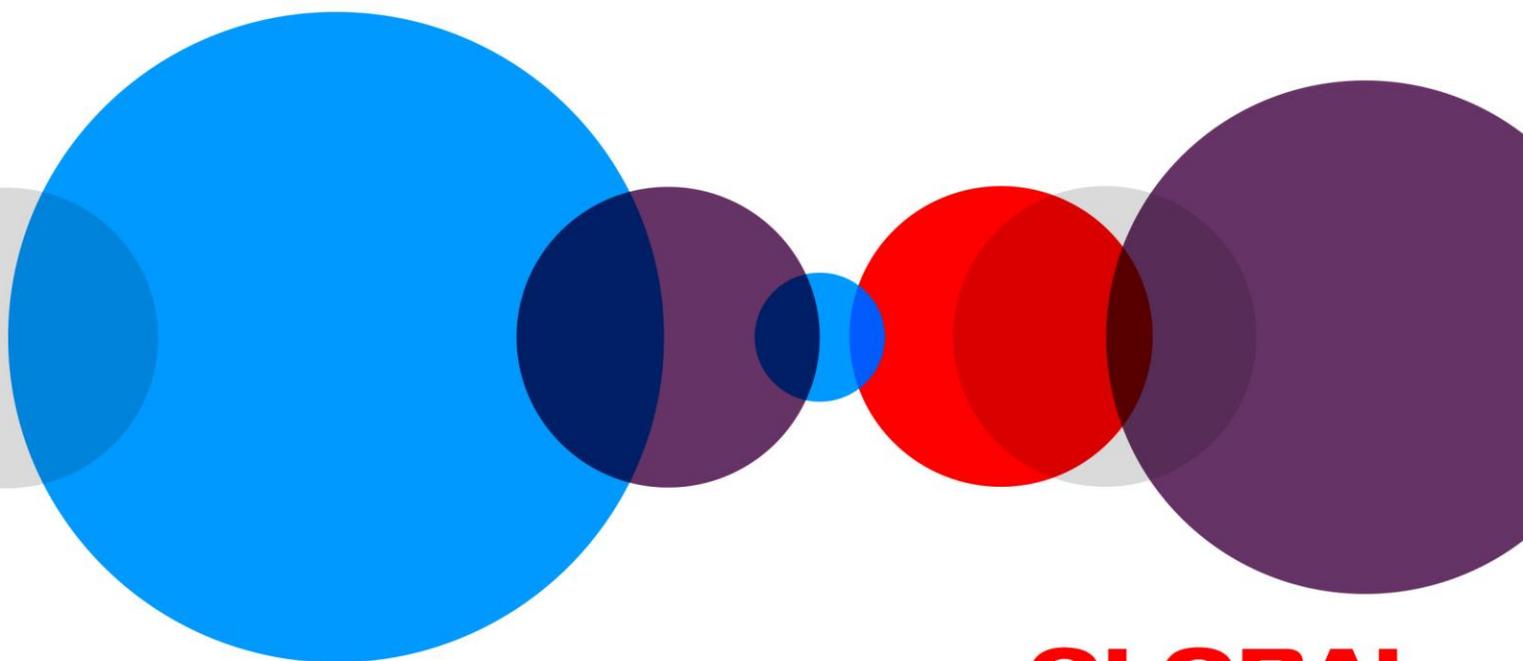


METHOD GUIDE 7

Researching online child sexual exploitation and abuse: Are there links between online and offline vulnerabilities?



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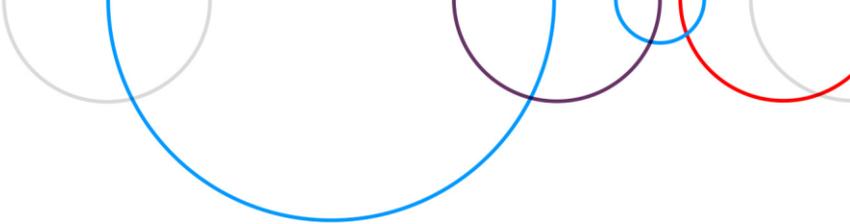
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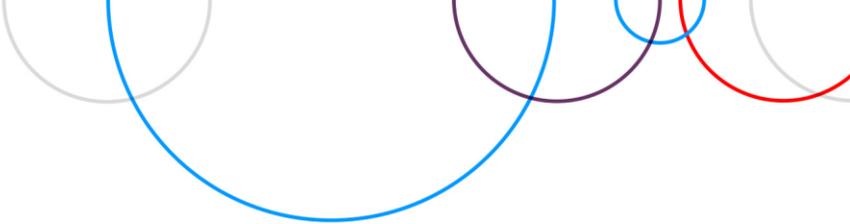
Global Kids Online is an international research project that aims to contribute to gathering rigorous cross-national evidence on children's online risks, opportunities and rights by creating a global network of researchers and experts and by developing a toolkit as a flexible new resource for researchers around the world.

The aim is to gain a deeper understanding of children's digital experiences that is attuned to their individual and contextual diversities and sensitive to cross-national differences, similarities, and specificities. The project was funded by UNICEF and WePROTECT Global Alliance and jointly coordinated by researchers at the London School of Economics and Political Science (LSE), the UNICEF Office of Research-Innocenti, and the EU Kids Online network.

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You can find out more about the author of the report here: www.globalkidsonline.net/quayle.



ABSTRACT

This Guide is concerned with the methods used in research into online child exploitation and abuse. There are challenges for researchers in the variety of definitions used, how they are operationalised, and how they are measured, which makes comparison between studies difficult. The research is dominated by surveys, many of which have been developed with little regard to their content validity or their psychometric properties. There are, however, good examples of survey methodology, as evidenced in the Juvenile Victimization Questionnaire (JVQ). Surveys are also reliant on self-report, which may be influenced by recall issues, respondent bias and subjective interpretation of questionnaire items.

This Guide explores some of these methodological issues and how researchers have responded to them. It also considers the central assumption that online sexual abuse and exploitation causes harm. Many of the studies reviewed are cohort studies that sample their population at a single time point; however, this Guide identifies more recent, longitudinal studies that go beyond establishing a relationship between online exploitation and abuse and psychosocial well-being to look at what might predict change. The majority of the studies identified were from high-income countries. While there has been research in low-middle-income countries, these have relied on convenience sampling and small sample sizes, with an over-reliance on descriptive case studies. The Guide concludes with identifying good practice and providing some easily accessible resources to facilitate the development of robust research.

KEY ISSUES

Why is research on online child sexual exploitation and abuse important?

This Guide looks at research into child victims' experiences of abuse related to digital technologies. Abuse includes the production, dissemination and possession of child sexual abuse materials (known in many jurisdictions as child pornography); online grooming of children for sexual purposes; 'sexting'; sexual extortion of children ('sextortion'); revenge pornography; commercial sexual exploitation of children; exploitation of children through online prostitution; and live streaming of sexual abuse (Figure 1 below covers some of these forms of abuse).^{1,2} While these forms of abuse and exploitation pre-date the internet, their topology and reach are clearly shaped by technology, and there is some evidence from longitudinal studies that they are associated with a range of adverse social and psychological consequences (Livingstone & Smith, 2014).

“The prevalence of online sexual abuse and exploitation varies depending on the definitions used and our ability to recognise and measure such behaviour.”

Finkelhor (2014) has pointed out that the evidence does not support the contention that the internet amplifies deviance, and notes that in the US only a small proportion of sexual offences against children have an online component. However, while data suggest an overall decline in child sexual abuse in the US (see, for example, Jones & Finkelhor, 2003) and Europe (e.g. Laaksonen et al., 2011), child abuse image offences (for example) are significantly increasing (McManus & Almond, 2014; Wolak et al., 2012).

The prevalence of online sexual abuse and exploitation varies depending on the definitions used

¹ Cyberbullying and peer-to-peer interaction may also be described as forms of violence against children, but are not included in this Guide as they are not driven by a specific sexual motivation.

and our ability to recognise and measure such behaviour. Within the literature, risk and harm are often conflated, and there are confusions about the intentionality of some behaviours (such as exposure to content, or platforms associated with predatory sexual behaviour), and whether intentional acts (such as talking to an adult online about sex) should be seen as problematic when they are not said by the child to be unwanted. There are also potential problems with disclosure of information by children. This is particularly the case where sexual images or texts are involved and the adolescent involved sees him- or herself as an accomplice to the abuse, especially where self-taken images have been sent to the perpetrator or payment has been made for sexual services. In earlier research with children who had been sexually abused and photographed (Svedin & Back, 2003), none of the children disclosed the abuse. This may be related to the shame and humiliation of knowing that others have seen the images and the knowledge that they (the children) have little control over this (Leonard, 2010). It also appears that practitioners (and possibly researchers) are reluctant to ask direct questions about online abuse (Martin, 2014), probably because of ethical concerns about potential distress, although this has been challenged by Priebe, Backstrom and Ainsaar (2010), and is discussed further in Methodological Guide 2. There are also ethical challenges in asking children what they have done or seen without introducing them to new ideas that might influence their subsequent exposure.

“Within the literature, risk and harm are often conflated.”

Not only are definitions a challenge, but for some forms of abuse there is also an over-reliance on reports rather than peer-reviewed publications. Bias is introduced by lack of transparency in sampling, and there may be poor reporting of the data collection and analysis. A special edition of the *ECPAT International Journal* (2015) noted that very few studies use control populations, and Weitzer (2014) suggested that the

² Further definitions of terminology are provided in the Appendix and in the text where clarification is needed.

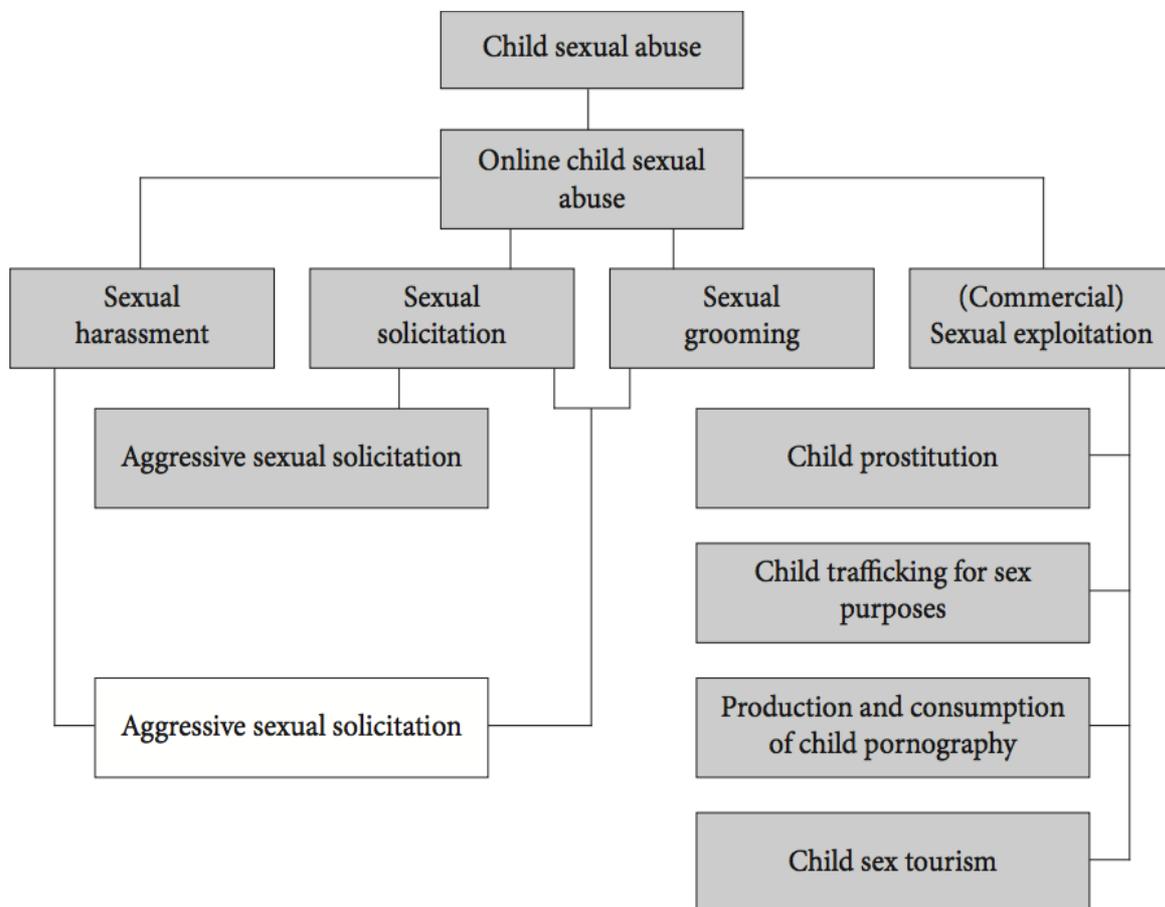
sources used in secondary research are often poorly reported and verified. It is important to note that much of our data is from high-income countries, and that online sexual abuse does not necessarily imply access to internet-enabled devices by young people (e.g., live streaming of sexual abuse or where sexual abuse images have been taken without the child's knowledge), which in itself may distort the sampling.

While there are a number of informative regional reports from non-governmental organisations (NGOs), these have often relied on case data, and systematic surveys have often combined children with young adults in sampling (see, for example, ECPAT International, 2015). Rapid technological change, and access to devices and the internet, make comparisons between studies and waves of studies using the same methodology difficult. For example, in the three rounds of the US Youth Internet Safety Survey (YISS) (conducted with children aged 10–17 in 2000, 2005 and 2010) unwanted sexual solicitations declined, but this was also a time of increased online safety education for children and parents. There had also been a change in policy-related activity by the internet

industry, as well as highly publicised proactive online monitoring by law enforcement and civilian groups such as Perverted Justice (see www.perverted-justice.com).

Slavtcheva-Petkova, Nash and Bulgar (2015) note that only a small proportion of children who use the internet experience harm. They also see little evidence that significant harms occur without prior evidence of problems or risky behaviour. Some of the challenges in this area relate to how harm, online child sexual abuse and exploitation are defined, measured and compared; other challenges relate to the use of (non-representative) convenience samples or cohort studies. This research also draws on divergent forms of data, such as surveys with children, professionals and parents, police reports, file reviews, interviews and focus groups with children as well as interviews with offenders. None of these are perfect. Surveys have been extensively used, but tell us little about actual harm. Some harms (such as a child being drugged, sexually assaulted and digitally photographed, or a child being subject to abuse through a camera hidden in the head of a shower) are difficult to quantify.

