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An exploratory study of public reports to investigate patterns and themes of requests for sexual images of minors online

Ethel Quayle*  and Emily Newman

Abstract

There is a growing body of research on sexually motivated online communication with minors that has been variously described as luring, grooming and solicitation. Evidence from US studies would suggest an increase in aggressive sexual solicitations, with adolescent girls being more likely to be targeted. Existing research has involved adolescent as well as offender populations, and has largely relied on surveys with young people, interviews and official record data with offenders and ethnographic work with police officers. There have also been a number of studies using chat log data between offenders and adults pretending to be children. In addition, while the use of sexual images has been noted in both offender and victim studies, this has not been critically examined. The present study is different as it used reports from the public to Cybertip.ca to make sense of the types of behaviour that alerted concerned adults, and occasionally young people, to make a report; information available about the young person; information about the suspect, and the interaction between the two. The results of this study show strong similarities with previous research in relation to both offender and victim populations. Implications are discussed in relation to the importance of reporting mechanisms, awareness raising with parents and the need to recognize sexual agency and resilience in many adolescents.

Keywords: Online sexual solicitation, Adolescents, Content analysis

Background

A variety of terms are used to describe sexually motivated communication with a child: luring (Canada), solicitation (United States) and grooming (United Kingdom) being the most common. In Canada, the offence of luring criminalises the act of communicating with children via a computer system for the purpose of facilitating or committing certain sexual offences, such as sexual exploitation or abduction. The person being lured only needs to have been believed to be a child by the accused; police undercover operations are a possibility under this provision. Because the luring offence enumerates a number of child sexual exploitation offences, the applicability of the provision varies and can capture communications with children up to 18 years of age. Grooming has been

defined by Craven et al. (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 a real world setting, or that which occurs online. Under UK law, this refers to meeting a child with the intent to have sexual contact with him or her. Where it can be proven that an offender has arranged to meet a child and sufficient evidence has been gathered of this (for example, reservation of a hotel room), then the offender could be arrested before setting off for the meeting (Gillespie 2000). In the United States the term 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 unwanted or made by an individual ≥ 5 years older, whether wanted or not' (Jones et al. 2012). These authors also defined a subgroup of aggressive sexual solicitations, in which solicitors attempted or made offline contact

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with youth through regular mail, by telephone, or in person.

Three US youth Internet safety surveys (2000–2010) indicated that 1 in 10 young people (aged 10–17) reported an unwanted sexual solicitation, which was a 50 % reduction from the 2000 survey (Jones et al. 2012). This survey is not a measure of online sexual predation by adults, and the results indicated that most youth believed solicitors to be other youth (defined as someone under the age of 18). In 2000 the proportion of solicitations that were aggressive in nature was 15 %, 31 % in 2005, and 34 % in 2010 (Mitchell et al. 2014). However, prevalence rates vary across studies and in two studies from Europe, 6–8 % of male and 19 % of female adolescents reported experiences of unwanted sexual solicitation or cyber victimization, in young people aged 12–17 (Baumgartner et al. 2010) and 15–17 (Averdijk et al. 2011). Differences in rates of unwanted solicitations may reflect differing methodologies in data collection or the demographics of the population studied. 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 (16–22 years) found that male adolescents with sexual-minority identity had a 2.7-fold increase in the odds of ever having been exposed to at least one type of problematic sexual meeting off-line with a person or persons they first had met online, and female adolescents had almost threefold increased odds. Rice et al. (2015), in a survey of 1831 US high school students aged 12–18, found that bi-sexual identifying students reported higher rates of being approached online for sex. A further US study of 100 adolescents (aged 12–17) with suspected sexual abuse seen in a Child Advocacy Centre (Rood et al. 2015) revealed that 74 % had experienced at least one online problematic experience with 50 % indicating five or more exposures. Of note, 57 % had been asked to send nude or nearly nude photographs or videos, 21 % of the total sample did so and 42 % of the sample had received sexual images. There was a higher level of exposure to problematic experiences in ages ≥ 14 years. This relationship between online-initiated and offline sexual abuse experiences has been noted in other studies (e.g. Sumter et al. 2012).

There has been little offender research on vulnerabilities of young people targeted online, and existing studies are limited by small sample sizes. This lack of research may relate to access to samples and the ethical challenges of questioning offenders about how they approached victims. In a qualitative study (Webster et al. 2012), offenders aligned their grooming tactics with the profile of their

victim in order to maximize the likelihood of contact and to fulfill their needs for intimacy or sex. Whittle et al. (2015) compared interviews with three female victims of on-line grooming and contact sexual abuse and the three adult males who groomed and abused them. There were a number of disagreements between these dyads in relation to sexual aspects of the online behavior, including initiation of the relationship, the stage when sexual activity took place, the production of photos and videos, and the initiation of contact sexual abuse. These authors concluded that there was a complex dynamic between offenders and their victims that was evidenced across this sample.

