Introduction

The dynamic nature of information communication technologies have created a unique and complex online environment which can exploited by offenders to facilitate a variety of criminal behaviours related to child sexual offending (Bryce, 2015; Long, Alison, & McManus, 2013). The sexual exploitation of children through the production, possession and distribution of indecent images (IIOC) is one category of cybercrime which has emerged as an important enforcement and safeguarding issue (Long et al., 2013). Advances in technology and the widespread adoption of the internet have created more opportunities for individuals to access and disseminate this material (Al-Mutawa, Bryce, Franqueria, & Marrington, 2015; Beech, Elliott, Birgden, & Findlater, 2008). This has resulted in action by enforcement, government and industry to address the issue. Theoretical and empirical research examining offender and victim characteristics, as well as the relationship between possession or downloading and contact offending (Beech et al., 2008; Bourke & Hernandez, 2009; Long et al., 2013), has also informed evidence-based approaches to prevention and response at the national and international level.

This chapter provides an overview of the currently available literature on IIOC offending, with a specific focus on offences associated with possession and downloading of this material. It starts by briefly outlining offence definitions and prevalence, before reviewing the available evidence about victim experiences and impacts. It then examines offender motivations and psychological characteristics, as well as the relationship between possession and potential escalation to contact offending. The final section considers the investigative utility of IIOC, offender collections and related digital forensic evidence. The overall aim of the chapter is to identify the current knowledge gaps and research challenges associated with this category of cybercrime, as well as the implications of the intersection between technology and this form of sexual offending for the criminal justice system.

Definitions

Indecent images are a form of sexual exploitation which depict children being sexually abused and exploited (CEOP, 2013). This content is illegal in the UK, USA, Europe and many other countries. At the European level, two Conventions of the Council of Europe relate to the production, circulation and possession of IIOC. Article 9 of the Budapest Convention on Cybercrime (2001) specifies IIOC related offences, and associated definitions of content and the child. Articles 20 and 21 of the Lanzarote Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse (2007) also address these issues, as well as the need for international cooperation, education of children and corporate liability. In the UK, the Sexual Offences Act (2003) extended the Protection of Children Act (1978) to create new offences specifically focusing on the sexual exploitation of children through indecent images (Sentencing Guidelines Council, 2007), though these remained within the Protection of Children Act (1978) and Criminal Justice Act (1988).

Section 1 of the UK Protection of Children Act (1978) specifies the offences of ‘making’, ‘taking / permit to take’, and ‘distributing’ IIOC. Offences relating to ‘taking / permit to take’ refer to the production of IIOC. Police and NGO reports suggest that this material is produced in a number of different contexts. These include intra-familiar (e.g., parents, carers) and extra-familiar sexual abuse (e.g., family friends, teachers), as well as online grooming processes and commercial child prostitution (CEOP, 2013; IWF, 2013). Section 1 of the Protection of Children Act (1978) also specifies the offence of ‘distributing’ IIOC. This refers to the dissemination of content though online communities / networks and technologies (e.g., Peer-2-Peer, TOR), commercial online subscription sites, and between individuals using a variety of online communications networks (CEOP, 2013; IWF, 2013). The final offence specified by Section 1 of the Protection of Children Act (1978) is that of ‘making’ IIOC. This offence refers to accessing or downloading IIOC from the internet. This is similar to the possession offence specified by Section 160 of Criminal Justice Act (1988). As both these offences relate to possession or downloading these images, they do not require the offender to have direct physical contact with the victim (CEOP, 2013). For the purpose of this chapter, the term ‘possession’ will be used to cover both offences due to the similarity of the offending behaviour involved.

The offence categories described above map onto official criminal justice system data sources for examining the prevalence of IIOC related offences in the UK. These figures suggest a general increase in all three offence categories in recent years. For example, Crown Prosecution Service data on the number of offences charged and reaching the Magistrates Courts indicates an increase in possession offences from 2,768 in 2006-7 to 3,849 in 2012-13 (McGuire & Dowling, 2013; Smith et al., 2013). The same data source indicates a higher proportion of offences for making IIOC, increasing from 10,761 in 2006/07 to 14,033 in 2011/12 (McGuire & Dowling, 2013; Smith et al., 2013). Figures relating to the number of offenders found guilty for take, make or distribute offences have also increased from 768 in 2006-7 to 1,248 in 2012-13 (Ministry of Justice, 2013). This trend of increases in charges and sentences for IIOC offences are likely to reflect increasingly pro-active and successful enforcement investigations, rather than a direct increase in levels of offending (McManus et al., 2013; Wolak et al., 2011). However, there are a number of difficulties associated with the use of these figures to estimate the prevalence of IIOC offences as they reflect different levels of reporting and legislative frameworks, making their interpretation and comparison problematic (McManus et al., 2013). For example, the CPS figures refer to the number of offences charged during the specified period, which creates difficulties comparing them with MOJ data which reflect the number of offenders (McGuire & Dowling, 2013).

It is also important to recognise that as the majority of offences are likely to remain undetected, official figures can only provide a partial indication of the scale of the problem (Bryce, 2014; McGuire & Dowling, 2013). This is related to the awareness among offenders of the legal and social sanctions associated with their activities, and associated actions to hide their identity and behaviour (e.g., file encryption, use of anonymous email and proxy services) (Seto et al., 2015). As a result, inexperienced or less skilled offenders are more

likely to be detected and prosecuted than those who are more technologically sophisticated as they may be more effective at evading detection (Seto et al., 2015). This has implications for interpretation of the results of empirical studies using offender populations as they may only provide data about the motivations, psychological characteristics and deficits of those individuals who are unsuccessful in their attempts to evade detection. It also demonstrates the role of ICT in allowing IIOC offences to be committed more successfully through their use to evade detection, and is a further enabling characteristic of technology in this category of crime.

Differences in the dynamics of victim-offender relationships between the online and offline environment also have implications for the reporting, investigation, detection and recording of IIOC offences. For example, the ability for ICT to facilitate offending remotely without direct physical contact has altered the nature of the victim-offender relationship. This has investigative implications as reports to the police for contact offending or production offences are generally initiated as a result of disclosure by the victim or the concerns of a parent or other adult (Palmer, 2005). In these instances, victim awareness and disclosure may be the trigger for an investigation. In the online environment, detection may occur as a result of law enforcement investigations, intelligence and monitoring of online offender networks. It may also be initiated on the basis of suspicion or image discovery by family members, or in the course of device repairs. As a result, the investigation of possession and dissemination offences may not directly involve or identify the victims depicted in the images, and this is not required for detection, recording or a successful prosecution. This highlights the influence of the characteristics of the online environment and communication (e.g., perceived anonymity, disinhibition) on the dynamics of offending behaviour and related investigative issues. It also has implications for the process by which victims come to the attention of law enforcement and safeguarding agencies.

