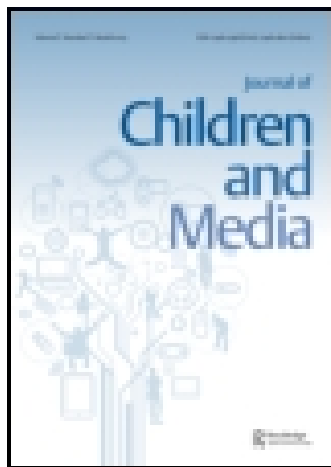


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A GLOBAL RESEARCH AGENDA FOR CHILDREN'S RIGHTS IN THE DIGITAL AGE

Sonia Livingstone and **Monica Bulger**

Taking the UN Convention on the Rights of the Child as a starting point for evidence-based policy regarding children's rights in the digital age, we offer a global research agenda designed to produce evidence of value for policy-makers working to promote children's rights. Informed by research reviews and interviews with international stakeholders, four priorities for theory and evidence are identified: (1) the provision of opportunities that confer benefit, recognising that this may be defined diversely according to the cultural context, (2) the protection of children from risk of harm, including understanding the relation between vulnerability and resilience, (3) the balance between risk and opportunities, especially to allow for children's participation even in risky opportunities and (4) the framing of the research agenda (in terms of concepts, design, measures and priorities) and the evaluation of policies and initiatives in collaboration with researchers and practitioners from the global South.

KEYWORDS children's rights; UN Convention on the Rights of the Child; online opportunities; online risks; global and comparative; research agenda; evidence-based policy; global South

Children's Lives in the Digital Age

There is nothing straightforward about the relationship between advances in digital technology and social transformation. Investment in hardware and software cannot serve as a proxy for the abilities of people to make sense of their information and communication environment. (Mansell & Tremblay, 2013, p. 45)

The fast-developing information and communication technology (ICT¹) environment is reshaping children's lives for better and for worse—already in high-income countries, fast expanding in middle-income countries and increasingly evident in low-income countries. More and more children² are going online to learn, participate, play and socialise. They and their families and communities increasingly rely on technologies as the taken-for-granted infrastructure of everyday life (Star & Bowker, 2006). Almost every aspect of children's lives has an online dimension, whether through their direct engagement with ICT or through the institutional management of contents or services that affect the conditions of children's lives. Indeed, it is becoming hard to draw the line between offline and online.

As governments promote ICT for business, commerce and communities to compete in the global economy, they are formulating national and international policies that rarely mention children's needs. In their assumptions about the needs of the labour market or householder, they often assume a competent and responsible "user" for whom providing access will suffice. There are two exceptions: the celebratory talk of "digital natives,"

supposedly effortlessly in the vanguard of innovative ICT uses (although see Helsper & Eynon, 2010); and efforts to redesign educational curricula and delivery to build digital skills and literacies. In terms of domestic or community uses, it is assumed that either provision for the general public will meet the needs of children or parents will bear the responsibility for their children online. Neither assumption is considered sufficient in relation to children's offline lives, however, leading some educators and third-sector organisations to ask how the position of children could be recognised and strengthened online (Livingstone & Bulger, 2013; UNICEF, 2011).

Given the oft-claimed wisdom of grounding policy in evidence (e.g. Council of Europe, 2012; OECD, 2011a; UNICEF, 2011), this article proposes a research agenda to ground the unfolding policy frameworks. Evidence is generally valued for ascertaining the prevalence of existing and emerging problems to inform the decisions about policy priorities; for contextualising practices and identifying factors useful in the design of specific interventions; and for evaluating the outcomes of interventions or policies and so aiding learning from experience and sharing good practice. In the past decade, the volume of research on ICT in children's lives has grown exponentially, paralleling the rapid development of the internet itself (Livingstone & Smith, 2014; Madden et al., 2013; OECD, 2012; UNICEF, 2011). The research agenda has centred on four key questions:

- How are children gaining access to and using ICT in their daily lives?
- To what extent does the use of ICT enable children to have greater access to information, education, participation and other valued resources and opportunities?
- To what extent does the use of ICT by children compound existing vulnerabilities or introduce new risks of harm to children's well-being?³
- Which initiatives, policies and practices are effective in maximising the benefits and minimising the harm for children in relation to ICT use?

Yet, as the OECD (2011a, p. 13) observes, most research has been conducted in the global North:

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.