Outside of internet-mediated offending, Olson et al. (2007) proposed a luring communication theory (LCT) that explicated the communicative processes of entrapment used by child sexual predators to lure their victims into sexual relationships. These authors suggested that offenders typically identify children who exhibit low self-esteem or lack of confidence, as they may be easier to emotionally or physically isolate. This is often characterized as alienation from their family or fragile relationships with parental figures where unknowingly the young people behave in ways that appeal to perpetrators, responding to promises of affection and attention. Crucially for this model, how a young person responds to an abuser's sexual acts makes a significant difference in whether a sexual act will follow. This has also been noted in a qualitative study of online grooming (Quayle et al. 2014) in which respondents talked about how they chose young people, initially making as many contacts as possible until someone responded in the way they wanted. These young people were construed as being sexually curious and, in many instances, vulnerable, and social media created by young people were often used when making a decision about whom they would contact.

Earlier work in this area described a process model of online grooming, where the offender, in looking for a potential target, focuses on accessibility, opportunity and vulnerability (O'Connell 2003). This online observation study, using the researcher as a 'decoy', suggested six sequential stages that form the grooming process: friendship and relationship forming; risk assessment; exclusivity; sexual; fantasy re-enactment, and damage limitation.¹

¹ *Friendship forming stage*: this comprises conversation in which the offender tries to befriend the child by exchanging name, location and so on. *Relationship forming stage*: the offender talks about *family, school life and hobbies* with the child, and encourages the child to think of themselves as being in a relationship. *Risk assessment stage*: an attempt is made to gauge the level of threat and danger in talking to a child (whether they are alone, conversation is monitored etc.). *Exclusivity stage*: an attempt to gain the *trust* of the child completely through claims of a *special bond*. *Sexual stage*: often begins with question like *are you a virgin? or do you touch yourself?* *Conclusion stage*: the child is approached for an offline meeting.

Three studies have examined this model using open-source data from the Perverted Justice Website (Gupta et al. 2012; Williams et al. 2013; Black et al. 2015). Gupta et al. (2012) used a linguistic analysis tool and found that relationship forming was the most prominent stage out of the proposed six stages of online grooming. Williams et al. (2013) identified three 'themes' within their data which reflected rapport-building, sexual content and assessment. More recently Black et al. (2015) used linguistic analysis and content analysis of 44 chat log transcripts. They identified similar strategies to those used by offenders in face-to-face grooming, including discussing plans to meet, the use of flattery, identifying parental work schedules and talking about sexual topics, but noted differences in the nature and timing of strategies. These studies do suggest that there are discrete stages of online grooming but that they do not conform to any one sequence nor are all of these stages evident across all offenders.

Parallel research into offender typologies has led to a classification according to the function of the images in the offending behavior, the underlying motivation and the level of social networking in the behavior (Elliott and Beech 2009; Merdian et al. 2013). Both studies resulted in typologies that focus on whether the motivation is to enable fantasy or direct contact victimization. This distinction has also been noted in relation to offenders who attempt to entice an adolescent into a sexual relationship using an Internet chat room (Briggs et al. 2011). This US study divided the sample of offenders into two sub-groups: driven by the motivation to engage in an offline contact offense with an adolescent or driven by fantasy and a wish to engage in online cybersex, but without an express intent to meet offline. Minors targeted in this and other offender studies (e.g. Seto et al. 2011) would suggest that they are likely to be adolescents.

Research to date has used survey-type data with children and young people, interviews and official records data with offenders and ethnographic work with police officers. Fewer studies have used archival data, such as chat logs, or have looked at the characteristics of the offenders in relation to those of the children and young people targeted. Where chat logs have been used, these involved adults pretending to be children. In addition, while the use of sexual images has been noted in both offender and victim studies, this has not been critically examined (Quayle and Newman 2015). The aims of the present study were to use online reports from the public to Cybertip.ca to explore: the types of behaviour that alerted concerned adults, and occasionally young people, to make a report; information available about the young person; information about the suspect, and how both suspect and young people interacted in the exchange of text and images.

Methods

Anonymised data were obtained from Cybertip.ca., which invites reports from the Canadian public of content or activities that they believe to be problematic or illegal.² All information supplied by the reporting person and the analyst is stored within a relational database and is 'hard-coded' so that it cannot be altered. For each report one analyst (a trained staff member of Cybertip.ca) reviews the information supplied by the reporting person and provides supplemental information for the report, including: queries in the internal database of the reported child victim and/or suspect information for previous reports involving the same individual(s); online searches for public information related to the suspect and/or child victim; online queries in an attempt to confirm the information contained in the report, and a classification and summary of the online incident.

