

Online risk, harm and vulnerability: Reflections on the evidence base for child Internet safety policy

*Internet darabilten adingabekoen segurtasun
politikarako informazioaren inguruko gogoetak*

Riesgos, daños y vulnerabilidad online:
Reflexiones sobre la información para la política de
seguridad de los menores en Internet

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Abstract

After a decade or more in which research has examined the opportunities and risks encountered by children on the internet, this article assesses the contribution and challenges of producing an evidence base to inform policy in a hotly contested field. It offers critical analysis and new findings, drawing on the EU Kids Online project, a major study of children's internet use in 25 countries. Building on the distinction between risk (a calculation based on the probability and severity of harm), and harm itself, research and policy on children's online risk faces particular problems in measuring harm and, therefore, risk. Further complications arise from the interdependencies among opportunity, risk-taking, resilience and vulnerability. Such complexities must be recognised if we are to advance beyond the entrenched positions that so often polarise debate.

Keywords: Internet, minors, childhood, risk, security.

Laburpena

Hamarraldi bat edo gehiago eman du ikerkuntzak adingabekoen Interneten aurkitzen dituzten aukera eta arriskuak aztertzen. Hori kontuan izanik, eremu oso eztabaidagarri batean politika sustatzeko informazio-base baten sorrerak dakartzan ekarpen eta erronkak aztertzen ditu artikulu honek. Hala, EU Kids Online egitasmoa –adingabekoen Interneten erabilera 25 herrialdetan aztertzen duen ikerlan garrantzitsu bat– oinarri harturik, analisi kritiko bat eta

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emaitza berriak eskaintzen ditu. Arriskua (probabilitatearen eta kalte-mailaren arabera neurtzen dena) eta kaltea bera argi bereiziz, online dabiltzan adingabekoen arriskuen inguruko ikerketak zein politikak kaltea –eta, ondorioz, arriskuak ere– neurtzeko arazo espezifikoak jasaten dituzte. Halaber, arazo gehiago sortzen dira aukera, arrisku onartze, erresistentzia eta zaugarritasunaren arteko interdependenziatik. Zailtasun horiek aintzat hartu behar dira sarri-askotan eztabaida polarizatzen duten jarrera hertsiaik gainditu nahi baldin baditugu.

Gako-hitzak: Internet, adingabekoak, haurtzaroa, arriskua, segurtasuna.

Resumen

Después de una década o más en la que la investigación ha examinado las oportunidades y los riesgos que los menores encuentran en Internet, este artículo estudia la contribución y retos que implican la creación de una base de información para motivar la política en un campo muy controvertido. Presenta un análisis crítico y nuevos resultados, basados en el proyecto EU Kids Online, un importante estudio sobre el uso de Internet de los menores en 25 países. Haciendo una clara distinción entre el riesgo (que se calcula sobre la base de la probabilidad y el grado de daño), y el daño mismo, la investigación y la política sobre los riesgos de los menores online afrontan problemas específicos para medir el daño y, por lo tanto, los riesgos. Más complicaciones surgen de las interdependencias entre oportunidad, asunción del riesgo, resistencia y vulnerabilidad. Tales complejidades deben ser reconocidas si queremos superar las posturas atrincheradas que tantas veces polarizan el debate.

Palabras clave: Internet, menores, infancia, riesgo, seguridad.

1. Developing the agenda for research and policy²

Most children and young people in the world's wealthy countries use the internet at home, school and elsewhere. As ever more families, schools and communities gain broadband and mobile access, online activities are becoming thoroughly embedded into the timetables and spaces of children's daily lives. Researchers and policy makers, along with the wider public, are working hard to grasp the significance of the resulting socio-technical changes in the conditions of communication, socialisation, learning and participation. On the one hand, society is beginning to recognise the considerable opportunities the internet affords its users, including the intriguing and complex digital literacies that children are gaining and, in consequence, the many and diverse benefits of going online. On the other hand, there is growing concern that these online opportunities are accompanied by an equally diverse array of risks. Professionals in law enforcement, clinical practice and child protection, as well as the general public, are increasingly calling for action and, to guide this, for better knowledge of the actual harms associated with internet use.

