An effort that is often highlighted is the coordinated takedown of child abuse images posted online, supported by the UK's CEOP<sup>43</sup> and ECPAT.<sup>44</sup> ECPAT reports on particular cases of child exploitation in Belarus, Moldova, Russia, and Ukraine where coordinated efforts led to arrests and takedown of the images (Constant, 2008). Additionally, better understanding of the context in which victimization occurs can inform a proportionate response (Walsh, Wolak & Finkelhor, 2013a, 2013b, 2012).

## 2.5 Key research gaps

In four areas, the lack of knowledge and understanding is particularly pressing. First, there is insufficient knowledge on how to promote online opportunities so that more children benefit from them. Second, the conditions that make some children particularly vulnerable to risk of harm are little understood, so that protective strategies cannot be effectively targeted. Third, most knowledge has been obtained in the global North, and its relevance to the global South is largely untested. Fourth, although many valuable

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<sup>41</sup> See <http://www.childhelplineinternational.org/>

<sup>42</sup> See [http://www.childhelplineinternational.org/media/54465/ctc\\_2011\\_final.pdf](http://www.childhelplineinternational.org/media/54465/ctc_2011_final.pdf)

<sup>43</sup> Child Exploitation and Online Protection Centre, retrieved 15 April 2013 <http://ceop.police.uk/>

<sup>44</sup> See <http://www.ecpat.net>

initiatives are underway worldwide, the lack of comparable baseline data and policy and programme evaluations makes it hard to learn from the experiences of others or to share best practice. We elaborate each of these points below.

### The ladder of opportunities

A gap exists in understanding how to support children in moving up the ladder of opportunities, so that more rise from basic engagement to more creative and participatory activities. It is also unknown whether the ladder takes a different form in different cultural contexts, so another challenge for researchers is to identify culturally-specific opportunities for children's use of technology.

In many developing countries, technology is not yet embedded in the learning experience, and for many children, learning responsible and productive use of new technologies is not supported by the adults in their lives. More research is needed to identify effective interventions for improving parental support for children's technology use and also training and support for teachers to better integrate technology into the learning experience.

In short, although the growth in children's internet use seems to happen without external intervention, efforts are needed to ensure that children gain the full benefit of ICT along with the skills necessary to use the internet wisely and well for learning, entertainment and social opportunities. In this regard, research is needed to better understand how to embed the use of technologies in children's everyday lives in their home, school and community.

### Understanding children's vulnerability online

"Children who are vulnerable offline are going to be vulnerable online, there's no dispute about that. What the jury's still out on is whether or to what extent the internet magnifies or causes problems with groups of children who were not previously vulnerable under any conventional definition, but might be there."

*John Carr, Children's Charities' Coalition on Internet Safety, UK*

Understanding the conditions under which the internet is empowering but, also, the conditions under which it is threatening, remains a key challenge. So too is the question of when provision (empowering or protective) is appropriate for all children and when different provision is required for particularly vulnerable subgroups.



Research is needed to discover which risk factors operate in particular cultural or national contexts and what protective factors exist in children's environments that can be strengthened. Such analysis should consider not only children and their life circumstances, but also the ways in which the online environment (the design of sites, or norms for engaging with the interface) may render children vulnerable – and how it may be redesigned to protect them.

### Understanding the issues facing middle- and lower-income countries

As things stand, for children in many countries, ICT might not yet be very salient but the situation is changing rapidly. For other children, it is already embedded in all spheres of their activity, although its usage, opportunities, and consequences will continue to change. Identifying how children are accessing and using online technologies is, therefore, a major challenge not only for those concerned with children's ICT use in particular but also for those concerned with children's well-being more generally – in many countries around the world.

As the Office of Research's review of the field (*Child Safety Online: Global Challenges and Strategies*) concluded, there are critical research gaps in developing countries, particularly in parts of Asia, the Middle East and Africa.<sup>45</sup>

In many countries, it is not even known whether and how children access the internet, let alone what may be the consequences. Moreover, even when research is available, it requires careful interpretation and contextualisation, a tailored multi-stakeholder effort to apply its findings to the policy domain, and frequent updating to ensure its relevance to present and future conditions of children's lives.

It could be argued that, especially for developing countries, where technology adoption is just beginning or very low, there is an opportunity to get a sense of how technology causes a shift in children's activities. Baseline data can allow comparisons of the extent to which children engage in risky behaviours and take advantage of opportunities for empowerment as use increases.

“In some regions that are fragile, such as parts of the Caucuses and areas of south eastern Europe<sup>46</sup> ... [teenagers] are saying 'give us more access to the internet' and, still better, understanding... they see that if they have a better mastery of the internet it can help them with work, in the future, job prospects, and you know a great desire

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<sup>45</sup> The review identifies lack of parental awareness and underdeveloped regulatory frameworks as conditions that potentially increase children's exposure to online risks and harms. It argues for an integrated strategy towards addressing the issue of online child rights and safety by combining the capacities of law enforcement and the child welfare sector, in addition to developing prevention strategies which include a clear policy framework, private sector compliance and public awareness raising.

<sup>46</sup> See UNICEF (2011b).

of the teenagers in this region is to actually move to other places, or to get jobs from other places, to travel everywhere.” (UNICEF staff member)

As noted throughout this report, we know far more about the global North than the global South. Recognising the experiences, needs and problems faced by children in the world's poorer countries is paramount as internet access diffuses rapidly to middle- and lower-income countries.

### Gaps in data and design

“If we don't get baselines on all these things before we start doing them, whether it's innovation or whatever, we have no ground to stand on.”

*UNICEF staff member*

When asked about research and programming priorities, UNICEF staff members revealed a number of pressing concerns, including the lack of comparative data across countries, lack of testing whether interventions work, understanding what makes children vulnerable online, and understanding how the internet is affecting social norms. Baseline data is particularly critical to understanding how children's engagement with technologies may be changing over time and which factors may be influencing that change.

UNICEF staff were particularly concerned about the paucity of evaluations, since they thought that without evaluation, the value of research and action is underdeveloped, even wasted.

In short, it is clear that there continues to be a pressing need for research that can establish a baseline against which to track change, understand the diverse impacts of ICT on children's lives across different contexts, and inform the design of empowering and protective interventions and, last, evaluating their effectiveness.

### Substantive research gaps

In addition to the four key areas noted above, a series of specific research gaps are important (see also Staksrud, et al., 2009; O'Neill et al, 2011):

- Age – more research has been conducted with teenagers than for younger children although, in many countries, even pre-school children are gaining internet access, yet little is known of their capacities, skills, practices or contexts of engagement.

- Platforms – most research has focused on the fixed internet, leaving much to be learned about access and, especially, patterns of use via mobile and convergent devices; especially in developing countries, mobile access greatly exceeds fixed.
- Skills – much research on children's digital literacy and skills was conducted in the days of web 1.0; how are they using social media, what new skills and literacies are they developing, and who is missing out, or being excluded?
- Opportunities – it is easy to list what these could be, less easy to track how far they are actually taken up in children's lives and least easy of all to know how to improve them. Why do only a minority of children take up the more exciting online opportunities? How can we explain some of the newest digitally-mediated peer-to-peer cultures? How do children use internet for civic engagement, political participation and activism and what are the implications of this usage in different national and cultural contexts?
- Risks – most research has focused on a small number of familiar risks, with less research identifying new or emerging risks of harm – for all children, and for those who are particularly vulnerable. An even greater gap exists in identifying the protective factors that can ameliorate harm.
- Safety mediation – in a multi-stakeholder domain, many safety initiatives have been tried but, as already noted, too few are evaluated to be confident of what really works, under which conditions and for whom. What strategies are parents, teachers and others attempting, and which are more successful?

Doubtless other researchers would extend this list: the point here is that there is much crucial research still to be done.

### 3. UNICEF's research on children and ICT

"I think every child is vulnerable, at a certain moment in his or her life. So to talk about the vulnerable children is really talking about every child in the world at the moment that they are vulnerable. We should be directing our awareness raising at every child, but we should also do more about defining what creates moments of vulnerability and how we can help a child in those moments."

*Janice Richardson, European Schoolnet and Insafe Awareness Raising Network, Safer Internet*

In recognition of the profound impact that the internet and mobile technologies are already having on children's lives, UNICEF has for some years been researching children's online risk and safety, the promotion of digital citizenship, programmes for awareness raising among children, and communication for development through ICT.

#### 3.1 Recent work

Drawing on a literature review on children and ICTs in lower income countries published by The Berkman Center for Internet and Society at Harvard University, the Voices of Youth Citizens initiative (formerly Digital Citizenship and Safety) was launched by the Social & Civic Media Section in the Division of Communications, UNICEF Headquarters (HQ) in collaboration with the Berkman Center in 2010. Further impetus for the initiative came from UNICEF's fast growing social media presence amongst adolescents and youth across the world, and a need to understand their digital habits for effective outreach and promotion of safe use of digital tools.

This initiative spearheaded the production of exploratory country studies on children and their digital habits to inform country-level advocacy and evidence-based communications. Several, through the Voices of Youth Citizens initiative, have conducted desk reviews and exploratory empirical research on children's use of the internet and mobile technologies in Indonesia, Russia, South Africa, Turkey, Ukraine, Viet Nam, Zambia and, most recently, Kenya. Drawing on a literature review<sup>47</sup> on children and ICTs in lower income countries published by The Berkman Center for Internet and Society at Harvard University, UNICEF's Department of Communication has collaborated with Berkman in spearheading these country studies.<sup>48</sup>

<sup>47</sup>[http://cyber.law.harvard.edu/publications/2010/Digital\\_Safety\\_Children\\_Young\\_People\\_Developing\\_Nations](http://cyber.law.harvard.edu/publications/2010/Digital_Safety_Children_Young_People_Developing_Nations)

<sup>48</sup> See reports directed by Gerrit Beger in References section.

UNICEF's largest study in the area of internet and mobile technologies was undertaken by the UNICEF Office of Research in 2011, resulting in the comprehensive report, *Child Safety Online: Global Challenges and Strategies*.<sup>49</sup> This examined global trends in young people's encounters with risk online in order to identify any harm they may experience and to relate this to the range and effectiveness of safety provision by governments, industry and NGOs. Its conclusion called for the development of a stronger evidence base to identify present and emerging challenges of empowerment and protection so as to inform national and international interventions and policy related to children's ICT use.

Further, UNICEF New York Headquarters and the Office of Research (OoR) have stressed the need to extend research and debate beyond a narrow focus on risk and safety matters so as to recognise the role of ICT in the full range of children's rights as specified by the UNCRC, including the right to privacy, freedom of expression and assembly, and freedom to seek information.

As established in section 2, the expectations for research, policy and action regarding children and ICT globally are huge and pressing. While it was not our purpose to review and evaluate UNICEF's current work towards meeting these expectations, some degree of mapping and critique was necessary to answer the key question: should UNICEF undertake a major research agenda to inform efforts to enhance children's rights online globally? (For further details, see Appendix 7: Details of UNICEF's recent work.)

Below we consider first the positive outcomes of this work before turning to some persistent problems. As will be seen, there are considerable grounds for concern both within and beyond UNICEF that this work is not reaping the full benefits one might expect from such effort, and nor is it yet rising to the very considerable challenges that lie ahead.

### **3.2 Positive outcomes from UNICEF's work**

"The digital environment situation becomes more pressing in the middle-income and in particular the upper-middle-income countries – broadly, Central and Eastern Europe... Country offices begin to respond to what children are doing in their own countries, and the issues that the society is facing in those own countries... [For example] Croatia responded very specifically to online bullying, that was the initial entry point for their concern."