Selection of sample

Cybertip.ca reviewed all reports classified by their analysts as luring between September 2007 and June 2011 to determine if the report contained enough information to support the allegation that an offence may have occurred. This offence of luring a child through the Internet relates to communication with a person under 18 years of age for the purposes of facilitating the offences of sexual exploitation, incest, corrupting morals, procuring sexual intercourse, sexual assault, or the abduction of a person under the age of 14 or 16 or, as to a person under 14, sexual interference, invitation to sexual touching, bestiality, and indecent acts. The sample was generated from this assessment and distinguished reports where luring could be confirmed ($n = 264$). These were included in this analysis. Confirmed cases would have been reported to law enforcement although it is not known what proportion of these cases resulted in a charge or prosecution. Reports where there was insufficient information for confirmation that grooming had taken place ($n = 74$) were excluded and are not represented in the analysis. Information about the total number of reports made to Cybertip.ca during this period was not available to the researchers. Additional text comprised: notes made by the analyst, additional comments supplied by the reporting person and complete, or fragments of, chat logs and image snapshots for each report. These were exported into folders

² Cybertip.ca receives and addresses online and telephone reports from the public regarding: child pornography (child abuse images and material); online luring; child exploitation through prostitution; travelling to sexually exploit children; child trafficking; making sexually explicit material available to a child; agreement or arrangement with another person to commit a sexual offence against a child; non-consensual distribution of intimate images (of an individual under 18 years of age).

identified by the report number which corresponded to the number on the excel file used to capture demographic information. All personal identifying information (i.e. first or last names, email addresses, IP address) was removed before analysis. The study was reviewed by the Research Ethics Committee in the School of Health and Social Sciences at the University of Edinburgh.

Analysis

Numerical data were analysed by examining frequencies and cross-tabulations using SPSS version 22. T tests were used to examine gender differences in age of victims. There were 166 cases where additional text was provided by the reporting person and also noted by the analyst. For 94 of these cases chat log data were available. Content analysis methodology was employed to analyse the additional text, using themes as the units of analysis (Robson 2011). Content analysis is a scientific methodology and thus reliability, validity and the opportunity for replication are central advantages of using it as an analytical tool. The additional text was read and re-read, identifying the occurrence of themes and generating a coding frame of 13 categories, which were clearly operationalized to allow for consistency and coherence in the coding (see Table 1).

Results

The results are presented in two parts. The first gives an overview of demographic information which describes who made the reports, victim gender and age, the age of the suspect in relation to the gender of the victim, and the gender of the suspect. In the second part, the content analysis of the additional text (n = 166 reports) is presented.

Descriptive statistics on victims and suspects of luring
The relationship of the reporter to the victim (available for 150 cases)

Of the 150 cases, 75 (50.0 %) were listed as being reported by a family member: parent or guardian (66; 44 %), sibling (3; 2 %), grandparent (3; 2 %) and other family member (3; 2 %). Forty-six (30.7 %) reports were made by the victim, 6 (4 %) from a friend, 2 (1.3 %) from a babysitter and 1 (.67 %) from a neighbour. Twenty cases (13.3 %) were recorded as 'other'. It was possible to examine the relationship to the reporter in 55 cases where the reporter was younger than 18 years of age: 46 (83.64 %) reporters were the victims themselves, 6 (10.91 %) were a friend of the victim, 1 (1.82 %) was a babysitter and 2 (3.64 %) were family members (a sibling in both cases).

Victim gender and age

Gender was available for 243 cases. Two cases involved multiple victims and these were removed from the analysis

Table 1 Coded categories

Suspect themes	
Voyeurism	Recurrent and intense sexually arousing fantasies, sexual urges, or sexual behaviors involving the observing of a person who is naked, in the process of disrobing, or engaging in sexual activity. This was a modification of Långström's (2010) suggested criteria for the diagnostic and statistical manual (DSM V) as it excluded the necessity of the object of the behaviour being an unsuspecting person, or that it should cause the suspect distress
Exhibitionism	Similar to the above, recurrent and intense sexual fantasies, sexual urges, or sexual behaviors involving the exposure of one's genitals to an unsuspecting stranger
Peer sex	Sexual activity with someone of the same or opposite sex who is within 2 years of the same age
Contact request	Suggestion/request/demand that the young person meet face-to-face
Cell phone	Evidence of a request for contact or actual contact via a cell phone
Threat	Language that indicates that the young person is being threatened physically, verbally or emotionally to ensure further compliance
Money	Offer of financial reward for engagement in sexual activity, either online or offline
Deception	Evidence that the suspect is pretending to be someone who is a different gender or significantly (more than 5 years) younger than their actual age
Vigilantism	Vigilante acts taken through the internet, as a way of identifying anti-social behaviour (such as online luring)
Sexual images	Requests for sexual images to be produced through mobile devices or web cameras and sent to the suspect
Victim themes	
Resistance	Young person indicates that they do not wish to have contact with the suspect and use strategies to terminate it
Self-generated content	Sexual images that are created and uploaded by the young person, usually using a cell phone or web cam. These images may be produced as part of a coercive online relationship, or out of sexual curiosity or part of a romantic relationship
Vulnerability	Evidence given by the reporting person that the victim had been identified as having psychological difficulties, or intellectual or physical disabilities

($n = 241$). Of the 241 cases, 207 (85.89 %) involved female victims and 34 (14.11 %) involved male victims. This is broadly consistent with previous indications that females are more likely to be targeted (e.g. Jones et al. 2012). The age of the victim was available for 191 cases; however, in 8 (4.19 %) the 'victim' was confirmed as an adult posing as a child (i.e. aged 18 years or over). Only 2 (1.05 %) of the cases were under 9 years and these cases were removed ($n = 181$ cases). Of the remaining cases, the age of the victim ranged from 9 to 17, with a mean of 13.47 ($SD = 2.22$). Of those victims with confirmed gender and ages (153 females and 19 males), there were similar mean ages (male mean age = 13.47, $SD = 2.22$; female mean age = 13.28, $SD = 1.93$). A t test indicated no significant differences in the age of male and female victims ($t(170) = .56$, $p = .58$). Nevertheless, the distribution for female victims indicated more of a peak around the age of 13 while the males had a more even distribution between the ages of 10 and 17, though the small number of reports relating to males means it is difficult to detect any emerging pattern.

