Children in identified sexual images – Who Are they? Self- and non-self-taken Images in the International Child Sexual Exploitation Image Database 2006–2015

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Children in identified sexual images - who are they?

Self and non-self-taken images in the International Child Sexual Exploitation image database (ICSE DB) 2006-15.

Abstract

Child sexual abuse and exploitation material has drawn concern and legislative attention since the turn of the century and the work to identify children in the images has been a prioritised task through international cooperation. The International Child Sexual Exploitation Image Database (ICSE DB) includes today more than 8,000 identified victims from nearly 50 countries. The database contains considerable important information about child abuse image crimes. The general aim of this study was to quantify the characteristics of children in identified illegal images, from the UK ICSE DB (n = 687) with the subsidiary aim to describe differences between cases of self-taken images and those whose images had been taken by others. The analysis showed an increase of identified victims during the study years 2006-2015. Almost two thirds were female, the majority were white and 44.3% were self-taken (34.4% taken in a coercive and 9.9% in a non-coercive relationship). Since 2010, the number of self-taken images each year has exceeded more than 40% of the total number of images in the database. Although self-taken images may be perceived as less worrisome, two-thirds were classified as coercive. This is an argument to continue investigating these cases under the victim identification programmes.

Key Practitioner Messages:

- Knowledge of the content of the International Child Sexual Exploitation Images Database (ICSE DB)
- Awareness that self-taken images are common in the ICSE DB
- Parents and practitioners need to recognise that children send sexual images and that they to a large extent have been taken in a coercive relationship.

Key Words: sexual images, child sexual abuse and exploitation material, self-taken, children, ICSE DB

Introduction

There are a considerable, but unquantifiable, number of images online depicting children in sexual situations. Some could, by most jurisdictions, be classified as child sexual abuse and exploitation (CSAE) images, which are also known as child pornography and indecent images of children (IIOC) (Gillespie, 2010). For this study, we have used CSAE (Geiger & Doek, 2016). The US longitudinal National Juvenile Online Victimisation Study (NJOV), (Walsh et al., 2012) collected arrest data at three time points (2000, 2006, 2009). Between 2000 and 2006 there was a substantial increase in the number of arrests with approximately half of the arrests 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% 2000 - 20006 and doubled 2006 - 2009. This also reflected a large increase in offenders who were known to their victims. While arrests through proactive policing (police posing as children online in solicitation cases) declined in 2009, arrests for proactive investigation of child pornography offences increased in 2009 (2,353 compared to 880 in 2006) (Wolak et al., 2012). This increase was largely driven by 'youth-produced sexual images', taken by children 17 years or under and meeting legal definitions in the US for 'child pornography'. In most cases, the person arrested was an adult who had solicited images from a minor, also reflected in more adolescent victims and being face-to-face acquaintances with the person arrested. The 2009 data demonstrated that 37% of arrests were adults who had taken images of minors and 39% where minors had been enticed to produce images. Approximately 25% of incidents only involved adolescents, although the report noted that most of these (16%) involved serious criminal activity by 'juvenile offenders' (children involved in harmful sexual behaviour) that included sexual abuse, blackmail or other 'aggravated incidents', with remaining 7% involving 'sexting' (produced as part of a romantic peer-relationship or by 'attention-seeking' adolescents) (Wolak et al.,

2012). In 2009, most victims of child pornography production were aged 13-17, and over half of the producers arrested had committed a contact sexual-offence, documented in the images taken. Wolak et al. (2012) described most of these offences as 'non-violent', where children were persuaded or pressured into the activity, rather than forced, although in 2009, 45% of cases involved penetrative sex.