*UNICEF staff member*

<sup>49</sup> <http://www.unicef-irc.org/publications/650>

An assessment of the benefits of UNICEF's existing research regarding children and ICT can draw on several criteria. In addition to the importance of the research quality and outcomes, several interviewees emphasised the importance of engaging in the research process itself. The conduct of research often involves building partnerships and working with communities and stakeholders, and this is particularly important in parts of the world where consideration of children and ICT is relatively new (Wøldike, 2012).

Given UNICEF's mandate of advocacy for children, employing child-centred data collection methods can be as empowering as the findings. For example, the Child Protection Partnership engaged children in discussions of their online activities to better inform interventions targeted at reducing ICT-enabled sexual exploitation. In addition, the Fast Talk studies of digitally engaged girls in parts of Africa, Asia and the Middle East promote self-expression and civic engagement among participants.

Through its eight completed reports and ongoing work, the Voices of Youth Citizens project reports progress in establishing and strengthening government partnerships. Through their validation workshops, the Voices of Youth Citizens promotes dialogue between government representatives, UNICEF specialists, industry members, and academics. In collaboration with country offices, the Voices of Youth Citizens has completed four national surveys, with at least another four under development. DCS has paired country offices under restrictive internet climates such as Indonesia and Turkey (although differing in levels of blocking and filtering online content) to develop programming that address issues such as freedom of expression.

As illustrated by the recent studies in Indonesia (Beger, Kounkou Hoveyda & Sinha, 2012) and Viet Nam (Beger, Sinha, & Pawelczyk, in press), working with governments can require a delicate process of negotiation if findings are to be accepted, disseminated and exploited.

In addition, the Voices of Youth Citizens reports successfully engaging youth in various participation initiatives – a recent success was a well-attended workshop in Turkey promoting youth civic engagement<sup>50</sup> and positive engagement with their digital outreach efforts in South Africa.<sup>51</sup> Urs Gasser, Executive Director of Harvard Berkman Center, commented that:

“From the beginning, we were less concerned about meeting some sort of gold standard and [aimed to] really keep the conversations going and get the country offices and their governments interested, and to establish relationships of trust and slowly build capacity.”

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<sup>50</sup> See [http://www.unicef.org/ceecis/Youth\\_in\\_Turkey\\_Exploratory\\_Study%281%29.pdf](http://www.unicef.org/ceecis/Youth_in_Turkey_Exploratory_Study%281%29.pdf)

<sup>51</sup> See [http://www.unicef.org/southafrica/SAF\\_resources\\_mobilegeneration.pdf](http://www.unicef.org/southafrica/SAF_resources_mobilegeneration.pdf)

As an example of innovative new technologies serving as both tools of digital engagement and as data generators, UNICEF Uganda developed the U-report application (Powell, 2011) to improve communication about health, education, and social issues. Posts to Uganda's U-Report reflect large numbers of users whose select comments show positive experiences of engagement (Powell, 2012). Further, the anti-violence in schools programmes initially established by UNICEF in Serbia and Croatia have met with strong commitment by their respective ministries of education to expand to more schools. Initial findings from their surveys indicate that children feel safer in schools that have implemented the anti-violence programmes (UNICEF, forthcoming; Latinac n.d.).

The internal evaluation documents we reviewed typically assessed their work in terms of success in establishing or improving government or local partnerships while also detailing the attendant challenges. But not all research is geared to external stakeholders. Some is designed to test the landscape for other UNICEF activities (further research, establishing priorities for action, designing specific initiatives). Some seeks to promote the development of a digital agenda for UNICEF.

Looking across the range of work, and notwithstanding the use of different methods and different expectations of outcomes, this collection of studies demonstrates UNICEF's commitment to the communities it serves by involving stakeholders in its processes, maintaining transparency, and advocating for broader regulatory and support structures to empower children's use of internet and mobile technology. Indeed, like other organisations (such as ECPAT, OECD, and World Bank), UNICEF considers its processes and partnerships as part of its programme outcomes.

Positive though these outcomes are, the research undertaken by UNICEF could further benefit from rigorous quality assurance mechanisms used by traditional academic criteria (for example, as used by peer reviewers of top journals). This would contribute to ensuring that the UNICEF research stands the test of time, apart from being useful in the moment and location of its initial dissemination. Given the considerable demand for a robust, comparable and relevant evidence base that can fill pressing gaps and meet urgent policy needs, we advocate that UNICEF develop a thorough-going research strategy regarding children and ICTs. Before suggesting what this should include, we consider some of the problems UNICEF has faced in its work in this area. Resolving these problems will be a necessary first step in ensuring that a future research strategy is effective in delivering the findings and recommendations vital for policy and practice.



### 3.3 Problems and challenges for UNICEF's research

In the following section, we highlight research design, quality, measures, dissemination and capacity as key challenges to be addressed by UNICEF before it can develop and sustain an effective research strategy. We explain how the present scoping exercise has found UNICEF's current approach to research on ICT and children to encompass much enthusiasm and insight but, nonetheless, to be rather fragmented and of variable quality. The impact that UNICEF research on ICT and children is making has not been measured systematically; nor is it clear whether or how it shapes UNICEF policy and programme priorities across different sectors. Most strikingly, the huge importance of ICT in today's digital, networked society appears not to have been recognised by UNICEF as the wholesale transformation that it surely represents.

#### Limited research designs

"I think we need to work with organisations who are looking not only on the criminal aspects but also the social aspects because it's such an emerging field that everything gets intertwined. You cannot really isolate the ICT industry, the online usage, without really looking at the factors that are forcing children to go online and some of the online characteristics that they are showing. So it has a deeply embedded social link as well. That needs to be studied."

*Anjan Bose, Programme Officer, ICT and Child Protection, ECPAT International*

Research on children and ICTs faces significant methodological challenges, so attempting to do research with limited resources may undermine the value of the work. In addition to the methodological and ethical challenges of working with children as research participants, this topic requires a unique combination of skills and expertise that encompass the technical, regulatory, educational, cultural and infrastructural dimensions of children's engagement with ICT. It is unlikely that a single person or unit will possess this varied expertise, and therefore the research presents a logistical challenge, particularly for research conducted by local teams in the countries where UNICEF works.

In short, multidisciplinary research teams are needed to conduct robust work in this area, and these have not always been available or funded. They need to combine academic/research expertise with expertise in implementing practical initiatives, and they should be able to call on expertise in evaluation also if they lack it themselves. Both centrally and locally, there needs to be familiarity with the policy scene so as to anticipate the consequences of research findings and tailor recommendations so that the effect is to promote and not undermine rights. As demonstrated in the recent Voices of

Youth Citizens research, it is feasible that partnerships at country level with strategic coordination from headquarters and advice from UNICEF research capacities and global experts can fill gaps in local knowledge, provided this is carefully planned and centrally resourced.

However, our interviews surfaced concerns about the inadequacy of UNICEF's response to the changes in children's lives and their environments, particularly since the distinction between online and offline worlds is no longer relevant in considering children's activities. Yet the concern from internal interviewees is that the organisation has not structurally reviewed its approach to children's provision, protection and participation as required by a world that blurs online and offline.

### **Research quality**

A range of concerns about the quality of research related to children and ICT were raised during internal discussions. Many felt that desk reviews were too insubstantial to address UNICEF's information needs and further advocacy efforts. A few respondents wished for further institutional clarification of the differences in purpose between research-informed advocacy documents, rigorous empirical studies and information briefs.

UNICEF studies of children's use of ICT tend to be one-time efforts with insufficient follow up. Thus, comparisons across countries are often not possible, and nor are comparisons over time. The perception emerged that UNICEF's work is focused on the present and so does not manage to anticipate future needs.

At times the research misses opportunities to explore the investigated issue in more depth, which may be due to external constraints such as lack of funding. For example, the work in Croatia and Serbia does not address how skills and experience can affect vulnerability and resilience in the context of online violence, although this could be a critical contributor to the success of their school-based interventions. The focus on ICT use by adolescents in the Voices of Youth Citizens studies does not address contexts of use (such as practices of parental mediation, the role of cyber café owners, or levels of safety awareness in schools) although this wider knowledge is important when UNICEF seeks to advise governments on digital policy and programming.

### **Success metrics for evaluation research**

It is vital to have an agreement on how success will be measured prior to evaluating evidence-based interventions. The establishment of success metrics assists in

effectively outlining the value of the evidence and sharing best practices from the interventions. It is generally considered insufficient in evaluation studies to rely simply on attendance counts and selected positive comments from participants, as was the case in some of the evaluations that we examined. In other areas of UNICEF's work, more complex evaluation frameworks have been employed, examining changes in attitudes and practices following an intervention, for example. But such an approach is yet to be extended to the work on children's ICT use.<sup>52</sup> Particularly, evaluations of programmatic interventions in this field normally do not collect baseline data, making before-and-after comparisons difficult.

By linking impact measures to clearly defined programmatic outcomes, UNICEF could gain a better sense of the impacts and effectiveness of its ICT related programmes in meeting its institutional goals. Internal interviews reflect a concern about the lack of impact and evaluation measures for programming related to children's use of ICT. It can be time-consuming and expensive to address this problem, especially as evaluation cannot only be immediate but should also assess the effects of interventions over the medium and longer term. Those engaged in evaluating UNICEF's ICT initiatives will need to be trained in evaluation research (design, metrics, analysis) as well as funded to disseminate the findings (reflect on lessons learned, revise future designs, share best practice, liaise with policy makers). However, UNICEF is already committed to evaluating its initiatives in a robust and independent manner; the same expectation should be extended to evaluating the rigour and impact of its research (e.g. its quality and uptake).

### **Disseminating research findings**

UNICEF research in the domain of children and ICT has achieved relatively little visibility. The current scoping exercise did not find any internal measures being used to assess the reach of UNICEF's publications. Take-up of UNICEF publications in the area of children and ICT appears low, as measured by English-language links referencing the reports and other reports citing UNICEF work (see Appendix 2). This compares unfavourably with links and citations numbering over 80 for topically similar reports from EU Kids Online, ITU and the Berkman Center. There is, then, a missed opportunity to disseminate UNICEF's findings.

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<sup>52</sup> For example, when considering the purpose of the participation (such as learning a skill, self-expression or civic engagement) measures beyond attendance are important. These measures could include changes in attitude or behaviour, demonstration of a new skill, returning for a second event, or using a service more than once. Further, while high attendance does indicate interest, who is attending and, more importantly, who is not attending may provide insight into how effectively programmes are reaching target populations.

## Organisational capacity

Conducting the interviews for this report revealed a series of internal organisational challenges concerned with capacity, expertise and coordination.

Although UNICEF's decentralised approach to research allows single sections and country offices to conduct the research they need, the absence of central coordinating mechanisms also leaves it unclear where responsibility for and ownership of the research lies. This lack of clarity is an issue both internally and externally with partners. Projects sometimes lack transparency in terms of which groups are involved, or who has control over methods, questionnaires or data, leading to overlap, delays, and frustration, with partners uncertain of what is expected in terms of type and timeliness of input and outputs.

There was a sense that coordination and knowledge sharing could be improved within UNICEF. Indeed, since work is occurring across sectors and countries, often colleagues are not aware of each other's work. Also mentioned was the difficulty external partners have in knowing who to include in meetings. At a practical level, one internal respondent mentioned using a Google search to find relevant UNICEF research. We faced a similar problem – UNICEF reports are very difficult to find online, with no central repository even within sectors or departments or at country level.

Because a growing number of governments seek guidance from UNICEF in the area of children and ICT, UNICEF has renewed its commitment to 'generate, manage, and share knowledge' critical to ensuring children's well-being (*Harnessing*, 2012). To achieve this goal, UNICEF has already identified the need to develop stronger structures for knowledge sharing across countries and also to prioritise research and analysis for informing effective interventions.<sup>53</sup> This is surely to be welcomed, and we hope that the above suggestions will help strengthen UNICEF's capacity as an evidence-based organisation in the field of children and ICT.