Implicitly, if not always explicitly, policy initiatives assume particular motives, knowledge and practices on the part of children. These assumptions may be well founded or, instead, unnecessarily anxious or already dated. If we think young people are living their leisure lives alone in their bedrooms, we will take a different view of social support they may need compared with if we see them as richly embedded in their peer group. If we see them as strong and able to cope with what life throws at them, the policy agenda will take a different direction compared with if we see them as at risk. Here lies the value of direct research with children and their lifeworld online as well as offline.

Ten years ago, when I reviewed the research literature on children and the internet, I found so little I could barely write a review (Livingstone, 2003). Much more has been conducted since, but there have still been difficulties. Each new survey, not always with a robust methodology, risks engendering a media panic. Researchers have asked all sorts of questions of children, not knowing really what to look for or how to ask children ethically difficult questions. Too much research has been couched in universalistic terms, though in reality most of it is from the US, raising uncertainties about relevance elsewhere and underplaying contexts and comparisons. Research seemed to go out of date the minute it was published – so we now know a lot about getting a personal computer at home, learning html or visiting chatrooms, but does any of this still matter?

Policy makers have had their parallel struggles, particularly regarding the moral visions of childhood innocence, parental competence or trust in government that frame decision making. These also make life difficult for researchers trying to build a useful evidence base. For instance, discussions of risk and safety initially occurred in domains wholly disconnected from discussions of educational or civic benefit, each seemingly ignorant of their significance for the other. Too few adults (in the

² This article draws on the work of the EU Kids Online network (www.eukidsonline.net), funded by the EC Safer Internet Programme. I thank those in and beyond the network with whom I have discussed these ideas, especially David Finkelhor, Anke Goerzig, Leslie Haddon, Ellen Helsper and Janis Wolak.

early days, less so today) knew as much about the internet as children, so the rhetoric of the ‘digital native’ – now roundly critiqued (see Helsper and Eynon, 2010) – found fertile ground, undermining the ability of parents and teachers to manage this medium with the confidence that they had managed previous media in the home. In regulatory debates, opposing opinions from libertarians or the moral majority pre-dominated, the first fearing any government intervention, the second calling for national control over the global internet. Neither, it seemed, welcomed a nuanced, context-dependent account of how the internet use both shapes and is shaped by children’s lives (Livingstone, 2011). The dominant metaphors were too extreme: the virtual or cyber – an unreal realm floating in the ether where nothing really matters; the Wild West – a vision of the internet where the natural wilderness impedes society’s efforts to regulate, and rightly so if innovation is to flourish; or a paradise for anarchists or inventors, pornographers or paedophiles.

But any serious examination of how the internet could or should be regulated, why and by whom requires recourse to the evidence base. Fortunately, in recent years, there has been an explosion in the volume of research, and some key insights have resulted. Much of this focuses on online opportunities; while important, this is not my present focus. Rather, this article examines three issues: the nature of online risk, of harm and, linking the two, the nature of vulnerability. In each case, the focus is on the particular conditions afforded to children by the internet.

Consider an illustrative survey finding. The Pew Research Center’s Internet & American Life project reported that 15% of 12- to 17-year-olds with a mobile phone had “received sexually suggestive nude or nearly nude images of someone they know” (boyd and Hargittai, 2010: 2). ‘Sexting’ quickly became the latest risk, with policy makers, law enforcement and educators springing into action. But some pressing questions arise. How can we measure the prevalence of ‘sexting’ (how is it defined, can we ask young people ethically, will they report it truthfully)? Does it matter, and is it harmful? If it is, which teenagers fall into the 15%? In other words, who is vulnerable? Last, what can be done? Is this harm new, or worse than before, and is the internet or mobile phone therefore culpable? If we don’t ask these questions, public perceptions may conclude that all children are ‘at risk’, thereby fuelling the media-amplified moral panics that result in anxious calls to restrict children’s internet access, increase surveillance or legislate against online freedoms.