Figure 1: Typology of online sexual abuse and exploitation



Source: ROBERT project (<http://childcentre.info/robert/>)

Children may have no knowledge of these events, which may also occur in the context of other forms of victimisation.

The role of the internet in the online abuse and exploitation of children has, paradoxically, been given little consideration. While Finkelhor (2014, p. 655) has contended that the problems 'are not unique but, rather, extensions of social interaction or media consumption problems that cut across environments and are best conceptualized holistically rather than as special to the digital technology', it is apparent that technology affords distinctive opportunities to offend (Taylor & Quayle, 2006), and for adolescents to take sexual risks (Staksrud et al., 2013), and that engagement with technology affects an individual's behaviour, mood and ways of thinking (Davidson & Gottschalk, 2011; Guitton, 2013). Quayle et al. (2014) have used affordance to describe the quality of an environment (physical and software) that enables, facilitates or makes possible an action (Gibson, 1979). For example, there is concern that the use of social networking sites (SNSs) in particular may be associated with increasing risk of harm (Staksrud et al., 2013) and with children placing themselves at risk (Noll et al., 2009; Sengupta & Chaudhuri, 2011). Livingstone and Smith (2014) identify affordances of specific online sites and services as one factor important for risks of harm to young people.

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From an offender perspective, Mitchell et al.'s (2010) survey of law enforcement indicated that SNSs were used to initiate sexual relationships, to provide a means of communication between victim and offender, to access information about the victim, to disseminate information or pictures about the victim, and to get in touch with the victim's friends: SNSs might be said to 'afford' opportunities for offending. Staksrud et al. (2013) have considered these affordances in the context of an interaction between design and usage. They give, as an example of this, privacy settings, where affordances shape practice in that privacy settings distinguish between public, private or partially private communications. However, users also shape affordances, for example, young people setting up

multiple profiles on SNSs to project different selves to different audiences.

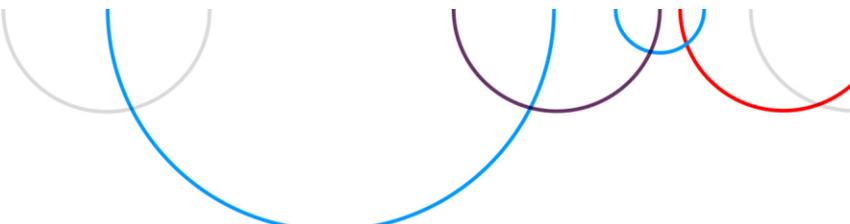
“The role of the internet in the online abuse and exploitation of children has, paradoxically, been given little consideration.”

Wellman et al. (2003) suggested that we can also identify 'social affordances' that refer to interactions between how users respond, the social context and social networks. Kaufmann and Clément (2007) suggest that other people provide the richest and most significant environmental affordances. One finding, of interest in relation to online grooming, is that technological affordances are related to the motivations people have for using them. It is not only important to think about what these 'action possibilities' are, but when and for whom they might happen. For adolescents this may relate to the developmental task of exploring sexuality, afforded through the ability to create sexual media, the online applications that support this (e.g., WhatsApp), and the peer and adult engagement with the digital content. Livingstone and Smith (2014) suggest that researchers (and practitioners) will need to recognise how this complex interplay among social norms and technological affordances shapes communicative contexts.

Ethical issues in this field of research

Ainsaar and Lööf (2010) noted that the emphasis in ethical codes of practice on not causing harm, avoiding and minimising distress or harm are especially important to this field of research. They also provide examples of other important principles, including:

- Children who are asked to participate in research must freely give their informed consent.
- Researchers must provide information that can be understood by the child, and make a judgement about the child's capacity to understand what is being proposed.
- Children must have the right to refuse to participate without any adverse consequences.
- There must be regard for issues of child protection, and provision must be made for the potential disclosure of abuse.
- The research must be beneficial to those studied.



They also note that while online surveys might be useful to investigate sensitive issues, the standards and practices of internet research are still being developed, and extra care needs to be made with matters of informed consent, negotiating access agreements, assessing the boundaries between the public and private, and ensuring the security of data transmissions.

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As part of the ROBERT (Risk-taking Online Behaviour: Empowerment through Research and Training) research project, Ainsaar and Lööf (2010) examined the ethical practices across a database of relevant articles, and found that very few publications explicitly discussed the principles of research ethics observed in the research. The most common procedure outlined was informed consent – in the case of children, informed consent was also required from parents. In many countries this is a legal requirement. In Scotland, a child's capacity to give consent (rather than their age) is the important factor, and parental consent would not be requested where it might reduce the child's capacity to take part in the study. Child sexual abuse may be one such example. Another procedure noted across these studies was that participants were informed that they could stop answering questions at any time if they wished. Issues such as privacy and the guarantee of confidentiality were often stressed, and interviews were sometimes designed to allow children to talk freely. Helweg-Larsen et al. (2004) explored ethical, legal and practical issues related to conducting a youth survey in Denmark on sexual experiences before the age of 15. They concluded that an anonymous youth survey based on computer-assisted self-interview (CASI) would increase the validity of surveys on child sexual abuse.

Other surveys have used specialists and qualified counsellors to provide support directly over the phone with children identified as potentially in danger of further abuse (Mitchell et al., 2007a). In Mitchell et al.'s national telephone surveys, contacts were maintained 'until the counsellor determined the danger had ended or appropriate parental, child protection, law

enforcement, or other authorities were involved' (2007a, p. 197). Similarly, other surveys provided oral and written information to participants about where they could get help or, as with the EU Kids Online project, provided leaflets with useful tips for staying safe online.

There are additional ethical issues that may arise from research conducted in web forums or where deception (such as using a fake identity) takes place. For example, O'Connell (2003) reported posing as an 8-, 10- or 12-year-old child in chat rooms, but did not describe the ethical guidelines implemented during the research. It would appear that although the majority of research projects work according to ethical principles, not all reports and academic papers include information about what procedures were applied. One of the few pieces of research that provide evidence of how respondents felt about participation, Priebe et al. (2010), found that attitudes about sexuality and inexperience with sexuality might cause discomfort and unease, whereas discussing individual experiences of sexual abuse involving penetration did not significantly increase such feelings of discomfort.

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Guerra and Pereda (2015) evaluated the emotional impact of participating in a study, examining the consequences of abuse on adolescent victims of sexual abuse. Adolescents aged 12–17 (54 sexually abused adolescents and 60 non-abused students) completed scales to determine their coping strategies and some psychological consequences linked to stressful experiences, and answered two questions about the emotional impact of participating in the study. Sexually abused adolescents reported fewer unpleasant emotions after participating than non-victim students, although those who had more symptoms reported more discomfort. Guerra and Pereda (2015) suggested that when ethical guidelines are followed, it is possible to survey adolescent victims of sexual abuse on aspects related to their experience without causing them significant distress. Barbovski, Green and Vandoninck (2013) provide an excellent resource on the methodological and ethical challenges of

researching children's understanding of risk in online media.

“Research on the sexual abuse of children has exposed several other threats that might violate basic principles of trustworthy research.”

Research on the sexual abuse of children has exposed several other threats that might violate basic principles of trustworthy research as well as the ethical issues related to the particular vulnerability of participants. Ainsaar and Lööf (2010) argue that these shortcomings are typical in social research, but are especially noteworthy in research on child sexual abuse; they include systematic sampling bias, unreported response rates and a lack of critical evaluation of the results.

Harm

An overarching assumption is that child sexual abuse and exploitation online is associated with harm, either to an individual child or group of children, or potentially to all children. The latter has certainly been argued to be the case in relation to abuse images where, for example, looking at images may increase the likelihood of the commission of a contact offence against a child at some point. The US Department of Justice prosecute possession under the rationale that it (a) leads to contact offences; (b) demand drives supply; and (c) the availability constitutes continued and indirect abuse of the child depicted (Bausbaum, 2010). However, the literature has largely focused on risk rather than evidence of harm (Slavtcheva-Petkova et al., 2015) – for example, the risk associated with sharing personal information online, rather than the much rarer harm of agreeing to meet an online contact in person and being sexually assaulted. Risk and harm are not synonymous, but our understanding of risk is dependent on an understanding of harm (Slavtcheva-Petkova et al., 2015). Slavtcheva-Petkova et al.'s review clustered findings largely into two groups: health-related harms and sex-related harms, including internet-initiated sexual abuse of minors and cyberbullying. Forty-nine studies examining sex-related harms were identified, although harm was defined in only 37.5% of these (mostly physical or psychological trauma enacted on a third party, social

harm and self-harm, and harmful effects on those who view sexual content online).

Two of the largest surveys (Youth Internet Safety Survey, YISS-3 and EU Kids Online) do define harm, but in different ways, making comparisons difficult. In the EU Kids Online survey, children were asked if a specific experience had bothered them without assuming that it had indeed been problematic (experienced as harmful) by all children (Livingstone et al., 2011). 'Bothered' was defined as 'for example, [something that] made you feel uncomfortable, upset, or feel that you shouldn't have seen it.' Follow-up questions were asked in relation to four main risks of harm – bullying, pornography, sending/receiving sexual messages ('sexting') and meeting online contacts ('strangers') offline. In the YISS-3 survey, Mitchell, Jones, Finkelhor and Wolak (2011b) defined harm in relation to distress: distressing sexual solicitations and harassment were episodes where young people rated themselves as being 'very' or 'extremely upset' or 'afraid' as a result of the incident.

“Risk and harm are not synonymous, but our understanding of risk is dependent on an understanding of harm.”

Harm has also been evidenced following 'child pornographic exploitation' (von Weiler et al., 2010). Von Weiler et al.'s study questioned practitioners about 245 confirmed and 280 suspected victims who indicated feelings of shame, hate and disgust. Gender differences were evident: girls suffered from fear and repression, while boys experienced guilt and speechlessness. Information obtained from practitioners indicated that victims 'felt publicly humiliated, horrified and distressed' (von Weiler et al., 2010, p. 218) by the persisting online availability of the images. This has also been found in other small sample qualitative studies (Leonard, 2010), and underpins concerns about the potential 're-victimisation' of abuse victims.

Summary of key points regarding the concept of harm:

- The research literature has largely focused on risk rather than evidence of harm.

- Studies do not all describe the characteristics of behaviour in a way that allows comparison with other studies.
- Two of the largest survey data sets (YISS-3 and EU Kids Online) define harm in different ways, making comparisons difficult.

The extent of the problem: population surveys

There has been a reliance on surveys as the primary method of data collection. Representative surveys indicate the scale of certain 'problematic' online experiences, but they may be limited by the questions that can be asked and the willingness of victims to disclose. There are also limitations in understanding the relationship between these experiences and harm, as opposed to feelings of distress. Mitchell et al. (2014) reported on US trends in unwanted online experiences and 'sexting' as evidenced by the YISS in 2000, 2005 and 2010. These surveys were conducted via telephone with separate national samples of 1,500 internet users³ aged 10–17 and their parents. YISS-3 included questions about children creating and distributing explicit images of themselves and/or their peers.

“There has been a reliance on surveys as the primary method of data collection in the field.”

Along with changes in the patterns of internet use by children, these surveys indicated a decline of 53% in unwanted sexual solicitations, but the proportion of aggressive solicitations (involving offline contact by the perpetrator through surface mail, telephone or in person, or attempts or requests for offline contact) was 15% in 2000, 31% in 2005, and 34% in 2010. The declines in sexual solicitations were highest among children aged 10–12, and the main source of these solicitations was from adolescents and young adults under the age of 25. There was also an increase in solicitations from people known offline (as opposed to strangers), and they largely took place through SNSs as opposed to chat rooms.

This same group of researchers also examined internet victimisation of children within a broader

context using the National Survey of Children's Exposure to Violence (NatSCEV: Mitchell et al., 2011b) with a US nationally representative sample of 2,051 children aged 10–17. Data were collected by telephone interviews. Online victimisation was assessed using two questions concerning online harassment (non-sexual) and unwanted sexual solicitations (being asked sexual questions or talking online about sex which was unwanted). Sexual solicitation occurred in 3% of the sample and was reported to be lower than that found in other US studies, such as the Growing Up with Media study (Ybarra & Mitchell, 2008), which identified a prevalence rate of 18% over one year in children aged 12–17. This may relate to methodological differences and the fact that only one question was used in relation to online solicitation.

Fisher et al. (2015) conducted a UK longitudinal twin study of adolescent victimisation exposure of 2,232 children followed from 12–18 years of age. They used the Juvenile Victimization Questionnaire (JVQ: Finkelhor et al., 2005), adapted as a clinical interview. Three questions related to internet/mobile phone victimisation, only one of which specified sexual activities. Approximately one in five participants (20.6%) reported exposure to internet/mobile phone victimisation, which was higher than the 13.3% reported in an earlier UK survey (Radford et al., 2011) and the YISS-3 data (Jones et al., 2012). The authors reflected that this might relate to the fact that this type of victimisation occurs most often in adolescents and the possibility that it may be increasing.

A further nationally representative sample of 3,707 Danish children aged 14–17 in 2008 indicated that any online victimisation was reported by 27% overall, and sexual solicitation by 5% of boys and 16% of girls (Helweg-Larsen et al., 2012). Mohler-Kuo et al.'s (2014) epidemiological survey of a nationally representative sample of 6,787 Swiss children with an average age of 15.5 years used the Child Sexual Abuse Questionnaire (CSAQ, developed for the study) and included five items measuring sexual harassment on the internet. This questionnaire made specific reference to taking pictures, although did not specifically ask about whether they were distributed. An earlier publication linked to this research (Averdijk et al., 2011) reported on the Sexual Abuse and

³ This was pre-determined based on a maximum expected sampling error of +/-2.5% at the 5% significance level.

Victimisation Questionnaire (SAVQ) which used the same 15 items as the SCAQ, and made a detailed comparison between this study and those using the JVQ. The results from Mohler-Kuo et al. (2014) indicated that overall, 40.2% of girls and 17.2% of boys experienced at least one type of child sexual abuse, but the most frequently experienced event was sexual harassment via the internet.

“While many of these studies are from high-income countries, there is some evidence that children in low-middle-income countries have also been exploited through the production of images.”