There are different contexts in which a potential CSAE image can be produced, and this in part reflects changes in the ability to create digital content. In a Swedish study including 3,503 Swedish 18-year-old youth, 6.5 % who reported sexual abuse had also experienced the abuse being documented in pictures or films (Svedin, 2012). In a qualitative study by Svedin & Back (2003), children identified in seized child pornographic material were interviewed and the images analysed. All images were taken during sexually abusive situations by the perpetrators who, in some cases had also distributed the material. The children produced none of the images themselves. Say, Babadagi et al. (2015) examined the medical records of 662 sexual abuse victims referred from the court between 2012-2013 to a Child and Adolescent clinic in Turkey. Of these, 93 reported: (a) online/offline sexual acts through e-mail, 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 that knew about the image (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 47.3% of victims. Nearly half reported that an image was recorded by the offender, 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 of the use of CSEA images as part of the offence process that is enabled by the ability to produce and share images (Quayle & Newman, 2015). This change in the demographics of CSEA production clearly is of concern in relation to potential criminalisation of youth-taken images, and concerns about child-protection and human rights issues. This sits alongside the considerable burden placed on law enforcement to investigate these cases. By the end of 2015, the International Child Sexual Exploitation Data Base (ICSE DB) included data on more than 8,000 identified victims from nearly 50 countries, but still little is known about these children. Quayle & Jones (2011) examined a randomised sample of 24,550 unique sexualised images of children in ChildBase (approximately 10 per cent), a database developed by the Child Exploitation and Online Protection centre (CEOP), consisting of CSAE images gathered from police seizures across the UK. The images contained four times more girls than boys and almost 10 times more white than non-white children. Similar results were shown in the study by Baartz (2008) where 50 Australian cases were analysed. The UK Internet Watch Foundation (IWF) reported after analysing all child sexual abuse URLs in 2014, 80 % of all the children were 10 years or younger (IWF, 2014).

The wider debate about self-taken sexual images by children is evidenced in the increasing number of policy and academic publications related to sexting. Cooper et al. (2016) note the wide variability in the way that sexting is defined, operationalised and measured. For the current study, sexting can be understood simply as the sending or posting of sexually suggestive images, including nude or semi-nude photographs, via mobiles or over the Internet. Leary (2007) has referred to such material as 'self-produced child pornography' although Gillespie (2013) argues that the use of criminal law to tackle consensual sexting

would not seem to be a proportionate response to the behaviour, and has suggested that self-taken images that are freely produced by an adolescent should rather be seen as an expression of sexual identity and therefore be protected by Articles 8 and 10 of the European Convention on Human Rights.

In Döring's (2014) review related to sexting, the prevalence rate among different studies ranged from 2.5 % to 21 % and could be explained by differences in age groups studied, differences in sample, different data collection methods and different sexting definitions. Klettke et al. (2014) found that a mean prevalence of 11.96% across 12 studies, mainly from the US, that measured sexting. Besides reviews focusing on prevalence, others have attempted to examine evidence for some of the assumptions made about the behavioural, psychological and social factors associated with it (Cooper et al., 2016; Klettke et al., 2014). In their systematic review, including both adolescent and adult samples, Klettke et al. (2014) concluded that adults are more likely to send sexts than adolescents, and more of both populations receive sexts than send them. Studies with self-selected samples returned higher rates than those with representative or random samples. Females were more likely to send sexts than males, who were more likely to receive them, and the review concluded that sexting may be a marker of more general risk taking behaviour. Motivation for sexting varied widely, with some indication of pressure for females to send texts.

Wolak & Finkelhor's (2011) typology, which was developed out of a survey of law enforcement officers, described aggravated versus experimental cases of 'youth produced sexual images'. Aggravated cases included, "1) adults soliciting sexual images from minors, other instances of minors sending images to adults, or other illegal adult involvement; or 2) criminal or abusive behaviour by minors such as sexual abuse, extortion, deception or threats; malicious conduct arising from interpersonal conflicts; or creation or sending of images

without the knowledge or against the will of minors who were pictured" (p. 3). Experimental cases involved none of these and were usually older (adolescents) and taking pictures in the context of an age-appropriate relationship or as a form of attention seeking (Wolak & Finkelhor, 2011). The review by Cooper et al. (2016) identified four primary motivations for sexting: a form of flirting and/or gaining romantic attention, within a consensual relationship, an experimental adolescent phase, and pressure from partners and friends. The study from the SPIRTO-project (Jonsson et al., 2015) indicated a similar experimental picture of reasons for sending nude images such as: fun, flirting, meeting new people, exploring sexuality, and a way of seeking affirmation. Sexting as a form of attention seeking was also suggested by Lippman & Campbell (2014) as a motivation among girls based on the results from focus groups.