Challenges associated with victim awareness, recognition and reporting of their experiences also have implications for estimating the number of victims of IIOC offending (Bryce, 2010). In cases where images are produced as a result of victimisation through contact offending, and the victim is aware that this has occurred, they may disclose their experiences and a subsequent report be made to the police. However, if the victim is very young or IIOC are produced during the online grooming process, they may lack awareness that images have been produced and / or are being disseminated online. They may also perceive the behaviour involved in production of images to be part of a romantic relationship (Bryce, 2010; Webster et al., 2012). Victims may also be reluctant to report their experiences as the result of direct or implied threats by offenders, the experience of self-blame and shame, or concerns that their reports will not be believed or taken seriously (Bryce, 2010). Given these reporting barriers, as well as the difficulties associated with victim identification in possession and distribution offences, it is difficult to estimate the number of children and young people victimised in this way.

An alternative source of data for estimating the number of victims, prevalence of offending and the volume of IIOC in circulation is law enforcement and databases of IIOC recovered during the course of investigations. For example, the COPINE Project image database contained 700,000 images in 2004, which researchers estimated to represent between 7000 and 70,000 victims[1] (Holland, 2005). The ChildBase database of the Centre for the Online Exploitation and Protection of Children (CEOP) contained 807,525 unique still abusive images in 2009 (Quayle & Jones, 2011). However, as these images were recovered during investigations or the online monitoring of offender networks, they can only provide a partial indication of the amount of images being produced, disseminated and downloaded at any given time. It is also important to note that media reporting of criminal cases provides evidence that some offenders have larger numbers of images in their collections when investigated by the police. For example, an offender found guilty of 20 offences of making and possessing indecent images of children in May 2015 was found to have over a million digital images in his collection (UTV, 2015).

Regardless of the challenges associated with estimating the prevalence of offending and victimisation, the available data indicates that there is a high level of demand for IIOC, and a significant number of offenders involved in the production, dissemination and possession of this material (McManus et al., 2013). This further suggests that a high number of children and young people are victimised in this way, the majority of whom are unknown to the relevant police and safeguarding agencies. It also demonstrates the central role of digital technology in producing and disseminating such material.

Victim Characteristics

This is reflected in the general lack of data about the characteristics of the victims of IIOC offending. The main source of information about the children and young people depicted in this material is law enforcement databases and IIOC examined through reporting agencies. The IWF produce yearly reports which identify the gender, age and content of the victim images they examine. These generally suggest the dominance of female victims in images (80%), with a large proportion being aged under 10 years old (80%) (IWF, 2014). The IWF have also reported an increase in the severity of the content of images from 58% depicting penetrative abuse in 2008 to 65.6% in 2010 (CEOP, 2013a; IWF, 2010). This trend in severity of content and a decrease in the age of victims has raised concerns over the associated potential for an increase in the likelihood of progression from accessing images to non-contact and contact offending (CEOP, 2013a).

There are few studies which have examined the relationship between victims and offenders in relation to the production of IIOC. However, data from the US National Centre for Missing and Exploited Children (NCMEC) Statistical Report (2012) examined data for the 4,638 victims identified between 1998 and June, 2012. The study found that a high percentage of offenders had a prior offline relationship with the victim

[1] This difference reflects the difficulties of victim identification given potential appearances in multiple images over periods of time in which changes in appearance and body characteristics may occur.

before they were involved in the production of IIOC. For example, 18% of cases involved parents/guardians and 27% involved neighbours/family friends. 15% of images were produced as the result of the victims meeting a perpetrator online and transmitting self-produced images, or where victims and offenders met online and images were produced as the result of an offline meeting. The finding that the majority of offenders were known to victims prior to production of images is consistent with UK research suggesting that the majority of young people are sexually abused by someone already known to them (Radford et al., 2011). This indicates that the offending typically involved in the production of IIOC frequently occurs in established family or community contexts, and suggests that police should examine whether this has occurred when investigating cases of contact offending. This is important as the online dissemination of material produced in this context represents a form of ongoing victimisation as other offenders continue to access and download IIOC. In this context, ICT is an important facilitator of the production and dissemination of IIOC. It also creates opportunities for offending where the victim and offender do not have a prior offline relationship as the result of providing channels by which offenders can select and approach potential victims.

Victim Impacts

Although a small number of studies have been conducted with victims of online grooming and sexual exploitation (e.g., Whittle et al., 2013, 2014), there is little published research on the experience and consequences of victimisation associated with IIOC offending (Quayle, Lööf, & Palmer, 2008). This reflects difficulties in victim identification associated with the role of technology in mediating victimisation after the point of production which does not involve direct contact between the victim and offender(s). However, there is an established body of literature examining the effects of sexual victimisation experienced by children and young people in offline settings which suggests that it is a significant risk factor for behavioural and psychological problems in childhood and adulthood (Fergusson, Boden, & Horwood, 2008; Marriott, Hamilton-Giachritsis, & Harrop, 2014). There are also a small number of studies which examine the psychological and social impacts of victimisation through the production of IIOC in offline contexts (e.g., Scott, 2001; Svedin & Back, 1996) which have identified similar social and psychological impacts to other forms of offline sexual abuse (Quayle & Palmer, 2008). Based on this evidence, it is clear that similar effects will be associated with sexual victimisation in which IIOC are produced and circulated online.

In addition to the ongoing anxiety, guilt and shame associated with the original victimisation experiences, practitioners involved in counselling victims have identified other factors associated with the impact of IIOC offending (Palmer, 2005; Quayle et al., 2008). These relate to the additional stress and shame which result from knowledge that a digital record of their victimisation is potentially circulating online indefinitely (Palmer, 2005; Quayle et al., 2008). As each download represents another instance of victimisation, distribution of IIIOC online creates opportunities for continued victimisation beyond the initial circumstances of production. The associated experience of loss of control, feelings of helplessness and lack of closure can further intensify the psychological, social and physical effects of this form of sexual exploitation (Palmer,

2005; Quayle et al., 2008). This demonstrates the role of ICT and the online environment in changing the dynamics of this form of offending by facilitating further victimisation and exacerbating the related impacts of sexual exploitation.

Quayle et al. (2008) also suggest that the effects of being a victim of sexual abuse and the associated production of IIOC are likely to differ according to victim awareness, the nature and length of victimisation, the relationship with the offender, as well as victim life experiences and resilience. Similar results have also been identified in research examining the impacts of online grooming on young people (Marriott et al., 2014; Whittle et al., 2013). These factors can further influence the psychological impacts of victimisation, and should be explored by practitioners when assessing associated support requirements for victims and their families (Quayle et al., 2008).