This problem is urgent insofar as internet penetration is picking up pace in the global South (Figure 1⁴), including among youth (Figure 2). How far should researchers continue to ask the same questions, using similar concepts and methods? We note from the outset that the terminology of global North/global South itself adopted to replace the much-criticised language of "development" (or, before that, "third world") remains problematic. All these terms can be seen as too binary, implying a singular, normative vision of development goals, blinding us to the considerable inequalities within countries and the commonalities even across continents, or as viewing the "rest of the world" through a western (or "orientalist" or colonialist) lens (Manyozo, 2011; Matar & Bessaiso, 2012). Hence, we use these terms with caution, as a shorthand reference to the strong (but not absolute) tendency for inequalities in income (and research) to map onto geography and cultures.⁵

To understand the changing evidence needs of the policy community, we reviewed recent research and policy reports and interviewed thirty-eight experts working around the

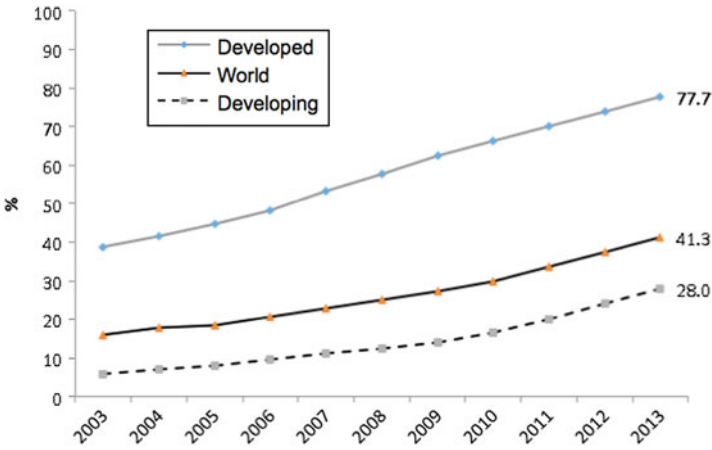


FIGURE 1
Households with internet access (2003–2013) penetration in developed and developing countries and annual growth. Source: ITU (2014)

world during 2013, including senior figures in UNICEF, ECPAT, Plan International, Child Helpline International, Council of Europe, Insafe and the UN Committee on the Rights of the Child.⁶ Telephone interviews were conducted by the authors in English following a semi-structured topic guide. Each lasted around one hour and was recorded and transcribed for analysis. In this article, interviewees are identified or kept anonymous according to their preference (for a detailed analysis, see Livingstone & Bulger, 2013).

Children's Rights in the Digital Age

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 ... If there were a CRC for the

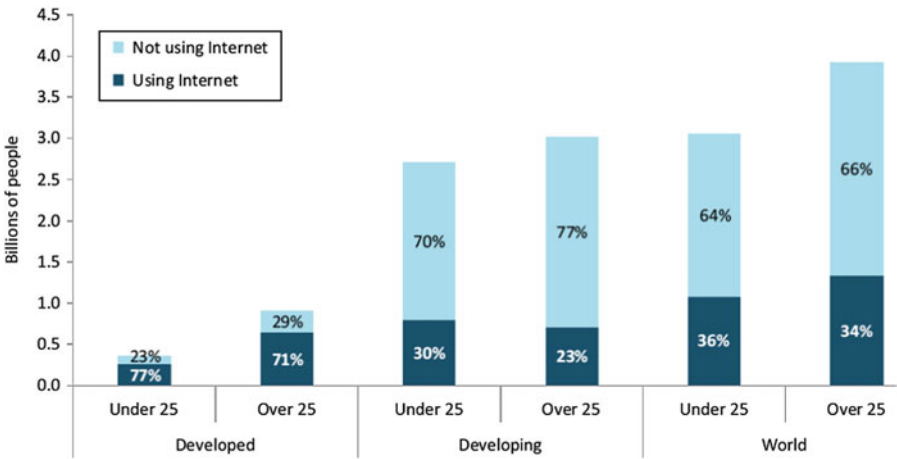


FIGURE 2
Internet use by age in developing and developed countries (2011). Source: ITU (2012)

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. (Christopher De Bono, UNICEF East Asia and Pacific Regional Office, Bangkok⁷)

Although formulated in the pre-digital era, and although controversial in some countries and poorly implemented in most (Alderson, 2000; eNACSO, 2012), the United Nations *Convention on the Rights of the Child* (CRC; Office of the United Nations High Commissioner for Human Rights, 1989) establishes basic standards that apply without discrimination to all children worldwide. It specifies the minimum entitlements that governments are expected to implement. Extending the CRC to children's media use, the 2009 Oslo Challenge asserts that the media and communication environment is now integral to children's rights (Hamelink & Hoffmann, 2008; Wheatley Sacino, 2012). Today's task is to go a step further and examine how the CRC applies to the digital, convergent and networked environment. Livingstone and O'Neill (2014) have begun this task, focusing on the three Ps of protection, provision and participation, as shown in Table 1.