These concerns about self-taken sexual images, largely by adolescent children, relate not only to the motivation for their creation, but how they might be used by other people. Clearly the NJOV data and the sexting study by Wolak & Finkelhor (2011) suggests that while images (meeting their criteria for child pornography) may be taken and shared by children for different reasons, but the contexts in which these images are created include online solicitation or grooming, as well as adolescent sexual/romantic relationships. A proportion of these images are distributed online, which for some children can have catastrophic consequences.

Aim

The general aim was to provide an exploratory study quantifying the characteristics of children identified from CSAE from the UK ICSE DB, as there has been very little previous research on the topic (Quayle & Jones, 2011; Svedin & Back, 2003). This included an exploration of sex and ethnicity, along with victim age, the producer of the image, and

whether the image involved some type of coercion. More specific aims were to examine whether there were year-by-year changes in the number of children in the database who had self-taken sexual images, and since earlier studies had been limited to describing gender and ethnicity, provide further demographic information about the age of the children and their relationship with the producer of the images, and whether the images involved coercion through online solicitation or grooming. A final aim was to study differences between children where images were self-taken and those whose images had been taken by others.

Methodology

Context

Accessing data about children whose images are online is challenging methodologically and ethically. The Child Exploitation and Online Protection Centre (CEOP) acts as the UK hub for the International Child Sexual Exploitation image database (ICSE DB) which is managed by Interpol. Outside of the database managed by the US National Center for Missing and Exploited Children, this is the largest dataset in the world of children identified in illegal images. In the current study permission was gained to use anonymised data of children, all under the age of 18, claimed by UK law enforcement, or in collaboration with law enforcement from other countries. The data included the data base entries and the linked files which are listed below. For this study, we used the term self-taken sexual images. The International Child Sexual Exploitation image database (ICSE DB) was launched in March 2009 as the successor to the Interpol Child Abuse Image Database (ICAID), which had been in use since 2001. This database is managed by Interpol and provides a powerful intelligence and investigative tool that allows specialised investigators to share information with colleagues on a global basis. CEOP is part of the UK National Crime Agency and its operations faculty also incorporates the United Kingdom's only national victim identification

programme, which works solely to focus on identifying child victims of CSAE images and to support investigators in sharing any intelligence that can be gathered from seized images. The information in the database relates to children, identified through image analysis and specialist and routine policing, whose images meet the criteria for indecency across most jurisdictions (see Gillespie, 2010).

Sample

In 2015, the ICSE DB included data on 8,000 identified victims from more than 50 countries, as well as data related to numerous unidentified victims, whose cases are yet to be investigated (http://www.interpol.int/Crime-areas/Crimes-against-children/Victim-identification. For the purposes of this study, 687 'cases' were identified from the database by CEOP as representing the total number of children identified through UK police investigations whose data had been submitted to Interpol. This is the first research using this data and it remains unknown whether samples drawn from other countries would have been similar to the UK claimed cases or are representative of the database overall. The cases (children) were identified by the police either through regular investigations or through investigations on illegal images. Each case represented an individual child who had been identified. A child was defined as someone under the age of 18 years.

Procedure and data

The cases were identified from the ICSE DB by a senior member of the Victim Identification Unit at CEOP (JT) and dated from April 2006 to April 2015. All cases related to an individual child or young person, rather than an offender. This meant that some of the children would have been identified as part of a single police operation and would have been photographed by the same person. Equally, some of the identified children may have

appeared in multiple images over a period of time. The cases were imported into an excel file and subsequently anonymised and encrypted. Necessary transfer of data between computers utilised an encrypted data stick. Table 1 shows the identified data fields included: Child ID; Location (country where the child was located); Date (the year claimed by police); Child sex; Child age/image (the age of the child at the time when the image was taken); Child age/ID (the age of the child at the time of identification); Producer (who produced the image/s); Ethnicity (the ethnicity of the child); Offender (whether the offender was known by name in the database); Contact abuse (whether a child was known to have been subject to contact abuse based on the information in the database). Files linked to the data base entries included the original referral, police interviews, child protection assessments, samples of images and follow-up information from appropriate authorities. Anonymised information was made available from them but there was no direct transfer of files to the researchers.