So ask them we must. But rather than building in an assumption that the internet is to blame (by asking what the internet is doing to childhood) or even, grounding our inquiry in research on the internet, since this is relatively new, I suggest that we begin by learning from the long-established tradition of research and policy on the nature of risk, harm and vulnerability ‘offline’, including the psychological and sociological analysis of risk in children’s everyday lives (Bradbrook *et al.*, 2008; Coleman and Hagell, 2007; Feinstein and Sabates, 2006; Finkelhor, 2008; Munro, 2008; Schoon, 2006). In what follows, I show how this literature is useful, both for its body of empirical findings regarding the array of risk and protective factors that may apply online as they do offline, and also conceptually, for clarifying the confusion that still reigns in relation to the internet (Millwood Hargrave and Livingstone, 2009).

2. On the nature of risk

What is risk? Beck (1986/2005: 21), social theorist of the ‘risk society’, argues that, “risk may be defined as a systematic way of dealing with the hazards and insecurities induced and introduced by modernization itself.” Until the modern era, he argues, societies were preoccupied with natural *hazards* (such as flooding, volcanoes or plagues). Since these are uncontrollable in themselves, people can only seek to manoeuvre around them. By contrast, societies today are increasingly preoccupied with *risks* of our own making, being “concerned no longer exclusively with making nature useful, or with releasing mankind from traditional constraints, but also and essentially with problems resulting from techno-economic development itself” (p. 19).

A risk, in short, stems from the conditions of modern life rather than from outside them (in a similar vein, Smillie and Blissett, 2010, distinguish a ‘natural hazard’ from a ‘technological hazard’). Unlike the problem of dealing with a volcano, where one can only *respond* to an inevitable if unpredictable hazard, dealing with the problem of online grooming or bullying invites us to *anticipate* risk when designing the online environment as well as to consider how to respond to harm after the event. Following Giddens (1991), in today’s reflexive modernity one cannot be innocent of even the unintended consequences of institutional actions, especially given foreknowledge of the harms research has already revealed. To take a pertinent example – to design a social networking site for small children without anticipating possible abuses by ill-intentioned adults would be naïve. But how should such risks be anticipated?

This clarifies the at-times confused discourse of child online safety. Being exposed to pornography online is a risk in the sense that it is associated with a certain likelihood and magnitude of harm. Hence it is important that the evidence base measures these. However, the identification of online risk does not imply that harm will follow, and nor that all users will be equally affected. Rather, risk may be judged (according to a simpler or more complex calculation; see Hansson, 2010) by taking into account the particular and contingent interaction between user and environment. Then, the risk may be dealt with by conducting a risk evaluation (asking to whom this risk matters and why), which, in turn, establishes the legitimacy of risk management (such as the development of regulatory institutions or user tools and tactics; see Klinke and Renn, 2001). Following Beck, online risk does not arise inevitably but as a result of human design. This risk management can be proactive as well as reactive; and it can also focus on the actions of the individual (the user) or the design of the socio-technical environment (such as the online site or service), or both. Or indeed, nothing may be done – the risk may be judged acceptable (i.e., it may be tolerated, up to a point), or there may be political or economic impediments unrelated to the risk assessment.

Thus far, matters seem straightforward. But recall what is typically measured in online safety surveys – that 15% of teenagers receive sexual messages or that a certain fraction have seen online pornography or been cyberbullied. These ‘online risks’ in ‘cyberspace’ are often compared with the ‘offline risk’ of a child crossing the road. For the latter, the risk is first calculated and then managed (by influencing children by teaching them to cross safely and by regulating the environment

– cars, roads, town planning). The parallel for cyberspace is productive, and many have talked of road safety rules online as well as offline (Criddle, 2006). But the analogy faces a problem in relation to children’s online safety. In the case of road accidents, the risk to the child is defined as the probability of an accident (calculated by dividing the number of children hurt in a particular way on the roads by the number of children in the population) multiplied by its severity (in terms of consequences, which can range from minor bruising to death). Risk, harm and the relation between them are as clear (or unclear) as the measurements of probability and severity are accurate.