However, while many of these studies are from high-income countries, there is some evidence that children in low-middle-income countries have also been exploited through the production of images. ECPAT International (2011a) reported that Interpol had found a growing trend of child abuse images originating in India, and ECPAT International (2014) drew on a study of 12,447 children (Recovery and Healing from Incest (RAHI) Foundation: Kacker et al., 2007). They indicated that 4% of child respondents reported being photographed naked, which was seen as an unusually high percentage. This was the first time data of this kind of abuse had been collected. The RAHI study had also asked whether someone had requested a child to pose for ‘dirty pictures’ and they reported a response of 0.1%. Among children asked to pose, over half were boys. In different age groups, the majority of cases where children were photographed naked were younger children aged 5–12.

The extent of the problem: police data

The extent of internet-mediated sexual abuse and exploitation has also been examined through police data. The most substantial data set comes from the US longitudinal National Juvenile Online Victimisation (NJOV) study (Walsh et al., 2012). This arrest study collected data in 2000, 2006 and 2009 over two phases: a postal survey of law enforcement agencies of arrests made for technology-facilitated sexual crimes against children over a specified period of time, and telephone interviews concerning cases identified in the survey. There was a substantial increase in the

number of arrests (from 2,577 in 2000 to 7,010 in 2006 and 8,144 in 2009), although this may not indicate an actual increase (as there was an overlap in the estimated ranges at the 95% confidence interval). Approximately half of the arrests were for possession of child pornography only (the term used in these reports). Arrests for crimes where the victim was known to the police (through child pornography production) increased by approximately 30% between 2000 and 2006, and doubled between 2006 and 2009. This reflected a large increase in offenders who were known to their victims (described as family and acquaintance offenders). Arrests through proactive policing (police posing as children online) declined in 2009, although arrests for proactive investigation of child pornography offences increased in 2009 (2,353 compared to 880 in 2006) (Wolak et al., 2012). One further finding was that while the majority of these arrests in each wave of the study were of white Caucasians, in 2009 a higher proportion of those arrested (16%) were members of minority ethnic groups (Wolak et al., 2012).

“The extent of internet-mediated sexual abuse and exploitation has been examined through police data.”

The increase in arrests for the production of child sexual abuse materials merits further comment. This rise was largely driven by ‘youth-produced sexual images’ taken by children 17 years or under and which met the legal definitions in the US for child pornography. In most of these cases the person arrested was an adult who had solicited images from a minor. This was also reflected in the fact that there were more adolescent victims in 2009 and ones where they were face-to-face acquaintances with the person arrested. Adult-produced images were more likely than the images produced by adolescents to be taken by a family member (51% as opposed to 6%). Adult-produced images were also more likely to be taken by a person aged 26 or older, with victims younger than 12. Adults producing such images were likely to possess additional child pornography downloaded from the internet, and to be discovered through law enforcement activity. One quarter of the adults producing images distributed them on the internet. Where adolescents had produced the images, 83% were distributed, mainly by adolescents who had taken pictures of themselves and sent them to others (over

half by mobile phones). In 2009 the majority of the victims of child pornography production were aged 13–17, and overall more than half of the producers arrested had committed a contact sexual offence, documented in the images taken.

“There is little comparable offence data from countries outside the US, partly because many of these online sexual crimes are difficult to disaggregate from all sexual offences against children.”

There is little comparable offence data from countries outside the US, partly because many of these online sexual crimes are difficult to disaggregate from all sexual offences against children. Many countries do not have the resources to research this area; much of what is known relates to reports from NGOs. ECPAT International (2011), in their regional report, indicated that in Bangladesh 80% of children exploited by prostitution are also exploited for the production of abuse images, with children told that this was related to ‘child modelling’. This report also indicated that child abuse images were being produced in the Maldives and uploaded onto the internet. In the UK, McManus and Almond (2014) reported that the number of offenders convicted of taking, making or distributing child abuse images increased by 35%, from 921 in 2005/06 to 1,247 in 2012/13, with 2,515 offences reported in 2012/13 for possession. An earlier Swedish study (Shannon, 2008) used information from police reports from 2004–06, from 14 of 21 police authorities. A total of 315 relevant reports were identified, and in approximately 90% of cases the victim was female, with over 60% aged 11–14. The age of the victims was related to the type of offence – younger children tended to be involved in internet-only contacts (the victim was under 13 years of age in 44% of the cases), and few young children were involved in offline meetings (the victim was under 13 in only 8% of the incidents). Kloess, Beech and Harkins (2014), in their overview of internet sexual grooming and exploitation, make reference to other sources of data, such as reports made by the public, although it is difficult to know what percentage of these are validated (Quayle & Newman, 2016).

The extent of the problem: victim studies

While there is a rich literature in what might distress children online (see, for example, Lee & Crofts, 2015; Smahel & Wright, 2014), there have been fewer studies examining the experiences of children involved in technology-mediated child sexual abuse. Svedin and Back’s 2003 research included 30 victims who had been sexually abused and photographed (videos, hard copy images as well as digital files), with none of the children disclosing that abuse had taken place. Five of these children had been asleep or drugged at the time that the abuse took place, and two, because of their age and their relationship with the perpetrator, were unable to understand that something improper had taken place. The remaining 23 children remained silent and, even knowing that others had seen images of their abuse, minimised what had happened.

“While there is a rich literature in what might distress children online... there have been fewer studies examining the experiences of children involved in technology-mediated child sexual abuse.”

Leonard (2010) used two therapeutic cases to illustrate the impact of being exploited through the production of abuse images, even though the offenders in these cases never actually touched the children, but rather directed their behaviour. It was reported that these children felt culpable and humiliated by the existence of the images. A qualitative study of 20 children suspected of having suffered sexual abuse through the internet found that only 12 were willing to talk about their abuse. The remainder denied that anything had happened to them despite the external evidence (images of their abuse). The 12 narratives suggested that these children judged themselves harshly for the offences that had taken place, and often felt strong feelings of loyalty towards their abuser (Katz, 2013). This reluctance to disclose, ambivalence towards the offender and attributions of self-blame have been seen in other research, in relation to both abuse through sexual image production and online solicitation and grooming (Quayle et al., 2012). This is an important issue, particularly for qualitative research with children experiencing technology-mediated abuse, as such

children are hard to recruit, partly because of this reluctance to disclose.

“Many countries do not have the resources to research this area; much of what is known relates to reports from NGOs.”

A recent study by Say et al. (2015) examined the medical records of 662 sexual abuse victims referred from the court between 2012 and 2013 to a child and adolescent clinic in Turkey. Of these, 93 reported abuse with a digital component that included one or more of the following: (a) online/offline sexual acts through email, cell phones, text messages and internet sites; (b) an image of the victim of a sexual nature or of the sexual abuse itself recorded on a mobile phone/camera, with threats of distribution if s/he did not continue sexual acts; (c) the image was shared online/offline; and (d) the victim was subjected to online harassment or offline sexual abuse by other offenders who knew about the image (Say et al., 2015, p. 334). Forty-two per cent of these ‘digital’ cases reported that the relationship with the offender was initiated through the internet, with online sexual solicitation occurring in 47% of victims. Nearly half reported that the offender recorded an image, with threats being used in 44% of the cases. Twenty-two per cent of the children indicated that their offender distributed these images. Within this sample the use of digital technology was significantly associated with more severe forms of abuse, such as penetrative sex, recurrent sexual abuse and multiple offenders. Much of this victim-focused research reflects evidence also seen in offender studies – using child abuse images is part of the offence process that is enabled by the technology to produce and share images (Quayle & Newman, 2015).

Case study: National study of online sexual exploitation and abuse in the Philippines

The Philippines is one of 17 countries in the UNICEF Global Programme to protect children from online sexual exploitation, and in a recent publication (UNICEF, 2016, p. 1) the country was described as ‘the global epicentre of the live stream sexual abuse trade.’ Driven by poverty, deprived areas have become ‘hotspots’ for the

international trade in live stream child sexual abuse. Child sexual abuse materials were only made illegal in the Philippines in 2009, and the legal protection and prosecution framework remains insufficient. With the age of consent for sexual acts still 12 years of age, the country continues to face challenges in protecting vulnerable children and prosecuting their abusers.

As part of its campaign for a holistic approach to tackling child sexual exploitation online, UNICEF funded a two-phase National Study of Online Sexual Exploitation and Abuse in the Philippines. The first phase of the study looked at the challenges faced in four different areas: (1) the private sector, particularly the financial and telecommunications industry; (2) agencies involved in tackling child sexual exploitation, such as the police, law enforcement agencies, courts and social workers; (3) cases of abused children accessed via the database of child protection units; and (4) convicted perpetrators of child online sexual exploitation and abuse. This study aims to map ways of creating a more efficient and holistic approach to tackling child sexual exploitation online, and to identify gaps in capacity and the need for further support. The second phase is part of the Global Kids Online (GKO) project, and seeks in-depth understanding of children’s online experiences, looking both at the risks and opportunities, and their impact on child well-being. This pilot survey was conducted on the general population of children using the internet, and aimed to assess the experiences of Filipino children of online risks and to identify the online safety knowledge and practices of the children and their parents. Using the lessons learned from the Philippine context, the GKO team and a group of experts developed a survey module on child sexual exploitation and abuse, which was included in the survey and piloted during the fieldwork. This module aims to explore both the incidence and effects of online sexual exploitation and abuse on children’s well-being.

Case study: Amsterdam Sexual Abuse Case (ASAC)

The study by Lindauer et al. (2014) is important in that it presents a protocol for a study that is currently underway. This represents an example of good practice in research and is unusual in this area. The case study relates to a 130 infants and very young children, mainly boys, who, in 2010, were identified as having been sexually abused by a daycare employee. The purpose of the study is to systematically document the signs and symptoms of sexual abuse in infants and very young children and the short-, medium- and long-term effects of the abuse, including the effects of the persistence of pornographic internet images, on the children and their parents. There has been little research into children who are 'pre-verbal', and nor are there validated diagnostic instruments to confirm physical symptoms of sexual abuse. The study will examine the psychological, social, emotional, cognitive, physical development and developmental problems, of children, the psychological well-being of their parents, and the quality of interactions between parents and children, and between parents. This mixed-methods case study uses a variety of outcome measures, administered over six time points, in relation to symptoms of post-traumatic stress disorder (PTSD), dissociative symptoms, age-inappropriate sexual behaviour and knowledge, behavioural problems, attachment disturbances in children, PTSD in parents, the quality of parent-child interaction, parental partner relation and biological outcomes. The protocol details these measures and their psychometric properties as well as the ethical issues in relation to parental and child consent, and in particular the ethics of inclusion of children who have not been informed about the abuse. It will also be the first longitudinal study that has addressed, for both children and parents, the medium- and long-term consequences of the persistence of pornographic internet images.

Summary of key points relating to data collection

- There has been a reliance on surveys to collect data. Representative surveys indicate the scale of certain 'problematic' experiences, but they may be limited by the kinds of questions that can be asked, and the willingness of victims to disclose.
- Many surveys use few questions in relation to online abuse and exploitation.
- Longitudinal studies of victim exposure (allowing researchers to analyse change at the individual level over time) are starting to emerge.
- The most substantial offender data set comes from the US longitudinal National Juvenile Online Victimization (NJOV) study.
- Fewer studies have examined the experiences of children involved in technology-mediated child sexual abuse, and of these, many have been qualitative studies using small sample sizes.
- One exception to this is a study by Say et al. (2015) who examined the medical records of 662 sexual abuse victims.

MAIN APPROACHES

Surveys and questionnaires

Throughout this Guide, reference is made to survey tools, many of which use measures developed by the US Crimes Against Children Research Center at the University of New Hampshire. The most robust studies have often used general population probability sample surveys, which can provide estimates of the prevalence of behaviour but are frequently not large enough to determine the prevalence in small population subgroups of relatively rare experiences. One response to this has been cohort studies of smaller groups of children thought to be at high risk of online sexual abuse (see, for example, Rood et al., 2015). Both methods suffer from participation bias (low response rates), item response bias (refusing to answer particular questions), and reporting and recall bias. Attrition rates may also be responsible for bias. For example, in the prospective school-based study by van den Eijnden et al. (2014), which sampled a population at three time points, of the 1,777 children aged 11–15 sampled in the first wave, only 47% participated at all time points. This attrition was accounted for by whole classes being withdrawn because of teachers not being informed about the study or clashes with exam timetables. This resulted in some demographic differences between the original and final sample.

Data collection methods may also result in bias. Telephone surveys have been widely used, for example, in the YISS studies. Van den Eijnden et al. (2014) noted a decline in the response rate for this approach, which may have implications for sampling. In particular, cell phone (mobile) response rates may be low, which is a threat to external validity. Response bias may also result from an under-representation of younger children. Where studies have involved younger children, caregivers are often used as proxies (see, for example, Mitchell et al., 2015). This has proved problematic in parallel research where child responses to questions are not always congruent with those of caregivers. The need for parental consent may also result in response bias, as high parental education is associated with giving consent for the young person to participate.

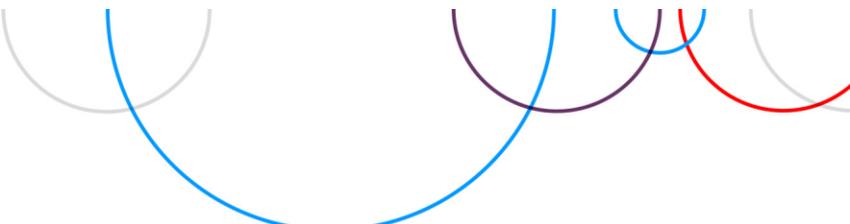
Other quantitative research approaches have largely been cross-sectional and have involved the

development of measures to examine online abuse and exploitation. Mitchell, Jones and Wells (2013) developed the Index of Problematic Online Experiences (I-POE), and Tynes, Rose and Williams (2010) designed a short instrument, the Online Victimization Scale (OVS), to measure adolescents' general, sexual and racial victimisation online. However, the scoring of this questionnaire requires the child to report whether victimisation happened: 1=Never, 2=Once, 3=A few times a year, 4=A few times a month, 5=A few times a week and 6=Every day. The level of accuracy associated with the recall of online activities is questionable and difficult to verify.