TABLE 1. About here

Table 1 also includes the key to the coding categories used in relation to the data. The categories within the original data were recoded as follows for analysis. Where age was recorded as less than 1 year this was represented as 0. All data involving a family member were categorised as Intra-familial. Self-taken images were categorised as Self-taken/NC where there was no identified adult or juvenile coercion involved in the creation of the image as far as could be determined from the linked data retained by CEOP. 'Coercive' shared the same definition as 'aggravated' in the original Wolak and Finkelhor (2011) study. Cases identified in the original data set and coded as Grooming/Stranger were recoded as Self-

taken/C, where the images were identified as self-taken in the context of online grooming, involving an adult. Coercion was only examined in the context of self-taken images, although it is accepted that coercion is likely to have taken place when images were taken by family members or friends. Ethnicity was recoded as Asian, Black, Mixed race, Unknown, White following the guidelines on collecting ethnic category data from the Department of Health (2001).

A sample of the cases (n=85; 18%) were checked against the original documents retained by CEOP and rated by the JT and EQ across the variables. There was 100% agreement between raters.

Ethical considerations

Ethical review of the research, and its approval, was undertaken per the Research Ethics Protocol of the School of Health in Social Science at the University of Edinburgh. The first author of this report was given full security clearance through submission to the Serious Organised Crime Agency (SOCA) in the UK.

Statistics

Data are presented by frequencies and percent. The Pearson chi-square test and Kolmogorov-Smirnov Test were used for differences between observed and expected frequencies (One-Sample) and for comparisons between groups the Pearson chi-square test and Mann-Whitney U-test were used. Statistical analyses were performed using SPSS version 22.0 (IBM Inc., Amonk, NY)

Results

The content of the images

The content of the images varied. In line with the SAP scale (Sentencing Guidelines Council, 2007) the majority were considered as level 1 images (approximately corresponding to level 4-6 in the original COPINE scale, Taylor, Holland & Quayle, 2001) meaning images depicting nudity or erotic posing with no sexual activity. It was beyond the capacity of this study to code for content all the content of the associated images linked to the database.

Location, year, gender and ethnicity

Figure 1 shows that the location of the 687 children was not evenly distributed, with 619 or 90.1% of cases, coming from the UK ($\chi^2(17\ N = 687) = 9364{,}36$, $p < .000$). The number of cases entered into the database during the ten years was not uniform across each of the years (Figure 1), with an increase during the studied years and with the largest number of cases submitted in 2013 ($\chi^2(9\ N = 687) = 361{,}34$, $p < .000$). The cases from the three last years constituted 56.8% of the total sample.

Figure 1. About here

The gender of the children varied over the years ($\chi^2(6,\ N = 685) = 52.66$, $p < .000$) and almost two third of the cases were female (63.2%) as shown in Table 2. The only exception to this gender pattern was in 2013 when boys were in the majority. Ethnicity was not evenly distributed ($\chi^2(6,\ N = 687) = 3506{,}61$, $p < .000$) with 93.3% being White. The next largest group was Asian at 3.3 %.

Table 2. About here

Age

The mean age of the children across cases was 11.1 years (*SD* = 4.29, boys *M* = 11.4, *SD* = 4.13, girls *M* = 11.0, *SD* = 4.36). The distribution of ages can be seen in Figure 2. There were 123 cases (17.9%) where no age was indicated. A Mann-Whitney U-test showed that median child age/image did not differ between boys (*Mdn* = 13.0) and girls (*Mdn* = 12.0), *U* = 0,77, *p* = .437).

Figure 2. About here

The mean age at the time of identification was 12.60 years (*SD* = 4.31). Data regarding the age of the child on identification was only entered from July 2010 and together with other missing data 158 or 23.0% of the cases were recorded as unknown. The time between when the image was taken and when the identification took place was 1.10 years (*SD* = 1.64) varying between 0 and 14 years (missing data in 34.8%).

Producer of images, age and gender of the child

Figure 3 shows that the relationships with the person who took the image were not evenly distributed across the 8 values ($\chi^2(7, N = 687) = 544.0$, $p < 0.001$). The most common category was self-taken images (44.3%, *n* = 304), of which 34.4% (*n* = 236) of the total were taken in the context of a coercive relationship and 9.9% (*n*=98) in a non-coercive relationship. Family members (26.1%, *n* = 179) constituted the next largest category of image producers. Contact abuse was recorded for 34.9% of the cases, no contact abuse for 43.7%, and in the remainder of the cases (21.4%) this was unknown.