Offender Demographics

This section of the chapter reviews current understanding of offender demographics, motivations and explanations for offending behaviour in order to identify current gaps in the literature and associated investigative challenges. The evidence suggests that there is no clear demographic profile for those who use ICT to commit IIOC offences[2] other than the majority being male and of white ethnicity (Babchisin et al., 2014). There is some evidence that IIOC offenders are younger than contact offenders, but figures vary between different studies (Babchisin et al., 2014). The research evidence also suggests that IIOC offenders are less likely to be married or have children than contact offenders, or to have access to children through employment, and this has been identified as a situational determinant of offending behaviour (Long et al., 2013; McManus et al., 2014). However, the ability of ICT to provide offenders with a channel to interact with young people and facilitate offending should also be examined when investigating their potential involvement in contact offending. This would provide a more comprehensive risk assessment which more fully recognises the technological dimensions of this form of offending.

Motivations and Explanations for Possession / Access

Research has identified a number of offender motivations and explanations for the possession of IIOC. These include curiosity, sexual gratification, replacement for unsatisfying offline relationships, as a coping strategy for personal or psychological problems, and as the result of the addictive properties of the internet (e.g., Quayle & Taylor, 2002; Seto et al., 2010). Many of these are not directly focused on sexual interest in children, suggesting that this motivation may not be central to offending for some individuals. If this behaviour is not motivated by sexual interest in children in many offenders, it is important to understand why

[2] This refers specifically to those offenders who have been charged with accessing or possession of IIOC, but do not evidence any indication of engagement in contact offending.

IIOC are used to meet other needs (e.g., coping mechanisms for interpersonal difficulties) when they could access adult sexually explicit materials online which do not carry the strong legal, moral and social sanctions associated with IIOC (Bryce, 2010).

However, understanding in this area is based on the analysis of offender accounts obtained through research, police or clinician interviews. As a result, it is difficult to assess the extent to which they are accurate reflections of behavioural motivations at the time of offending, or represent post offence rationalisations (Howitt & Sheldon, 2007). Winder and Gough (2010) identified a number of strategies used by offenders to distance themselves from their behaviour and minimise its impact. This included denying active involvement in creating victims as the result of accessing IIOC, as well as claiming that victims did not appear to be harmed or were enjoying the activities depicted. This potential for offender bias, self-presentation and justification in explanations for their behaviour must be recognised when drawing conclusions from empirical evidence in this area.

Offender Psychological Characteristics and Deficits

Quantitative research has also examined offender motivations, and their relationship with psychological deficits, pro-offending attitudes and deviant sexuality (Babchisin et al., 2014). The utility of the 'pathways model' of contact offending (Ward & Siegert, 2002) for understanding IIOC possession offending has been examined in order to determine potential similarities in pro-offending attitudes and psychological dysfunction with contact offenders (Henry et al., 2010; Middleton et al., 2006). The model specifies that offending is not motivated by the same set of factors for all offenders. Instead, there are a number of different psychological variables and deficits which combine at different levels to create different pathways into offending (Henry et al., 2010; Middleton et al., 2006).

Henry et al. (2010) identified three specific pathways in IIOC offenders. The *inadequate pathway* was characterised by socio-affective difficulties, low self-esteem, high levels of loneliness and a lack of pro-offending attitudes. The *deviant pathway* was associated with empathy deficits, pro-offending attitudes, low self-esteem and high levels of loneliness. These pathways have also been identified in contact offenders, suggesting the suitability of established risk assessment and treatment strategies for use with IIOC possession offenders demonstrating these characteristics (Henry et al., 2010). The *normal pathway* was characterised by greater emotional stability and a lack of pro-offending attitudes, deficits or sexual interest in children. This suggests that there may also be a group of offenders without these characteristics who experience pathways into offending not specified by the model (Henry et al., 2010).

This may reflect differences in cognitive distortions[3] between IIOC and contact offenders (Henry et al., 2010). These beliefs have been identified in both categories, though contact offenders have been found to have significantly higher scores for this factor than IIOC offenders (Babchishin et al., 2010; Elliott et al., 2012; Merdian et al., 2014). It is possible that the cognitive distortions of IIOC offenders have greater offence-specificity and differ from those which characterise contact offenders (Merdian et al., 2014). For example, these may relate to beliefs about the lack of victim harm and lack of personal responsibility as the result of not being involved in the production of images (Sheehan & Sullivan, 2010). These may be reinforced by the distancing nature of technology and the online environment, the availability of a wide variety of IIOC content, the ability to connect with other offenders, and the expectation that technology will enable offenders to evade detection. The development of the measures of cognitive distortions in samples of contact offenders suggests that their reliability and validity may be limited for IIOC offenders, and the need to develop a more specialised assessment tool for this group which recognises the technological contexts of offending (Henry et al., 2010; Merdian et al., 2014).

There is also some disagreement among researchers over the function of cognitive distortions and the specific focus of related psychometric measures (Merdian et al., 2014; Ó Ciardha & Gannon, 2011). Cognitive distortions have been described as functioning in three different ways. They may represent pre-offence beliefs which facilitate offending (e.g., Abel, Becker, & Cunningham-Rathner, 1984), or post-offence rationalisations to explain and justify the behaviour (e.g., Gannon & Polaschek, 2005). An alternative perspective views them as reflecting the distorted early experiences of offenders, particularly early childhood experiences of sexual abuse by adults or sexual activity with other children (Howitt & Sheldon, 2007). The qualitative studies of offender motivations reviewed earlier suggest that the evidence is more consistent with their being post-offence rationalisations.

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The development of the measures of cognitive distortions in samples of contact offenders also suggests that their reliability and validity may be limited for IIOC offenders, and the need to develop a more specialised assessment tool for this group which recognises the technological contexts of offending (Henry et al., 2010; Merdian et al., 2014). May not need all this?

[3] Cognitive distortions refer to the extent to which offenders perceive children as being able to consent to sexual contact, and to engage in such activities without any associated harm (Ward & Keenan, 1999).

It is also important to recognise the potential for offender response bias when completing psychometric tests as leading them to respond in ways which present themselves more positively or underestimate their psychological deficits (Henry et al., 2010). When offenders participate in research during or after a prison sentence and treatment, their responding may reflect learned clinical explanations for their behaviours, and obscure the motivational and emotional states experienced at the time of offending (Bryce, 2010; Henry et al., 2010; Howitt & Sheldon, 2007). This suggests that some offenders may deny or minimise their pro-offending attitudes and sexual interest in children, consistent with the higher scores for socially desirable responding in the normal group in the Henry et al. study. It is also consistent with the explanations or strategies utilised by offenders to distance themselves from responsibility for their behaviour in the previously described qualitative research (e.g., Winder & Gough, 2010).

Despite these potential limitations, the evidence suggests that IIOC offenders are a heterogeneous group who demonstrate different levels of sexual interest in children and psychological deficits (Henry et al., 2010). Further research is required to develop greater understanding of cognitive distortions, pathways to offending, and the reliability and validity of existing measures for this specific group of offenders. There is also a need to examine the implications of the lack of direct victim interaction for reinforcing the fantasy related aspects of IIOC use, objectification and related strategies for maintaining psychological distance from victims. This includes a consideration of the role of ICT and the online environment in the escalation from accessing IIOC to contact offending, and the potential to reinforce cognitive distortions which enable offenders to rationalise their behaviour.