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<sup>53</sup> Across its focus areas, timely data is also consistently identified as a means of strengthening response on the ground. The strategic importance of timely data is again addressed in the *Medium term strategic plan for 2014-2017*, which emphasises the need for quality evidence to be widely distributed and available for use in policy discussions, programme design, and advocacy (*Benchmark for strategies 2014-2017*, 2013). Quality research serves as a cornerstone for meeting goals across sectors, as demonstrated by the significance of the MICS research and violence studies in impacting awareness and local response. The *report on the end of cycle review of the medium term strategic plan 2006-2013* states that 'new data on child development, disability, and child protection indicators have substantially improved planning and monitoring of other programme sectors' (p. 11), indicating that quality evidence contributes to strengthening programming and response across sectors.

## 4. Conclusions and recommendations

### 4.1 An Agenda for Children's Rights in the Digital Age

"I think what UNICEF needs to articulate is some kind of vision which incorporates the virtual world, recognising that it's an increasingly normal part of social space. Any endeavour, unless it's incorporating this area of social space, is missing a dimension."

*UNICEF staff member*

In this report we have considered the potential for a global research agenda on children's rights in the digital age. Such consideration has, perhaps inevitably, revealed support for a much wider vision: that UNICEF should develop what we here call an Agenda for Children's Rights in the Digital Age. In this, we refer back to the UNCRC guiding principles for a structure that encompasses provision, protection and participation rights in relation to children's online as well as offline experiences.

Indeed, internal and external interviewees agreed that UNICEF should now prioritise attention, investment and action to the role of ICT as a cross-cutting theme in all its work, reflecting the fact that ICT is rapidly reshaping children's opportunities and risks worldwide.

In the conclusions and recommendations that follow, we highlight the importance of this wider agenda. Potentially, this could include internal policy and programme guidance as well as a comprehensive research strategy. However, our remit was to focus on research, and thus the detail of our recommendations is concerned with the research strategy that this agenda entails. We hope this provides clarity and direction as regards where and how UNICEF as a whole, and the Office of Research in particular, can focus its work on children and ICTs, as befits its mandate, capacity, and field presence internationally.

Note that the option of doing nothing is increasingly implausible. Already, as a matter of practical activities more than strategic planning, research is underway across UNICEF to investigate children's experiences of ICT in various countries – initiated for specific purposes, often time-sensitive or country-specific, or initiated in response to requests from country offices or needs at headquarters level. It is very likely that such ad hoc or locally generated research will increase in volume, placing considerable demands on the Office of Research and UNICEF New York to guide and advise the research process as well as on UNICEF more generally to respond to the findings and recommendations. A

strategy should be put in place to direct these efforts and ensure that they are neither misplaced nor wasted. Since such ad hoc research is conducted to be responsive to local concerns, and to inform evidence-based policy, the importance of ICT in children's lives should be recognised more broadly within UNICEF.

More importantly, we argue that ICT must be recognised as a crucial cross-cutting theme within UNICEF because ICT is, indeed, reshaping the infrastructure of work, commerce, learning, governance and daily life across the world – thoroughly established in high-income countries, fast expanding in middle-income countries, already in evidence in low-income countries. The point is not so much that children are using the internet and mobile technologies in their daily lives, though this is indeed important. Rather, the point is that to learn, engage, participate, play, work or socialise, children already do and will increasingly rely upon ICT.

## 4.2 Why UNICEF?

### The opportunity to lead

“UNICEF has a good track record of looking at social issues, and child issues, so that they would be well positioned to talk about technology from the perspective of these issues, rather than the technology itself. They have a very good track record of looking at issues ...in a way that then gets translated into policy, which is really important... since we're all playing catch-up all the time, especially around the issue of the proliferation of technologies.”

*Keshet Bachan, Coordinator of Because I am a Girl report, Plan International*

With its unparalleled global reach, reputation and visibility, UNICEF has the opportunity to be a world leader in online child protection and empowerment.<sup>54</sup> It is, therefore, surely also in a unique position to deliver quality evidence about children's use of communication and mobile technologies globally:

- UNICEF is committed to children's rights in terms of provision, participation and protection, and it has already recognised the ever-closer relation between offline and online dimensions of children's lives.

<sup>54</sup> As things stand, UNICEF's low profile in or even absence from ongoing international debates regarding children's rights in the digital age is noticeable and surely problematic for the organisation.

- UNICEF's global reputation for timely and appropriate response to child empowerment and protection provides a strong foundation for response to protection and empowerment needs online.
- As governments face questions about applying the UNCRC in digital contexts, they are already coming to UNICEF, requesting guidance from country offices and headquarters, even assuming that UNICEF will provide leadership and guidance in this area.
- With a presence in 190 countries, UNICEF has established access to a wide range of populations. Through its engagement with rural and urban communities in developing and developed countries, UNICEF has the opportunity to learn about children's ICT practices in a range of contexts. Indeed, there was a clear consensus among external and internal interviewees that UNICEF is uniquely positioned to leverage its networks in studying children's use of changing media technologies.
- UNICEF has the collective expertise to anticipate needs in countries as technology use develops and increases. It can apply its knowledge of barriers to access and empowerment in one context to other comparable contexts. Given its broad network, UNICEF has the potential to limit harms by providing guidance on digital engagement and improving support structures and by understanding children's usage to promote their access to learning and participation.

In short, the opportunities and risks associated with children's digital lives are already firmly within UNICEF's mandate but they are not yet sufficiently prioritised by the organisation. The potential is clear for UNICEF to lead on the research agenda and the policy agenda, formulating high level strategic goals to promote children's rights and to take the Oslo challenge<sup>55</sup> into the 21st century.

### **A major decision to be taken**

As most experts asked: if not UNICEF, then who else? But while this scoping exercise has revealed very positive views of UNICEF's reach and reputation, to take forward a Research Agenda for Children's Rights in the Digital Age would also require substantial capacity and commitment. This would require a top-level decision and major investment of resources. We observed earlier that UNICEF's research faces challenges regarding evaluation, visibility, methodology, capacity and coordination. But even more important is the question of priorities. While child survival and child development are clear priorities for UNICEF, less clear are its priorities related to the internet and mobile technologies, both in terms of children as users and, more widely, ICT as a tool to empower the countries and communities in which they live.

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<sup>55</sup> <http://www.unicef.org/magic/briefing/oslo.html>



Debate continues about where programming and research efforts should be focused, with competing priorities in the areas of protection versus provision and participation. However, research and programming in the area of children and ICT is currently rather informally distributed across a few key units, with country offices engaging in research ad hoc, albeit with guidance from Headquarters.<sup>56</sup> Currently, an institutional research agenda in this area is lacking and no dedicated resources have been allocated to targeted research on children's experiences of internet and mobile technologies. If ICT is genuinely to be a recognised and effective cross-cutting theme within UNICEF, this situation would have to change.

### **Establishing partnerships**

"UNICEF has the visibility, the credibility, the reach, and the resources. I think they have the resources to do these kinds of studies, but they cannot do it alone. I think what we are trying to imply is that partnerships are very important in this kind of research. You need to work with agencies who are working on the ground with young people or with victims, or with other stakeholders, with industry and so on, to really have a feel of what's going on."

*Anjan Bose, Programme Officer, ICT and Child Protection, ECPAT International*

UNICEF is not the only organisation working in this field, and whatever direction it decides upon, UNICEF's research strategy must dovetail with – and partner with – the efforts of others in researching this fast-changing and complex environment. UNICEF already has a strong history of partnering with other UN agencies, global organisations, academic institutions and governmental organisations to increase their reach and supplement regional expertise.

Other UN agencies share research interests in children's use of the internet and mobile technologies. In particular, UNESCO recently completed a series of working papers that review mobile learning initiatives, implications for ICT in education policies, and how mobile technologies support teacher development across developed and developing countries. Also relevant is UNESCO's media and information literacy work, providing opportunities to engage in complementary research to respond to policy and programming goals.

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<sup>56</sup> While children's use of communication and mobile technology is addressed by many sectors within UNICEF, five main groups pursue research and programming in this area: the Social and Civic Media Unit of the Division of Communication; Gender, Rights, and Civic Engagement Section of Programme Division; the Child Protection Section, Programme Division; Innovations Unit; Office of Research in Florence.

As past partnerships with global organisations such as ECPAT and Plan International demonstrate, pooling regional expertise extends UNICEF's research reach and possibilities. Especially in developing countries with limited infrastructure, organisations can help fill each other's gaps in expertise and in local contacts. Key global organisations already collecting data on household internet use have proposed to study children's use of mobile and communication technologies (OECD, 2011; ITU, 2010a). Rather than duplicate efforts, or be unable to pursue comparative global research, partnering around mutual interests provides a promising option. Past UNICEF partnerships resulted in complementary research, for example, ECPAT's involvement in the Violence Against Children studies led to research into the role of ICTs in promoting or extending violence for children.<sup>57</sup> Likewise, partnerships between UNICEF and Plan International allow both organisations to examine gender issues in developing countries.

Partnerships with government agencies have proven essential, if not somewhat challenging, for ongoing research into children's use of internet and mobile technologies. As demonstrated by the DCS studies, governmental participation can help with access to diverse populations while also exploring ways in which research can inform legislation and proportionate responses. Since children's activities are occurring within the context of legislation as well as educational, social, and economic opportunities, these partnerships are essential for adequate understanding. Yet these relationships must be carefully navigated. Guidelines must be established to promote mutually beneficial collaborations while also limiting the extent to which governments can influence the results and reporting of research within their countries.

Given the expertise challenges presented by research on children and ICTs, finding academic partners with deep expertise in the topic can move research forward more quickly, reducing redundancies with existing work and pinpointing appropriate questions specific to demographics and practices. Additionally, academic partners with proven experience in rigorous empirical research involving children and ICTs can anticipate challenges in studying children, can ensure that appropriate ethical issues are addressed, and can bring research designs already tested with children in other contexts. Additionally, academic institutions with a track record of large-scale empirical research can provide infrastructure to support local and large-scale projects. As with other external partnerships, guidelines for collaboration can aid in identifying institutions and academics with established records in empirical research related to children and ICTs.

Private sector partnerships have been pursued by UNICEF with varied success. The Corporate Social Responsibility unit engages in successful collaborations with industry, including co-development of UNICEF's *Children's Rights and Business Principles* and for the International Telecommunications Union's Child Online Protection Initiative,

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<sup>57</sup> [http://www.ecpat.net/ei/Publications/ICT/Cyberspace\\_ENG.pdf](http://www.ecpat.net/ei/Publications/ICT/Cyberspace_ENG.pdf)

*Private Sector Guidance.* Some UNICEF staff, who work directly with industry, argued that given the fast pace of technological change, private sector partnerships are necessary for accessing the most current data and expertise on children's use of mobile and internet technologies. They consider the developers and distributors of technologies to be key stakeholders, potentially essential to reducing probability of harmful outcomes and increasing opportunities for learning and empowerment. While private sector partnerships may seem an attractive option, several external experts expressed hesitation. Past collaborations have led to difficulties, with companies considering data proprietary, or providing data in aggregate rather than in raw form for analysis. Additionally, external experts voiced concerns about bias and control:

"I think it would be important to do the research without a corporate sponsor. I feel strongly that it would be really beneficial to have some very unbiased research. Maybe what's out there isn't biased, but it would be nice to feel more secure that nothing is paid for by the corporations."