Even where children attempt to report past behaviour or experiences accurately, problems with recall can distort the reported incidence and frequency of events, and the emotional intensity (e.g., level of distress) associated with them (Fenton et al., 2001). Alternative data collection through specially developed mobile phone applications can facilitate an ecological momentary assessment (EMA) to log, for example, screen time activity while at the same time serving as a platform for any additional self-report surveys by the young person.

“Even where children attempt to report past behaviour or experiences accurately, problems with recall can distort the reported incidence and frequency of events, and the emotional intensity.”

More recently, Sumter et al. (2015) have developed and validated the Multidimensional Offline and Online Peer Victimization (MOOPV) scale, although none of the online victimisation items refer specifically to sexual activity, in contrast to the Swedish survey by Jonsson et al. (2014a), whose questions were very explicit. There clearly needs to be consideration about the age of children in the study, and the cultural acceptability of the questions when using these tools. Many questionnaires conflate multiple items into one question. For example, in Ybarra, Strasburger and Mitchell's 2014 study, kissing, fondling or having sex are combined as a single measure of sexual content in media, which the authors acknowledged was a



limitation of the study. While many of these studies have used large samples, few appear to have completed any power analysis to inform the required sample size. Many of the scales do not appear to have evaluated their psychometric properties; even where scale reliability has been measured, internal consistency is often low. For example, de Paolis and Williford (2015) developed an eight-item scale of cybervictimisation on a five-point scale ranging from never to a few times a week. The Cronbach alpha for this scale was 0.53, but the authors went on to sum and average the scores to create a mean victimisation scale.

Response rates may also be low with online surveys; where surveys are followed by further data sampling, there may be a non-response bias plus attrition. However, online research methods may have advantages in terms of autonomy of participants (especially for socially vulnerable groups), greater assurance of anonymity, no geographical limitations, speed and immediacy of communication, and allowing access to hard-to-reach populations. Online research in this area may allow researchers to contact young people outside formal institutions (e.g., recruitment through a SNS) and may circumvent barriers from people who act as gatekeepers to young people. However, such recruitment may result in boundary violations between researchers and participants, and should be approached with care. This is an ethical challenge that needs to be addressed from the outset. However, access to the internet in order to engage with an online survey may be affected by social limitations (gender, ethnicity, socioeconomic status), and it is impossible for the researcher to establish rapport or notice non-verbal cues of distress (and the difficulties of support provision to young people). One further issue is the potential problem of authenticity and the challenges of 'identity fraud'.

Qualitative studies

Qualitative research methods have been used alongside quantitative methods to provide more detailed descriptions of children's experiences than ones necessarily driven by the researcher. One example is the use of focus groups by Smahel and Wright (2014) to examine the meaning of problematic online situations for children. Their report provides a clear methodology in relation to 66 groups across eight countries, and was guided by questions related to what

was seen as potentially negative or problematic while using the internet, associated risks, consequences of negative online experiences and how they reacted to these, what was done to avoid or prevent such situations and how children evaluated what adults might see as problematic. A description is given as to how the transcripts were coded and the use of software, including NVivo, to help with the data analysis that appeared to be thematic, although no claim was made as to which qualitative approach was used.

Qualitative research with children who have been sexually exploited or abused online, or where the abuse has been facilitated by technology, is much more rare than an examination of problematic situations. Children are difficult to both identify and recruit, which in part may reflect the ethical challenges of approaching children directly, and also because many professionals act as gatekeepers to children and are reluctant to approach them for fear of further traumatisation. In a study by Katz (2013), 20 children suspected of being sexually abused via the internet were asked for consent to be interviewed, and 12 agreed. The study used 'intensive thematic analysis', which was clearly described and positioned as semantic rather than latent, and followed the analytical stages provided by Braun and Clarke (2006). They identified five categories that highlighted the emotional state of the children and the unique dynamics between the perpetrators and victims.

Thematic analysis was also used by Whittle et al. (2015) with a UK sample of eight children who had experienced online grooming resulting in sexual abuse online or offline. Their results were presented through an ecological framework with three time frames (pre, during and post offence); themes were organised around risk and protective factors, and 'attributes and experiences'. The study concluded that the loss of family protection was central in contributing to vulnerability, as is online risk-taking behaviour. The same authors conducted a study comparing three victims of online abuse and the three adults who groomed them using thematic analysis. These interviews illustrated levels of disagreement between the dyad, particularly in relation to the sexual elements of their relationship. It was acknowledged that sample size precluded any wider assumptions about the findings of the study (as is the case with the few other studies in this area). For example, Leonard's (2010) study of internet victimisation included only two cases.

Case study: Measuring adolescents' exposure to victimisation

Fisher et al. (2015) provided an innovative research approach to adolescents' victimisation exposure using a large UK longitudinal cohort of twins: the Environmental Risk (E-Risk) longitudinal twin study, an epidemiological study of 2,232 children (1,116 twin pairs) followed to 18 years of age (with 93% retention). What is interesting methodologically about this study is that they used the JVQ, but rather than administering this as a self-report survey, with all the challenges of respondent bias and subjective interpretation of questionnaire items, they combined the questionnaire items into an interview in which respondents gave detailed descriptions of their victimization. These descriptions were coded by an independent panel of expert raters using a coding system adapted from the Childhood Experience of Care and Abuse (CECA) interview (Bifulco et al., 1994), which provided standardised anchor points for determining the severity of exposure within the relevant context. Each JVQ question was asked for the period 'since you were 12', which, in the British system, marks the age when children transition into secondary school. If an experience was endorsed within a victimisation category, follow-up questions were asked concerning how old the participant was when it (first) happened, whether the participant was physically injured in the event, whether the participant was upset or distressed by the event, and how long it went on for. The interviewer also wrote detailed notes about 'the worst event'. The information was collated into victim dossiers, and each of the seven victimisation categories was coded on a six-point scale for severity against standardised victimisation definitions and severity ratings, which was clearly central to the study as it would improve the comparability of findings across different studies. The authors provide a copy of this coding scheme. High levels of inter-rater reliability were achieved for the severity ratings for all forms of victimisation. Their results indicated that one in three children experienced at least one type of severe victimisation during adolescence (crime victimisation, peer/sibling victimisation, internet/mobile phone victimisation, sexual victimisation, family violence, maltreatment, or

neglect), and most types of victimisation were more prevalent among children from low socioeconomic backgrounds.

Summary of key points about quantitative surveys

- The most robust studies examining the prevalence of online sexual abuse and exploitation have often used general population probability sample surveys. These can provide estimates of the prevalence of behaviour, but are not usually large enough to determine the prevalence in small population subgroups of relatively rare experiences.
- These surveys, along with cohort studies, suffer from participation bias (low response rates), item response bias (refusal to answer particular questions) and reporting and recall bias. Attrition rates may also be responsible for bias, particularly with longitudinal studies.
- Where studies have involved younger children, caregivers are often used as proxies. This may be problematic, as children's responses to questions are not always congruent with those of caregivers.
- Research on child and adolescent sexual activity is difficult, and even where children attempt to accurately report past behaviours or experiences, problems with recall can distort the reported incidence and frequency of events, and the emotional intensity (e.g., level of distress) associated with them. Alternative data collection methods are noted.
- Response rates may also be low with online surveys; where surveys are followed by a further data sampling, there may be non-response bias plus attrition.
- While there are good examples of qualitative research, only a few studies have involved children who have been sexually abused and exploited online. Many of these involve very small samples.

Table 1: Selected measures of online victimisation

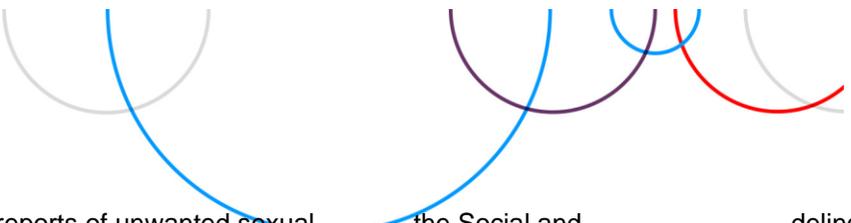
Author and year	Measure	Online abuse questions	Psychometric properties	Findings
Berson et al. (2002)	Seventeen Online Survey	19-item questionnaire measures general and sexual online victimisation. Included items: Gives out personal information via a form or questionnaire online; Sends picture of self at request of someone on the internet; Has met in person with someone who is an online acquaintance	No information provided	Web-based study conducted in conjunction with <i>Seventeen Magazine Online</i> and placed on the magazine website. Specified girls aged 12–18 (n=10,800). Sixty per cent had filled out a questionnaire or form online, giving out personal information; 45% revealed similar information to an individual they met online; 61% received pictures from someone online; 23% disseminated pictures of themselves to another person they met in cyberspace; 15% received suggestive or threatening email messages; and 3% initiated threatening or sexually explicit messages
van den Eijnden et al. (2014)	Online victimisation was assessed with a newly developed scale consisting of seven items	Adolescents were asked to give an indication of the frequency of online victimisation in the last month. Questions asked: 'How often have you been (1) bullied, (2) insulted, (3) treated rudely, (4) bothered, (5) ridiculed, (6) ignored, and (7) offended online?'	Cronbach's alpha ranged between 0.83 at T1 and 0.89 at T3	Dutch three-wave longitudinal cohort study of six secondary-level schools – 415 boys (49.7%) and 420 girls aged 11.5–15.4. Results indicated a uni-directional relationship whereby loneliness and social anxiety predict an increase in later online victimisation
Fisher et al. (2015)	Adapted Juvenile Victimization Questionnaire (JVQ)	Interview method; 45 questions covering different forms of victimisation grouped into seven categories: crime victimisation, peer/sibling victimisation, internet/mobile	First 26 victimisation dossiers were coded by all raters. High levels of inter-rater reliability were achieved for the severity ratings for all	Cohort study using members of the E-Risk longitudinal twin study, which tracks the development of a birth cohort of 2,232 British children; sample drawn from a larger birth register of twins born in England and Wales in

phone victimisation, sexual victimisation, family violence, maltreatment, and neglect

forms of victimisation: intraclass correlation coefficient (ICC): internet/mobile phone victimisation (ICC = 0.90, $p < 0.001$)

1994–95. Approximately one in five reported exposure from age 12–18 to internet/mobile phone victimisation (20.6%) and to family violence (19.3%), and slightly less reported sexual victimisation (16.4%) or maltreatment (14.8%). A smaller percentage of participants reported neglect (6.4%)

Jonsson et al. (2014a)	Based on the questionnaire from the Baltic Sea Regional Study of Adolescents' Sexuality (Mossige, Ainsaar and Svedin, 2007) with additional questions about the use of internet	Adolescents were asked in relation to voluntary sexual exposure, 'Have you posted pictures/films of yourself online where you were partially undressed? Have you ever exposed yourself sexually (flashed) via a webcam or mobile phone? Have you ever masturbated and shown it via webcam or on a mobile phone? Have you ever had sex with someone and shown it via webcam or on a mobile phone?'		Representative sample of 3,503 Swedish youths in their third year of high school completed a survey about internet behaviour, internet-related sexual harassment, sexuality, health and sexual abuse. Of those taking part in the survey, 20.9% (19.2% boys and 22.3% girls) reported experiences of voluntary sexual exposure online. Multivariate analysis showed a significant association between voluntary sexual exposure online and a number of different forms of harassment online. Neither poorer psychosocial health nor problematic relationships with parents remained significant in the final model
Mitchell et al. (2013)	Index of Problematic Online Experiences (I-POE)	18-item binary response index used to assess a wide range of problematic internet uses: 'Have you been upset, embarrassed or afraid because of something that happened while you were using the internet? Has anyone you met on the internet been arrested or in trouble with the law, where what they said or did to you were part of the problem?' Additional measures included Online Interpersonal	I-POE showed favourable psychometric properties including adequate internal consistency for the overall scale and for the two subscales: the coefficient alpha for the total I-POE was 0.74 (18 items). Alpha coefficients for the Excessive Use subscale (9 items) and	Administered via YISS-3, August 2010–January 2011 via telephone surveys with national sample of 1,560 youth internet users aged 10–17 and their parents. Two subscale scores measuring: (1) problems overusing the internet, and (2) problematic communication and relationship experiences online. Higher scores in each of these areas, as well as an elevated total I-POE score, were significantly correlated with offline problems (depression,



Victimisation (reports of unwanted sexual solicitation and harassment in the past year)

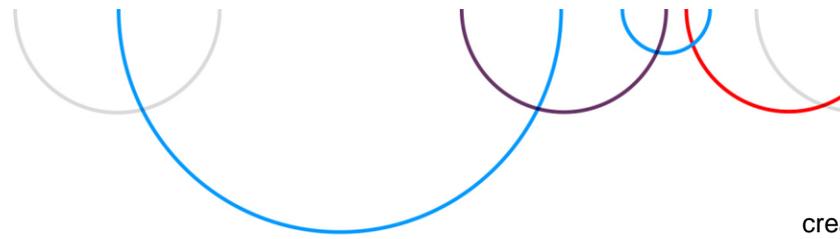
the Social and Communications Problems subscale (9 items) were 0.67 and 0.63 respectively

delinquency and substance use) as well as online victimisation and online perpetration, supporting the construct validity of the I-POE

Mitchell et al. (2015)	Technology-based Harassment Victimization (THV) survey	Children were asked: 'When kids call someone names, make fun of them or tease them in a hurtful way; when kids exclude or ignore someone, or get others to turn against them; when kids spread false rumours about someone, or share something that was meant to be private (like something they wrote or a picture of them) as a way to make trouble for them; or when kids hit, kick, push, shove or threaten to hurt someone. Think about the past year and only about incidents involving the internet or a cell phone in some way. Did anyone <i>other than a family member</i> do something like this to you?'	Telephone interview. Part of NatSCEV2 data collected between 1 September and 31 December 2011. A total of 4,503 children aged <1 to 17 constituted the NatSCEV2 sample. Telephone interviews were conducted directly with children aged 10–17, while parents completed interviews for younger children. Online victimisation was one of the least common experienced by children, while there was considerable overlap between online and offline victimisations; 96% of children victimised online also indicated at least one victimisation offline
Mitchell, Finkelhor, Jones and Wolak (2014)	Youth Internet Safety Survey (YISS-1, 2, 3)	Children were asked about unwanted sexual approaches made by an adult: 'In the past year, did anyone on the internet ever try to get you to talk about sex when you did not want to? Ask you for sexual information about yourself (very personal questions, like what your body looks like or sexual things you have done) when you did not want to answer such questions? Ask you to do something sexual that you did not want to do?' Aggressive solicitations involved offline contact, or an attempt at offline contact by the solicitor and	Telephone interviews with unique nationally representative samples of young internet users in the US, aged 10–17; $n=1,501$ in YISS-1, 1,500 in YIS-2 and 1,560 in YISS-3. Unwanted sexual solicitations continued to decline from 19% in 2000 to 13% in 2005 and 9% in 2010