It is also likely that there will be differences in offending behaviour and cognitive distortions between these different groups of offenders, and that these may also be implicated in varying levels of risk of progression to contact offending, However, this has yet to be addressed in the research literature, and the key focus for empirical studies has been to examine factors which potentially influence the nature of the relationship between possession and contact offending.

Relationship between IIOC Possession and Contact Sexual Offending

The relationship between possession of IIOC and contact offending is a central issue for enforcement, risk assessment and treatment (McManus et al., 2014; Seto et al., 2011). The identification of patterns of offending behaviour which can predict the probability that an offender may progress to committing sexual offences against children can enable the police and other relevant agencies in suspect prioritisation, development of risk management strategies, and allocation of resources (HMIC/HMCPSI, 2012).

The existing research evidence suggests that IIOC offenders are a heterogeneous group with varying risk of subsequent contact offending (Middleton, Beech, & Mandeville-Norden, 2005; Long, Alison, & McManus, 2012; Webb, Craissati, & Keen, 2007). A number of potential relationships between access to / use of

technology in acquiring IIOC and contact offending have been identified in the literature (Long et al., 2012). It has been suggested that some offenders use IIOC as a diversion from contact offending which prevents them from acting on their deviant sexual fantasies (Babchishin, Hanson, & Hermann, 2011; Elliott, Beech, Mandeville-Norden, & Hayes, 2009). Other researchers have suggested that use of IIOC represents an extension of existing offending behaviour, with offenders using content as part of victim grooming to normalise sexual activity between adults and children (e.g., Bourke & Hernadez, 2009). This further demonstrates the role of ICT in creating opportunities for extending the scope and nature of sexual offending against children and young people, as well as criminal behaviour more generally (See Chapter 1 for further discussion of the ability of technology to extent criminal behaviour and capacity).

However, it is the potential that ICT enabled access and use of IIOC may escalate to contact offending that has received the greatest empirical attention (Buschman, Wilcox, Krapohl, Oelrich, & Hackett, 2010). IIOC may provide a script which offenders follow when progressing to contact offending (Quayle & Taylor, 2002). It has also been suggested that the sexual arousal associated with accessing IIOC may lead to desensitisation and offenders to seek more violent and degrading images (Bourke & Hernandez, 2009). This 'fantasy escalation effect' is potentially associated with an increase in the likelihood of contact offending as the use of IIOC may be unable to provide sexual gratification in the long-term (McManus et al., 2013, 2014; Sheehan & Sullivan, 2010). Empirical research has addressed the potential escalation of offending by examining criminal justice system data relating to the criminal history of IIOC offenders, as well as rates of recidivism.

Previous Criminal History of IIOC Offenders

Based on empirical evidence that previous convictions for sexual offences are a strong predictor of future risk of recidivism (Hanson & Bussière, 1998; Robilotta, Mercado, & DeGue, 2008), research examining the criminal history of convicted IIOC possession offenders has been a key focus in the literature (Seto, 2009). For example, some studies suggest that many IIOC offenders had no convictions or contact with the criminal justice system prior to their index offence charge (Aslan & Edelmann, 2014; Frie, Erenay, & Dittman, 2005). Comparative research also suggests that this category of offender have fewer previous convictions than contact offenders (Elliott et al., 2009; Weber et al., 2007). However, other studies found that 22% of IIOC offenders had previously been arrested, with 11% having prior convictions for offences against children (Wolak, 2005). Seto and Eke (2005) found that 24% of their sample had a criminal record for contact offences and 15% for possession of IIOC. Seto and Eke (2015) found that 43% of their sample had a criminal history, and 19% had a conviction for a prior sexual offence.

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The figures presented in these studies suggest that a relatively small proportion of IIOC offenders have previous general, contact or IIOC convictions. This could be argued to indicate a relatively low risk of recidivism and progression to contact offending (Seto, 2013). However, these data sources may not provide a full account of previous criminal behaviour as official records only provide information on detected and

prosecuted offences (Babchisin et al., 2014). It is likely that some IIOC offenders will have been offending for some time before being caught and have undetected offences in their history, whilst contact offenders may have more previous convictions as a result of their behaviour being more easily detected (Aslan & Edelman, 2014). This is consistent with studies indicating that many IIOC offenders disclose unreported crimes during treatment (Galbreath, Berlin, & Sawyer, 2002; Webb et al., 2007). For example, the meta-analysis conducted by Seto, Hanson and Babchishin (2011) found that 12% of IIOC offenders disclosed a previously undetected contact offence against a child, with the proportion rising to 55% in the self-report studies included in their meta-analysis.

This further complicates the development of a clear understanding of the link between criminal history and future risk of IIOC or contact offending, although it has been argued that the evidence is not sufficient to claim that many offenders will commit further crimes as the recidivism rates for contact offenders are also low (Hanson & Bussiere, 1998; Hanson & Morton-Burgon, 2005; Seto, 2009). However, it is also important to examine the criminal history of contact offenders for prior IIOC convictions and associated indications of risk of escalation. This is less frequently reported in the literature, though one recent study found no evidence that the contact offenders in their sample had previous convictions for IIOC offences (Aslan & Edelmann, 2014). As previously described, the data sources used may not provide a full account of previous criminal behaviour due to the potential for undetected offences to be present in offenders' prior history (Babchisin et al., 2014).

Reoffending Rates for IIOC Offences and Contact Offending

Research has also examined the reoffending rates of IIOC offenders as a way of establishing risk of escalation to contact offending (Eke et al., 2011; Seto & Eke, 2008). Seto and Eke (2005) found that 6% of IIOC offenders were subsequently convicted of a new IIOC and 17% of a general offence. A more recent 4 year follow up found a similar recidivism rate of 7%, with 4% of the sample being subsequently convicted of a contact sexual offence (Eke et al., 2011). Another meta-analysis found a recidivism rate of 3.4% for new IIOC and 2.00% for new contact offences (Seto et al., 2011). Wakeling et al. (2011) found a lower rate of recidivism of 2.1% one year after release for IIOC offenders, which increased to 3.1% after two years. 74% of those who were subsequently convicted were charged with an IIOC and 19% with a contact offence. A more recent meta-analysis of recidivism studies found that 12% of the sample were charged with new IIOC & 4% contact offence during the follow up period (Seto & Eke, 2015).

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These figures suggest that recidivism in this group of offenders is more likely to reflect non-sexual than IIOC offences or escalation to contact offending. However, recidivism studies have similar limitations related to undetected offences as those examining criminal history, suggesting the potential underestimation of actual reoffending rates (Aslan & Edleman, 2014; Babchisin et al., 2014). As a result, they may not necessarily provide an accurate estimate of the level of reoffending or possible escalation. Studies vary in the definitions

of recidivism used, sampling and data sources, as well as the follow-up periods examined which potentially explain identified variation in rates between studies (Lussier, 2005; Lussier & Cale, 2013). It is also important to note that these studies treat IIOC offenders as a homogenous group, and do not consider how risk of recidivism and escalation may vary according to the different subgroups of offenders identified in relation to the pathways model. This represents an important area for further empirical investigation, and can inform the development of appropriate risk assessment strategies and associated offender interventions.