But on the internet, we do not know how many children are hurt, or how severe are the consequences; there are no accident figures. If the offline were like the online, it would be like knowing, only, how many children report crossing a road and perhaps, how many report that something bad happened in consequence. On the other hand, if the online were like the offline, we would also know the online equivalent of how many cars were on the road and how fast they were driving (e.g. exactly what pornography they saw or how they were cyberbullied or groomed); most important, we would know whether an accident resulted (i.e., whether the child suffered harmful consequences, for how long and with what severity). But for the most part, over a decade of surveys have asked children whether they saw something inappropriate but have generally not asked exactly what they saw, and few have asked (if it can be asked) whether this exposure harmed them. Some researchers have made greater efforts to gain a more exact picture of what happened – what they saw or what was said to them, in relation to pornography (Peter and Valkenburg, 2009), sexual harassment (Mitchell, Finkelhor and Wolak, 2007) and cyberbullying (Smith, Mahdavi and Carvalho, 2008).

But this is still to get a closer picture of what was happening on the road rather than what happened to the child. How, then, can risk be calculated? This is where the road analogy breaks down, for in relation to online risk, survey researchers define risk not as the probability of harm, but as the probability of an encounter that might (or might not) result in harm. In other words, they calculate the number of children who encounter pornography or a cyberbullying message or a grooming attempt, and divide that number by the number of children online. What is reported, therefore, is not the actual risk (i.e., the probability of harm to the child population) but the *risk of the risk* (the probability of something happening – commonly called ‘online risk’) that might result in harm; but whether it does, and for how many it does, remains unknown. It is like reporting the risk of road accidents in terms of the likelihood of children crossing the road (i.e., the proportion of children who cross the road divided by the number of children altogether) rather than in terms of the risk of their being hurt. No wonder sceptics ask, so what? And no wonder policy makers are hesitant about the legitimacy of risk management.

3. Confusion about the nature of harm

Without good evidence of harm resulting from online encounters, without even a clear picture of the nature of those encounters, we cannot really speak of risk, at least not if we were to rely on established approaches to the calculation and

management of risk in society. Why is harm proving so difficult for research into children and their use of the internet, notwithstanding the huge public and policy interest in this question?

Most obviously, what is meant by ‘harm’ in relation to online ‘risks’ is often unclear. The nature of a road accident is far less contested, and its consequences are generally straightforwardly assessed, although there can be arguments in court about the time required for recovery or the psychological distress that may accompany physical damage. But society has established mechanisms, instituted by reputable authorities (clinical, legal, actuarial), to address these. For exposure to pornography, or receiving hostile or racist messages, or visiting a self-harm chatroom, or having one’s social networking profile trashed, what is the harm? And is intervention justified? Opinion varies, one reason being that many of the harms society is concerned about in relation to the internet are relatively minor; indeed, bullying or exposure to pornography are generally ‘under the radar’ of teacher or parent or welfare intervention when they also occur offline. For the severest risks (such as grooming, or prolonged exposure to extreme pornography, or such sustained bullying that a child is driven to self-harm), it is often assumed that, while the risk is encountered online, the harm will occur offline, so that child welfare organisations can respond to the harm according to familiar practices. Another reason is that the claimed harms raise unresolved moral issues over whether early exposure to the adult world is ‘normal,’ even desirable, or problematic. The debates over internet-related harm, in other words, do not so much concern the internet as societal conceptions of childhood – particularly in relation to the place of sexuality and violence in childhood. The recognition that we as a society have only recently created – and are further re-designing – the internet, is stimulating some soul-searching about the childhood we have – and still could – create for our children.

There are limits to the debates ongoing in society regarding internet-related harm to children. It is widely accepted that receiving hostile or nasty messages from peers, especially if sustained over time, constitutes a harm that merits institutional intervention (by the schools, regulators or industry expected to reduce cyberbullying). It is also generally held that parents are responsible for preventing young children from accessing pornography, even if it is less agreed whether such access is inherently damaging. In many countries it is also held that an online approach from an adult to a child for sexual purposes is not merely unacceptable but illegal. Moreover, while the boundaries – regarding a child’s age and development, the expectations on parental responsibility, where to draw the line on the extremity of certain types of content – remain difficult, these are after all familiar debates from the offline world; they just seem more intense because the rapidity with which the internet has entered children’s lives means that society must engage in these debates anew, and often from a position of ignorance regarding both the technology and the evolution of children’s practices of use.