*Linda Raftree, Senior Advisor, Innovation, Transparency and Strategic Change at Plan International, USA*

"The organisation needs to fully fund the research project, the report, the production, and so on and so forth. So it has budgetary implications, but it's also proved to be a good strategy in terms of seeing this report [*Because I am a Girl*<sup>58</sup>] as a critical intervention, completely unbiased, and reflecting kind of a third sector belief in holding governments and organizations accountable. And you can't do that if they are writing it with you."

*Keshet Bachan, Coordinator of Because I am a Girl report, Plan International*

Many opportunities exist for partnerships that can extend and complement UNICEF's global presence. Shared expertise and resources provide several options for the development of a strong research base. Yet careful consideration should be given to the particulars of research partnerships. Depending on priorities and resources, this research field is open to UNICEF to take on a leadership role, and this is our recommended course of action.

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<sup>58</sup> <http://plan-international.org/girls/reports-and-publications/all-reports-en.php?lang=en>

### **4.3 Towards a Research Agenda for Children's Rights in the Digital Age**

"If there were a CRC for the Digital Age and secondly a series of policy recommendations that we could put in place to governments that say these are the six most important things that you need to do to ensure that your young people's engagement is constructive, rather than destructive or worrying, then that would be a hell of a good start."

*UNICEF staff member*

ICTs are increasingly a part of many children's everyday lives even in those parts of the world where the internet has not yet widely diffused. It is clear from the current evidence base that a lack of baseline, contextual and comparable data, especially for hard-to-reach populations, means that child-focused organisations are impeded in their capacity to improve provision, increase safe use through prevention, training and protection, and encourage children's participation and engagement with their community. Children are now living in a digital age and the ramifications this has for the implementation of the UNCRC – potentially as a Global Agenda for Children's Rights in the Digital Age – are profoundly important. Serious consideration of this by UNICEF, including through developing a research strategy to underpin such an agenda, would probably generate much interest.

#### **Key research questions**

From our discussions, interviews and report reviews, four research questions emerged as central to guide evidence-based policy. Each has received some attention in the global North, but this state of affairs needs significant updating. Each has received little attention in the global South, and this is a pressing research gap:

- How are children gaining access to and using internet and mobile technologies within their daily lives?
- In what ways does the use of internet and mobile technologies enable children to have greater access to information, education, participation and other valued resources?
- How does their use of internet and mobile technologies compound existing vulnerability or add new risks of harm to their well-being?

- Who are the key people or organisations that could mediate children's use of internet and mobile technologies so as to maximise opportunities and minimise harm?

These questions are challenging intellectually, methodologically and practically. They could be defined even more broadly, by substituting ICT for 'internet and mobile technologies' in these four questions. But since any work UNICEF undertakes in the developing world will increasingly face the question of how children are accessing the internet and using it in their daily lives, questions such as these must be answered.

### **Requirements of a research strategy**

It is likely that new research across diverse national contexts will be required. For this, a research strategy should identify priority areas for work. While the UNCRC offers a clear starting point, translation work will be needed to determine how its articles apply in online and mobile domains.

In determining priorities, UNICEF should identify the emerging challenges in relation to children's rights, such as privacy and freedom of expression, including attention to those occasions when the rights conflict. At present, such challenges have been met by researchers and policy makers predominantly working in the global North; identifying the particular challenges of working in middle- and low-income countries is now a priority.<sup>59</sup> Whatever role is envisioned, it is also important that UNICEF:

- Articulates its research priorities regarding children in ICT in a way that makes sense for the different programmes already underway or planned by UNICEF, so that ICT is recognised as a vital and cross-cutting rather than separate area of activity;
- Develops research methodology that capitalises on UNICEF's unique capacity and expertise in survey research and qualitative action research;
- Invests in the expertise and resources to initiate comparative analysis that draws together national studies so as to reach wider conclusions, reveal cross-national trends and share key lessons and best practice;
- Conducts literature reviews so as to recognise the breadth of research conducted by academic and other research organisations on, for example, changing social norms or emerging social networking or friendship practices or practices of parental mediation;

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<sup>59</sup> The experience of applying the EU Kids Online work in Brazil gives some advance warning of the difficulties, costs, and training needs involved in working in countries with highly rural, poor and/or often illiterate populations. See <http://cetic.br/publicacoes/2012/tic-kids-online-2012.pdf>

- Improves models of impact and evaluation by drawing upon evaluations of others who are acting in this field;
- Ensures strong dissemination, both internally and externally, so as to improve communication of current needs and results, and assists programming and advocacy at the country level.

## Forms of research

The practical challenge of conducting research in 190 countries is vast, although cross-national research need not be conducted simultaneously in all countries. Equally demanding is the intellectual challenge of, on the one hand, designing standardised research (typically quantitative) to maximise comparability of findings across countries and, on the other hand, designing contextualised research (typically qualitative) to maximise interpretability and applicability of findings within a particular country.

Undoubtedly, there are many forms of research, including:

- *Exploratory research*, interested in children's experiences, parental concerns to see what's emerging or to address local issues. It is likely that country offices will continue to conduct such research, as will many other research organisations internationally. It is also possible for the Office of Research, in collaboration with the New York Headquarters, to lead on qualitative research to identify new emerging issues cross-nationally, and to exploit findings beyond the country level.
- *Explanatory research*, generally more in-depth, theoretically informed and targeted on a key issue (e.g. privacy, online reputation, changing social norms, the nature of friendship online). It is likely that academic researchers will continue – indeed increasingly – to undertake such research, and UNICEF should conduct periodic literature reviews, whether externally commissioned or conducted in-house, so as to distil key lessons and share evidence-based recommendations.
- *Evaluative research*, to assess whether interventions work, why, and under what circumstances. There is a considerable demand for such research from within UNICEF, precisely so that local and contextual efforts can be recognised and further exploited by sharing best practice. Although evaluations are sorely needed regarding the use of ICT as a platform for interventions as well as regarding the specific opportunities or problems faced by children as they use the internet and mobile technologies, the methodology of evaluative research is not necessarily ICT-specific. Such evaluation is well developed and widely practiced; in the present context we would simply emphasise that ICT raises new

challenges, and country offices are calling on UNICEF for greater efforts to advise on what works as they attempt to address these.

- *Expertise research*, to address the many specialist issues that arise as children's rights become embedded in or undermined by the emerging digital infrastructures of information, communication and governance. Here we recommend that UNICEF listens out for key issues as they arise, and then commissions expert opinion or hosts expert seminars to address these on an ad hoc basis. Our earlier recommendations regarding knowledge management (sharing reports, disseminating insights, etc.) apply here too.
- *Epidemiological research*, to measure prevalence of uses, opportunities, risks and safety practices, using a standardised, global approach that is comparative across countries/cultures as well as over time. Many of those interviewed called for a substantial investment in this fifth form of research. During our internal interviews, the EU Kids Online project was mentioned frequently as a model for the type of global comparative cross-national research that policymakers would find useful and wish to replicate in developing countries.<sup>60</sup>

All the above forms of research are greatly needed. But external and internal interviewees most often advocated that UNICEF should lead on the epidemiological survey research, to examine the prevalence of children's ICT uses, opportunities, risks and safety practices around the world, especially in middle- and low-income countries, and on the evaluative research to examine what works, why and under which conditions.

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<sup>60</sup> The EU Kids Online project, funded by the EC's Safer Internet Programme and currently in its third phase, conducted a face to face household survey of children and their parents about children's experiences online. Their 2011 report examined children's online experiences and attitudes using a random stratified sample of 25,142 children aged 9-16 from 25 European countries. To date, it is the largest and most comprehensive study of children's online experiences, offering comparable data that has been interpreted into policy recommendations and programming across Europe. See [www.eukidsonline.net](http://www.eukidsonline.net)



## **Possible models for epidemiological/survey research**

It is no simple undertaking to survey children around the world about their engagement with ICT, especially children in developing countries, and especially if the findings are to be both cross-nationally comparative and locally applicable.<sup>61</sup> Below we suggest several possible models for research:

- A *standardised survey* rolled out centrally to children (and parents) across many countries. Arguably the 'gold standard' of research, such an approach would be very expensive, and it would require significant country collaboration to ensure local value gained from the findings.
- A *modular survey*, made available centrally but to be administered in to or in sections as desired by country offices. This can offer greater flexibility and is easier to fund, but would require strong central controls and considerable expert support and guidance (sample, ethics, statistics) to ensure quality control, develop a core set of issues that would be explored across countries, plus examine country-specific or environment-specific issues.
- A *succinct module* that can be added to existing surveys of households or children.<sup>62</sup> This would require influence to get a new module into crowded questionnaires, plus in-house expertise to analyse findings.

Since the standardised survey, administered simultaneously across all countries and regularly updated, is a near-impossible (and unaffordable) undertaking, our primary

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<sup>61</sup> The EU Kids Online project (see [www.eukidsonline.net](http://www.eukidsonline.net)) was often cited as a successful model for this. However, the cost and effort that went into this project should not be underestimated. The funding from the EC's Safer Internet Programme, totalling 2.5 million Euro, was largely spent on the direct costs of surveying a random sample of children face-to-face at home in 25 countries and languages, and on the role of the coordinator in networking national teams in each country and disseminating findings. The substantial work of the 25 national research teams was contributed in kind (in effect, by their universities) and if fully costed would add very considerably to the final total. Few direct comparable surveys are conducted cross-nationally on this scale, and it is not clear that the same project would be feasible if many more countries were to be included, especially if they are in very different parts of the world. Last, the network's task was eased by the existence of a parallel network of awareness raisers and educators (Insafe, based in European Schoolnet) and the wider framework of the EC's Safer Internet Programme; their work ensured a continual dialogue between research producers and research users, so that the findings could more effectively guide policy interventions and practical initiatives in each country. Again, this infrastructure is not so strong beyond the global North.

<sup>62</sup> For instance, it could be included in UNICEF's Multiple Indicator Cluster Surveys (MICS) surveys of women and children, currently conducted in over 100 countries and focusing on health, education, child protection, and HIV/AIDS (UNICEF, 2011c). For MICS, data are collected through face-to-face interviews in nationally representative samples of households. The questionnaires are based on a core set of questions, with options for context-specific modules that reflect country-level priorities (UNICEF, 2011d). To build research capacity in participating countries, extensive training workshops are conducted in country by Headquarters staff. The data are sent to the MICS Team at Headquarters for analysis. Another possibility is including a module into the Violence against Children Surveys, which are national household surveys, carried out by governments in several countries in Africa and Asia with support from UNICEF and the US Centers for Disease Control and Prevention (CDC) and other partners of the Together for Girls Initiative.

recommendation is for the modular approach that could be flexibly implemented, combining comparability across countries while being tailored to local conditions. This could, of course, also provide the necessary modules regarding children and ICT to be included in existing surveys, and we recommend that UNICEF also actively pursues such opportunities.

A modular survey is understood as one that:

- Builds on existing reputable surveys by replicating core questions (or question blocks);
- Subdivides areas of questions, including central and supplementary questions in each;
- Specifies the required questions necessary for comparison across country and over time;
- Permits the addition of new areas of questions to fit technological/social change or particular local/national contexts;
- Provides technical information on item selection, scale validity and reliability;
- Provides a protocol for survey administration (including research ethics, sampling, questionnaire administration and related practicalities);
- Establishes criteria for quality control with a management system to ensure this;
- Provides a structure and protocol for standardised data recording, cleaning, coding and sharing;
- Provides the resources (central, distributed or externally commissioned) for data comparison, interpretation and reporting.

The main point is that, on a country or regional basis, the survey could be administered by selecting from the question blocks (according to particular interests and purposes). Minimally, the results could be exploited for local purposes. Ideally, UNICEF Office of Research would gain access to the dataset and integrate it with those collected by others, in order to conduct comparative analysis over time/country and use the value-added for far wider benefit.