The research reviewed in this section suggests that a relatively small proportion of IIOC offenders have previous convictions for possession offences, and associated risk of escalation to contact offending. This is consistent with claims that the relationship between IIOC possession and contact offending is complex and not necessarily directly causal (McCarthy, 2010; Quayle, 2002). However, the available evidence suggests that some offenders do pose an increased risk of contact offending. This indicates the need to identify factors which predict escalation, and to develop typologies of the different relationships between possession and risk of contact offending (Eke et al., 2011). One recent approach to addressing this has considered the utility of examining the content of IIOC collections to determine risk of escalation (McManus et al., 2014; Long et al., 2013). This is examined in further detail in the next section of the chapter which examines the investigative, evidential and behavioural utility of examining the content of IIOC and associated forensic evidence.

IIOC as Crime Scenes, Victim Identification and Forensic Data Analysis

As IIOC depict a record of criminal offence, they can be analysed as digital crime scenes and enable police investigations, the detection of offenders and identification of victims. There are a number of different levels of analysis which can be applied to IIOC and related forensic data. These include the content of images and collections, image metadata, and wider digital forensic evidence recovered from offender devices during investigations. Analysing these different sources of data can enable the identification of investigatively and evidentially relevant information (Glasgow, 2010; Long et al., 2013; McManus et al., 2014). Analysis of the content of images can provide details of victim and offender characteristics (e.g., age, gender, physical description), and assist in offender and victim identification (Holland, 2005). The processes by which IIOC and related forensic data can be analysed in this way are described by Holland (2005), and demonstrate the involved resourcing and investigative challenges. This is reflected in the comparatively low number of successful identifications in comparison to the number of victims depicted in IIOC as described earlier. In the UK, for example, CEOP's Victim Identification Team making 47 identifications in 2009-2010 (CEOP, 2013). At the international level, over 7,800 victims from more than 40 countries had been identified using the International Child Sexual Exploitation Image Database by November 2015 (Interpol, 2015). However, these figures demonstrate that victim identification is possible, and fulfils an important safeguarding role, as well as having an investigative and evidential function.

Analysis of IIOC collections can also enable the identification of offence-related characteristics and preferences (e.g., nature and severity of sexual activity depicted), and inform risk assessment and the classification of offences for charging and sentencing (McManus et al., 2014). It can also contribute to the development of further understanding of offender motivations and behaviours, as it has been argued that offenders choose content that is consistent with their sexual fantasies and interests (e.g., Lanning, 1992; Glasgow, 2010). As a result, these interests are likely to be reflected in the victims depicted in the content of IIOC collections, including the age and stage of victim development that is most sexually arousing to an offender (Quayle & Taylor, 2002). This suggests that an examination of image collection can potentially enable the identification of victim and offence preferences (e.g., age, gender, specific sexual activities). This has been examined empirically in comparative studies of the image collections of IIOC possession and dual offenders[4] (Long et al., 2013; McManus et al., 2014). McManus et al. (2014) found that 63.3% of the image collection examined indicated a preference for female victims, 12.4% for males, and 23.3% for both. Both studies found that there were no victim age or gender differences between IIOC and dual offenders based on analysis of image collections. However, they did find evidence that the victims in the collections of dual offenders had a smaller victim age range. The authors suggest that this may represent greater victim age specificity in image collections in dual offenders which may subsequently be reflected in victim choice when contact offending (Long et al., 2013; McManus et al., 2014).

These studies also found that there were no differences between offenders in proportion of their collection across different SAP levels[5]. However, Long et al. (2013) found that dual offenders had greater specificity on images at SAP levels 3-4, whilst IIOC offenders focused on images at SAP level 1. The authors suggest that these results indicate preferred fantasies and sexual activities which may be related to escalation and implications for the type of contact offences committed (Long et al., 2013; McManus et al., 2014). As a result, possession of IIOC should be viewed as indicating a risk of contact offending, with specific investigative priority placed on offenders with greater specificity in their samples at higher SAP levels, access to children and a prior criminal history as factors associated with escalation (Long et al., 2013).

Forensic analysis of offender hardware may also lead to the identification of other data which is relevant to understanding offender motivations and behaviour, as well as risk of progression to contact offending (Glasgow, 2010). This includes evidence of image labelling and organisation, involvement in production and

[4] Convicted for both IIOC possession and contact offences.

[5] The content and severity of IIOC in the UK was rated using the Sentence Advisory Panel (SAP) classification system which specified five SAP levels until 2014. This system is used by the courts when sentencing IIOC offences, based on the examination of offender collections by police officers to identify the proportion of images at different SAP levels. This classification scale was recently reduced from five to three categories (See Sentencing Guidance Council, 2014). The original five SAP levels which are reported in empirical studies are:

1. Images depicting erotic posing with no sexual activity.
2. Non-penetrative sexual activity between children, or solo masturbation by a child.
3. Non-penetrative sexual activity between adults and children.
4. Penetrative sexual activity involving a child or children, or both children & adults.
5. Sadism or penetration of, or by, an animal.

dissemination, attempts to contact young people online, actions to evade detection, and association with other offenders (Glasgow, 2010; Mutawa et al., 2015). Initial exploratory research has examined the utility of analysing this type of data for developing knowledge of offender motivations and behaviour, as well as improving investigative procedures (Mutawa et al., 2015). For example, evidence of IIOC related queries in P2P client software and web browser search engines can indicate specific victim and activity interests, as well provide evidence that behaviour was intentional (Mutawa et al., 2015). Use of anti-forensics tools, peeer2peer applications and encryption (e.g., TOR, Darknet) suggest intentional activities to conceal IIOC and associated behaviour, offender awareness of the existence of files and their legal status. This evidence can be used when interviewing suspects to challenge claims about accidental access or virus infection as an explanation for the discovery of IIOC on their devices. This is a new area of empirical research that demonstrates potential investigative and behavioural relevance, and can further contribute to understanding this form of offending.

Conclusion

The review of the literature provided by in chapter indicates the utility of a combined approach to understanding the dynamics of this form of the online sexual exploitation of children and young people. It has examined the available evidence relating to demographics and motivations, pro-offending attitudes and psychological deficits, as well as the nature of IIOC collections and offence-related behaviours identified based on analysis of digital forensic evidence. A combined examination of these factors can contribute towards developing further understanding of the characteristics of IIOC offenders, and the potential risk of escalation to contact offending. Both of these aspects of offending require further empirical research to address the existing knowledge gaps and further inform evidence based approaches to investigation and victim safeguarding.