It is striking how little these debates over harm refer to evidence or theory from experts on child welfare, especially by comparison with the blizzard of statistics from researchers regarding online risk. Every day brings a new survey on children’s exposure to pornography or strangers or bullying. But there is remarkably little

discussion of what exactly is thought to be the problem – is pornography a problem because it upsets or shocks children, or because it distorts their conception of sexuality, or because it puts pressure on girls to perform certain sexual acts? My intention is not necessarily to question any of these claims, but to invite their explication in discussions of online risk so that it is clear what, online, is the equivalent of accidents on the road, offline. Only then can we as researchers strengthen the evidence base regarding robust indicators of harm. At present, the literature is sparse regarding the harms that may result from internet use, especially if one applies the standards of high quality research – representative samples, careful questioning of children about the nature of harm, longitudinal research designs that permit assessment of harm over time, procedures to identify risk and protective factors that pinpoint which children are harmed and why.

So where is the equivalent of road accident statistics in relation to the internet? Such ‘objective’ evidence of harm might be expected from law enforcement, clinicians or child welfare services, for example, in cases where the internet is involved in incidences of sexual abuse or criminal abduction, youth suicide or self-harm attempts. But surprisingly little such evidence has been forthcoming, partly because the particular involvement of the internet in cases addressed by such authorities is not reliably recorded in police or clinical records (although see Wolak and Finkelhor, 2013). Thus while surveys can tell us how many children go to an offline meeting with an online contact, it is difficult to link this to the cases of actual abuse that come to the attention of law enforcement or welfare services. For instance, in the UK, 4% of 9- to 16-year-olds report having gone to an offline meeting with someone first met online (Livingstone *et al.*, 2010), while the UK’s Child Exploitation and Online Protection Centre (CEOP, 2013) receives reports from around 1,000 children each year concerning online victimisation by adults. Assuming around seven million in this age group, a rough-and-ready calculation might put this as a risk of 1:300, as a ratio of those who go to such a meeting and do or do not come to harm (and officially report it). But this is to make many assumptions!

Not only is it difficult to discover whether a risk results in harm, but it is also difficult to discover when the internet plays a role in known harm. The UK major children’s charity, the NSPCC, estimates that 5% of UK children suffer contact sexual abuse at some point during childhood, with some 10,000 new victims each year (Harker *et al.*, 2013); if we try to link this to the above figure of 1,000 children who report online victimisation by adults, we might assume abuse by perpetrators known to the child offline remains much more common than grooming by strangers online. But again, this makes many assumptions since, on the one hand, many cases of sexual abuse go unreported and, on the other, when they are reported the possible role of the internet is rarely considered. In short, even 10 or more years after the advent of mass internet, researchers and policy makers still rely on incidents learned of ad hoc, often from the mass media, and it is very difficult to gauge what proportion of the population they represent. Clearly, the situation regarding online risk is quite different from the situation regarding road accidents, where policy makers rely less on surveys about whether children cross roads than on objectively verified statistics of road accidents involving children³.

³ Of course, I acknowledge the lively and difficult debates over the veracity of crime and health statistics.

4. Pragmatic solutions

How, then, can we proceed, in the interests of evidence-based policy making?⁴ Let us make a start. Three dimensions of harm are surely pertinent. First, the type of harm: this may include any or all of physical harm (e.g. bodily attack), emotional (e.g. feeling upset, threatened or distressed), psychological (e.g. low self-esteem, distorted sense of sexuality, aggressiveness) and/or social harms (e.g. loss of friends, being ostracised). The second and third dimensions are simple in conception, if difficult to measure – harm associated with online risk varies in terms of *severity* and *longevity* (from immediate or short-term consequences to longer or even lifelong effects). If every study henceforth clarified its assumptions about harm in these terms, our assessment of the evidence base would be far more informative. In terms of theory, this should be possible. But the measurement challenge is a substantial one. There is an emerging consensus on how to ask children about online risk (the range of risks, agreement over phrasing, response options, etc.) but not yet about how to measure harm, or even whether this is possible at all. There is much one cannot ask children about, for ethical reasons, and so there are difficulties in establishing just what children mean by ‘pornography’ or being ‘upset’. Children may not be in a position to judge the harm done to them, especially as it may take years to be revealed.