TABLE 1

Articles of the CRC with Particular Relevance to Children's Online Experiences

Articles	Particular relevance in the digital age
<i>Protection</i> against all forms of abuse and neglect (Article 19), including sexual exploitation and sexual abuse (Article 34), and other forms of exploitation prejudicial to child's welfare (Article 36)	Effort to prevent creation and distribution of online child abuse images, sexual grooming, online dimension of child trafficking
<i>Protection</i> from "material injurious to the child's well-being" (Article 17e), "arbitrary or unlawful interference with his or her privacy, family, or correspondence, nor to unlawful attacks on his or her honour and reputation" (Article 16) and right of child to preserve his or her identity (Article 8)	Effort to prevent, manage and raise awareness of reputational risks, privacy intrusions, cyberbullying, pornography, personal data misuse (including identifying, location-based and financial information)
<i>Provision</i> to support children's rights to recreation and leisure as appropriate to their age (Article 31), an education that will support the development of their full potential (Article 28) and prepare them 'for responsible life in a free society' (Article 29)	Effort to provide educational technology, online information and creative resources, and promote digital skills in an equitable way (taking into account relevant languages, difficulties of access or conditions of disability or disadvantage)
Recognising "the important function performed by the mass media" encourages <i>provision</i> of diverse material of social and cultural benefit to the child (including minorities) to promote children's well-being (Article 17)	Effort to provide public and commercial educational, civic, science, cultural and heritage content online in an equitable way (as above)
<i>Participation</i> rights: "In all actions concerning children ... the best interests of the child shall be a primary consideration" (Article 3), including the right of children to be consulted in all matters affecting them (Article 12); see also child's freedom of expression (Article 13) and freedom of association (Article 15)	Effort to include all children in diverse societal processes, including consulting them on matters of education, research and ICT governance

In terms of policy, existing legislation is widely held to apply equally to the online domain, although in practice this can be difficult to implement. The fast-changing, highly complex and transnational nature of socio-technological infrastructures challenges national policy-makers. It is also problematic that the internet is largely blind to age, treating children and adults equivalently and so rarely treating children according to their "evolving capacities," as specified in CRC Articles 5 and 14 (eNACSO, 2012; Staksrud, 2013). The result is a variety of governance structures, some more successful than others, and controversies persist. Most efforts focus on protection, arguably at the expense of participation, and some countries have used the cover of child protection as a justification for blocking, filtering or monitoring public internet access. Meanwhile, the effort to develop international regulatory bodies and forms of internet governance is somewhat fragile and uneven.⁸

Research relating to children's rights in the digital environment often aims to advise on how to ameliorate such problems. Still, UNICEF's (2011) recent review identified critical research gaps in the global South, particularly in parts of Asia, the Middle East and Africa where it is not even known how many children access the internet, let alone the contexts or consequences. Such research as exists suggests that children's rights online are far from realised (Ainsaar & Lööf, 2012; Gasser, Maclay, & Palfrey, 2010; Internet Safety Technical Task Force, 2008; ITU, 2010; Jones & Finkelhor, 2011; OECD, 2011a; O'Neill, Staksrud, & McLaughlin, 2013; UNICEF, 2011). For example, although children's digital access and literacy are growing apace, many features of the digital environment remain substantially underused even by well-resourced children (Livingstone & Helsper, 2010), and educational benefits are proving elusive (Livingstone, 2012a). The untapped opportunities are barely addressed in lower income countries and among socially excluded groups of children. Furthermore, there are grounds for concern that the internet is becoming part of—even compounding—such harmful offline experiences as sexual exploitation, bullying or exposure to pornography. But not all risks result in harm, and research also suggests that use of ICTs can help children cope with the problems they encounter (Livingstone, Haddon, & Görzig, 2012).

Provision and Participation versus Protection

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 proscribe rather than empower. (John Budd, UNICEF Regional Office for Central, Eastern Europe and the Commonwealth of Independent States, Geneva)⁹

As noted, efforts to implement the CRC in terms of provision and participation are often sidelined by the urgency that the protection agenda attracts (see Lansdown, 2001, 2013). Yet offline, societies have become familiar with arguments promoting the public and private provision of learning opportunities, as well as opportunities for play, creativity, interaction and, receiving increasing attention, direct participation in matters that concern them. Online, however, there is little debate about what "good" looks like, how much is "enough" or how online provision could or should intersect with offline provision of resources for learning, participation or play. Nor is there sufficient attention to the fact that societies are becoming more risk-averse regarding children's freedom of

movement (Singer, Singer, D'Agostino, & DeLong, 2009), now online as well as offline (Gasser et al., 2010).