Figure 3. About here

Age was re-categorised into three groups: under 7 years, 7-11 years and 12-17 and the image producer was collapsed into 4 categories: Intra-familial; Self-taken/Coercive; Self-taken/Non-coercive and Trusted adult/Family friend/Peer (n = 646). Stranger and Unknown were excluded from the analysis. When producer was examined in relation to age, there were significant differences ($\chi^2(6,525) = 175.82$, $p < .0001$). Children under 7 in the images were more likely to have images taken by family members (68.6%). In the age group 7-11 most the images were taken by family members (40.3%) or adults/family friends/peers (41.0%). Children between 12-17 years were more likely to have self-taken images in a coercive relationship (48.1%). Of all children that had engaged in non-coercive self-taken images 71.2% were in the oldest age group (12-17 years) and of all children engaged in coercive self-taken images 93.4% were also in the oldest group.

The distribution of the relationship to the producer of the images differed significantly between the genders ($\chi^2(4, N = 676) = 48.02$, $p < .001$), stranger retained in this model). Compared with females, males were more likely to be seen in self-taken non-coercive images (13.7% vs. 8.0%) as well as self-taken coercive images (46.6% vs. 28.1%). Females were more likely to be photographed by a family member (32.8% vs. 14.9) or a stranger (6.6% vs. 1.6%). However, in absolute numbers of self-taken image cases, girls appeared as often as boys ($n = 154$ vs. $n = 150$).

Self-taken images and year

Figure 4 shows cross-tabulated data indicating that whether images were self-taken or taken by others differed over the years ($\chi^2(9, 678) = 32.65$, $p < .001$). Since 2010 self-taken images has each year exceeded more than 40% of the images in the sample.

Figure 4. About here

Non-coercive versus coercive self-taken images

When year of image production (2015, 2014, 2013, 2012, 2011, 2010, 2006-9) was examined in relation to whether the images were coercively or non-coercively produced, significant differences were found ($\chi^2(6, n = 304) = 123.40$, $p < .001$). Self-taken coercive images were more likely to have been taken between the years 2012-15 than non-coercive images, which were more likely to have been taken all other years. However, in the current sample the mean age of children in self-taken coercive images was somewhat higher ($M = 14.11$, $SD = 2.16$) than those in non-coercive images ($M = 13.61$, $SD = 2.61$).

Discussion

The main results of the study can be summarised according to the four main findings. First, a high proportion of the 687 cases of children identified in the UK-claimed entries into the ICSE DB, were self-taken sexual images (through mobile phones or web cameras). Like the typology described by Wolak et al. (2012) the self-taken cases were divided into coercive images (34.4% of all the database entries, taken in the context of online grooming by an adult) and non-coercive images (9.9%) The latter were independently checked against the linked records to ensure that no coercive relationship had been identified. However, it must

be acknowledged that all the cases were serious enough to cause concern that coercion had taken place, although none was either acknowledged by the young person when interviewed or was evidenced from other child protection and forensic sources. In Wolak et al.'s (2012) sample, they had sufficient information on all their cases to be able to determine the age of the person involved in aggravated grooming (which we had called coercive) and whether, for example, there were threats of violence. Of their 675 cases, 67% were classed as aggravated and 33% as experimental (which we had classed as non-coercive). Of their aggravated cases, 31% involved another young person. Within the current sample, 67.4% of the 304 cases involving self-taken images were classed as coercive, which is similar to the US study.

Second, not surprisingly given that these cases were claimed by UK law enforcement, most children came from the UK, were female and white. This is similar to the results of another UK database of seized illegal images of children where the odds of the abuse images being female versus male were about 4 to 1, and the odds of the images being of White children versus non-White children were about 10 to 1 (Quayle & Jones, 2011).