This should include the development of further understanding of the role of ICT and technological contexts in facilitating and detecting this form of sexual offending against children and young people. This includes the influence of the characteristics of the online environment and mediated communication on the dynamics of offending behaviour (Bryce, 2015). It also raises the question of whether a new category of child sexual offenders have emerged as a result of the expanded opportunities for the production, dissemination and access to IIOC afforded by the online environment, or whether this represents a new medium for facilitating offending (Seto & Hanson, 2011). It is unlikely that the presence of IIOC online alone is sufficient to encourage individuals to become involved this form of offending without the presence of the other psychological characteristics and deficits discussed earlier in the chapter. It has, however, expanded access to this material, and altered the situational determinants of production and contact offending by providing opportunities for victim contact for those offenders who do not have access in the offline environment. This may further reinforce pro-offending attitudes and fantasies, as well as offender minimisation of the seriousness of their activities by enabling further distancing from victims and the impacts of their behaviour.

There is also a need for greater consideration of the links between IIOC offending and other forms of online sexual exploitation. The reporting by law enforcement of instances where sexually explicit material produced by young people and distributed in online peer networks has subsequently been identified in offender image collections (CEOP, 2013) indicates the need to develop a more detailed understanding of the intersection between the normative online behaviour of young people and opportunities for offending (Bryce, 2014). The tendency in the literature to examine IIOC offending and other forms of online sexual exploitation as distinct categories is problematic as it does not enable sufficient consideration of its intersection with online grooming and non-contact offending. Greater consideration of their inter-relationship is required, as well as the associated investigative and victimisation implications.

The existence of online offender networks and their involvement in distribution of IIOC represents an additional impact of digital technology/ICT on the offending process which has yet to be fully explored empirically. The small number of studies which have examined their structure and function demonstrate their role in allowing communication between individuals with sexual interest in children (e.g., Durkin & Bryant, 1999; Holt et al., 2014; Quayle & Taylor, 2002). This may lead to the validation and reinforcement of offence-supportive beliefs and deviant sexual scripts, as well as the potential for the planning and performance of offending behaviour in both online and offline environments (e.g., Bourke, Ward, & Rose, 2012; Holt et al., 2014; Quayle & Taylor, 2002). It is also possible that networking with other offenders may be an additional risk factor for contact offending which has yet to be fully examined empirically.

Despite the challenges associated with investigation and offender detection examined in this chapter, the online environment makes offending visible as well as facilitating it. This highlights the investigative and evidential utility of content, collections and related digital forensic evidence, as well as their ability to further inform understanding of offender motivations, characteristics and the dynamics of the behaviour.

Finally, it is also important to develop further understanding of victimisation processes and impacts in the context of the online environment and mediated communication. This area of research is underdeveloped due to the difficulties of victim identification, as well as the ethical and safeguarding issues associated with participation in empirical studies. It has recently been argued that victimisation should be conceptualised as a complex process which involves the dynamics and impacts of the offence, and involves a variety of stakeholders in addition to the victim and offender (Bryce et al., submitted; Fohr, 2015). This is particularly relevant to understanding victimisation through the production and dissemination of IIOC as the affordances of technology, the online environment and associated influences on interaction and behaviour are implicated in facilitating offending and victimisation (Bryce, 2015). The process of victimisation is extended beyond the point of the production of IIOC to the wider and indefinite circulation of images online, and the related opportunities for unlimited numbers of offenders to access the content. This additional source of ongoing

victimisation may interfere in recovery and coping with the associated traumatic impacts. The role of the police, practitioners and the wider criminal justice system is assisting victims and their families through investigations and the legal process also requires further consideration to ensure that the associated potential for revictimisation and further trauma are minimised.

Each of the areas examined in this chapter represent a specific aspect of the offending and victimisation process, and demonstrates the influence of digital technology in shaping the generation and dissemination of IIOC. It is important to examine each of these dimensions, as well as their inter-relationships, in order to develop further understanding of the offence process, detection and investigation, as well as the safeguarding and support of victims. This will further contribute to the developing evidence base which can inform the implementation of appropriate prevention and response strategies by different stakeholders.

References

Abel, G.G., Becker J.V. and Cunningham-Rathner J. (1984) 'Complications, consent, and cognitions in sex between children and adults', International Journal of Law Psychiatry, 7: 89-103.

Al Mutawa, N., Bryce, J., Franqueira, V.N.L. and Marrington, A (2015) 'Behavioural Evidence Analysis Applied to Digital Forensics: An Empirical Analysis of Child Pornography Cases Using P2P Networks', in Availability, Reliability and Security (ARES), 10th International Conference, vol., no., pp.293-302, 24-27 Aug. 2015. doi: 10.1109/ARES.2015.49.

~~Council of Europe (2001) 'Convention on Cybercrime', CETS 185: 1–27.~~

~~Council of Europe (2007) 'Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse', CETS 201: 1–21.~~

Aslan, D., Edelmann, R., Bray, D. and Worrell, M. (2014) 'Entering the world of sex offenders: an exploration of offending behaviour patterns of those with both internet and contact sex offences against children', Journal of Forensic Practice, 16: 110-126.

Babchishin, K. M., Hanson, R. and Hermann, C. A. (2011) 'The characteristics of online sex offenders: A meta-analysis', Sexual Abuse: Journal of Research and Treatment, 23: 92-123.

Babchishin, K. M., Hanson, R. and Van Zuylen, H. (2014) 'Online child pornography offenders are different: A meta-analysis of the characteristics of online and offline sex offenders against children', Archives of Sexual Behavior, Advance online publication. doi: 10.1007/s10508-014-0270-x

Beech, A.R., Elliott, I.A., Birgden, A. and Findlater. D. (2008) 'The Internet and child sexual offending: A criminological review', Aggression and Violent Behavior, 13: 216–228

Bourke, M. L. and Hernandez, A. E. (2009) 'The 'Butner Study' redux: A report of the incidence of hands-on child victimization by child pornography offenders', Journal of Family Violence, 24: 183-19.

Bourke, P., Ward, T. and Rose, C. (2012) 'Expertise and sexual offending: A preliminary empirical model', Journal of Interpersonal Violence, 27: 2391- 2414

Bryce, J. (2010) ‘Online sexual exploitation of children and young people’, In Y. Jewkes & M. Yar (Eds.), Handbook of Internet Crime, London: Willan.

Bryce, J. (2014) ‘The technological mediation of leisure in contemporary society’, In S. Elkington & S. Gammon (Eds.), Leisure in Mind: Meanings, Motives and Learning, London: Routledge.

Bryce, J. (2015) ‘Cyberpsychology and human factors’, IET Engineering and Technology Reference, 1–8. doi: 10.1049/etr.2014.0028 .

Buschman, J., Wilcox, D., Krapohl, D., Oelrich, M. and Hackett, S. (2010) ‘Cybersex offender risk assessment. An explorative study’, Journal of Sexual Aggression, 16: 197-209.