Most important is the question of how far the research and policy agendas framed in the global North are relevant in the global South. For instance, European research has proposed a "ladder of opportunities," showing that most children engage in basic activities such as information search and single-player gaming, but progressively fewer climb the ladder to take up more creative, interactive and participatory activities, and those who do tend to be relatively well-off (Livingstone et al., 2012). Does this ladder take a different form in different cultural contexts? What do we need to know in the global South to facilitate "how children can make choices . . . it is self-determination, the ability to take charge of themselves" (Lee Hibbard, Council of Europe, Strasbourg)?¹⁰ Research suggests a range of familiar barriers, including access, cost, parental knowledge, teacher training and lack of locally relevant material (Kleine, Hollow, & Poveda, 2014). Also difficult is determining whose goals are being positioned at the top of the ladder, and whose voices should count in deciding this.

Interestingly, the GSMA's (2014) survey of 8- to 18-year-olds' mobile phone use hints at some notable similarities with the global North—widespread access to and use of mobile phones across Algeria, Egypt, Iraq and Saudi Arabia, growing use of apps and social networking services, a majority of parents worried about their child's privacy and safety, and growing levels of risk as children make new "friends" online.¹¹ But their report reveals thought-provoking cross-cultural differences too. It is common to share mobile phones in some countries, for instance, and many gain access to the internet first or mainly through their mobile phone (rather than, as has been the case in the global North, via a computer). This form of adoption may evade the household boundary-setting or supervision that occurs when broadband access is located first or primarily at home. Kenyan youth reported frequently sharing pornographic material, along with a willingness to meet strangers in exchange for minutes on their mobile (Gigli & Marles, 2013). Indeed, the consequences of "mobile first" are becoming evident in relation to both opportunities and risks.

More research has focused on online risks of harm, and here too key challenges exist. One is the sheer range of risks to be considered—cyberbullying, child trafficking, online grooming, race hate, misinformation and a host of forms of manipulation or exploitation. Another is confusion about what constitutes harm in relation to the internet. For instance, in relation to exposure to pornography, is the harm a child being upset, gaining sexual knowledge too early, learning to demean women in adult life or something else? Not only is defining harm difficult but so is measuring it (Slavtcheva-Petkova, Nash, & Bulger, 2014). Also problematic is that even the most extreme risks get tangled up with ordinary activities—when, for instance, is a message from a new contact a friendly approach or the first step in a grooming sequence? Drawing too clear a line between risks and opportunities obscures the "risky opportunities" by which teenagers explore the internet and experiment with identity and relationships (boyd, 2014; Livingstone, 2008). As Anjan Bose (ECPAT International, Bangkok) said, "I think we need to work with organisations who are looking not only at the criminal aspects but also the social aspects because it's such an emerging field that everything gets intertwined."¹²

Yet, as online and offline increasingly intersect, it may be that certain harms have worsened. For example, it is widely thought that the severity of bullying is worse now that it extends online as well as offline, at home as well as at school. Some harms may even be new—consider the use of webcams to perpetrate child sexual abuse remotely. Yet, as the

internet has diffused through societies, there is no evidence that the harms that occur in childhood are increasing, with recent decades seeing an overall decrease.¹³ Hence, research to understand the nature and contexts of risk of harm in the digital age continues. Especially lacking are longitudinal studies of harm (and benefit) to establish baseline measures and index changes over time. Cross-sectional research suggests ways in which internet use is extending both children's well-being and their risk of harm. Recent studies by international child protection NGOs in Latin America, Asia and Africa find that the internet provides a space for socialising and self-expression as well as learning and entertainment (Bachan & Raftree, 2011; Barbosa, O'Neill, Ponte, Simões, & Jereissati, 2013; Beger & Sinha, 2012; Gigli & Marles, 2013). But these same studies find that the internet is dangerous for some, with children reporting variously disturbing, violent or pornographic content online, along with reputational damage committed by peers or offline meetings with people they first met online.