The age of suspect in relation to the gender of the victim

Victim gender was determined in 241 cases and this was cross-referenced with the age of the suspect. For the confirmed female victims, the age of the suspect was known for 59 of the cases and ranged from 14 to 65 years, with a mean age of 26.88 ($SD = 11.97$). For the confirmed male victims, the age of the suspect was known for seven cases and was slightly more restricted, ranging from 14 to 48 years, with a mean age of 24.43 ($SD = 11.43$).

The gender of the suspect

The gender of the suspect was recorded in 240 cases.³ Four of these involved multiple suspects and these were removed ($n = 236$). In 23 cases the gender of the suspect was indicated as female (9.75 %) while the majority were male ($n = 213$; 90.25 %). The gender of the victims and suspects were cross-referenced where the data for both were available ($n = 220$ cases). In 35 of these (15.91 %), the victim and suspect were of the same gender (11 female victims to female suspects and 24 involving male victims and male suspects). Therefore in most cases ($n = 185$; 84.09 %) the suspect and victim were of different genders.

Content analysis of additional text

Additional text and chat log data

The additional text provided by the reporting person came from a variety of sources that reflected in part where the online activity took place. This included:

instant messaging clients (e.g. MSN and subsequently Windows live messenger); moderated game-sites; social networking sites; software applications that allows users to make voice and video calls; games that have a video and chat function; online chat groups; online dating sites; online community sites featuring advertisements; web-based email, and video-sharing sites that allow comments to be posted. It was not possible to quantify this.

Additional text was available in 166 reports (62.9 %) and 94 of the 166 reports included chat log data (56.6 %), (which in some reports amounted to over 75 A4 pages). Themes were rated across all of the data (additional text, including chat logs) by the first author and subsequently 32 of the 166 reports were randomly selected and were independently coded by the second author. Ratings noted the presence or absence of the theme in each case, rather than the number of occurrences across all of the cases. This was influenced by the fact that there was considerable variation in the amount of additional data available for each case. Coefficient kappa was calculated on the relationship between the levels of agreement between the two sets of ratings (Lombard et al. 2002). Kappas ranged from .70 to 1.0, which would be seen as acceptable in most situations (Neuendorf 2002). The frequency of these themes across 166 reports can be seen in Fig. 1. Throughout the following section anonymised extracts are used from the additional text and the chatlogs to illustrate the analysis. The language in the chat logs was extremely graphic and we have therefore limited the number of extracts used to illustrate the themes.