Nonetheless, asking children about harm directly is one way forward and, while it has limitations, it is equally problematic not to ask them; children’s voices, and their experiences, must also be heard in the public policy debates regarding their well-being and their best interests. In the EU Kids Online survey, conducted in 25 countries in 2010 (Livingstone *et al.*, 2011a⁵), we sought to gain the most that could be learned from a self-report survey, asking children not only whether they have encountered pornographic or hostile messages, for instance, but whether this had upset or bothered or distressed them. The findings showed that 14% of online 9- to 16-year-olds have seen images online that are ‘obviously sexual – for example, showing people naked or people having sex’ in the past 12 months, 6% have been sent nasty or hurtful messages online, and 9% have met an online contact offline in the past year. Further, 15% of 11- to 16-year-olds have received peer-to-peer ‘sexual messages or images ... [meaning] talk about having sex or images of people naked or having sex,’ and 21% have been exposed to one or more types of potentially harmful user-generated content: hate (12%), pro-anorexia (10%), self-harm (7%), drug-taking (7%) or suicide (5%). But our figures on self-reported harm are equally important: of the 9- to 16-year-olds who had been exposed to online sexual images, one in three said that they were bothered by the experience (and of those, half were fairly or very upset by what they saw); of those who had received nasty or hurtful messages online, between half and two thirds had been fairly or very upset; and of those who had met an online contact offline, one in six were bothered by what happened (and about half of those said that they were very or fairly upset by what happened). Similarly, of the 11- to 16-year-olds who had seen or received a sexual

⁴ The trials and tribulations of evidence-based policy making merit a separate examination (see Livingstone, in press).

⁵ For the Spanish report, see Garmendia *et al.* (2011).

message online, nearly a quarter had been bothered by this (and nearly half of those were fairly or very upset)⁶.

Our effort to construct a confidential, detailed survey with children allowed us to build on the insights of research on risk in childhood. The resulting evidence base has substantially informed policy makers' decisions and public understanding of online risks to children, clarifying both the prevalence of online risk (broken down by demographic and country variables) and the prevalence of harm (Livingstone, in press). It was especially important to establish that only a subset of those children exposed to online risks reported experiencing any harm, for this helped to diffuse the moral panics ('all children are at risk', 'the internet is bad for kids') and open up more productive questions about vulnerability and resilience. In other words, it is timely to ask, which children are more at risk of harm, and why? In our survey, examination of the diverse contexts of children's lives helped to identify which risk and protective factors help account for patterns of risk, harm and vulnerability online. In terms of risk factors, the research revealed the importance of social psychological factors on the part of the child (such as facing psychological difficulties or having a tendency to sensation-seeking); as for protective factors, children's self-esteem and their parents' strategies for mediating the internet were shown to matter, though not in any simple fashion.

Overall, the growing evidence base suggests that those children who are vulnerable or at risk offline are more likely also to be at risk online, thereby compounding cycles of disadvantage (Bradbrook *et al.*, 2008), although some specific factors must be considered in relation to the nature or affordances of the online environment (see the evidence and analysis collected in Livingstone *et al.*, 2012). This strengthens the claim that online risk, harm and vulnerability (or, its opposite, resilience) can be researched by building on the literature for offline risk in children's lives. Many questions remain. Since it seems that children in disadvantaged or 'at risk' life circumstances are more likely than those in 'normal' circumstances to be vulnerable offline, more research is needed to understand how children's life circumstances shape their online experience and whether the same risks 'migrate' online (e.g. sexual risks encountered offline are similar to or even linked to sexual risks encountered online; see Görzig, 2011; Livingstone and Görzig, 2012), creating a vicious cycle. Then, since the variance explained by offline risk factors is fairly low, it remains to be understood whether some children are also newly at risk now that they have internet access – do they behave differently, or reveal different sides of their identity online, putting them more at risk online than offline? Last, it may be that for children who are vulnerable offline, the internet provides a safe haven, a space where risk does not follow them, so that new ways of behaving, even new sources of resilience, can be developed, possibly benefiting their circumstances offline as well as online.