In practical terms, this would require considerable centralised expertise (multidisciplinary and multi-method) to design, analyse and interpret the findings. But this could be marshalled on a periodic basis if funds are insufficient to sustain this on a permanent basis. What would be required on a more permanent basis would be the expertise and resources to promote the survey, guide those implementing it, undertake quality control checks, and collect/collate the results.

The experiences of *EU Kids Online*, *Young Lives*, and Plan International's *Because I am a Girl* study all point to a networked approach by which country partners collect data and use its findings on a national basis while an adequately resourced and available coordinator maintains control of the design, quality and analysis in order to maximise the wider value of multinational research. There is, to be sure, much more that could be

developed and discussed in the above proposal, and furthermore UNICEF has already developed a range of research models in other areas, which could provide valuable insights in this field. However, such work remains for the future, should the UNICEF Office of Research decide to take it forward, in whatever form.

UNICEF should consider building diverse partnerships to meet the demands of the proposed research strategy. A practical breakdown of tasks would include:

- Establishing an international panel of advisors to guide the research strategy on children and ICT for UNICEF;
- Consulting on, designing and pre-testing the survey modules (a task to be updated and extended with new modules periodically);
- Constructing and updating the toolkit for survey administration (sampling, ethics, administration, dissemination, etc.);
- Advising on the translation, pre-testing, application and implementation of survey modules in country contexts;
- Periodic consultancy to UNICEF on new challenges or emerging problems (methodology, results, comparison, best practice, policy implementation);
- Management and administration of survey fieldwork in national or regional contexts, including troubleshooting difficulties on the ground;
- Analysis and reporting of national findings so as to ensure relevance to national policy contexts;
- Evaluation of the use of findings in national contexts to show the benefits of evidence-based policy interventions;
- Periodic collation of results from groups of countries for regional or topical comparative analyses and reporting;
- Compiling and analysing indicators of digital well-being (possibly by creating a 'scorecard' or similar, to focus policy attention on the rights-based dimensions of digital protection and engagement);
- Construction of concise modules of key indicators to be included in ongoing surveys conducted by others (including other parts of UNICEF's work) so as to include a digital dimension within other areas of work;
- Periodic academic/statistical review of findings and conclusions across countries for public recommendations to UNICEF (and others) regarding the changing landscape and priorities regarding children and ICT.

UNICEF must consider which of these tasks can be completed internally, which parts might be best led by relevant units within UNICEF, and which dimensions require partnering with academic or other types of organisations.

## **Investment in research infrastructure**

If the Office of Research is to expand its work in relation to children and ICT, our interviews and review of current work point to the importance of strengthening research infrastructure across UNICEF. Specific recommendations are elaborated in this report:

- Capacity building: to integrate diverse disciplines and areas of expertise – including training, expert resources and forums to link Headquarters, regional and country offices; this should always be forward-looking to grasp emerging challenges. Capacity building is best achieved through strategic partnerships (at the UN agency level, at an international level through civil society networks, and through academic partnerships).
- Establish and disseminate best practice guidance to ensure high standards of research practice, interpretation and use; this should include building community of practice, including advisors for specialist expertise and 'critical friends', along with youth (and parent/carer) participation.
- UNICEF is positioned, in partnership with experts in the field of children and ICT, to lead on this research agenda, to establish high level strategic goals, and promote children's rights, thus taking forward the Oslo challenge into the 21st century.
- Internally, build strong relations with relevant UNICEF programmes so as to anchor ICT as a cross-cutting theme, in order to establish its contribution to existing programmes of work.
- Externally, establish strategic partnerships at a UN agency level, at an international level through civil society networks, and with academic partners.
- Establish consistency in format and branding across reports, including date of publication, references for other UNICEF publications, and accessible URL, to build visibility and coherence for the work undertaken.
- Establish a strategy for research coordination and exploitation across UNICEF offices (Research, Communication, regional and country offices, etc.), including clear lines of responsibility and strong internal communication.
- Establish a champion for the research agenda, to ensure external research users grasp the value of the work and exploit its results fully; the champion would identify practical applications of the research and generate momentum to bring in funding and promote outcomes.

- Build a research platform for knowledge sharing, both internally and public-facing; this should include a prominent report repository and, ideally, access to datasets, research/ethics guidelines, evaluation tools and best practice outcomes – all easily accessible in one place.

#### **4.4 A final word**

Many of the sources of opportunity and harm to children in their daily lives are gaining an online dimension. Drawing the line between offline and online is becoming increasingly impossible. Henceforth it should be anticipated that almost any experience will have some online dimension, whether directly experienced by the child or in terms of the online management or provision of services or records regarding the child. Treating the internet as marginal to children's rights is becoming ever more short-sighted or even misguided as a strategy. But whether one focuses on empowerment or protection or both, ICT does not fall from Mars – society is itself inventing, shaping and embedding particular instantiations of socio-technical infrastructures across many spheres of life. Those concerned with children's rights should be playing an active role in this process.

UNICEF operates under the guiding principles established in the *UN Convention on the Rights of the Child* (UNCRC). As children's offline lives increasingly blend into their online lives, the UNCRC guiding principles offer a structure for addressing provision, protection, and participation rights in relation to children's online as well as offline experiences.

Current research gaps in knowledge of children's experience of internet and mobile technologies genuinely matter to UNICEF's work internationally. But at present, UNICEF's research efforts are insufficient to match the scale of the task required if the organisation is truly to advance children's rights, well-being and safety in the digital age.

Many are becoming engaged in this field, across public, private and third sectors. We have argued that UNICEF is uniquely positioned to collaborate with others, and that we believe it should be a leader in relation to children and ICT internationally. Certainly, it should not be left lagging behind in relation to international deliberations and action. Within this broad agenda, we have recommended that UNICEF takes a lead in ensuring that robust, cross-nationally comparative research is conducted in countries around the world to guide their policy and practice in promoting children's rights, digital and otherwise.

*Hence we recommend that UNICEF develops an Agenda for Children's Rights in the Digital Age, together with a research strategy that prioritises and contributes to research internationally, so as to ensure a sufficient evidence base on children's engagement with ICT for policy and action worldwide.*

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Appendix 1: Global internet and mobile diffusion

	1. Internet users	2. Mobile phones	3. Households with a PC	4. Households with Internet	5. Fixed internet	6. Mobile internet	7. Use of social networks		1. Internet users	2. Mobile phones	3. Households with a PC	4. Households with Internet	5. Fixed internet	6. Mobile internet	7. Use of social networks
Iceland	95.0	106.1	94.7 <sup>i</sup>	92.6	33.9	57.0	6.6	Egypt	38.7	101.1	36.4 <sup>i</sup>	30.5	2.2	24.0	5.9
Norway	94.0	115.6	91.0 <sup>i</sup>	92.2	35.4	76.5	6.4	China	38.3	73.2	35.4	23.7 <sup>iv</sup>	11.6	9.5	4.9
Netherlands	92.3	115.4 <sup>iv</sup>	94.2 <sup>i</sup>	93.6	38.7	49.2	6.4	Moldova	38.0	104.8	36.9	34.7 <sup>iv</sup>	10.0	3.5	5.3
Sweden	91.0	118.6	91.6 <sup>i</sup>	90.6	31.8	91.5	6.4	Georgia	36.6	102.3	18.2	16.6 <sup>iv</sup>	7.5	21.3	5.6
Luxembourg	90.9	148.3	91.7 <sup>i</sup>	90.6	32.9	66.7	6.1	Peru	36.5	110.4	23.0	14.0 <sup>iv</sup>	4.0	1.4	5.1
Denmark	90.0	128.5	90.4 <sup>i</sup>	90.1	37.6	80.2	6.0	Mexico	36.2	82.4	30.0 <sup>i</sup>	23.3	10.2	6.5	5.3
Finland	89.4	166.0	85.1 <sup>i</sup>	84.2	29.5	87.1	6.3	Dominican Republic	35.5	87.2	18.9 <sup>i</sup>	11.8	4.0	7.7	5.6
Qatar	86.2	123.1	88.3 <sup>i</sup>	83.6	8.7	70.3	6.3	Viet Nam	35.1	143.4	16.0 <sup>i</sup>	12.5 <sup>iv</sup>	4.3	18.0	4.7
New Zealand	86.0	109.2	83.9	79.0 <sup>iv</sup>	25.8	53.1	6.2	Mauritius	35.0	99.0	38.2 <sup>i</sup>	36.4	8.9	12.5	5.4
Switzerland	85.2	131.4	86.9	85.0 <sup>iv</sup>	40.0	35.6	6.2	Jordan	34.9	118.2	50.8 <sup>i</sup>	35.4	3.2	4.9	5.9
Korea, Rep.	83.8	108.5	81.9 <sup>i</sup>	97.2	36.9	105.1	6.0	Armenia	32.0	103.6	20.0	13.6 <sup>iv</sup>	5.0	25.9	5.4
Canada	83.0	79.7	83.9	78.9 <sup>iv</sup>	31.8	38.4	6.3	Cape Verde	32.0	79.2	11.3	2.5 <sup>iv</sup>	4.3	3.0	5.2
Germany	83.0	132.3	86.9 <sup>i</sup>	83.3	33.1	34.8	5.8	Guyana	32.0	69.9	7.2	6.1 <sup>iv</sup>	2.6	0.0	5.7
United Kingdom	82.0	130.8	84.6 <sup>i</sup>	85.1	32.7	52.6	6.6	Suriname	32.0	178.9	32.3 <sup>i</sup>	17.5	4.6	0.0	4.9
Austria	79.8	154.8	78.1 <sup>i</sup>	75.4	25.4	42.6	6.2	Jamaica	31.5	108.1	22.7	14.0 <sup>iv</sup>	3.9	1.5	5.7
France	79.6	94.8	78.2 <sup>i</sup>	75.9	36.0	36.6 <sup>iv</sup>	6.1	Ecuador	31.4	104.5	28.8 <sup>i</sup>	16.9	4.2	10.3	4.8
Japan	79.5	105.0	83.4	81.3 <sup>iv</sup>	27.6	101.3	5.4	Ukraine	30.6	123.0	25.2	22.2 <sup>iv</sup>	7.0	4.4	5.2
Australia	79.0	108.3	82.6 <sup>i</sup>	78.9	24.3	73.0	6.2	Bolivia	30.0	82.8	27.0 <sup>i</sup>	9.4	0.7	2.8	3.9
Belgium	78.0	116.6	78.9 <sup>i</sup>	76.5	33.0	19.4	6.2	Philippines	29.0	99.3	13.1	10.1 <sup>iv</sup>	1.9	3.4	6.0
United States	77.9	92.7	75.5	71.6 <sup>iv</sup>	27.4	74.5	6.2	Nigeria	28.4	58.6	9.3 <sup>i</sup>	4.6	0.1	10.0	5.3
Bahrain	77.0	128.0	90.0 <sup>i</sup>	76.8	13.8	9.5	6.2	Kenya	28.0	67.5	4.1	2.2 <sup>iii</sup>	0.1	0.3	5.2
Ireland	76.8	108.4	80.6 <sup>i</sup>	78.1	22.0	59.4	6.0	Paraguay	23.9	99.4	22.7 <sup>i</sup>	19.3	0.9	4.4	4.9
Estonia	76.5	139.0	71.4 <sup>i</sup>	70.8	24.8	42.0	6.4	Thailand	23.7	111.6	24.7 <sup>i</sup>	13.4	5.0	0.1	5.4
Hong Kong SAR	74.5	214.7	77.9	76.4 <sup>iv</sup>	31.6	55.2	6.2	Iran, Islamic Rep.	21.0	74.9	33.7	20.8 <sup>iv</sup>	2.4	0.0	3.1
Slovak Republic	74.4	109.3	75.4 <sup>i</sup>	70.8	13.6	31.9	5.7	South Africa	21.0	126.8	18.3	9.8	1.8	19.8	5.3
Kuwait	74.2	175.1	69.0 <sup>i</sup>	57.7	1.7 <sup>iv</sup>	n/a	5.7	Kyrgyz Republic	20.0	116.4	4.0	3.6 <sup>iv</sup>	0.7	n/a	4.9
Czech Republic	73.0	123.4	69.9 <sup>i</sup>	66.6	15.8	43.4	6.0	Mongolia	20.0	105.1	22.3	7.7 <sup>iv</sup>	3.2	17.3	5.3
Slovenia	72.0	106.6	74.4 <sup>i</sup>	72.6	24.3	29.3	5.4	Swaziland	18.1	63.7	10.7	3.6 <sup>iv</sup>	0.2	0.7	5.1
Taiwan, China	72.0	124.1	87.5 <sup>i</sup>	82.5	23.7	42.7	5.9	Indonesia	18.0	103.1	12.0 <sup>i</sup>	7.0	1.1	22.2	5.7
Barbados	71.8	127.0	61.4	51.0 <sup>iv</sup>	22.1	77.1	6.1	El Salvador	17.7	133.5	13.3	8.0 <sup>iv</sup>	3.3	3.6	5.6
Latvia	71.7	102.9	64.3 <sup>i</sup>	63.6	20.4	37.6	5.5	Senegal	17.5	73.3	5.7	4.5 <sup>iv</sup>	0.7	1.5	5.4
Singapore	71.0	150.2	86.1 <sup>i</sup>	84.8	25.6	114.1	6.2	Libya	17.0	155.7	7.6 <sup>ii</sup>	9.2 <sup>iv</sup>	1.1	n/a	4.7
Croatia	70.7	116.4	60.0	61.4	19.6	34.9	5.2	Honduras	15.9	104.0	12.9	6.8 <sup>iv</sup>	0.4	3.7	5.2
Israel	70.0	121.7	79.0 <sup>i</sup>	71.0	24.8	40.6	6.0	Zimbabwe	15.7	72.1	5.9 <sup>i</sup>	4.0	0.3	14.9	4.6
United Arab Emirates	70.0	148.6	76.0	67.0	11.0	21.7	6.2	Sri Lanka	15.0	87.0	12.3	5.9 <sup>iv</sup>	1.7	2.3	4.8
Malta	69.2	124.9	76.4 <sup>i</sup>	75.3	30.9	32.6	6.4	Yemen	14.9	47.0	4.0	2.9 <sup>iv</sup>	0.4	0.1	4.0
Oman	68.0	169.0	58.0 <sup>i</sup>	38.9	1.8	37.8	5.3	Ghana	14.1	84.8	9.1	0.3 <sup>iii</sup>	0.3	23.0	5.1
Spain	67.6	113.2	71.5 <sup>i</sup>	63.9	23.8	41.6	5.6	Algeria	14.0	99.0	20.0	10.0 <sup>iv</sup>	2.8	0.0	5.2
Lithuania	65.1	151.3	61.8 <sup>i</sup>	61.8	22.1	17.2	6.0	Tajikistan	13.0	90.6	2.9	0.2 <sup>iv</sup>	0.1	n/a	4.3
Poland	64.9	131.0	71.3 <sup>i</sup>	66.6	14.7	49.6	4.7	Uganda	13.0	48.4	1.2 <sup>iii</sup>	0.2 <sup>v</sup>	0.1	2.8	4.3