Child Exploitation and Online Protection Centre (2013) ‘A Picture of Abuse: A Thematic Assessment of the Risk of Contact Child Sexual Abuse Posed by Those who Possess Indecent Images of Children’, London: CEOP.

Council of Europe (2001) ‘Convention on Cybercrime’, CETS 185: 1–27.

Council of Europe (2007) ‘Convention on the Protection of Children against Sexual Exploitation and Sexual Abuse’, CETS 201: 1–21.

Criminal Justice Act, c. 33 O.P.S.I. (1998).

Durkin, K.F. and Bryant, C.D. (1997) ‘Misuse of the Internet by pedophiles: Implications for law enforcement and probation practice’, Federal Probation 61: 14-18.

Durkin, K.F. and Bryant, C.D. (1999) ‘Propagandizing pederasty: A thematic analysis of the on-line exculpatory accounts of unrepentant pedophiles’, Deviant Behaviour 20: 103-127.

Eke, A. W., Seto, M. C. and Williams, J. (2011) ‘Examining the criminal history and future offending of child pornography offenders: An extended prospective follow-up study’, Law and Human Behavior, 35: 466-478.

Elliott, I. A. and Beech, A. R. (2009) ‘Understanding online child pornography use: Applying sexual offense theory to internet offenders’, Aggression and Violent Behavior, 14: 180–193.

Elliott, I. A., Beech, A. R., Mandeville-Norden, R. and Hayes, E. (2009) 'Psychological profiles of internet sex offenders: Comparisons with contact sexual offenders', Sexual Abuse: A Journal of Research and Treatment, 21: 76-92.

Fergusson, D. M., Boden, JM. and Horwood, L.J. (2008) 'Exposure to childhood sexual and physical abuse and adjustment in early adulthood', Child Abuse Negl, 32:607-619.

Frei, A., Erenay, N., Dittmann, V. and Graf, M. (2005) 'Paedophilia on the internet – a study of 33 convicted offenders in the Canton of Lucerne', Swiss Medical Weekly, 135: 488-494.

Galbreath, N.W., Berlin, F.S. and Sawyer, D. (2002) 'Paraphilias and the internet', In A.Cooper (Ed.), Sex and the internet: A guidebook for clinicians, pp. 187-205, Philadelphia: Brunner-Routledge.

Gannon, T. A. and Polaschek, D. L. L. (2006) 'Cognitive distortions in child molesters: A reexamination of key theories and research', Clinical Psychology Review, 26: 1000–1019

Glasgow, D. (2010) 'The potential of digital evidence to contribute to risk assessment of internet offenders', Journal of Sexual Aggression, 16: 87-106.

Hanson, R. K. and Bussière, M. T. (1998) 'Predicting relapse: A meta-analysis of sexual offender recidivism studies', Journal of Consulting and Clinical Psychology, 66: 348-362.

Hanson, R.K. and Morton-Burgon, K. (2005) 'Predictors of Sexual Recidivism: An Updated Meta-Analysis 2004-02', Public Works and Government Services Canada Cat. No.: PS3-1/2004-2 ISBN: 0-662-68051-0

Henry, O., Mandeville-Norden, R., Hayes, E. and Egan, V. (2010) 'Do internet-based sexual offenders reduce to normal, inadequate and deviant groups?', Journal of Sexual Aggression, 16: 33-46.

Holland, G. (2003) 'Identifying victims of child abuse images: An analysis of successful identifications', In M. Taylor and E. Quayle (Eds.), Child Pornography: An Internet Crime, New York: Brunner-Routledge.

Holland, G. (2005) 'Identifying victims of child abuse images: An analysis of successful identifications', In M. Taylor and E. Quayle (Eds.), Viewing Child Pornography on the Internet: Understanding the Offence, Managing the Offender, Helping the Victims, Lyme Regis, UK: Russell House Publishing Ltd.

Holt T., Kristie B. and Burker, N. (2010) 'Considering the Pedophile Subculture Online', Sexual Abuse, 22: 3-24.

HMIC/HMCPSI (2012), 'Forging the links: Rape investigation and prosecution. A joint review by HMIC and HMCPSI'. ISBN: 978-1-84987-688-9

Home Office (2011) 'Crime in England and Wales 2010/11. Findings from the British Crime Survey and Police Recorded Crime (2nd Edition), London: Home Office Statistical Bulletin.

Howitt, D. and Sheldon, K. (2007) 'The role of cognitive distortions in paedophilic offending: Internet and contact offenders compared, Psychology, Crime and Law, 13: 469-486.

Internet Watch Foundation (2012). *Internet Watch Foundation Operational Trends Report* 2012. London: IWF.

Internet Watch Foundation (2013) 'Internet Watch Foundation Annual and Charity Report', London: IWF.

Interpol (2015) 'Crimes Against Children', available at: http://www.interpol.int/Crime-areas/Crimes-against-children/Victim-identification

Lanning, K. (1992) 'Investigators guide to allegations of 'ritual child abuse', Quantico, VA: Behavioral Science Unit, National Centre for the Analysis of Violent Crime, FBI Academy.

Long, M. L., Alison, L. A. and McManus, M. A. (2012) 'Child pornography and likelihood of contact abuse: a comparison between contact child sexual offenders and non-contact offenders', Sexual Abuse: A Journal of Research and Treatment, 25: 370-395.

Lussier, P. (2005) 'The criminal activity of sexual offenders in adulthood: Revisiting the specialization debate', Sexual Abuse: A Journal of Research and Treatment, 17: 269-292.

Lussier, P, and Cale, J. (2013) 'Beyond sexual recidivism: A review of the sexual criminal career parameters of adult sex offenders', Aggression and Violent Behavior, 18:445–457.

Marriott, C., Hamilton-Giachritsis, C. and Harrop, C. (2014) 'Factors Promoting Resilience Following Childhood Sexual Abuse: A Structured, Narrative Review of the Literature', Child Abuse Review, 23: 17–34.

McCarthy, J. A. (2010) 'Internet sexual activity: A comparison between contact and non-contact child pornography offenders', Journal of Sexual Aggression, 16, 203-217.

McGuire, M. and Dowling, S. (2013) 'Cyber Crime: A Review of the Evidence', Home Office Research Report 75, London, UK: Home Office.

McManus, M. and Almond, L. (2014) 'Trends of indecent images of children and child sexual offences between 2005/2006 and 2012/2013 within the United Kingdom', Journal of Sexual Aggression, 20:142-155.

McManus, M., Long, M. L., Alison, L. and Almond, L. (2014) 'Factors associated with contact child sexual abuse in a sample of indecent image offenders', Journal of Sexual Aggression, Advance online publication. DOI: 10.1080/13552600.2014.927009

Middleton, D., Elliott, I. A., Mandeville-Norden, R. and Beech, A. R. (2006) 'An investigation into the application of the Ward and Siegert Pathways Model of child sexual abuse with Internet offenders', Psychology, Crime and Law, 12: 589−603.