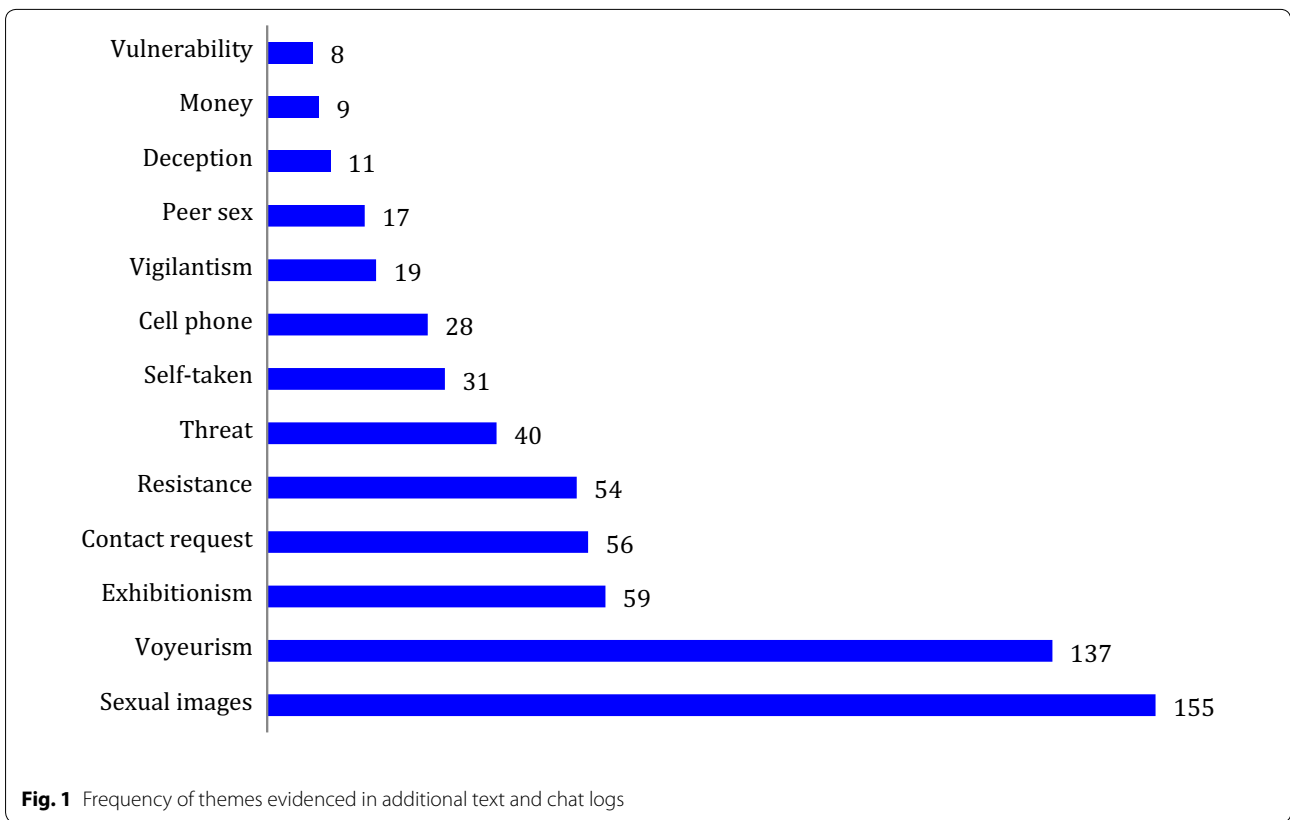
Sexual images

In 155 of the 166 reports (93.37 %) where additional text was provided, there were specific requests by suspects for pictures (either still or moving), or discussion of pictures that had previously been uploaded that were explicitly sexual. However, in only 3 (1.81 %) cases information was provided that indicated that sexual images of minors had been sent to a young person or child to persuade them to engage in sexual activity. The following extracts are taken from the analysts' notes of information obtained from the reporting person:

"Suspect met victim on a social network site and migrated onto MSN. Sexual chat where he indicated a liking for much younger girls and sent her sexualised images of young females. Indicated that he contacts them through (another social networking site)"
Analyst's note.

"Highly sexualized chat on Runescape with 13-year-old boy. Request for boy to expose himself"
Analyst note.

³ Age and gender of the suspect was ascertained through information provided by the reporting person and confirmed through intelligence gained by the analyst through open source searches.



While some requests were part of a series of communications, others were immediate and had no context:

“The child victim received a message from a person she thought was her friend on MSN messenger. The person provided a URL and instructed the girl to login. Once the girl logged in, her Hotmail account was compromised. The suspect indicated that if the girl did not send naked photos of herself then they would post the images from the Hotmail account onto a sex website.” Analyst’s note.

An edited example of this immediate request for sexual pictures can be seen in the following, which took place within minutes of the suspect making contact for the first time with the young person:

S: is your pussy ready for sex?
 V: idk lol i guess
 V: im 13
 S: your name?
 (Victim supplies her name)
 S: ok
 S: do u have well grown breast?
 V: theyr ok
 S: can i have ur photo at least?(Chat log).

Voyeurism

In 82.5 % (n = 137) of these reports, the suspect made a direct request for the young person to do sexual things or send sexual images. Examples of these include:

“Beginning the previous week, the suspect posted 1 to 2 messages per night on her 11-year-old female’s Youtube.com profile. Suspect posted the comments “I want to see you naked” and ‘My penis in your bum.” Analyst’s note.

“12 year old female met suspect on gaming site. Since then he has sent 200 + messages on a cell phone asking her to do sexual things and telling her sexual acts that he would like to do with her”. Analyst’s note.

While these requests look similar to voyeuristic behaviour involving achievement of sexual arousal through viewing the sexual activities of others or through watching others disrobe, this activity would not meet the diagnostic statistical manual (DSM5) criteria for voyeurism (First 2014) which normally refers to non-consensual behavior, although provision is made for occasions when the person is aware of the presence of voyeur and consents to this behavior. In the present study the behavior was mediated by technology, which removes the suspect

and young person from immediate contact with each other, and outside the existence of any relationship.

Exhibitionism

A percentage of the suspects seemed more interested in sending sexual images of themselves to the young person, which was coded as exhibitionism. In 59 of the 166 (35.54 %) reports the suspect sent a photograph or requested that the young person open their web cam, only to be presented with an image of the suspect's genitalia:

"Suspect asks the child if she wants to see his penis and he exposes himself and asks her to describe what she saw". Analyst's note.

"Suspect sent an image of his genitalia to the child victim's Ipad as well as her mobile smartphone". Analyst's note.

Of concern in relation to many of these instances is that the photographs were not requested by the young person, nor were they expected. Such decontextualized exposure may be particularly harmful and distressing to some young people (Livingstone and Bober 2005).

Contact request

A third of all reports with additional text (n = 55; 33.13 %) included explicit demands to meet offline and for online sexual activity:

"Report of 18-year-old luring 14-year-old female through Facebook into having sex. He set up meeting at a local park. He has suggested that if they cannot be together he will commit suicide" Analyst's note.

"The girl met this 18-year-old online and he came to her house and touched her in a sexual way" Analyst's note.