**Global Agenda for Children's Rights in the Digital Age**

Malaysia	61.0	127.0	64.1 <sup>i</sup>	61.4	7.4	12.3	6.0	Namibia	12.0	96.4	13.0 <sup>i</sup>	10.0	0.8	20.9	4.9
Bosnia and Herzegovina	60.0	84.5	33.7	23.0 <sup>iv</sup>	9.7	9.2	5.6	Tanzania	12.0	55.5	4.0 <sup>i</sup>	4.5	0.0	1.2	4.2
Hungary	59.0	117.3	69.7 <sup>i</sup>	65.2	22.2	11.9	5.4	Guatemala	11.7	140.4	15.8	2.1 <sup>ii</sup>	1.8 <sup>iv</sup>	4.1	5.3
Cyprus	57.7	97.7	63.9 <sup>i</sup>	57.4	18.9	30.8	5.7	Zambia	11.5	60.6	2.4	2.0 <sup>iv</sup>	0.1	0.2	5.2
Italy	56.8	157.9	66.2 <sup>i</sup>	61.6	22.1	33.3	5.6	Gambia, The	10.9	78.9	5.7	2.0 <sup>v</sup>	0.0	0.5	5.1
Macedonia, FYR	56.7	107.2	53.6	46.1 <sup>iv</sup>	12.6	18.1	5.8	Nicaragua	10.6	82.2	8.2	2.0 <sup>Error!</sup>	1.4	0.8	4.4
Brunei Darussalam	56.0	109.2	79.6	65.0 <sup>iv</sup>	5.7	6.3	6.1	India	10.1	72.0	6.1	4.2 <sup>iv</sup>	1.1	1.9	5.1
Portugal	55.3	115.4	63.7 <sup>i</sup>	58.0	21.0	27.4	5.9	Nepal	9.0	43.8	4.2	1.0 <sup>Error!</sup>	0.3	0.1 <sup>iv</sup>	4.4
Trinidad and Tobago	55.2	135.6	53.1	18.6 <sup>iv</sup>	11.5	1.2	5.5	Pakistan	9.0	61.6	8.1 <sup>iii</sup>	8.0 <sup>iv</sup>	0.4	0.2	4.8
Chile	53.9	129.7	46.8	35.0 <sup>iv</sup>	11.6	18.0	6.0	Haiti	8.4 <sup>iv</sup>	41.5	5.9	2.7 <sup>iv</sup>	0.0	0.0	4.8
Greece	53.0	106.5	57.2 <sup>i</sup>	50.2	21.6	39.9	5.2	Gabon	8.0	117.3	7.6	6.0 <sup>iv</sup>	0.3	0.0	4.7
Lebanon	52.0	78.6	71.5 <sup>i</sup>	61.8	5.2	0.0	5.6	Botswana	7.0	142.8	6.5	2.0 <sup>Error!</sup>	0.8	11.8	5.0
Uruguay	51.4	140.8	52.8	33.3 <sup>iv</sup>	13.5	21.5	5.7	Rwanda	7.0	40.6	1.3	3.2 <sup>iv</sup>	0.0	1.0	4.4
Bulgaria	51.0	140.7	46.8 <sup>i</sup>	45.0	16.4	29.9	5.3	Bangladesh	5.0	56.1	3.1	2.6 <sup>iv</sup>	0.3	0.0	4.6
Morocco	51.0	113.3	39.0 <sup>i</sup>	35.3	1.8	8.0	5.8	Cameroon	5.0	52.4	5.4	1.3 <sup>v</sup>	0.0	0.0	4.7
Azerbaijan	50.0	108.7	21.5	35.3 <sup>iv</sup>	10.7	21.5	5.9	Mauritania	4.5	93.6	3.0	1.0 <sup>Error!</sup>	0.2	4.9	4.4
Albania	49.0	96.4	15.6	13.7 <sup>iv</sup>	4.0	8.8	5.5	Mozambique	4.3	32.8	4.0 <sup>v</sup>	0.9 <sup>iii</sup>	0.1	1.0	4.1
Russian Federation	49.0	179.3	57.1 <sup>i</sup>	46.0	13.1	47.9	5.1	Lesotho	4.2	56.2	5.0	1.3 <sup>iv</sup>	0.1	1.7 <sup>iv</sup>	4.3
Puerto Rico	48.0	83.0	55.0	50.0 <sup>iv</sup>	14.9	14.7	6.3	Benin	3.5	85.3	2.5	n/a	0.0	0.0	5.0
Argentina	47.7	134.9	47.0	34.0 <sup>iv</sup>	10.5	11.7	5.8	Malawi	3.3	25.7	4.5	2.9 <sup>iv</sup>	0.1	3.1	4.7
Saudi Arabia	47.5	191.2	57.3	54.4 <sup>iv</sup>	5.6	40.4	5.5	Cambodia	3.1	96.2	4.3	0.2 <sup>Error!</sup>	0.2	2.2	4.9
Brazil	45.0	124.3	45.4 <sup>i</sup>	37.8	8.6	20.9	5.8	Burkina Faso	3.0	45.3	2.1	2.0 <sup>iv</sup>	0.1	0.0	4.1
Kazakhstan	45.0	155.7	46.0	44.0 <sup>iv</sup>	7.4	38.4	4.8	Liberia	3.0	49.2	1.0 <sup>vi</sup>	n/a	0.0	0.0	4.9
Romania	44.0	109.2	51.2 <sup>i</sup>	47.4	15.2	14.1	5.4	Côte d'Ivoire	2.2	86.1	1.8	1.1 <sup>iv</sup>	0.2	0.0	5.3
Seychelles	43.2	145.7	45.0 <sup>i</sup>	34.0	10.4	4.7	5.7	Mali	2.0	68.3	3.0	1.2 <sup>iv</sup>	0.0	0.3	4.3
Panama	42.7	188.6	29.0 <sup>i</sup>	20.7	7.9	14.5	6.1	Chad	1.9	31.8	0.4 <sup>v</sup>	0.1 <sup>Error!</sup>	0.0	0.0	3.5
Serbia	42.2	125.4	50.9	40.2 <sup>iv</sup>	11.3	34.5	4.2	Madagascar	1.9	40.7	1.4	0.7 <sup>Error!</sup>	0.0	0.1	5.2
Costa Rica	42.1	92.2	45.3 <sup>i</sup>	33.6	8.7	2.0	5.8	Guinea	1.3	44.0	1.5	1.0 <sup>iv</sup>	0.0	0.0	4.5
Turkey	42.1	88.7	48.5 <sup>i</sup>	42.9	10.3	8.8	5.4	Burundi	1.1	22.3	2.6 <sup>vi</sup>	2.7 <sup>vi</sup>	0.0 <sup>iv</sup>	0.0	3.3
Colombia	40.4	98.5	29.9 <sup>i</sup>	23.4	6.9	3.7	5.4	Ethiopia	1.1	16.7	1.4	0.1 <sup>iii</sup>	0.0	0.3	3.4
Venezuela	40.2	97.8	17.3	11.0 <sup>iv</sup>	6.2	16.1	5.8	Timor-Leste	0.9	53.2	n/a	n/a	0.0	0.0	4.1
Montenegro	40.0	185.3 <sup>iv</sup>	46.6 <sup>i</sup>	51.4	8.3 <sup>iv</sup>	15.3	5.9	Sierra Leone	0.3 <sup>vii</sup>	35.6	0.8 <sup>iii</sup>	n/a	0.0 <sup>iii</sup>	n/a	3.9

**Source: The Global Information Technology Report (2013), pp. 330-336.** International Telecommunication Union (ITU), ITU World Telecommunication/ICT Indicators Database 2012 (December 2012 edition) – [columns 1, 2, 3, 4, 5, 6](#); ITU World Telecommunication/ICT Indicators Database 2011 (December 2011 edition); national sources – [columns 3, 4](#); World Economic Forum, Executive Opinion Survey, 2011 and 2012 editions – [column 7](#); i 2011, ii 2006, iii 2007, iv 2010, v 2008, vi 2009, vii 2005

**Table details:**

1. Percentage of individuals using the Internet, 2011.
2. Mobile telephone subscriptions (post-paid and pre-paid) per 100 population, 2011.
3. Percentage of households equipped with a personal computer, 2010.
4. Percentage of households with Internet access at home, 2011.
5. Fixed broadband Internet subscriptions per 100 population, 2011.
6. Mobile broadband Internet subscriptions per 100 population, 2011.
7. Used of virtual social networks (e.g., Facebook, Twitter, LinkedIn) for professional and personal communications in your country? [1 = not used at all; 7 = used widely], 2011–2012 weighted average.