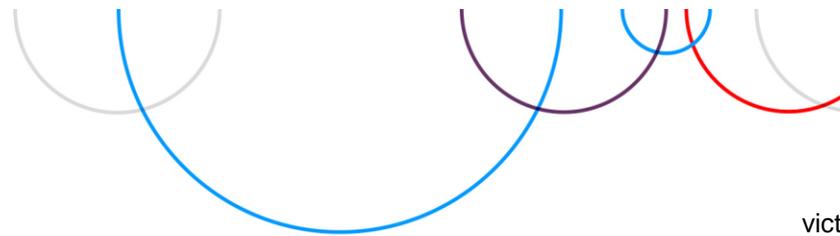
'distress' (where the youth said the incident made them very or extremely upset or afraid)

Mohler-Kuo et al. (2013)	Child Sexual Abuse Questionnaire (CSAQ)	Survey included five questions relating to the internet: 'Were you ever forced or urged to look at pornographic pictures, drawings, films, DVDs or magazines (also on a cell phone)? Did someone ever take pictures of your nude body against your will (with either a camera or cell phone)? Did someone ever pass on intimate pictures of you to other people or publish them on the internet? Were you ever molested by someone verbally or by email/short message service? Were you ever clearly sexually harassed or molested when you were chatting or during some other type of internet-based communication?'	Cronbach alpha for all eight types of child sexual abuse (CSA) without physical contact was 0.6. Cronbach alpha for all types of CSA with physical contact was 0.7 for both girls (11 types) and boys (9 types)	Survey of a nationally representative sample of 6,787 Swiss children with an average age of 15.5. Overall, 40.2% and 17.2% of girls and boys, respectively, reported having experienced at least one type of CSA event. Lifetime prevalence rates were 35.1% and 14.9%, respectively, for CSA without physical contact; 14.9% and 4.8% for CSA with physical contact without penetration; and 2.5% and 0.6% for CSA with penetration among girls and boys. The most frequently experienced event was sexual harassment via the internet. More than half of female victims and more than 70% of male victims reported having been abused by juvenile perpetrators
Noll et al. (2013)	Internet risk variables	20 self-report items to assess internet risk behaviours. Online sexual solicitations were assessed by the question 'How often have you had sexual advances from people online?' Offline meetings were assessed by asking 'How many times have you met someone in person who you first met online'	A total of 251 adolescent girls – 130 experienced substantiated maltreatment and 121 matched controls. Variables included parental monitoring; provocative social networking profiles were coded. Offline meetings with people first met online were assessed 12–16 months later; 30% of adolescents reported having offline meetings. Maltreatment, adolescent behavioural problems and low cognitive ability were uniquely associated with high-risk internet behaviours. Exposure to sexual content,	



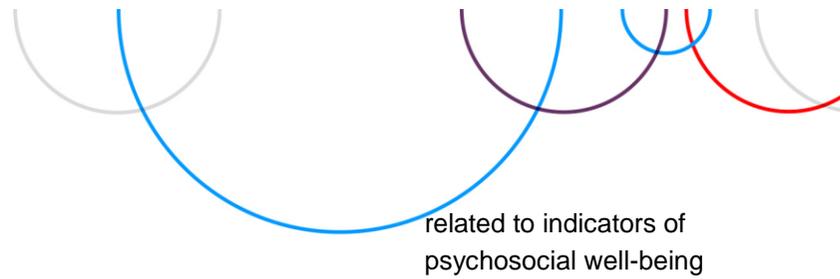
creating high-risk social networking profiles, and receiving online sexual solicitations were independent predictors of subsequent offline meetings

Rice et al. (2015)	Specific questions examined online partner seeking, being approached online for sex (i.e., online sexual solicitation) and sexual risk behaviours	Questions: 'Have you ever searched the internet so that you could find someone to have sex with? Has anyone ever contacted you online that you did not know for sex? Have you ever had sex with someone you met online?' (Restricted to those who were sexually active; <i>n</i> =647). 'The last time you had sexual intercourse (vaginal, anal, oral) with someone you met online, did you or your partner use a condom?' (Restricted to those who had sex with an internet-met partner; <i>n</i> =98)	Examined relationship between mobile phone access, online sexual solicitation, partner seeking and sexual risk behaviour in a probability sample of 1,831 adolescents in the US aged 12-18. Those who had accessed the internet on their cell phones were more likely to report having been approached online for sex, to be sexually active and to have had sex with someone they met online compared to young people who did not access the internet on their cell phones. Those solicited for sex were more likely to report being sexually active, having sex with a partner met online and having unprotected sex at their last sexual encounter. Those seeking sex partners online were more likely to report being sexually active and having sex with partners met online. Correlation analysis: rates of generalised peer victimisation and bullying as well as generalised sexual victimisation and sexual harassment significantly differed by sexual and gender identities. One in two GLQ (gay, lesbian and questioning) youth experienced online peer victimisation, compared to one in six heterosexual youth. One in two gender minority youth experienced online peer
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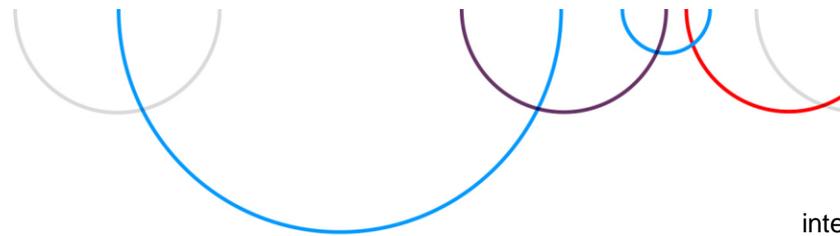


victimisation versus one in four cis-gender (not gender minority) adolescents

Soler et al. (2015)	Juvenile Victimization Questionnaire (JVQ)	Self-report measure – 36 major offences against children and youth can be classified into six general areas of concern including Internet Victimization (IV). JVQ (second revision) includes: ‘Has anyone ever used the internet to bother or harass you or to spread mean words or pictures about you? Has anyone ever used a cell phone or texting to bother or harass you or to spread mean words or pictures about you? Did anyone on the internet ever ask you sexual questions about yourself or try to get you to talk online about sex when you <i>did not want to talk about those things?</i> ’	Cronbach’s alpha reliability coefficient for the total JVQ was 0.82, indicating good internal consistency	Cohort study of eight schools in northern Spain; 923 14- to 18-year-olds, 64% female. Internet victimisation was reported in 21.2% and 35.9% of boys and girls, respectively. A large majority of adolescents report a combination of different areas of victimisation
Sumter et al. (2015)	Multidimensional Offline and Online Peer Victimization (MOOPV) scale	Measures how often adolescents experience direct and indirect forms of offline and online peer victimisation. None of the online victimisation items refer specifically to sexual activity	All subscales of the MOOPV had an adequate internal reliability, with Cronbach’s alpha estimates above 0.80. To assess validity, we investigated whether the four forms of peer victimisation were negatively related to psychosocial well-being. In line with our expectations, all subscales were significantly	Majority reported that they were not victimised offline or online. Online peer victimisation was experienced less often than offline peer victimisation. Both types of victimisation were strongly related – children and adolescents who are victimised online are more likely to be victimised offline by their peers as well. Construct validity analyses indicated that all forms of peer victimisation were related to lower levels of life satisfaction, more loneliness and less social self-esteem



Tynes et al. (2010)	Online Victimization Scale (OVS)	Binary responses sought in response to four subscales measuring adolescents' general, sexual and racial victimisation online. There were six questions related to sexual online victimisation: 'Have you been asked to 'cybersex' online? Did the person continue to have sexual discussions with you even after you told them to stop? Did anyone spread rumours about your sexual behaviour online? Did anyone ask you for sexy pictures of yourself online, or show you sexual images online? Have you ever received unwanted sexual SPAM, emails or messages?'	A confirmatory factor analytic Procedure was performed in Study 1 and Study 2, and both sets of analyses supported the hypothesised four-factor model for online victimisation	Online surveys were administered in two studies From 2007–09 two diverse groups of adolescents aged 14–19 from high schools in the US. Correlation results showed that online experiences associated with each domain of victimisation were related to increased depressive symptoms, perceived stress and anxiety, and decreased self-esteem and satisfaction with life
Ybarra, Espelage and Mitchell (2007)	Growing Up with Media survey	12-item survey to measure internet perpetration and victimisation. Includes six general and sexual victimisation questions		This is a national cross-sectional online survey of 1,588 youth aged 10–15 who have used the internet at least once in the last six months. Cluster analysis was conducted with four scales: internet harassment perpetration, internet harassment victimisation, unwanted sexual solicitation perpetration, and unwanted sexual solicitation victimisation. A total of 62% reported no involvement in either internet harassment or unwanted sexual solicitation; 35% reported internet harassment or unwanted sexual solicitation; 21% reported perpetrating either internet harassment or unwanted sexual solicitation. Involvement in



internet harassment and unwanted sexual solicitation was associated with concurrent reports of psychosocial problems including substance use; involvement in offline victimisation and perpetration of relational, physical and sexual aggression; delinquent peers; a propensity to respond to stimuli with anger; poor emotional bond with caregivers; and poor caregiver monitoring compared to youth with little to no involvement

Ybarra et al. (2015) Teen Health and Technology (THT) study Sexual victimisation questions: 'In the past 12 months, how often have you been sexually harassed?' Five modes were queried: by in-person contact, by telephone, by text messaging, via online interaction, or other type of interaction. Youth who reported harassment were then asked: 'Thinking about the places where you were sexually harassed in the past 12 months, do any of these places now feel scary, unfriendly or uncomfortable?' Response options were 'yes or 'no'. Those who responded affirmatively were coded as sexually harassed; youth who responded negatively were coded as victims of generalised sexual victimisation

Online survey. Data were from the cross-sectional THT study, collected online between August 2010 and January 2011 from 5,907 youth aged 13–18. There was an oversample of LGBT (lesbian, gay, bi-sexual and transgender) youth such that 61% of study respondents self-identified as heterosexual only. Almost a quarter (23%) identified as gay, lesbian or queer, 12% as bisexual, and 4% as questioning, unsure, or 'other sexual identity'

Online and offline experiences and vulnerabilities

There is some evidence that children are more likely to be victims than adults of all cybercrimes. Oksanen and Keipi's population-based cross-sectional survey of Finnish 15- to 74-year-olds (2013) indicated higher levels of victimisation in children even when factors such as gender, education, economic status and violent victimisation were controlled for. However, the risk of victimisation was related to the problems that children might face in the offline environment. Mitchell et al. (2011b), in the NatSCEV survey, found that online victimisation was one of the least common experienced by children, and that there was considerable overlap between online and offline victimisations: 96% of children victimised online also indicated at least one victimisation offline. The study did not support the idea that online victimisation makes an independent contribution to psychological distress.

“There is some evidence that children are more likely to be victims than adults of all cybercrimes.”

Soler et al. (2015) used the JVQ (Hamby et al., 2004) with a sample of 923 children aged 14–18 recruited from schools in northern Spain, 62% of whom were female. Using this scale, internet victimisation was reported by 21.1% of males and 35.9% of females. However, its exclusive prevalence was reported in 0% of males and almost no females. Soler et al. concluded that clinicians and researchers should consider all forms of victimisation to understand possible consequences, although some areas were found to be more important in explaining some psychological correlates. Similarly, Fisher et al.'s (2015) E-Risk longitudinal twin study found that children who were cyber/mobile technology victims were also more likely to experience victimisation offline.

A study by Rice et al. (2015) examined the relationship between mobile phone access, online sexual solicitation, partner seeking and sexual risk behaviour in a probability sample of 1,831 adolescents in the US aged 12–18. Sexual solicitation was measured by the question: 'Has anyone ever contacted you online that you did not know for sex?' Approximately 17% answered 'yes' to this question, with 3.1% of children

reporting that they both searched the internet to find someone to have sex with and were contacted online by someone who they did not know for sex. This study indicated that children who used mobile phones to access the internet were more likely to report having been approached online for sex, to be sexually active and to have had sex with someone they met online. Sexual activity was also associated with increased age, male gender and bisexual identification. Rice et al. do not claim a causal relationship between having a mobile phone and being solicited for sex online, but they do suggest that private internet access through smartphones may facilitate online and offline sexual risk-taking in adolescents. They had also found, in a previous study but using the same data (Rice et al., 2012), that adolescents who were sexually active were also more likely to be involved in 'sexting'.

Much of the research in this area focuses on the association between risk-taking in the online and offline environment. For example, Barbovschi (2013), using data from the EU Kids Online II study, found support for the hypothesis that children who met 'complete strangers' or 'friends of friends' would report higher levels of risk-taking behaviour online and offline than children who met 'friends of friends' or no one. Risky online activities included looking for new friends on the internet; adding people to an address book who they had never met face-to-face; pretending to be a different kind of person on the internet; sending personal information to someone they had never met face-to-face; and sending a photo or video to someone they had never met face-to-face. Items related to risky offline activities were adapted from the Health Behaviour in School-aged Children (HBSC) survey (Currie et al., 2008).

It was expected that harm (bothered and upset) would occur more for those who met 'complete strangers' and 'both' than for the group that met 'friends of friends'. However, there were no significant differences and this hypothesis was not confirmed. Noll et al. (2013) also examined high-risk internet behaviour in a sample of 251 maltreated and non-maltreated girls aged 14–17 (there was no attempt to address harm). The impact of internet behaviours on subsequent offline meetings was studied over 12–16 months, and they hypothesised that maltreatment would contribute to high-risk behaviour, and that parenting quality and level of supervision would moderate this. Their results indicated that offline meetings were predicted by intentional exposure to sexual content, high-risk social

network profiles, online sexual solicitations, high-risk sexual attitudes and behaviours and low cognitive ability. Noll et al. (2013, p. 515) concluded that 'maltreatment poses a unique risk for online behaviors that may set the stage for harm: namely, creating a provocative social networking profile and receiving online sexual solicitations, both of which predicted subsequent offline meetings with unknown individuals.'