Requests to meet offline rarely culminated in actual contact as evidenced in the additional text (13 reports in all where contact was recorded: 7.83 %). In 9 (4.42 %) of the reports there were offers of money for either sexual pictures or payment for sexual activity, including sexual intercourse and masturbation. All the offers except one were made by the suspect to the young person.

"Contact by IM with someone saying they are female asking 15-year-old female and her friends to send pictures of themselves in underwear for fashion photographs and offering \$1000. Suggests coming to meet them for an appointment in a hotel near to them" Analyst's note.

The exception to this was a case where the chat log indicated highly sexualised chat between a man claiming to be 22 and a 13-year-old girl.

"Appears to be highly sexualised chat between man claiming to be 22 and a 13-year-old girl. She asks him for money to arrange to meet and have oral, vaginal and anal intercourse. He asks her to bring along a friend and he will pay more" Analyst's note.

However, the majority of reports involved a request for 'cybersex' only, where chat logs often began with a greeting, such as 'hi hottie', 'how r u today?' followed by a request for information about age, sex and location, before quickly moving on to ask for photographs or online sex. The language was often crude, 'my d... is sweaty for u' and unambiguous 'u a vergin still?' and 'I'd like to lick ur c.....'. There were often early requests for information about physical appearance, 'can i ask ur bra size not that i care' or information about the likelihood of responding sexually 'umm r u naughty or not really'. Many chat logs began with repeated invitations for the young person to open their web cam (sometimes occurring up to 30 times), followed by numerous texts about wanting to meet the person. Sometimes young people's responses were sexual:

"yes we are developed we both have nice little tits for you to play with" Chat log.

A few of the logs were very short and to the point: 'so do u wanna cam 2 cam or no?'

On occasion there was explicit reference to the fact that the suspect was not a child. If the reaction to this was negative, the suspect terminated the chat: 'im not 9 im 40 year old'. Others made reference to the sexual behaviour of the suspect, either in the context of photographs, the use of a web cam or the exchanges of sexual texts:

"come on baby, im going to c.. Right away you have to type faster than that" Chat log.

However, the tone of the logs was not always so crude or aggressive, and three of the suspects engaged their victim in a lot of 'romantic exchanges' before the content became sexual. This was often positioned as introducing the young person to the pleasures of sex:

"Suspect: I will be tender and loving with you, I sure, I can bring you to an orgasm, alone just the two of us.....")

Victim: sounds like fun:)" Chat log.

Flattery was often used by the suspect, especially in the context of young people who clearly felt that they were

ugly, too thin or that no-one liked them: “*ur cute*”. This turned sexual, regardless of apparent intent, very often with explicit acknowledgement that the young person was underage and the conversation was inappropriate:

“Suspect: i have big penis.

Victim: ok.

Suspect: i can show you it.

Victim: no.

Suspect: why.

Victim: i am 10 and i have a boyfriend i do not want to see your penis” Chat log.

Where the young person showed no resistance and did not either terminate the chat or seek help from someone else, the conversation was often explicit, and followed a description of a variety of sexual acts including oral and penetrative sex as well as frequent reference to masturbation.

Resistance

Many young people (n = 54: 32.53 %) resisted the approaches of the suspect and showed a lot of resilience in the face of persistent demands:

“The suspect threatens to delete the child/block her if she does not comply with his requests to show him her face and chest. The suspect is specific about wanting to see the child’s bare chest. She refuses.” Analyst’s note.

However, many young people simply announced that they would tell their parents (or more specifically their mother):

“12-year-old female disclosed to her mother that she had received an email from an unknown individual which stated, ‘I want to see you naked.’” Analyst’s note.

Other strategies involved blocking the suspect, deleting them from their friends list and asking a friend to join the chat.

Threats

In 40 (24.10 %) reports threats were identified. The largest number involved the distribution of existing images through websites, or to a list of contacts known to the young person (including their parents).

“The suspect indicated that if the girl did not send naked photos of herself then they would post the images from the Hotmail account onto a sex website.” Analyst’s note.

Threats also were made of compromising the young person’s computer or their accounts:

“The suspect then told the victim that if she didn’t show him her breasts he would delete all her MSN contacts and would erase all the information on her computer.” Analyst’s note.

When she refused he threatened to “fuck ur computer? ... She indicated that the suspect was able to turn her webcam and microphone off and on, as well the suspect has taken over her Messenger account and blocked her out.” Analyst’s note.

There were also emotional threats made by suspects that they would commit suicide if the young person did not comply, or that they would end contact with them.

Self-generated content

In 31 (18.67 %) of reports there was documentation to indicate that the young person had in fact sent images of themselves to the suspect, usually where the suspect was older, or where threats were made if the young person did not comply.

“The suspect appears to be in possession of a video clip acquired from the victim where the the child victim is topless and now is demanding additional images.” Analyst’s note.

“The reporting person indicated that their daughter was lured into sending pornographic images of herself to numerous people she had met on MSN messenger” Analyst’s note.