European research shows that online opportunities and risks are positively correlated (Livingstone & Helsper, 2010). This is well understood offline—consider the debates about letting children cross roads or climb trees. Providing children with opportunities tends to bring risks which societies seek to manage through a mix of regulation, education and parenting. In the global North, it is recognised that exposure to some risk can be the means of developing resilience, but in the global South it may be that such risks are too great, since safety nets are often lacking. Even in the global North, many are becoming fearful, with growing calls to restrict children's internet use for safety reasons, even though restrictive management practices undermine children's chance to gain digital skills and to learn, explore and participate online (Livingstone et al., 2012). In highly authoritarian countries, where the state and/or parents take a disciplinarian approach to child-rearing, evidence that leads to calls for restriction is likely to infringe children's rights more than it facilitates them, undermining opportunities for privacy, participation and information about identity, sexuality and health (Beger, Kounkou Hoveyda, & Sinha, 2012; Gigli & Marles, 2013).

Understanding Vulnerability and Resilience

Now that we are looking at a "better internet", it's time that we looked more at the empowering aspects. And taking risks (within reasonable and age-appropriate limits) can actually contribute to 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, Brussels¹⁴)

In the digital age, the risk and protective factors that mediate the relation between risk and harm must be rethought, as must the factors that translate opportunity into actual benefit. If research is to generate a nuanced account of the conditions which lead to vulnerability or, conversely, resilience, it must become far more sensitive to context.¹⁵ Research—again mainly from the global North—shows that vulnerability results from demographic factors such as low socio-economic status or disability, as well as psychological and familial factors (Livingstone & Palmer, 2012; Livingstone & Smith, 2014; Wolak, Finkelhor, & Mitchell, 2005; Ybarra, Mitchell, Finkelhor, & Wolak, 2007). Thus, children who are vulnerable offline are more likely to be vulnerable online.

Research in the global South suggests further factors. These include the importance of location and context of internet use. Unsupervised access, especially in cybercafés, is common across the global South: for instance, internet cafés are popular among teens with limited mobile and home internet access in Mexico and Peru (Garcia de Diego, 2012). At home, too, children are less likely to have an internet-savvy parent present: in Brazil, 53 per cent of children live in homes where no adults use the internet, and 73 per cent believe themselves more capable than their parents, far more than in Europe (Barbosa et al., 2013).

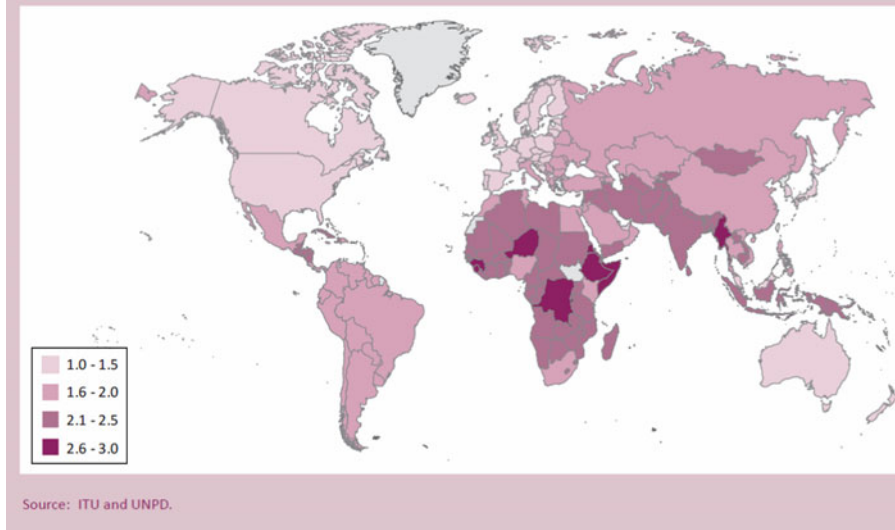
Predictably, given low levels of regulation, safety guidance and parental mediation, more children have public rather than private social network profiles, again by contrast with Europe (Livingstone et al., 2012) and North America (Madden et al., 2013). Informal observations from educators or NGOs working in specific locales reveal how children find workarounds or creatively re-appropriate the resources at hand so as to connect with others and share digital resources even when faced by real limitations of hardware or connectivity or even electricity.¹⁶ For instance, youth in Kenya use fake names for profiles, bury content in folders or use mobile phones after their household is asleep to avoid parental oversight (Gigli & Marles, 2013).

In the global South, where children often face significantly greater problems, pinpointing the operation of such mediating factors is vital. In addition to the problems meeting basic needs of life, we should also note the demand on many children to work or take on family responsibilities, adversely impacting on their school attendance. In some countries, the pressure to marry early or high rates of sexual or street violence undermine girls' ability to study (Fancy, Unterhalter, Vaughan, & Nussey, 2012; Garcia de Diego, 2012). Even having parents or attending school is a privilege that many children lack (UNICEF, 2014). While in the global North, policy-makers rely heavily on parents and schools to support and guide children's internet use, in the global South the high ratio of youth to adults online (shown in Figure 3) means that while youth are getting online, the adults around them are not so internet savvy. So who can take on the safeguarding or supportive role in such cases?