Third, females were more likely to be photographed by family members and by a stranger while boys were more frequent in both groups of self-taken images. The youngest children (under 7) were most likely to have had their images taken by family members. Those aged 7-11 were more likely to have been photographed by a family member or adult/family friends/peers, and those aged 12-17 were more likely to have self-taken images (both coercive and non-coercive). While there is a paucity of data that relates to the age of children in illegal sexual images, it is the case that in prevalence studies related to sexting, older age was predictive of sexting (Dake et al., 2012; Kopecký, 2011; Mitchell et al., 2012; Strassberg et al., 2013). Strassberg et al. (2013) speculated one possible explanation for this was that older adolescents were likely to have had a mobile phone for longer. Another explanation

was that self-taken images are often taken in the context of sexual behaviour and that this is more likely to occur with older children. Curnutt (2012) has argued that teens use camera phones to document their sexuality and this is similar to other kinds of social networking behaviour. This has arisen because of the availability of cellular technology along with an increasing tendency to publicise daily aspects of everyday life.

Fourth, the overall results indicate there were significant differences between years with a stepwise increase in the overall number of identified children, but when examined in relation to whether the images were self-taken or taken by others, these were not independent of each other. As the number of children identified increased, so did the number of images that were self-taken.

To our knowledge, this analysis is the first systematic examination of cases entered by UK law enforcement into a database of children identified in illegal sexual images. The police responded to these images because they were seen as potentially illegal and, where identified as self-taken, because they raised issues about whether another adult or peer was involved in exploitative or abusive behaviour. As with Wolak et al.'s (2012) police sample, the majority of the self-taken images in the present study were coercive and are likely to over-represent the frequency of these images in the general population. They are also likely to be the cases which involve child protection and clinical services. 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 referred following suspected 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 fact that there was

external evidence in the 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 evidenced in other research with victims, both in relation to abuse through sexual image production as well as online solicitation and grooming (Quayle et al., 2012).

The results of this study have important implications for law enforcement and child protection agencies. To date there has been little consideration given to self-taken images in the context of coercive relationships, even though there is mounting evidence from offender literature and chat log analysis that self-taken images play a central role in both engaging a child and maintaining contact with them (see Quayle & Newman, 2016). Much of the debate about sexting activity has placed responsibility for the images being misused squarely on the child. Cooper et al.'s (2015) review noted that within the context of self-taken sexual images, boys may seek to be held in high regard by their peers for producing and showing off pictures of girls, whereas girls are unlikely to elicit any peer approval for producing and sending sexual image content (Ringrose et al., 2012). Rather, females may be more likely viewed as putting themselves at risk by their irresponsible behaviours and misplaced desire for male attention and face potentially harsh criticism, with sexual double standards attributing moral responsibility to the girl for sending a picture.

Law enforcement is also demonstrating the effectiveness of pro-active policing in this area (e.g. Operation Latisse in 2016 where Police Scotland seized 30 million CSAE images and charged 77 people: http://www.bbc.com/news/uk-scotland-36922820). From a policing perspective, victim identification is central to protecting the child from further harm and enabling access to supportive services. It is also important in reducing the burden of forensic

analysis of seized collections, and helping ensure how limited police resources can best be deployed.

Limitations

There are a number of limitations to this study. The data was not originally collected for research purposes and data entry for 2006 did not represent the whole year. It must also be acknowledged that external influences, such as policy decisions within police organisations, may have impacted on the inclusion of self-taken images in the database. Furthermore, as the study describes cases identified during one specific time period, the inclusion of additional cases may mean that the findings are subject to future change.

Conclusion

Identification of children in CSAE images is important to prosecute crime, protect children and, not least, to offer identified children help and support. The latter is important since self-taken images by children may be associated with a lower sense of coherence, lower self-esteem and poorer mental health (Jonsson et al., 2014; Jonsson et al., 2015). Where coercive behaviour has taken place by adults in the production of these images there is also an increased likelihood of sexual abuse with the increased risk for a range of symptoms and disorders (Putnam, 2003). A US study of 100 adolescents (aged 12-17) with suspected sexual abuse seen in a Child Advocacy Centre (Rood et al., 2015) indicated that 74% had experienced at least one online problematic experience with 50% indicating 5 or more exposures. This relationship between online-initiated and offline sexual abuse experiences has been noted in other studies (e.g. Sumter et al., 2012).

The study highlights the importance that parents and practitioners need to recognise that children send sexual images and that they, to a large extent, have been taken in a coercive relationship, which also indicates a proactive approach from law enforcement and victim assistance**.**

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