Mobile phones

In 28 reports (16.87 %) there was evidence of movement from Internet related activity to the use of a mobile phone to exchange texts and images:

“RP found two images of the child victim which were sent by cellphone to the suspect. In one image, the child was naked while in the other, the child was wearing her bra and underwear” Analyst’s report.

Mobile phones were also used to maintain contact between the suspect and the young person.

“The suspect is sending the child victim sexual images of himself and asked for the child victim to perform sexual acts for him over the Internet. He has been sending her cell phones to maintain contact” Analyst’s report.

However, in only 13 of the 28 reports was there evidence that the use of mobile phones was associated with an attempt to meet the young person offline.

“Report of a 14-year-old girl who met suspect online on Speed date. Subsequently communicated through messages sent by cell phone texts and arranged to meet.” Analyst’s note.

Deception

There were few reports ($n = 11$: 6.63 %) where deception was clearly indicated in the additional text (e.g. the age or gender of the suspect was determined through searching online public information). Deception largely involved the age of the suspect, with adult males (in one case an adult female) pretending to be young adolescents (12–17 years of age).

“Sexualised chat on Runescape between a 10 year old boy and someone saying they were 13. Request for cell number and question whether it is a camera phone. Suggested sending an image of his penis to the child and also a request for pictures.” Analyst’s note.

“Chat and request for a 10-year-old girl to take off her clothes and show him her chest. He claims that his webcam isn’t working. He gives her lots of compliments and says that he is a twelve-year-old boy. Analyst’s note.

Other cases of deception involved claims of being the opposite gender.

“17-year-old boy who had a relationship with person he thought was a girl the same age via MSN. Exchanged photographs.” Analyst’s note.

Vulnerability

Eight cases (4.82 %) made specific reference to some aspect of psychological or physical vulnerability.

“The reporting person indicated that her 15-year-old granddaughter is involved in a sexual relationship with the suspect who is 19. The granddaughter has Fetal Alcohol Spectrum Disorder, and is on medication. The suspect is sending the child victim sexual images of himself and asked for the child victim to perform sexual acts for him over the Internet. He has been sending her cell phones to maintain contact. They have also met at hotels” Analyst’s report.

“15-year-old female who is deaf and does not have age-appropriate social/emotional development, has been involved in role playing on Facebook. Contact involves explicit sexual role playing with an adult. Suspect offers to send her gifts and appears to know

she is underage” Analyst’s report.

One young person with anorexia nervosa was targeted.

“15-year-old female, the suspect, who was 29 years old, requested her to show herself on her webcam in addition indicated he wanted to meet her in person. Suspect would surf internet sites pertaining to “pro-ana” and would promise to help girls to lose weight. The suspect indicated to her he was in favor of anorexic girls as they had the body of a child in addition, the suspect told her he was a pedophile.” Analyst’s report.

Peer sex

In a relatively small number of cases the text was strongly suggestive of peer sex ($n = 17$:10.24 %), with two young people engaging in what appeared to be highly sexualised chat (including an exchange of images or the use of a webcam) but where they seemed to be similar in age with little suggestion of aggression or coercion:

“12-year-old accepted this contact on MSN who asked if he/she had a webcam. Said his age was 11 but subsequently said he was 16.” Analyst’s note.

“17-year-old boy engages in sexualised chat with 14-year-old girl on Runescape. Appears to be mutual.” Analyst’s note.

However, this was not always the case:

“13-year-old girl received lewd comments on Facebook from an acquaintance who is a minor. Facebook account deleted” Analyst’s note.

Vigilantism

There was one final category that was identified in the additional text and that included ‘vigilantism’: reports made by adults and young people who went online to discover what was usually termed sick or ‘pedo’ activity. Nineteen (11.45 %) reports in all were included in this category.

“Vigilante activity by young man who engaged with offender who was supposedly a teacher and who reported sexual interest in boys.” Analyst’s note.

“Person pretending to be a 13-year-old girl chatting online with a man who said he was 30 and wanted to have cybersex” Analyst’s note.

Discussion and implications

The results of this study show strong similarities with previous research in relation to both offender and victim populations. While there was insufficient data to make

direct comparisons with other offender typologies (for example, Seto et al. 2011), there were similarities with the study by Briggs et al. (2011) in that one third of all the cases included explicit demands to meet offline as well as online sexual activity, but the majority of cases involved a request for 'cybersex' only, supporting the division between contact driven and fantasy driven offenders. In only 13 reports was there evidence that contact had taken place. It is impossible to know whether demands to meet were part of the sexual fantasy. There was also little evidence within the additional text of a clear process model, although the results were similar to those of Black et al. (2015) in that the additional text indicated discussion of plans to meet, the use of flattery, and talking about sexual topics. There was no reference to identifying parental work schedules. The majority of the reports involved a request for cybersex involving sexual images and using explicitly sexual language, with little to suggest 'relationship building' or 'romantic' relationships (Gupta et al. 2012). However, as with the study by Olson et al. (2007) the suspects' strategies included promises of attention, but even in the few reports that evidenced a bid to establish a relationship with a minor, the exchange quickly became sexual.