This concern about risky online behaviours that may 'set the stage for harm' and result in sexual assault or abuse has been explored across a number of studies. Ybarra et al. (2007) looked at nine online behaviours that were thought to be potentially risky (such as interacting online with unknown people, having unknown people on a buddy list, talking online to unknown people about sex, seeking pornography online, and being rude or nasty online). As the number of different types of these behaviours increased, so did the odds of sexual solicitation or harassment.

From a methodological perspective, there has been a call for a more integrative approach to aid understanding of the way that sex-related online behaviours (use of sexually explicit internet material and of SNSs) by adolescents are linked to perceived peer norms in predicting experiences with real-life sexual behaviour (Doornwaard et al., 2015). Their model, in addition to showing that both adolescents' sex-related online behaviours and their perceived peer norms were concurrently associated with higher levels of sexual behaviour, also illustrated different pathways through which sex-related online behaviours predict adolescents' experience with sexual behaviour.

Summary of key points relating to online and offline vulnerability

- Research suggests considerable overlap between online and offline victimisation, although much of this focuses on the association between risk-taking in the online and offline environments.
- There is some support for the idea that adverse childhood experiences may set the scene for risk-taking behaviours that may result in harm, although many of the studies neither precisely describe nor measure harm.
- From a methodological perspective, we need to better understand the way that sex-related online behaviours by adolescents are linked to perceived

peer norms in predicting experiences with real-life sexual behaviour.

Vulnerability

There has been considerable research on what makes some children more vulnerable than others to online sexual abuse and exploitation. Harm appears to be related to risk, with the latter predicting the probability but not the certainty of harm (Staksrud et al., 2013). This suggests that many young people may encounter risks online, but this does not always lead to harm. Online grooming of children has been positioned as probably the most extreme harm associated with the internet (Jewkes & Wykes, 2012).

Grooming has been defined by Craven, Brown and Gilchrist (2006) as a process by which a person prepares a child, significant adults and the environment for the abuse of this child. Whittle et al. (2013) suggest that this definition may apply to both real-world and online settings. The terms 'sexual solicitation' and 'grooming' are often used synonymously, although there are marked differences between the two. As previously noted, sexual solicitation has been used to refer to requests to engage in sexual activities or sexual talk, or to give personal/sexual information that was either unwanted or made by an individual 5 or more years older, whether wanted or not (Jones et al., 2012).

Aggressive sexual solicitations are where solicitors attempt or make offline contact with young people through regular mail, by telephone or in person. Mitchell et al. (2007a), using the YISS-1 and 2 data sets, found that risk factors for aggressive solicitations included being female, using chat rooms, using the internet through a mobile phone, talking with people met online, sending personal information to people met online, talking about sex online and experiencing offline physical or sexual abuse. Wells and Mitchell (2013), in their analysis of YISS-3 data, found that children receiving special education services in schools were more likely than the rest of the sample to report an online victimisation in the past year.

Whittle et al. (2013) provided a review of the risk factors that may make a young person vulnerable to being groomed online, and examined individual vulnerabilities in terms of gender, age, sexual orientation, disability, broader social relationships (such as family and friends), socioeconomic group and

school. Their review contextualised what we know about vulnerability to online sexual grooming in relation to sexual offences occurring in an offline context.

“Young people with psychological problems seem to encounter more risks online and have a greater chance of being upset than those who do not have such problems (Livingstone et al., 2011).”

Adolescent girls are more likely to be the targets of online solicitation (Jones et al., 2012), although boys who are gay or questioning their sexual orientation may also be particularly vulnerable (Wolak et al., 2008). Priebe and Svedin (2012), in their nationally representative sample of Swedish youth (aged 16–22), found that male adolescents with sexual minority identity had a 2.7-fold increase in the odds of having been exposed to at least one type of problematic sexual meeting offline with a person or persons they first had met online, and female adolescents had almost threefold increased odds. However, it was not possible from this paper to examine these relationships for children under the age of 18.

The relationship between online-initiated and offline sexual abuse experiences has been noted in other studies (see, for example, Noll et al., 2009; Sumter et al., 2012). As with Priebe and Svedin’s (2012) study, mental health problems (Wells & Mitchell, 2007; Wolak et al., 2008), and troubled and delinquent tendencies (Mitchell et al., 2007b) have been noted, and young people with psychological problems seem to encounter more risks online and have a greater chance of being upset than those who do not have such problems (Livingstone et al., 2011).

However, it is often difficult to understand the direction of these relationships and whether children victimised online develop psychological problems as a result, or whether pre-existing psychosocial problems predict victimisation. These bi-directional relationships were examined by van den Eijnden et al. (2014) with 831 adolescents (half of them girls) aged 11–15, of which most (80%) had a Dutch ethnic background. The focus of the study was peer aggression, and they predicted a reciprocal relationship between psychosocial problems and online victimisation. Online victimisation was assessed with a seven-item-scale asking for the frequency of being bullied, insulted, treated rudely,

bothered, ridiculed, ignored or offended online (no further information is provided about the last item). Their findings suggested a uni-directional relationship between online victimisation and psychosocial problems: feelings of loneliness and social anxiety predict an increase in later online victimisation rather than the reverse. However, a bi-directional relationship was found between real-life victimisation and psychosocial problems in that loneliness (but not social anxiety) predicted an increase in later offline victimisation, which in turn predicted a subsequent increase in social anxiety (but not loneliness). Van den Eijnden et al. concluded from this that offline victimisation has more negative effects on the psychosocial well-being of adolescents than online victimisation. They suggest that this is in line with other research (see, for example, Valkenburg & Peter, 2007), which demonstrated the increased likelihood of socially vulnerable adolescents engaging with online strangers, and that such communication is related positively to online victimisation.

“Adolescent girls are more likely to be the targets of online solicitation (Jones et al., 2012), although boys who are gay or questioning their sexual orientation may also be particularly vulnerable (Wolak et al., 2008).”

Summary of key points on vulnerability

- Research on the vulnerability of children to online sexual abuse and exploitation suggests that harm is related to risk, although risk does not inevitably result in harm.
- Because the terms ‘sexual solicitation’ and ‘grooming’ are often used synonymously (although they are not the same), it may not be possible to compare different studies.
- Gender and sexual orientation appear to be important variables in terms of vulnerability.
- Existing research makes it difficult to understand the direction of relationships between variables, and whether children victimised online develop psychological problems as a result, or whether pre-existing psychosocial problems predict victimisation.

Case study: Abuse characteristics and psychiatric consequences associated with online sexual abuse

While there are a growing number of studies that have examined the prevalence of online child abuse and exploitation within the general population, there are fewer studies of populations where sexual abuse is known to have taken place. This is a hard-to-recruit population, and there are considerable ethical challenges in identifying children and recruiting for research purposes. The study by Say et al. (2015) was conducted in Turkey and used the medical records of 662 sexual abuse victims who had been referred to a child and adolescent clinic by the courts over an 18-month period. These medical records included interviews with children and parents, a psychiatric diagnosis and cognitive tests with the child. Verbal consent was obtained from the child and parents for the data to be used for scientific purposes, although it is unclear from the paper whether ethical procedures were followed. The following was extracted from the records: age; sex; education; victim IQ; type, duration and frequency of the sexual abuse; relationship with the offender; number of offenders; use of digital devices in the sexual abuse by the offender; presence of threatening/physical violence; method of sexual abuse disclosure; and psychiatric diagnosis. Of these, records indicated that 93 cases identified abuse with a digital component, 39 of which were initiated through the internet. Multivariate logistic regression analysis was used to examine the associations between digital technology involvement and the characteristics and psychiatric correlates of sexual abuse. The possible associations of digital forms of sexual abuse were tested with each of the indicators of sexual abuse severity. Technology-mediated sexual abuse was significantly associated with penetrative and recurrent forms of sexual abuse committed by multiple offenders with coexisting violence. Victims of sexual abuse where a digital component was identified were approximately four times more likely to develop any psychopathology, four times more likely to have depression, and twice as likely to have PTSD as a result of sexual abuse.

Other forms of online sexual abuse and exploitation

Sexting

Rollins (2015) has suggested that the ubiquity of internet access and mobile phones has changed the way people can express and act on their sexual interests. This includes the creation of sexual texts and images, often described as 'sexting'. There are several definitions of sexting, which makes it difficult to understand its scale or associated harm.

Livingstone and Görzig (2014) examined harm in relation to receiving sexual messages on the internet. In their literature review they concluded that accounts of internet-related risks should distinguish between predictors of risk and harm. The 2010 EU Kids Online sample included questions about sexual messages for the 11–16 age group ($n=18,709$). These children were asked '[People] may send sexual messages or images. By this, we mean talk about having sex or images of people naked or having sex. In the past 12 months, have you seen or received sexual messages of any kind on the internet?' Fifteen per cent responded 'yes'. Harm was estimated by asking those who had received sexual messages online 'In the last 12 months, has any sexual message that you have seen or received bothered you in any way? For example, made you feel uncomfortable, upset, or feel that you shouldn't have seen it?' Twenty-four per cent indicated that they had felt bothered or upset.

The results indicated that the risk of receiving sexual messages increased with age, was greater in those higher in sensation-seeking and experiencing psychological difficulties, and who engaged in more online and offline risk-taking. In line with previous research, younger adolescents and girls were more likely to experience distress. However, children with higher levels of psychological problems experienced more distress while those who demonstrated higher levels of sensation-seeking experienced less. Livingstone and Görzig concluded that for children who receive sexual messages, the level of distress depends mainly on their age and gender as well as their psychological factors, and is 'largely unaffected by their level of online or offline risky behaviours – even though, as already noted, this is the most important factor in explaining risk' (2014, p. 13). The consequences of these self-produced sexual images

for adolescents have largely been seen as negative (Houck et al., 2014; Lunceford, 2011).

Lee and Crofts (2015) have argued that assumptions about coercion and harm do not reflect the experiences of the majority of girls who engage in sexting and who are motivated by pleasure and desire. Powell and Henry (2014) suggested a need for more 'nuanced understandings of sexting' to distinguish between the 'consensual and non-consensual creation and distribution of sexual images' and to inform policy-making and educational resources.

Sexual extortion (sextortion)

'Sextortion' is a relatively new term (largely used by US law enforcement) for the coercive use by adults and adolescents of sexual images produced by children. Where sexting relates to the creation and sharing of sexual images, sextortion draws specific attention to the risks that young people (particularly adolescent girls) may expose themselves to (see, for example, Lunceford, 2011). These include sexual harassment, online grooming, sexual pressures and 'objectification via the creation, exchange, collection, ranking and display of images' (Ringrose et al., 2012, p. 8).

“‘Sextortion’ is a relatively new term (largely used by US law enforcement) for the coercive use by adults and adolescents of sexual images produced by children.”

In a national survey of Dutch adolescents, Kerstens and Stol (2014) found that negative experiences were more likely to occur when adolescents interacted with people unknown to them and when an intrinsic motivation for engaging in sexual interaction was missing. There was a strong relationship between bothersome experiences and being cyberbullied. Furthermore, Dir and Cyders (2014) suggested that potential risks increased when sexting was combined with alcohol use.

In their typology of sexting based on US case law, Wolak and Finkelhor (2011) highlighted a range of 'aggravated' sexting incidents carried out by adults and young people, with individuals intending to harm, harass or embarrass others through deception, exploitation and abuse. The aggravated incidents

involved criminal or abusive elements that included adult involvement; criminal or abusive behaviour by other minors (such as harmful sexual behaviour, extortion or threats); malicious conduct that arose from interpersonal conflict; or the creation, sending or showing of images without the knowledge (or against the will) of a minor who was pictured. Such aggravated use of sexual images was also seen in confirmed reports of online grooming ('luring' under Canadian law) (Quayle & Newman, 2016). A newspaper report in 2015 alleged that in the Hussain Khan Wala region of Pakistan, families reported that more than 200 children had been sexually abused by a gang of 15 men who sold videos of the abuse and attempted to extort money from the children and their parents (Gillani & Massod, 2015).

The US cases (Wolak & Finkelhor, 2011) described criminal relationships with young people where sexual images were generally (but not always) solicited by adults to whom many of these young people developed romantic or sexual attachments. The cases involving only young people were further divided into two groups – 'reckless misuse' and 'intent to harm' – with the intention behind the activity being seen as critical. The misuse category largely referred to the distribution of images by another young person without the explicit permission of the young person in the image. A qualitative study of offenders who had committed an online grooming offence concluded that technology afforded the opportunity to simultaneously contact and communicate with multiple victims within a discrete period of time, and sexual behaviour was often prompted by the easy exchange of images, text or the presence of webcams, without any physical contact or the risks that would be associated (Quayle et al., 2014).

Revenge pornography (or revenge porn)

Henry and Powell (2015) have suggested that legislation has been slow to respond to the harm experienced by victims of non-consensual making and/or distribution of sexual images (which, as above, has also been described as sexting). This study focused specifically on the context of harassment, stalking and family or intimate violence using sexual imagery to harass, coerce or blackmail women. There are problems in distinguishing between consent and coercion, particularly where consent might have been given (or is inherent) in the image having been taken and shared, but not in its wider distribution. Stroud

(2014) asserts that posting these images, regardless of the age of the person within the image or the person distributing it, is often done for revenge and is enhanced by varying levels of perceived anonymity. It is associated with humiliation and embarrassment, and may also be associated with both online and offline abusive experiences. There is little research on revenge pornography per se, although in the context of children there is considerable research on coercive or aggravated sexting (although little that explicitly looks at harm). With both of these areas, there are definitional and measurement problems that make comparisons across studies difficult.

Commercial sexual exploitation

Concerns have long been expressed about the commercial exploitation of children and women through trafficking for sexual purposes, described by the United Nations (UN) as:

... the recruitment, transportation, purchase, sale, transfer, harbouring, or receipt of persons: by threat, use of violence, abduction, use of force, fraud, deception, or coercion (including abuse of authority or of a position of vulnerability), or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another or debt bondage, for the purpose of exploitation which includes prostitution or for placing or holding such person, whether for pay or not, in forced labor or slavery-like practices, in a community other than the one in which such person lived at the time of the original act described. (UNHCR, 2000)

Huda (2006) reports that in South East Asia there is evidence of increasing use of technology to market women and children for prostitution, bride trade and pornography through the internet, although the ability to conduct research to provide more evidence is severely limited. Similar reports have been made about child sexual abuse materials production in Russia and the Ukraine through so-called child modelling agencies (ECPAT International, 2008) as well as the involvement of organised crime in image production in Mexico (ECPAT International, 2011b).