For the present, it has been useful to establish that not all exposed to online risk report harm as a result. The evidence thus counters the assumption of some policy makers that risk and harm are one and the same – that to see pornography is to be harmed by it, to be approached by a stranger online is to be damaged inevitably, and so forth. Rather, the conditions under which risks (whether seeing online pornography

⁶ Note that due to time constraints, the survey did not ask children about possible harm associated with exposure to negative user-generated content.

or crossing the road) result in harm are complex. What is needed is an analysis of the complex set of contingencies that mediate the relation between risk and harm in accounting for whether, when and why some children are vulnerable to online risk. This analysis must include an account both of *individuals* (themselves diverse, depending on life contexts) and the socio-technical *environment* with which they engage (and behind which lie the institutions that shape them).

While there is no escape from the limits of self-report data (in which both under-reporting and over-reporting by children is likely)⁷, we refuse the strong claim that harm to children associated with online risk simply cannot be measured. This would result in evidence-free rather than evidence-based policy, permitting sceptics to dismiss further consideration of the internet as affording children harm or permitting the moral majority to call for action on the assumption that all risk results in harm. Rather, the EU Kids Online network has taken the view that the onus is on researchers to do the best job they can in terms of devising appropriate methods to ask sensitive questions of children (Lobe, Livingstone and Haddon, 2007), being transparent as to methodological decisions and their limitations, in the knowledge that policy makers can invoke the *precautionary principle* on occasion to legitimate policy action in the absence of evidence (Klinke and Renn, 2001).

5. Complications

Three important problems remain unresolved by the above analysis. The first is that the tripartite analysis of risk assessment, evaluation and management does not take into account the *benefits* of internet use, failing to balance opportunities against risks. It can seem that if a child is to avoid online harm, they must avoid almost all online activities: to post content online, you must provide personal details; to make new friends, you must contact ‘strangers’; to explore diverse information may expose you to inappropriate content; to seek guidance on dieting will result in receipt of pro-anorexic advice, and so forth. As Livingstone and Helsper (2010) showed, children’s take-up of online opportunities is positively correlated with their exposure to online risk, with digital skills acting to increase the likelihood of both. One reason is that the same act (e.g. making a new contact) can result in either an opportunity (more friends) or the risk of harm (meeting an abusive stranger). Making a new contact cannot, therefore, be straightforwardly described as either harmful or harmless – the context is crucial.

Here the road accident analogy is again useful. Society neither prevents children from crossing the road nor permits them to run freely across the motorway. Rather, it takes the concerted efforts of parents, teachers, car designers, road authorities and town planners to strike an acceptable balance between children’s freedom to navigate their neighbourhood and the attendant risks (Criddle, 2006; Livingstone, 2009). Online, unless children are to live in heavily filtered environments with Facebook and YouTube banned and adults always peering over their shoulders, a better resolution than a simple trade-off of opportunities and risks must be found. In policy terms, this points to the need for further development of parental and school mediation,

⁷ See Livingstone *et al.* (2011b) for our best efforts first to minimise, and then to assess the consequences of the methodological limitations of the research.

media literacy education, provision of technical tools for users, and improved in-built or default safety and privacy in the design of online sites and services. Such improvements are underway, but the importance of keeping the main purpose in mind – namely, to facilitate children’s online opportunities – is crucial. In relation to children’s outdoor play, for instance, it appears that the efforts towards risk management (soft surfaces, safety rails, playground attendants, etc.) have not, in practice, freed children to play as they would wish; instead, an overly risk-averse culture has resulted that prevents children climbing trees or even swinging on swings without an onerous risk assessment undertaken by supervising adults (Gill, 2007).

This leads to a second complication – the particular sensitivities over risk evaluation in relation to *children*, for whom society finds it difficult to accept any degree of risk above zero. Shaped by the media’s tendency to amplify risks, framing them as threatening the innocence of children (Kitzinger, 2004) and undermining the hope of an idealised, risk-free childhood (Kehily, 2010), for many parents risk anxiety has become “a constant and pervasive feature of everyday consciousness” (Jackson and Scott, 1999: 88). There is, it seems, an unmanageable gulf between the rational balancing of probabilities matched to available policy tools and the unacceptability of harm that will still occur to a particular child. Although researchers and policy makers have learned to take great care in disseminating findings and recommendations to the media and public, this remains a difficult issue to be factored into any risk management strategy (Smillie and Blissett, 2010).