While attention to sources of difference in anticipating and explaining vulnerability and resilience is crucial everywhere, in the global South such sources of difference are often particularly acute. The gender gap in internet penetration is sizeable in China, India, Indonesia and Turkey, while men and women have near-equivalent access in North America and much of Europe (Biggs & Zambrano, 2013); similar gender differences are likely to hold for children (Kleine et al., 2014).¹⁷ Girls in Ghana, Bolivia, Indonesia and the Philippines describe feeling unsafe travelling to and using internet cafés and also report that families are more likely to give funds to the boys in the family for mobile use (De Pauw, 2011).

Plan International (2010) argues that inequalities in risk may be even greater—in China, they found that 79 per cent of girls did not feel safe online. The consequences can be unexpected. In South Africa, Samuels, Brown, Leoschut, Jantjies, and Burton (2013) found that since the level of sexual violence is very high, young girls are highly aware of the risks of taking or sending revealing images of themselves; by contrast, in the global North, considerable efforts have been devoted to raising awareness of the hazards of sexting. What is not yet known is whether sexual violence in the global South is now finding new forms of expression online. Moreover, research has yet to determine which further sources of difference and disadvantage are most likely to matter in which contexts—language, religion, region, literacy, income, disability or others.

Figure 4.4: Ratio of youth (15-24) Internet users to overall Internet users, 2012

**FIGURE 3**

Ration of youth (15–24) internet users to overall internet users (2012). Source: ITU (2013a)

Finally, it is worth noting that the design of the online environment may also leave children vulnerable to privacy or reputation or sexual risks, for example, by assuming adult rather than child users or having complicated terms and conditions or failing to build in safety provisions appropriate for their child users (boyd, Hargittai, Schultz, & Palfrey, 2011; Madden et al., 2013; Wolak, Finkelhor, Mitchell, & Ybarra, 2008). It is as yet unclear how far online services available in the global South are specifically designed for use in such contexts; it is already clear, however, that children in the global South receive little if any digital literacy teaching that could enable them to meet the interpretative challenges that are demanding even for those in the global North for whom such services were designed.

In short, investigating the conditions under which the internet is empowering but, also, the conditions under which it is threatening remains a priority. While the goals of maximising opportunities and minimising risks may be universal, the means of achieving this and the mediating role of key risk or protective factors will surely vary according to particular cultural or national contexts.

Taking Forward the Global Research Agenda

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 ... there are specificities that are lost when research is not sufficiently contextualised. (Keshet Bachan, Independent Consultant, Tel Aviv)¹⁸

This review of research on children's experiences of ICT and our interviews with stakeholders working to promote children's rights online as offline reveals some significant challenges for the global research agenda. Thus far we have focused on research topics,

questions and likely relevant factors to be considered. But the research agenda also faces a series of practical challenges. For instance, although many valuable initiatives are underway worldwide, the lack of comparable baseline data, along with evaluations of policy and practice, makes it hard to draw together what is known, to harness the value of local efforts, to avoid repeating ill-conceived interventions or to share best practices (Balanskat & Gertsch, 2010; Kleine et al., 2014). As Christopher Fabian (Innovation Unit, UNICEF, New York) observed, “I really believe that if we don’t get baselines on all these things, before we start doing them, whether it’s innovation or in whatever sector, we have no ground to stand on.”¹⁹ Another UNICEF staff member commented, “Another big gap is to know of the impact the studies have on what we do. Research for example, of this sort, we do not always monitor, and we do not always evaluate.”²⁰ Evaluation research is seemingly easily neglected compared to the intellectual challenge of researching a new problem or the policy challenge of developing initiatives to address it (Jones & Finkelhor, 2011; Lennie & Tacchi, 2013), although some evaluations are beginning to emerge (e.g. Jones, Mitchell, & Walsh, 2013; Kleine et al., 2014; Martens, 2010). UNICEF anti-violence programmes provide models for holistic evaluation that include systematic collection of baseline measures and assessment of longitudinal benefits for target audiences as well as stakeholders (Marusic, 2005; UNICEF, 2013).