Similar to the data from the two Youth Internet Safety Surveys (YISS) (Wolak et al. 2008) there was not much evidence to indicate deception by suspects, outside of a few claims by suspects to be younger than they were or of a different gender. The reported age of suspects was similar to that in the YISS survey, although this should be interpreted with caution in relation to the present study as suspect age was often not known. Requests for sexual pictures were similar to the offender-driven data from Webster et al. (2012), but while a large number of suspects (over 35 %) sent sexually explicit images of themselves to young people, this was lower than the 68.6 % from Briggs et al. (2011) study. The data did indicate that in 31 reports there was evidence of self-generated images by young people, although the behavior evidenced by the suspects would suggest that requests for still and moving images through mobile phones and webcams was pervasive and possibly central to the grooming process.

The similarities between victims in the present study and those of the Youth Internet Safety Surveys, the Swedish Media Council survey (2010) and the offender data from Briggs et al. (2011) are marked. The majority of victims were female, and the mean age of those targeted was 13.5 years. Approximately 14 % were male, and it is important that greater consideration is made concerning the factors that may result in boys being targeted and also what may influence the reporting of these cases (Grosskopf 2010). For example, other research has indicated that boys who are gay or questioning their sexual

orientation may be particularly vulnerable (Wolak et al. 2008). A small number of young people in this study were targeted because of specific vulnerabilities, but this did not appear to include issues about sexual identity.

About one third of young people (32.4 %) showed resistance to the contacts by suspects and in spite of a lot of sexually explicit and persistent behaviour managed to terminate the contact. Sometimes this was by disclosing what had happened, but also through simple strategies such as blocking or deleting the suspect. Of note is that some of the incidents were reported by the victims themselves. Livingstone et al. (2011) have suggested that teenagers may face particular risks that worry them and that they may have to struggle with alone, and that they may need particular coping strategies and support. In addition to existing supports, it is possible that further support for peer mediation, both online and offline, would be a valuable addition to the array of supports that are offered to young people. Smahel and Wright (2014) in a study using focus groups with young people aged 9–16 years demonstrated that a strategy used when confronted with sexual chat was talking to friends to prevent further victimization from happening in the future. This included girls trying to dissuade friends from talking to boys/men online, from meeting them offline or sending them intimate photos.

Reporting mechanisms are one way to respond to, and manage, unwanted online sexual contact. However, the Internet does offer opportunity for some young people to experiment online with relationships and sexual intimacy and that while this may bring with it risks, it also provides opportunities to build relationships with others. Access to sexually explicit materials, along with the ability to create content via media technologies, may be used to aid adolescent understanding of sexuality and the self (Korenis and Billick 2014; Van Ouytsel et al. 2014). However, differences between the age of majority and the age of consent in International law may mean that the self-production of images by those under the age of 18 is potentially illegal (Gillespie 2013). Awareness raising efforts with parents may increase their capacity to recognise risk but also give them the strategies to enable more constructive discussion about sexuality online. In contrast, parents who practise restrictive regulation may have children who encounter fewer risks, but these young people will also experience fewer opportunities (Livingstone et al. 2011). Having the digital skills to manage privacy and personal disclosure is important, particularly in relation to mobile devices, and may empower young people and enhance resilience. Nevertheless, for a small number of young people, online sexual activity is likely to be associated with harm (Livingstone and Smith 2014), and in these

cases in order to promote recovery, it may be necessary to provide child-sensitive approaches to the recovery of information by law enforcement, and preparation for court, as well as treatment interventions for both children who are victimised and those young people who display sexually harmful behaviour online.

Limitations of the study

Sampling was purposeful, in that it included all cases between September 2007 and June 2011 where there was sufficient evidence to confirm that these were lurking cases. While every effort was made by the analyst to confirm the veracity of the information provided by the reporting person it is possible that some of the data may be inaccurate, particularly in relation to the suspect. There may have been a smaller number of suspects than is represented in this sample, and potentially multiple reports of the same suspects. Suspect data was also incomplete in many reports. However, the strength of this research is that it does not rely on disclosures, either from the suspect or the victim: chat logs in particular, in the same way as photographs, provide a permanent record of what took place. We cannot know whether the verbal exchanges represented fantasy on the part of the suspect, or actual sexual activity, although from the perspective of the victim, the images remained long after the termination of contact with the suspect.

Conclusion

This study is unique in that the data were drawn from validated reports of online grooming of minors. The results of the study show similarities with previous research with both offender and victim populations. The analysis of reports and associated text indicated that majority of victims were female, and the mean age of victims was 13.5 years. However, greater consideration of the factors that may result in boys being targeted and the reporting of these cases is required. Requests for sexual pictures from minors dominated the reports and over one third of suspects sent sexual pictures of themselves to their victims. Approximately one third of the reports indicated that the young people had terminated contact with the suspect and victims reported many of the incidents. For some young people online grooming may lead to harm and practitioners need to be sensitive to how information is recovered and the therapeutic needs of both victims and juvenile suspects.

Authors' contributions

EQ and EN designed the study, gained ethical approval for the research and prepared the data for analysis. EN completed the quantitative analysis of the data and EQ the content analysis of the reports and additional text. Both authors read and approved the final manuscript.

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Competing interests

The authors declare that they have no competing interests.

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