Davy (2014) also notes the lack of voices of children trafficked for sexual purposes.

“Concerns have long been expressed about the commercial exploitation of children and women through trafficking for sexual purposes.”

Panko and George (2012) describe how the internet is used to facilitate travelling perpetrators of sexual offences (which overlaps with child trafficking), with internet adult chat rooms, blogs and online news groups providing spaces where middlemen meet potential perpetrators. Anonymous proxies and re-mailers are used for communication between perpetrators, middlemen and potential victims. Sophisticated encryption programs in their messages pose difficulties for law enforcement officials to decode the evidence. Private browsing options ensure that no caches of illegal materials remain on the computers used for such communication. Panko and George also describe the use of public telephone booths with prepaid calling cards that provide anonymity in voice communication, with prepaid SIM cards being used in mobile phones.

The ability to use Voice over Internet Protocols (such as Skype) also facilitates the live streaming of sexual abuse of children. There are reports of live streaming in South Asia (ECPAT International, 2011) with victims described as deprived children who are coerced into live streaming of sexual abuse, from computers provided by employers, against their will. While concerns have been expressed about the impact that this might have on victims (see, for example, Davy, 2014), there is little systematic evidence to inform this area of online abuse and exploitation, although recent research by Ioannou and Oostinga (2015) analysed police files to provide an empirical framework for understanding the conditions used against victims of trafficking in the Netherlands.

Probably the most systematic study of Internet-Facilitated Commercial Sexual Exploitation of Children (IF-CSEC) has come from Mitchell et al. (2011a) as part of the NJOV-2 study, and provided national (US) incidence estimates of 569 arrests involving these crimes in 2006. Offenders were divided into two main categories: those who used the internet to purchase or sell access to identified children for sexual purposes

(including child pornography production – 36% of cases), and those who used the internet to purchase or sell child pornography images they possessed but did not produce (64% of cases). Mitchell et al. (2011a) again highlight the difficulties in defining some of the crimes associated with commercial exploitation of children, including the abuse of children through prostitution and trafficking. Their study used a conservative definition of CSEC that required a clear exchange (or effort to exchange) of money so that at least one party made a financial profit. This definition excluded trading of child pornography where payment was not involved, sexual exchanges for non-monetary gains, and money offered to victims as a bribe or incentive in an otherwise non-commercial sexual assault (see the Appendix for CSEC terminology).

“Swedish studies have also shown the internet as an arena for contact between children and perpetrators wanting to commercially exploit them.”

Mitchell et al. (2011a) provided evidence for the role of technology in CSEC, and suggested that offenders may be quick to adopt internet technology. The market for online adult pornography may result in the internet being a good place to advertise escort services and massage parlours where adolescent girls may be marketed alongside adults. There may be a variety of reasons for using adolescents, including them being easier to control and healthier than adult females. The internet may also be an efficient way of reaching a large audience with diverse sexual appetites, where offenders feel that they can hide their activities through the use of encryption and piggy-backing on unsecured wireless networks. Mitchell et al. also speculated that the internet may make it easier for CSEC offenders to make connections with other offenders, for example, networking among pimps or child pornography rings (Holt et al., 2010). This study provides considerable detail about completed or attempted direct offences against victims through abuse involving exploitation and prostitution. It also examined which children are at particular risk for IF-CSEC, the overlap between these cases, and what is known about non-internet related cases. Mitchell et al. concluded that IF-CSEC victims appear to have ‘elevated consequences and aggravating features of the experience’, and were more likely to be victims of child pornography

production, to be given drugs or alcohol, and to be physically assaulted as part of the crime.

Jonsson, Svedin and Hyden’s (2014b) qualitative study of Swedish 15- to 25-year-olds commercially sexually exploited online before the age of 18 ($n=15$) (it was not possible for this report to extract data on under-18s) indicated that for all participants the internet was described as the most natural point of contact with people wanting to buy sex, facilitated by access to smartphones and the ability to be constantly online. In several cases, commercial exploitation included sexually abusive materials that were also purchased online; these ranged from semi-nude pictures to live streaming. Other Swedish studies have also shown the internet as an arena for contact between children and perpetrators wanting to commercially exploit them, but this was not associated with an increase in the numbers of children exploited (Svedin & Priebe, 2007, 2009). Jonsson et al. (2014b) argue that this indicates that for Swedish adolescents the internet has not increased abuse through prostitution, but has changed the contact arena.

Key points on other forms of online sexual abuse

- Inconsistencies in project terminology and research aims have led to widespread variation in the estimated prevalence of sexting among young people.
- Much of the research on sexual extortion comes from high-income countries, although evidence is emerging that this problem exists across other regions. Sexting, sexual extortion and revenge pornography appear to be overlapping categories, and are poorly defined and measured.
- Commercial exploitation of children is perceived as a global phenomenon.
- Research by Mitchell et al. (2011a) is useful in highlighting the difficulties in defining crimes associated with the commercial exploitation of children, including the abuse of children through prostitution and trafficking.
- Commercial sexual exploitation of children highlights the importance of considering the role of technology as an enabler of these crimes.

IDENTIFYING GOOD PRACTICE

Lobe et al. (2008) provide excellent guidelines on best practice in research with children, which also consider the ethics of research questions for children. Online abuse and exploitation is a much narrower field of research, much of which has taken place in high-income countries. Exceptions to this include Michelet's (2003) survey of children at risk online in Thailand, which provides useful insights not only on internet usage and problematic online experiences, but also in relation to the challenges in recruiting samples of children, parents and teachers. The field is also dominated by authoritative claims that the volume of child abuse images is an indication of the scale of the problem of online abuse (see, for example, Home Office, 2015), which researchers can only take at face value. In recent years there has been an increasing call for 'good evidence' and a growth in the number of systematic reviews which, as well as providing useful summaries, will often critically evaluate the quality of the studies that are selected for the review (Petticrew, 2001). This sets a solid basis for further research and should prevent multiplication of misinformation.

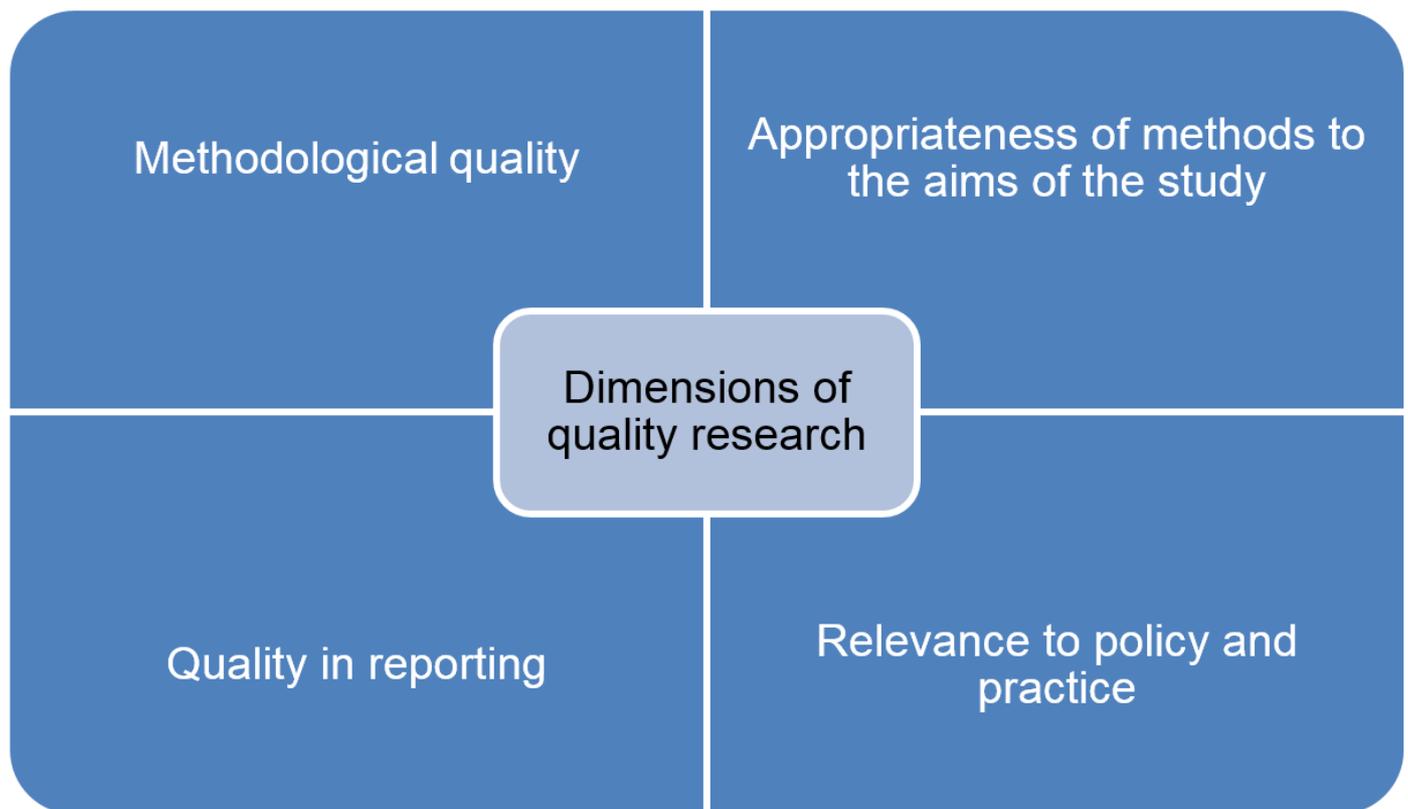
However, even systematic reviews can have limitations related to the attributes of the papers reviewed. For example, Klettke et al. (2014), in their review of sexting prevalence and correlates (which did not use a quality appraisal tool), concluded that many studies demonstrated methodological constraints, including self-selected samples, a lack of validated measures and reliance on self-reporting. In addition, information about the use of cell phones (or capacity to send images as well as text) was often not reported. Klettke et al. suggested that many studies relied on online sampling, 'which is likely to result in a higher proportion of respondents that have access to digital technologies, are familiar with their use, and therefore are more likely to participate in these behaviours' (2014, p. 52). All of these factors may result in bias.

- Meltzoff (2007) describes some key issues to consider in relation to good research, including how we judge the evidence in relation to publications. These include:
- The research question: Are terms clearly defined? Are there errors in logic (e.g., in relation to causation, relationship or association)?

- Research design: Is this suitable to answer the research question?
- Sample: Is the sample representative and adequate? (Random assignment has advantages over systematic assignment in establishing group equivalence. Bias can occur when volunteers are used or where there is selective attrition. Adequate sample size can be determined through power analysis.)
- Are methods to control relevant confounding variables applied?
- Criteria and criteria measures: Do these demonstrate reliability and validity for both independent and dependent variables?
- Data analysis: Are appropriate statistical tests applied for the type of data obtained, and assumptions for their use met? Are post hoc tests applied when multiple comparisons are performed? Are effect sizes included throughout?

Most of the criteria used for examining the quality of research are firmly rooted in quantitative traditions (Bryman, 2001) and focus on reliability (are the results repeatable?), validity (does it measure what it says it does?), research validity (do the research results mean what they refer to?), external validity (can the results be generalised to other settings? – ecological validity – and to other populations? – population validity), and replicability (are the results of the study reproducible?). Boaz and Ashby (2003) present a framework for thinking about research quality, shown in Figure 2 below. While we have tended to privilege peer-reviewed publications over, for example, research reports from NGOs, this can in itself produce bias, and there has been considerable debate over the quality of the peer review process. Many funded research studies are required to provide a much more detailed account of the methods used than is evidenced in published papers (quality in reporting may, for example, be compromised by the accepted word count of a journal, and this seems to be particularly problematic with many qualitative studies). Good examples of detailed methodology reports are seen, for example, on both the EU Kids Online and the Crimes Against Children Research Centre websites.

Figure 2: Dimensions of quality research



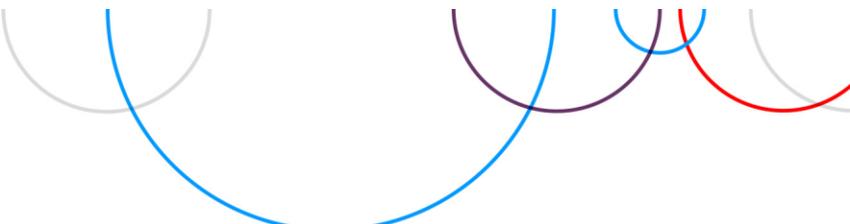
Source: Adapted from Boaz and Ashby (2003)

There is insufficient space in this Guide to examine good practice in all relevant methods, so we take a selective approach, with suggestions for alternatives. As previously noted, survey methods have dominated research in this area: they provide a snapshot of how things are at a particular time; there is no attempt to control conditions or manipulate variables or allocate participants into particular groups (Kelley et al., 2003); and they can be seen as a strategy rather than a method. A survey should have content validity (the questions should properly cover what is being studied) and should also demonstrate the psychometric properties of reliability, validity and (for a longitudinal study) responsiveness to change.

A good example is the JVQ, which includes 34 screening questions across five areas of victimisation, along with short, closed-ended follow-up questions. It was designed to have developmental breadth (rather than be age group-specific). The utility and performance of the scale was examined through a national random telephone survey about the experiences of 2,030 children in the US (self-reported by those aged 10–17) and via proxy reports (from

parents), for children aged 2–9. The construct validity of the JVQ and its items was assessed by the degree to which item endorsement was associated with trauma symptomatology (Trauma Symptoms Checklist for Children, TSCC: Briere, 1996). The JVC indicated moderate but significant correlations with trauma symptoms for all the aggregates and for most of the individual screener items as well (Finkelhor et al., 2005).

A smaller sample of JVQ respondents was contacted again ($n=200$; 100 self-respondents and 100 parent proxy respondents). Cohen's kappa was used to calculate inter-rater agreement, and overall there was agreement for 95% of the screener endorsements with a range for items from 79 to 100%. However, this was not the case for all screening items. This may have been influenced by the low base rate of some items, the size of the sample or lack of motivation on the part of respondents. Internal consistency reliability was measured using Cronbach's alpha, which was felt to be of limited applicability to the JVQ. The overall alpha was 0.80, which is good, although the alphas for the various aggregate scores were moderate to weak.