Then, the rapid pace of technological roll-out impels governments and other stakeholders to respond quickly, adding pressure for research to be constantly updated yet context-specific. The temptation is to keep updating the broad brush picture—for example, tracking the shift from fixed to mobile internet—rather than (or as well as) solving difficult puzzles, building theory or developing more nuanced analyses appropriate to the specific needs of vulnerable or marginalised groups. For researchers, this poses an intellectual conundrum. Should one design standardised research (typically quantitative) to maximise comparability of findings across countries and so deliver key indicators and national rankings to governments? Or should one design contextualised research (typically qualitative) to maximise relevance, responsiveness and applicability of findings within a particular country (Livingstone, 2012b)? The researcher’s answer of course is “both,” preferably by triangulating different approaches so as to deepen knowledge gains over time, but this is slow and expensive, which impedes effective take-up by policy-makers.²¹

The sheer scale and complexity of the task of researching children’s rights in a digital age globally, yet in a manner differentiated for some 200 countries and many more life contexts, also have consequences for research management. In Livingstone and Bulger (2013), we advocated a mix of qualitative research, locally grounded, and the production of standardised survey indicators, often the most persuasive for governments, but modularised to permit flexible implementation tailored to local conditions and identified in collaboration with local researchers and NGOs. For example, Plan International (Fancy et al., 2012) has engaged in a longitudinal cohort study in thirteen global South countries, focusing on girls’ use of technologies and employing a distributed model of data collection and annually updated research foci. ECPAT (Bose & Coccaro, 2013; Garcia de Diego, 2012) employs a similar distributed model, also including youth interviewers in Latin America and parts of Africa. These case studies illustrate the potential for hybrid models to harness the growing motivation of local organisations and the expertise of public/private partnerships.

Producing evidence for evidence-based policy is also a political task, especially if the research is commissioned or used by repressive, authoritarian or punitive states (Gasser et al., 2010). For instance, arguments and evidence concerned with 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 (Livingstone & O'Neill, 2014). In short, researchers should think carefully about why evidence is needed: who wants to know what and why. Then there are challenges of responsibility and authority related to rights and risk assessment: it is often 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, hardware or internet service provider or with the user—yet pinpointing responsibilities so as to identify feasible points of intervention is important.

Finally, it is important that research does not exacerbate the common tendency to neglect children's voices on matters that concern them (Bachan & Raftree, 2011; Bose & Cocco, 2013). Increasingly, researchers and policy-makers seek to recognise children's agency within the wider agenda of children's rights (Lansdown, 2001). This does not mean blaming children when risks are encountered, nor overly celebrating their media-savvy skills as this can too easily legitimate a *laissez-faire* approach. Rather, it is to recognise that children also shape the online domain, and they have rights in this regard (Bucht & Eström, 2012). Research with children is one means of including their voices and experiences, and has been particularly insightful in understanding the barriers to use, their pursuit of "risky opportunities" and the possible sources of resilience.²²

Conclusion

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. (John Carr, ECPAT International, Bangkok)²³

ICT is reconfiguring the infrastructure of work, commerce, learning, governance and daily life. Ignoring this cross-cutting development is no longer a viable option for those concerned with children's rights. The current 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. In our interviews, we heard an urgent call from researchers, policy-makers and practitioners working in diverse contexts around the world for a share in the research expertise, baseline measures and evaluation tools largely concentrated in the global North.

On the other hand, they also urged recognition that diverse contexts call for new and diverse approaches to research. As Manyozo (2011, pp. 332–333) concludes in his review of communication for development, "Development experiments should not be transplanted but should rather be reinvented. The challenge is to achieve this organic policy development at the same time that reliance on donor funding and Western technical expertise continues to be acknowledged."²⁴ Not only does the globalising of the research agenda demand careful attention to the conditions of children's ICT use in the global South but it also invites those in the global North to recognise their own forms of particularity and difference. Some trends are now beginning in the South and spreading northwards—for instance, the nature of changing use as "mobile first" becomes common (Madden et al., 2013).

We have proposed that the CRC offers a structure for addressing provision, protection and participation rights in relation to children's online and offline experiences. While admittedly unevenly and often insufficiently implemented around the world, this remains a consensual guide to the principles and ideals of meeting children's rights offline and, if appropriately developed, online also. While the CRC is framed in universal terms, as we and others have argued, the notions of benefit, harm, resilience and well-being are also culturally specific. For research and policy communities, therefore, advancing children's rights in the digital era must be a task that is conceived globally and locally.²⁵ The same is true for research, and this may involve rethinking taken-for-granted assumptions on all sides. The promise is that this will better ground policy developments that advance both child protection, and also positive provision, and opportunities for children's participation in the digital age.