Third, as foreshadowed in the above, a world without risk is undesirable. Children must learn to take calculated risks and, insofar as is possible, cope with the consequences. Developmental psychologists are clear that facing and coping with risk is important, for “resilience can only develop through exposure to risk or to stress” (Coleman and Hagell, 2007: 15). As Luthar, Cicchetti and Becker (2000: 543) define it, resilience is ‘a dynamic process encompassing positive adaptation within the context of significant adversity.’ The latter part of this definition is important – without experience of adversity, a child may be protected but has nothing to adapt to positively and so will not become resilient. A risk-averse society will, paradoxically, exacerbate rather than reduce the very vulnerabilities it seeks to protect by undermining the development of resilience. And for teenagers, risk-taking is also important developmentally and culturally (Green, Mitchell and Bunton, 2000: 123-4). As Lupton (1999: 156) adds, the dominant discourse’s excessive emphasis on safety generates its own counter-discourse: “risk-taking may be regarded as the flipside of modernity, a response to the ever-intensifying focus on control and predictability of modernity.”

6. Conclusions

In reflecting on the lessons to be learned for evidence-based policy, following the conduct of the EU Kids Online survey, I have argued for a fundamental distinction between risk (a calculation based on probability and the likely consequences of harm), and harm (a distinct outcome, whether measured objectively or subjectively). I have further noted that the field of children’s online risk faces particular problems in measuring harm, and therefore also struggles to measure risk, instead tending to

measure the risk of a risk, and often leaving unknown the relation between risk and harm. It is also worth making explicit that while risk can occur online as offline, the focus of harm is the child rather than the internet – put simply, harm is always suffered ‘in the real world’. In this sense, while the internet has added new sources of risk to children’s lives, the history of harm is as old as childhood. The harmful effects of any online or online risk are to be understood, as they always have been, in terms of physical harm, emotional distress, adverse psychological consequences or negative social outcomes. But today, as online and offline increasingly intersect or blur in fast-changing cycles of mutual influence and connection, the risk and protective factors that mediate the relation between risk and harm must be rethought.

In many ways, we can rely on the established literature on childhood risk to propose the likely factors that increase or protect against risk of harm. In other ways, still little explored, the changing socio-technological environment may add new factors, or new interactions among factors, that researchers should explore and that policy makers need to know about. It is encouraging to learn that, in terms of the long-term statistics on child welfare (their mental or physical health or rates of crime victimisation), there is little evidence that the conditions of childhood are worsening (Finkelhor, 2008; Madge and Barker, 2007). Thus the internet is not, in any simple terms, making matters worse. But the public’s fear of the internet does seem to be restricting children’s online opportunities and, therefore, their life chances in the long term. And it is likely that widespread use of the internet is also altering the conditions under which risk of harm adversely affects children’s lives. Robust, independent evidence is important to guide policy makers in their task of risk assessment, a crucial precursor to then evaluating acceptable levels of risk and developing policies to manage risk. I have further argued that they are impeded in this work by a public reluctance to accept any risk to children (notwithstanding growing public disquiet over a risk-averse culture of childhood) and, even more important, by the inability of traditionally-framed risk calculations to take into account the benefits of internet use in general and of learning to cope with tolerable levels of online risk in particular.

Last, evidence of benefits as well as harms is needed to enable a proportionate balance between the opportunities and risks that the internet affords to children, recognising that the opportunities and risks often go hand in hand when using the internet, and that striking this balance should be achieved differently for children who are more vulnerable or more resilient. In short, there can be no simple translation of online risks – or opportunities – into predictable outcomes, and each can result in positive or negative outcomes for children. Here the concept of internet affordances is valuable in reminding us that the internet is not intrinsically risky – everything depends on the interaction between users and their socio-technological environment, and the ways in which this interaction has been shaped. In some cases, online risks may afford harm (whether measured subjectively or objectively), but in others, they may facilitate resilience. Moreover, while online opportunities generally afford positive benefits for children, the existence of those same opportunities can, if children are restricted in accessing them, result in the negative outcome of digital exclusion. Policy makers should, therefore, seek to address the challenges of online risk without increasing children’s digital exclusion or leaving them vulnerable to harm. And

that means taking action to both improve the design of the online environment and to enhance children's resilience.

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