## Appendix 2: Link and citation analysis

Report <sup>63</sup>	Links	Linked by UNICEF	Scholarly citations
<i>Risks and safety on the internet: The perspective of European children - full findings.</i> (2011). London School of Economics.	87	3	179
<i>Enhancing child safety and online technologies.</i> (2008). Internet Safety Technical Task Force. <sup>64</sup>	40	0	55
<i>Online "predators" and their victims.</i> (2008). Crimes Against Children Research Center.	29	0	248
<i>EU Kids online (Final Report).</i> (2011). London School of Economics.	27	0	119
<i>World report on violence against children.</i> (2006). United Nations Office of the Secretary General.	27	1	219
<i>Child online protection: Statistical framework and indicators.</i> (2010). International Telecommunications Union. <sup>65</sup>	22	0	4
<i>Children's rights and business principles.</i> (2012). UNICEF.	21	1	2
<i>State of online safety report.</i> (2011). Family Online Safety Institute. <sup>66</sup>	15	0	3
<i>Working towards a deeper understanding of digital safety for children and young people in developing nations.</i> (2012). Harvard, Berkman.	14	1	8
<i>South African mobile generation.</i> (2012). UNICEF.	12	4	4
<i>Child safety online: Global challenges and strategies.</i> (2011). UNICEF.	10	3	9
<i>The protection of children online: Risks faced by children online and policies to protect them.</i> (2011). OECD.	10	0	7
<i>From 'What's your ASLR' to 'Do you wanna go private.'</i> (2011). UNICEF.	10	3	0
<i>Because I am a girl: Digital and Urban Frontiers.</i> (2010). Plan International.	7	0	2
<i>The RuNet generation.</i> (2011). UNICEF.	5	4	0
<i>The UaNet generation.</i> (2011). UNICEF.	3	3	0
<i>Indonesian youth online.</i> (2012). UNICEF.	2	1	0
<i>Youth of Turkey online.</i> (2011). UNICEF.	2	2	0

<sup>63</sup> Full citations and URLs listed beneath table.

<sup>64</sup> Berkman websites link to this publication twice.

<sup>65</sup> ITU websites link to this publication 5 times.

<sup>66</sup> FOSI websites link to this publication once.

## Reports included

- Beger, G., and Sinha, A. (2012). *South African mobile generation: Study on South African young people on mobiles*. New York: UNICEF. Available at [http://www.unicef.org/southafrica/SAF\\_resources\\_mobilegeneration.pdf](http://www.unicef.org/southafrica/SAF_resources_mobilegeneration.pdf)[http://www.unicef.org/southafrica/SAF\\_resources\\_mobilegeneration.pdf](http://www.unicef.org/southafrica/SAF_resources_mobilegeneration.pdf)
- Beger, G., Kounkou Hoveyda, P., and Sinah, A. (2012). Indonesian youth online: An exploratory study of the Indonesian digital landscape. New York: UNICEF. Available at <http://www.slideshare.net/socialandcivic/indonesian-youth-online>
- Beger, G., Kounkou Hoveyda, P., and Sinha, A. (2011). *Youth of Turkey online: An exploratory study of the Turkish digital landscape*. New York: UNICEF. Available at [http://www.unicef.org/ceecis/Youth\\_in\\_Turkey\\_Exploratory\\_Study%281%29.pdf](http://www.unicef.org/ceecis/Youth_in_Turkey_Exploratory_Study%281%29.pdf)
- Beger, G., Kounkou Hoveyda, P., and Sinha, A. (2011). *The RuNet generation: An exploratory study of the Russian digital landscape*. New York: UNICEF. [http://www.unicef.org/ceecis/TheRuNet\\_Generation%281%29.pdf](http://www.unicef.org/ceecis/TheRuNet_Generation%281%29.pdf)
- Beger, G., Kounkou Hoveyda, P., and Sinha, A. (2011). *The UaNet generation: An exploratory study of the Ukrainian digital landscape*. New York: UNICEF. [www.unicef.org/ukraine/ukr/UaNet\\_Eng.pdf](http://www.unicef.org/ukraine/ukr/UaNet_Eng.pdf)
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- Gasser, U., Maclay, C., and Palfrey, J. G. Jr. (2010). *Working towards a deeper understanding of digital safety for children and young people in developing nations*. (Harvard Law School, Public Law and Legal Theory Working Paper Series, Paper No. 10-36). Cambridge, MA: Berkman Center for Internet and Society at Harvard University. Available at [http://cyber.law.harvard.edu/publications/2010/Digital\\_Safety\\_Children\\_Young\\_People\\_Developing\\_Nations](http://cyber.law.harvard.edu/publications/2010/Digital_Safety_Children_Young_People_Developing_Nations)
- Internet Safety Technical Task Force. (2008). *Enhancing child safety and online technologies*. Cambridge, MA: Berkman Center for Internet and Society at Harvard University. Available at <http://cyber.law.harvard.edu/pubrelease/isttf/>
- International Telecommunications Union. (2010). *Child online protection: Statistical framework and indicators*. Geneva: ITU. Available at [http://www.itu.int/dms\\_pub/itu-d/opb/ind/D-IND-COP.01-11-2010-PDF-E.pdf](http://www.itu.int/dms_pub/itu-d/opb/ind/D-IND-COP.01-11-2010-PDF-E.pdf)
- Livingstone, S., Haddon, L., Görzig, A., and Ólafsson, K. (2011a). *EU Kids Online final report*. London: London School of Economics. Available at <http://eprints.lse.ac.uk/39351/>
- Livingstone, S., Haddon, L., Görzig, A., and Ólafsson, K. (2011b). *Risks and safety on the internet: The perspective of european children. Full findings*. LSE, London: EU Kids Online. Available at <http://eprints.lse.ac.uk/33731/>
- OECD (2011). *The protection of children online: Risks faced by children online and policies to protect them (OECD Digital Economy Papers, No. 79)*. Paris: OECD

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- UNICEF. (2011). *Child safety online: Global challenges and strategies*. Florence: UNICEF Innocenti Research Centre. Available at: <http://www.unicef-irc.org/publications/650>
- UNICEF. (2012). *Children's rights and business principles*. New York: UNICEF. Available at [http://www.unglobalcompact.org/docs/issues\\_doc/human\\_rights/CRBP/Childrens\\_Rights\\_and\\_Business\\_Principles.pdf](http://www.unglobalcompact.org/docs/issues_doc/human_rights/CRBP/Childrens_Rights_and_Business_Principles.pdf)
- van der Gaag, N. (2010). *Digital and Urban Frontiers: Girls in a Changing Landscape. Because I am a Girl: State of the World's Girls 2010*. London: Plan International. Available at <http://plan-international.org/about-plan/resources/publications/campaigns/because-i-am-a-girl-digital-and-urban-frontiers-2010>
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## Appendix 3: Experts consulted

### **UNICEF**

Gerrit Beger, Manager, Innovations/Communications for Youth, Division of Communication, New York

Christopher De Bono, Head of Communication, East Asia and Pacific Regional Office

John Budd, Regional Communication Advisor, Regional Office for CEE/CIS, Geneva

Lely Djuhari, Communication Specialist, Regional Office for CIS, Geneva

Christopher Fabian, Advisor on Innovation to the Executive Director, New York

Neha Kapil, Communication for Development Specialist, Gender, Rights, and Civic Engagement Section Program Division, New York

Marina Komarecki, Knowledge Management Specialist, Gender, Rights, and Civic Engagement Section Program Division, New York

Agnetta Mirikau, Child Protection Specialist, Child Protection Section, Nairobi, Kenya Country Office

Dr. Rafael Obregon, Chief, Communication for Development, New York (Gender Rights and Civic Engagement Section)

Katarzyna Pawelczyk, Project Manager, Civic and Social Media, Division of Communication, New York

Nuraini Razak, Communication Specialist, Jakarta, Indonesia Country Office

Clara Sommarin, Child Protection Specialist, Exploitation and Violence, Child Protection Programme Division, New York

Camilla Wøldike, Policy Strategies and Youth Participation Consultant, Bangkok

Jelena Zajeganovic-Jakovljevic, Youth and Adolescents Development Specialist, Belgrade, Serbia Country Office

### **External experts**

Keshet Bachan-Dovrat, Plan International

Anjan Bose, ECPAT International

Stéphanie Burel, Programme Officer, Children's Rights Division, Council of Europe

John Carr, Children's Charities' Coalition on Internet Safety and eNASCO

Urs Gasser, Harvard Berkman Center for Internet and Society

Lee Hibbard, Coordinator for Information Society and Internet Governance, Council of Europe

Johan Martens, Child Helpline International

Linda Raftree, Plan International

Janice Richardson, Senior Advisor, European Schoolnet and Coordinator of Insafe Awareness Raising Network, Safer Internet

Maria Herzog, UN Committee on Rights of the Child

**Workshop attendees**

Gordon Alexander, Director, Office of Research, Florence  
Claire Akehurst, Executive Assistant, Child Protection, Office of Research, Florence  
Patricia Caballero Aquero, Executive Assistant, Knowledge Management Unit, Office of Research, Florence  
Nikola Balvin, Knowledge Management Officer, Knowledge Management Unit, Office of Research, Florence  
Jasmina Byrne, Child Protection Specialist, Office of Research, Florence  
Christopher Fabian, Advisor on Innovation to the Executive Director, New York  
James Elder, Chief, Communication and Partnership Unit, Office of Research, Florence  
Patrizia Faustini, Senior Communication Assistant, Communication and Partnership Unit, Office of Research, Florence  
Eija Hietavuo, Corporate Alliances Manager, Social Corporate Responsibility Unit, Geneva  
Marie-Claude Martin, Associate Director, Applied Research and Knowledge Management, Office of Research, Florence  
Catherine Maternowska, Child Protection Specialist, Office of Research, Florence  
Andrew Mawson, Chief of Child Protection, Office of Research, Florence  
Katarzyna Pawelczyk, Project Manager, Civic and Social Media, Division of Communication, New York  
Ricardo Pires, Web Editor, Communication and Partnership Unit, Office of Research, Florence  
Clara Sommarin, Child Protection Specialist, Exploitation and Violence, Child Protection Programme Division, New York  
Paola Storchi, Knowledge Management Officer, Knowledge Management Unit, Office of Research, Florence  
Robin Van Kippersluis, Chief, Knowledge Management Unit, Office of Research, Florence

## Appendix 4: Questionnaire for UNICEF internal interviews

**Interview goals:** to determine the aims of the research, are these aims met, are these aims shared across organisation and do they fit with organisational goals and priorities in this area?

**Permissions** - we will record the interview, they can say if something is off the record, we will list interviewees in the report and check all quotes with them

**1. Describe unit's current work.** Considering the wider agenda of UNCRC, which parts of it do you feel your unit addresses? Is there other work you do that goes beyond this agenda? Ask them to explain a bit - what, how, why

- What are your main policy/action priorities in this area? (e.g. bullying, abduction or rights etc)
- Which parts do you think are most internet/technology relevant?
- What priority does your unit give online issues? (and what capacity have they for these?)
- Please provide one or more recent reports on your activities/research

**Note:** If they respond that online child protection and empowerment is a high priority, probe into their research goals and whether they are meeting them; discuss UNICEF's priorities/goals and how the individual units fit/respond. If responses indicate that child protection/empowerment is a low priority, probe into why this is not a priority, what areas are prioritised, how/whether existing research is used.