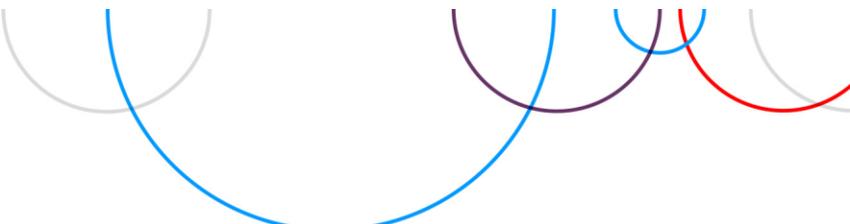
Fisher et al. (2015) provide a good example of a research design that responded to the challenges of using self-report measures of victimisation and the costs involved in the alternative (interviews). Interviews are seen as preferable to self-report questionnaires, as they are less influenced by respondent bias and subjective interpretation of the questionnaire items. However, they are costly and time consuming in large-scale surveys (Dohrenwend, 2006). Fisher et al. (2015) described a methodological compromise that combined a standardised survey with a system of in-depth contextual coding. They adapted the JVQ as a clinical interview, as they felt that the data derived from this survey was really a count of endorsed items, and lacked sufficient detail to determine the severity of the victimisation or the contexts in which it occurred. In the JVQ interview, respondents provided detailed descriptions of victimisation experiences, which were then coded by an independent panel using a system derived from the CECA interview (Bifulco et al., 1994). This provides standardised anchor points to determine severity within a given context. This was then used in the large-scale epidemiological E-Risk longitudinal twin study, which uses a sample that represented the full scale of socioeconomic conditions in the UK. Participants ($n=2,066$) were interviewed at age 18 using the items from the JVQ concerning adverse experiences that had occurred between 12–18 years of age, and their data was compared with the results of the UK NSPCC survey (Radford et al., 2011). Information for the JVQ interview was compiled into dossiers and rated by expert members of the research team using a six-point severity scale. The anchor points of the scale differed for each victim category, and expert members also evaluated whether any physical violence had been experienced (individual as well as vicarious). Inter-rater reliability was examined in 4% of the total sample of dossiers.

Radford et al. did note limitations with this approach (self-reports related to ‘worst experiences’, which may have resulted in under-reporting due to embarrassment), and the fact that there was a ‘missed opportunity’ of more fine-grained information about the relationship with the perpetrator and the number of reoccurrences of the same victimisation approaches. However, this was an innovative research approach that evidenced how ‘distinct levels of victimisation measurement can be harmonised in large-scale studies of health and development’ (Radford et al., 2011, p. 1399).

Survey data can be used analytically as well as descriptively, although the majority of studies take data only from one time point (or sequentially in the form of repeat studies, but not with the same population). Baumgartner et al. (2012) completed a four-wave longitudinal study with 1,676 Dutch children aged 12–18 to examine the prevalence of online and offline sexual risk behaviour, to establish whether these behaviours were related and to identify risk factors that determined problematic pathways for both. The study identified typical development of online sexual risk behaviour and its relationships with offline sexual risk behaviour. Factors that predicted both behaviours included sensation-seeking, family cohesion, life satisfaction, education and online communication.

However, this study did not explicitly examine the relationship between online behaviours and harm. A further Dutch study (van den Eijnden et al., 2014) had noted that while several studies had indicated associations between online victimisation and psychosocial problems, only two addressed longitudinal change in psychosocial well-being following victimisation (Sumter et al., 2012; Zwierzynska et al., 2013), and did not examine whether psychosocial well-being might predict changes in online victimisation. Van den Eijnden et al. (2014) addressed this by examining the bi-directional relationship between online victimisation and psychosocial problems. This was a three-wave longitudinal study, which, as previously noted, suffered from a high attrition rate. Structural equation modelling was used to analyse annual follow-up longitudinal associations. Van Eijnden et al. provided evidence to indicate a uni-directional relationship in that loneliness and social anxiety predicted an increase in subsequent online victimisation rather than the reverse. A bi-directional relationship was found for real-life victimisation: loneliness (but not social anxiety) predicted an increase in offline victimisation, which in turn predicted an increase in subsequent social anxiety (but not loneliness). No moderating effects of online aggression were found. While not without limitations (specifically the reliance on self-report), this prospective longitudinal study makes an important contribution and addresses some of the concerns raised by Livingstone and Smith (2014).

ECPAT (2015) provide a useful overview of the challenges in researching sexual exploitation, with a particular focus on commercial exploitation (CSEC). While they outline a number of ‘promising approaches’



that might be used, they conclude that there is a pervasive lack of quality and reliable data around the scale of the problem, which is not unique to CSEC but extends to other hidden populations, and that much of what is produced is at best 'guesstimates'. They suggest that mixed-methods research would provide the best opportunity 'to produce empirical and scientific data that is most representational of the larger target population' (2015, p. 10). However, there has been little truly mixed-methods research in this area, although the EU Kids Online research group has produced a large number of studies that used both qualitative and quantitative methods.

One promising example is seen in the protocol published by Lindauer et al. (2014) on the longitudinal effects of sexual abuse on infants and very young children and their parents, and the consequences of the persistence of abusive images on the internet. There are three components to this research design that relate to a single case where very young children ($n=130$, mainly boys) were victimised by a careworker. These components include an initial medical and psychological assessment of the children, a cross-sequential longitudinal study of the children suspected of child sexual abuse, and a qualitative study with parents and therapists involved in the original case. In addition to its methodology, this research is of interest as it relates directly to the harms caused by child sexual abuse and the production of abusive images. It is also worth noting that there are few studies that have examined online sexual abuse and exploitation in marginalised children, although there is a small but increasing body of work in relation to LGBT children (see, for example, Priebe & Svedin, 2012; Ybarra et al., 2015) and young people with developmental disorders (see, for example, Lough et al., 2015).

Livingstone and Smith (2014) conclude their review of the harms experienced by child users of online and mobile technologies with an examination of the implications for both future research and practice. They argue that there is a need to prioritise explicit assessment not only of risk, but also of harm associated with that risk (rather than simply assuming harm). More longitudinal research designs are required to determine developmental pathways and the longevity of harm in pre-adolescent children. A systematic analysis of key risk and protective factors for children is needed, and evaluation of awareness-raising strategies and harm reduction interventions.

They also identify a need for exploratory research to examine emerging risks, the complex relationship between online and offline risks, and the inclusion of children as researchers. We could add to that a need for a clearer definition of many of the key variables studied, support for research with marginalised children, and greater investment in research with children from low- and middle-income countries to understand technology-facilitated sexual abuse and exploitation.

On a final note, one critical thread running through much of the research in this area is the use of self-report measures alongside retrospective rather than prospective designs. Simonich et al. (2004), in their study of sexually abused children, noted the biases associated with retrospective recall and the limits of having to remember momentary states, and suggested the need for new methodologies to prospectively assess an individual's behaviour in their natural environment (often referred to as ecological momentary assessment, EMA, and experience sampling method). In their study of nine girls they used hand-held devices (palm-top computers) to prompt self-monitoring of their daily behaviour for one week, and concluded that such intensive measurement strategies provided advantages for the study of fluctuating moods and behaviours.

More recently, with the increase in mobile phone ownership, experience sampling using text messaging has become a feasible way to collect EMA data (Dunton et al., 2012). Banga and Barnes (2016) conclude that in addition to being a more effective platform for delivering EMA surveys, smartphones are designed and built with a variety of sensors and usage data capture abilities that allow relatively unobtrusive and automatic data collection of a variety of indicators. This capability can help researchers observe participant behaviour in everyday contexts, and allows a wide range of data to be collected without relying on self-report. This offers the opportunity to sample both high- and low-rate behaviours, alongside more traditional questionnaires hosted on the device, and potentially allows the measurement of the intensity of emotional responses (including distress) in a variety of online and offline contexts.

USEFUL ONLINE RESOURCES

Resources provided by the author

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Additional resources

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CHECKLIST

Key Definitions

The following definitions are informed by the *Terminology guidelines for the protection of children from sexual exploitation and sexual abuse* adopted by the Interagency Working Group in Luxembourg, 28 January 2016 (Greijer & Doek, 2016).

Term	Description
Child	Used to refer to those under the age of 18, although reference is made to adolescents where differences in the age of the child are an important consideration in the research findings. This definition is consistent with the Optional Protocol to the United Nations Convention on the Rights of the Child (UN CRC), which uses the same age limit 'unless, under the law applicable to the child, majority is attained earlier' (some countries define the age of majority for some purposes as under the age of 18). These provisions are replicated by the European Union (EU) Council Framework Decision (Article 12.1) (Gillespie, 2010). In relation to the abuse and exploitation of children through technology, this definition creates tensions, because countries have different ages of consent to sexual activity, ranging between 12 and 21 years. In some jurisdictions the age of consent differs for anal or homosexual acts, and consideration is also given to the relative ages of those involved or the context in which the acts take place (Clough, 2012).
Child sexual abuse materials	Also called child pornography in many jurisdictions (e.g., the US), the definition in the Optional Protocol to the UN CRC is '... any representation, by whatever means, of a child engaged in real or simulated explicit sexual activities or any representation of the sexual parts of a child for primarily sexual purposes' (Article 2(c)). This clearly includes written and audio materials, and does not distinguish between fictitious and non-fictitious materials. The Council of Europe (Lanzarote) Convention (2012) definition is 'any material that visually depicts a child engaged in real or simulated sexually explicit conduct or any depiction of a child's sexual organs for primarily sexual purposes.' Child sexual abuse materials are largely produced through photographing the sexual abuse and exploitation of children and have been facilitated by the capacity to create and distribute digital media. Crimes related to these materials include the production of media, dissemination and possession. Simple possession is not illegal across all countries. Of the 196 countries reviewed by the International Centre for Missing and Exploited Children (ICMEC) in 2016, only 82 were seen to have legislation deemed sufficient to combat child pornography offences (ICMEC, 2016).

Commercial Sexual Exploitation of Children (CSEC)

The International Labour Organization (ILO) definition is: ‘... the exploitation by an adult with respect to a child or an adolescent – female or male – under 18 years old; accompanied by a payment in money or in kind to the child or adolescent (male or female) or to one or more third parties.’ We include in this children abused through prostitution. There is lack of agreement about the term when there are financial or economic benefits arising from, for example, the production and sale of child abuse images, abuse through prostitution or the trafficking of children for sexual purposes (Mitchell et al., 2011a). Financial benefits are sometimes expanded to include food, shelter or drugs, although it is unclear whether these benefits follow from the sexual engagement with the child or are part of a bribe or a bid to silence a child (Edinburgh et al., 2015).

Forms of sexual conduct requiring protection

The UN CRC differentiates certain forms of sexual conduct from which children must be protected (Gillespie, 2010). This includes inducing or coercing a child to engage in any unlawful sexual activity, the exploitative use of children in prostitution or other unlawful sexual practices, or the exploitative use of children in pornographic performances and materials. Regarding self-taken sexual content by young people, consensual sexual activity between young people may be lawful, but recording of that activity may constitute a serious criminal offence.

Grooming or solicitation of children for sexual purposes

The terms ‘sexual exploitation’, ‘grooming’ and ‘online solicitation’ are often used interchangeably. Article 23 of the Council of Europe Convention (2012) requires Parties to criminalise the intentional proposal of an adult to meet a child for the purpose of committing unlawful sexual activities against the child. This intention is organised and expressed through the means of information and communication technologies and has to be followed by material acts leading to such a meeting. However, while online grooming may lead to an adult proposing to meet a child in person with the intent of committing a sexual offence, it is also possible for sexual offences to be committed exclusively online, nonetheless causing harm to the child.

Live streaming of child sexual abuse

EUROPOL defines the live streaming of abuse for payment as Live Distant-Child Abuse (LDCA) (2015). It may be part of a sexual extortion process, but is often carefully arranged and in most cases involves money transfers. ‘This criminal activity is based on members of networks who control access to the children. These persons offer homeless children or children from their own family for sexual abuse by individuals live in front of a camera in the EU, or other developed countries, for financial gain’ (European Financial Coalition against Commercial Sexual Exploitation of Children Online, 2015, p. 22).

Revenge pornography

This refers to the publication of explicit sexual material portraying someone who has not consented for the image or video to be shared. The law in many jurisdictions now makes it illegal to disclose a 'private sexual photograph or film' without the consent of the person depicted in the content, and with the intent to cause them distress.

Sexting

Often defined as the sending of digital text messages containing suggestive, provocative or explicit sexual photographs, although the Council of Europe Convention (2012) defined it as children exchanging/circulating sexual images of themselves via social media. In many jurisdictions these acts are criminalised under child pornography law, contrary to the Council of Europe Convention (2012) Sexting comes with a confusing array of definitions (Drouin et al., 2013; Klettke et al., 2014), and there are inconsistencies in the way this research has defined the content of messages (e.g., texts and/or images); the medium used to send them; and the relationship context within which the messages have been sent. Many definitions of sexting are dependent on subjective evaluations, for example, 'nearly nude', which again makes comparison difficult. For these reasons, prevalence estimates of sexting vary (Cooper et al., 2016).

Sexual extortion of children ('sextortion')

The International Association of Women Judges defined 'sextortion' as 'a form of corruption in which sex, rather than money, is the currency of the bribe.' Interpol has used the term to refer to 'sexual blackmail in which sexual information or images are used to extort sexual favours and/or money from the victim.' In their Internet organised crime threat assessment, EUROPOL (2014) describes sextortion as 'coercion to extort sexual favours or images from a victim, usually by threatening to disseminate existing images of the victim if demands are not met.' Greijer and Doek's (2016) guidelines describe sexual extortion as, 'the blackmailing of a person with the help of self-generated images of that person in order to extort sexual favours, money, or other benefits from her/him under the threat of sharing the material beyond the consent of the depicted person (e.g. posting images on social media)' (2016, p. 52).

Summary of key points regarding definitions

- The proliferation of definitions makes it difficult to compare research.
- Greijer and Doek (2016) suggest that for professionals and volunteers working with or for children, terms and concepts need to be used that all these actors understand and consider respectful.