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NOTES

1. *ICTs* 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, we focus on children's experiences of the internet and mobile technology.
2. *Children* are defined here as all those under the age of 18, in accordance with the UN Convention on the Rights of the Child.
3. *Well-being*, as defined by OECD (2011b), encompasses the minimum for basic survival as well as opportunities to thrive: (1) material living conditions (housing, income, jobs), (2) quality of life (community, education, environment, governance, health, life satisfaction, safety and work-life balance) and (3) sustainability (ability to pursue one's goals, to thrive).
4. The same may be said for mobile, where the ITU's (2013b) ICT indicators show that mobile cellular subscriptions per hundred inhabitants in developed countries were 128.2, in developing countries 89.4 and worldwide 96.2. In 2013, 77.7 per cent of households had internet access in the developed countries, 28.0 per cent in the developing countries and worldwide 41.3 per cent (ITU, 2013b).
5. As the United Nations (2012) comments, "The term 'North' refers to the more developed regions or developed countries and the term 'South' refers to the less developed regions

or developing countries. The more developed regions include Europe and Northern America plus Australia, New Zealand and Japan. These terms are used for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process". (p. 4).

6. United Nations Children's Fund (UNICEF), <http://www.unicef.org>; End Child Prostitution, Child Pornography & Trafficking (ECPAT), <http://www.ecpat.org>; Plan International, <http://plan-international.org>; Child Helpline International, <http://www.childhelplineinternational.org>; Council of Europe (CoE), <http://www.coe.int>; European Union Safer Internet Programme (Insafe), <http://www.saferinternet.org/>; United Nations Committee on the Rights of the Child, http://www.unicef.org/crc/files/Committee_fact_sheet.pdf
7. Interview by authors, 8 February 2013.
8. Also note that at the World Summit on the Information Society in 2005, the Tunis Commitment included recognition of children's rights to protection, provision and participation in relation to the internet. See <http://www.itu.int/wsis/docs2/tunis/off/7.html>.
9. Interview by authors, 21 January 2013.
10. Interview by authors, 26 March 2013.
11. Although wide in its country coverage, this study is not based on representative population sampling (as is common in the global South given the difficulties of population dispersion in rural areas or those difficult to access).
12. Interview by authors, 5 March 2013.
13. Where robust statistics are available, social trends since the internet became part of everyday life show little long-term change in childhood abductions, sexual abuse, accidental death, problem gambling, mental health problems or suicide (Finkelhor, Jones, Shattuck, & Seito, 2013; Madge & Barker, 2007; Nuffield Foundation, 2012; Truman & Smith, 2012). Note that it is particularly difficult to compile statistics on crimes against children, as they often go unreported (Ainsaar & Lööf, 2012).
14. Interview by authors, 18 February 2013.
15. This is usually defined as "the capacity of a dynamic system to adapt successfully to disturbances that threaten system function, viability, or development" (Masten, 2013, p. 6), where the "system" may refer to a child or a community or even a whole society.
16. As discussed at *Digitally Connected*, a symposium co-hosted by the Berkman Center for Internet and Society and UNICEF, 2014, Cambridge Boston. Details are available at <http://www.digitallyconnected.org/>.
17. Gender inequalities also complicate research with girls and women: as Power, Khatun, and Debeljak (2012) observe of Zambia, Ghana and Kenya, the political and ethical difficulties can be substantial.
18. Interview by authors, 7 March 2013.
19. Interview by authors, 22 January 2013.
20. Interview by authors, 22 January 2013.
21. Research projects such as *EU Kids Online*, *Young Lives* (Wilson & Huttly, 2003) and Plan International's *Because I am a Girl* show the value of a networked approach in which country partners collect data and use findings on a national basis, while an adequately resourced coordinator ensures overall standards of design, data collection and analysis to maximise the wider value of multinational research.

22. UNICEF's Child Protection Partnership engaged children in discussions of their online activities to better inform interventions targeted at reducing ICT-enabled sexual exploitation. 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 (De Pauw, 2011). ECPAT advocates engaging youth in research and interventions, as demonstrated by its recent reports in Africa and Latin America, and its youth advisory panel, a peer support group of young women and girls who are victims of trafficking (Bose & Coccaro, 2013; Garcia de Diego, 2012). The Nordic Youth Forum demonstrates the value of including youth views on internet governance (Bucht & Eström, 2012).
23. Interview by authors, 11 February 2013.
24. As many ICT enthusiasts, along with a host of educational and health providers, have discovered, one cannot simply transplant technology from the North to the South and expect benefits to flow (Kleine et al., 2014; Mansell & Tremblay, 2013).
25. For current policy developments in the global North, see the USA's Aspen Task Force on Learning and the Internet (<http://www.aspentaskforce.org/>), Europe's proposal from the Education and Culture Committee of the European Parliament for a single framework directive that looks after the rights of children in the digital world (European Parliament, 2012).

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