**2. Do you consider the current research sufficient to meet your priorities?**

- What gaps exist? (Specific risks/harms, specific technologies, groups of children, etc)
- Why do these gaps matter?
- What about research to evaluate interventions? (is there enough, give examples?)

**3. How does your unit make use of research in this area?**

- How important is research to your unit's overall goals (and daily priorities/operation)?
- What kinds of research do you find most useful (e.g. qual, quant; quick stats/deep analyses)?
- Give examples of useful research?
- Would they welcome more research in this area?
- How do they keep track of the latest research?

**4. Who should do more research (if they think it needed)?**

- Their unit? Innocenti? With partners? Or, a non-UNICEF organisation? (Which? Who are the other key research organisations?)
- Should research be tailored to be country-specific or coordinated and global/comparative?

**5. What are the key challenges?**

- For their policy/intervention? For research?
- What expertise do they see as required to commission and evaluate research?
- Are there issues of connection/commitment to get research effectively used by stakeholders?
- Other challenges (e.g. pace of technological change, ethics of work with children, partnerships)

**6. Future directions?**

- If funding were no object, what research would you ideally like to see?
- If only one project could get off the ground in the next couple of years, what should it be?
- If UNICEF did more (or did nothing) in this area, what could be the benefits (or loss)?

**7. Closing**

- Is there anything you were expecting us to ask that we didn't? Anything you would like to add?



## Appendix 5: Questionnaire for external expert interviews

**Interview goals:** Describe work in light of UNCRC, identify current work, gaps, opportunities in area of online child protection; understand take up of UNICEF work

**Permissions** - we will record the interview, they can say if something is off the record, we will list interviewees in the report and check all quotes with them

**1. Describe unit's current work.** Considering the wider agenda of UNCRC, which parts of it do you feel your organisation addresses? (Please explain)

- What are your main policy/action priorities in this area? (e.g. bullying, abduction or rights etc)
- Which parts do you think are most internet/technology relevant?

What priority does your unit give online issues? (and what capacity have they for these?)

- Please provide one or more recent reports on your activities/research
- 1a. If online child protection and empowerment is a high priority, what are the goals of your unit's research and do you feel you are meeting these goals?
- 1b. If child protection/empowerment is a low priority, what areas are being prioritised, how/whether existing research is used.

**2. Do you consider the current research sufficient to meet your priorities?**

- What gaps exist? (Specific risks/harms, specific technologies, groups of children, etc)
- Why do these gaps matter?
- What about research to evaluate interventions? (is there enough, give examples?)

**3. How does your unit make use of research in this area? What UNICEF research are you aware of and how useful have you found UNICEF research?**

- What kinds of research do you find most useful (e.g. qual, quant; quick stats/deep analyses)?
- Give examples of useful research?
- Would they welcome more research in this area?
- How do they keep track of the latest research?

**4. If more research is needed, who do you think is best positioned to do it?**

- Why (or why not) UNICEF?
- Should research be tailored to be country-specific or coordinated and global/comparative?

**5. What are the key challenges?**

- For policy/intervention? For research?
- What expertise do you see as required to commission and evaluate research?
- Are there issues of connection/commitment to get research effectively used by stakeholders?
- Other challenges (e.g. pace of technological change, ethics of work with children, partnerships)

**6. Future directions?**

- If funding were no object, what research would you ideally like to see?
- If only one project could get off the ground in the next couple of years, what should it be?
- If UNICEF did more (or did nothing) in this area, what could be the benefits (or loss)?

**7. Closing**

- Is there anything you were expecting us to ask that we didn't? Anything you would like to add?

## Appendix 6: Research coverage by region

Key external report coverage of children and ICTs, internationally and by region.

	Western Europe	Central and Eastern Europe	Middle East and North Africa	West and Central Africa	Eastern and Southern Africa	Hong Kong	Japan	East Asia and Pacific	South Asia	Australia	Latin America and Caribbean	North America
<b>International studies with general focus on children</b>												
Child Helpline International (2011)	E	E	E	E	E	E	E	E	E	E	E	E
WHO HBSC (2012)	E	E										E
Young Lives (2002)					E			E	E		E	
<b>International studies addressing children's technology use</b>												
Berkman Center (2010)	D	D		D	D		D	D	D		D	D
FOSI (2011)	D	D	D	D	D		D	D	D	D	D	D
ITU (2010)	D	D	D	D	D		D	D	D	D	D	D
ITU (2009)	E	E	E	E	E			E	E		E	
OECD (2011)	D, E	D, E					D, E	D, E	D, E	D, E	D, E	D, E
Plan International (2010)				E	E			E			E	
<b>Regional studies addressing children's technology use</b>												
AU Kids Online (2011)										E		
EU Kids Online <sup>67</sup> (2011)	E	E										
European and Russian schoolchildren (2011)	E	E										
Kids Online Brazil (2013)											E	
Kingdom of Bahrain (2010)			E									
CEOP Threat Assessment (2012)	E											
ECPAT (2013) <sup>68</sup>				E	E							
ECPAT (2012)											E	
ECPAT (2008)		E										
European Commission (2012)	E	E										
FCACP <sup>69</sup> (2011)												D
NCMEC (2012)												E
Pew and Berkman (2013)												E
Crimes Against Children Research Center (2008)												E

E = empirical research conducted, D = desk research conducted

<sup>67</sup> EU Kids Online has been replicated in Australia, Brazil and Russia, allowing cross-country comparisons.

<sup>68</sup> ECPAT's collection of regional work allows for preliminary cross-country comparisons of qualitative data.

<sup>69</sup> Global references, but no specific listing of countries included.

UNICEF report coverage of children and ICTs, internationally and by region.

	Western Europe	Central and Eastern Europe	Middle East and North Africa	West and Central Africa	Eastern and Southern Africa	Hong Kong	Japan	East Asia and Pacific	South Asia	Australia	Latin America and Caribbean	North America
<b>International studies addressing children's technology use</b>												
<i>Adolescent girls and technology: Supporting participatory engagement.</i> (2012)		D		D					D		D	
<i>Child safety online: Global challenges and strategies.</i> (2011).	D	D	D	D	D	D	D	D	D	D	D	D
<b>Regional studies addressing children's technology use</b>												
<i>Digital violence in primary and secondary schools in Serbia.</i> (forthcoming).		E										
<i>A (private) public space: Examining the use and impact of digital and social media among young people in Kenya.</i> (forthcoming).					E							
<i>Youth of Viet Nam online.</i> (2013).								E				
<i>Raising awareness and prevention of cyberbullying: Experiences from Croatia.</i> (n.d.)		E										
<i>Regional mapping of ICT actors</i> (2012).								D				
<i>South African mobile generation.</i> (2012).					D							
<i>Indonesian youth online.</i> (2012).								D				
<i>From 'What's your ASLR' to 'Do you wanna go private.'</i> (2011).					E							
<i>The RuNet generation.</i> (2011).		D										
<i>The UaNet generation.</i> (2011).		D										
<i>Youth of Turkey online.</i> (2011).		D										
<i>Georgia and the Convention on the Rights of the Child: An update on the situation of children in Georgia.</i> (2011).		D										

E = empirical research conducted, D = desk research conducted

## Appendix 7: Details of UNICEF's recent work

Guided by the principles of the UNCRC, the recent work initiated by UNICEF headquarters has sought to balance empowerment and protection initiatives, as below:

- To develop programming that addresses gender inequities, the Gender, Rights, and Civic Engagement Section initiated a desk review of benefits and risks of using ICT in Community for Development programming for marginalised adolescent girls.
- To better target advocacy and outreach efforts, the Social and Civic Media Unit initiated a Digital Citizenship and Safety research programme (currently called Voices of Youth citizens) in selected countries that included a desk review, and in some cases, survey, expert validation workshop, and interventions. The desk reviews provided insight into which social platforms were popular among demographic groups so that outreach efforts could be appropriately targeted and delivered.
- As members of the Child Protection Partnership (2008-2012), the Child Protection Section of UNICEF Headquarters advised on a global initiative focused on prevention and proportionate response to ICT enabled sexual exploitation of children in Brazil and Thailand. A key aspect of the initiative was participatory research with children on their behaviours online to better understand which interventions would be effective to prevent and protect children from ICT enabled sexual exploitation.<sup>70</sup> Led by the International Institute for Child Rights and Development (IICRD), the international global reference group was composed of UNICEF, Microsoft, the Royal Canadian Mounted Police, the National Child Exploitation Coordination Centre, CIDA, Plan International (Williams, et al., 2012).
- *Children's Rights and Business Principles*,<sup>71</sup> developed by the Corporate Social Responsibility unit in collaboration with industry advisors, provides guidelines for companies to respect children's rights in the workplace, marketplace, the community and environment (UNICEF 2012b).
- To identify research gaps in global understanding of online risks and provide evidence-based recommendations for empowering and safeguarding children online, the Office of Research convened a global consortium of experts to examine the risks and opportunities children experience online. The resulting report identified global trends and provided practical recommendations for further research and programming.

Work initiated at country level is often in response to government requests or an observed need and so may be more narrowly focused, although some broader research is currently underway:

- In Serbia (UNICEF, forthcoming) and Croatia (Latinac, n.d.), survey research was conducted to complement existing anti-violence programmes in schools. A particular

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<sup>70</sup> See: [http://cpp.iicrd.islandnet.com/sites/default/files/Cpp\\_Final\\_Report\\_FINAL.pdf](http://cpp.iicrd.islandnet.com/sites/default/files/Cpp_Final_Report_FINAL.pdf)

<sup>71</sup> <http://www.unicef.org/csr/12.htm>

aim was to understand children's and community members' experiences of and attitudes toward online violence in order to develop a programme that promotes a culture of shared responsibility among parents, teachers, government and industry.

- In Uganda, U-Report (Powell 2012), a mobile service that allows users to report on any topic, such as disease outbreaks, water availability, or education issues, was developed and tested as a method of encouraging digital civic participation. Users were surveyed via U-Report about the efficacy of the service.
- In Kenya (Gigli and Marles, in press), a survey of adolescents' broad uses of communication and mobile technologies was undertaken to inform programming and advocacy efforts, particularly in the areas of education and legislation. Focus group data provided unique insights into how technologies are used to develop and maintain relationships, risky behaviours in which teens are engaging, and the limited safety guidance provided by parents and teachers, particularly in rural areas.

Additionally, UN partner organisations engage in related work:

- As part of its *Education for All* goals, during 2012-2013, UNESCO reviewed mobile learning initiatives, resulting in a working paper series and policy guidelines<sup>72</sup> for mobile learning.<sup>73</sup> Interests in better understanding the possibilities for mobile devices as learning tools potentially overlap with UNICEF's research efforts as do shared concerns about online safety (UNESCO, 2000 and 2013).
- In collaboration with the US Centers for Disease Control and other partners within Together for Girls initiative, UNICEF supports national household surveys on violence against children. These surveys collect data on physical, sexual and emotional violence against children, including some forms of online abuse and exploitation. The modular nature of these surveys allows for the possibility of including questions about a specific issue or developing a module devoted to children and ICTs (Multi Sector Task Force on Violence Against Children, 2011).

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<sup>72</sup> <http://unesdoc.unesco.org/images/0021/002196/219641e.pdf>

<sup>73</sup> <http://www.unesco.org/new/en/unesco/themes/icts/m4ed/mobile-learning-resources/unescobilearningseries/>