NCMEC (2012) 'NCMEC Statistical Report', available at: http://www.saferinternet.org.uk/content/childnet/safterinternetcentre/downloads/Research_Highlights/UKCCIS_RH62_NCMEC_Statistics_Report.pdf

Palmer, T. (2005) 'Behind the screen: Children who are the subjects of abusive images', In E. Quayle and M.Taylor (Eds.), Viewing Child Pornography on the Internet, Lyme Regis, UK: Russell House Publishing.

Protection of Children Act, c. 37 O.P.S.I. (1978).

Quayle, E. and Taylor, M. (2002) 'Child pornography and the Internet: Perpetuating a cycle of abuse', Deviant Behavior, 23: 331-61.

Quayle, E. and Taylor, M. (2003) 'Model of problematic Internet use in people with a sexual interest in children', CyberPsychology and Behavior, 6: 93−106.

Quayle, E., Vaughan, M. and Taylor, M. (2006) 'Sex offenders, Internet child abuse images and emotional avoidance: The importance of values', Aggression and Violent Behavior, 11: 1−11.

Quayle, E., Lööf, L. and Palmer, T. (2008) 'Child Pornography and Sexual Exploitation of Children Online', Bangkok: ECPAT International.

Quayle, E. and Palmer, T. (2010) 'Where is the harm? Technology mediated abuse and exploitation of children', Ontario Association of Children's Aid Societies Journal, 55: 35-40.

Radford, L., Corral, S., Bradley, C., Fisher, H., Bassett, C., Howat, N. and Collishaw, S. (2011) 'Child abuse and neglect in the UK today', London: NSPCC.

Robilotta, S., Mercado, C.C. and DeGue, S. (2008) 'Application of the polygraph examination in the assessment and treatment of Internet sex offenders. Journal of Forensic Psychology Practice, 8: 383-393.
Scott, S. (2001) 'The Politics and Experience of Child Sexual Abuse: Beyond Disbelief', Open University Press: Buckingham.

Sentencing Guidelines Council (2007) 'Sexual Offences Act 2003: Definitive Guideline', London.

Sexual Offences Act, c. 42 O.P.S.I. (2003).

Seto, M. C. and Eke, A. W. (2005) 'The criminal histories and later offending of child pornography offenders', Sexual Abuse: A Journal of Research and Treatment, 17: 201-210.

Seto, M.C. (2009) 'Pedophilia. Annual Review of Clinical Psychology', 5: 391-407.

Seto, M. C., Reeves, L. and Jung, S. (2010) 'Explanations given by child pornography offenders for their crimes', Journal of Sexual Aggression, 16: 169-180.

Seto, M. C., Hanson, R. and Babchishin, K. M. (2011) 'Contact sexual offending by men with online sexual offenses', Sexual Abuse: Journal of Research and Treatment, 23: 124-145.

Seto, M. C., Wood, J., Babchishin, K. M. and Flynn, S. (2012) 'Online solicitation offenders are different from child pornography offenders and lower risk contact sexual offenders', Law And Human Behavior, 36: 320-330.

Sheehan, V. and Sullivan, J. (2010) 'A qualitative analysis of child sex offenders involved in the manufacture of indecent images of children', Journal of Sexual Aggression, 16: 143-167.

Smith, K., Taylor, P. and Elkin, M. (2013) 'Crimes detected in England and Wales 2012/13', Online. Available at: http://socialwelfare.bl.uk/subjectareas/services-activity/criminal-justice/homeoffice/152950hosb0213.pdf.

Svedin, C. G. and Back, K. (2003) 'Why Didn't They Tell Us? Sexual Abuse in Child Pornography', Stockholm: Save the Children Sweden.

Von Weiler, J., Haardt-Becker, A. and Schulte, S. (2010) 'Care and treatment of child victims of child pornographic exploitation (CPE) in Germany', Journal of Sexual Aggression, 16: 211-222.

Wakeling, H. C., Howard, P. and Barnett, G. (2011) 'Comparing the validity of the RM2000 scale and OGRS3 for predicting recidivism by internet sexual offenders', Sexual Abuse: A Journal of Research and Treatment, 23:

Ward, T. and Keenan, T. (1999) 'Child molesters' implicit theories', Journal of Interpersonal Violence, 14: 821-838.

Ward, T. and Siegert, R. J. (2002) 'Toward and comprehensive theory of child sexual abuse: A theory-knitting perspective', Psychology, Crime and Law, 9: 319–351.

Webb, L., Craisatti, J. and Keen, S. (2007) 'Characteristics of Internet child pornography offenders: A comparison with child molesters', Sexual Abuse: A Journal of Research and Treatment, 19: 449−465.

Webb, L. Craissati, J., and Keen, S. (2007) 'Characteristics of Internet Child Pornography Offenders: A Comparison with Child Molesters', *Sex Abuse*, 19; pp. 449

Webster, S., Davidson, J., Bifulco, A., Gottschalk, P., Caretti, V. and Pham, T. (2012) 'European Online Grooming Report', European Commission, Safer Internet Plus Programme.

Whittle, H. C., Hamilton-Giachritsis, C., Beech, A. and Collings, G. (2013) 'A review of young people's vulnerabilities to online grooming', Aggression and Violent Behavior, 18: 135-146.

Whittle, H. C., Hamilton-Giachritsis, C., Beech, A. and Collings, G. (2013) 'A review of online grooming: Characteristics and concerns', Aggression and Violent Behavior, 18: 62-70.

Whittle, H. C., Hamilton-Giachritsis, C. and Beech, A. (2013) 'Victims' voices: The impact of online grooming and sexual abuse', Universal Journal of Psychology, 1: 59-71.

Winder, B. and Gough, B. (2010) '"I never touched anybody –that's my defence": A qualitative analysis of internet sex offender accounts', Journal of Sexual Aggression, 16: 125-141.

Wolak, J., Finkelhor, D., Mitchell, K.J. and Ybarra. L. (2008) 'Online "Predators" and Their Victims Myths, Realities, and Implications for Prevention and Treatment. American Psychologist', 63: 111-128.

Wolak, J., Finkelhor, D. and Mitchell, K. J. (2011) 'Child pornography possessors: Trends in offender and case characteristics', Sexual Abuse: A Journal of Research and Treatment, 23: 22–42.

Wolak, J., Finkelhor, D. and Mitchell, K. J. (2011a) 'Trends in Arrests for Child Pornography Possession: The Third National Juvenile Online Victimization Study' (NJOV-3). Crimes Against Children Research Center.

Wolak, J., Finkelhor, D. and Mitchell, K. J. (2012) 'Trends in Arrests for Child Pornography Possession: The Third National Juvenile Online Victimization Study' *(NJOV-3)*. Crimes Against Children Research Center.