Child abuse material and the Internet: Cyberpsychology of online child related sex offending

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"Claims for the independence of cyberspace sound quaint and idealistic...they are based on a false dichotomy between virtual and physical phenomena. Physical and virtual are not opposed; rather the virtual complicates the physical, and vice versa" (Slane, 2007, p. 97).

Introduction

Child pornography has changed, it would appear that industrial and technological advances have impacted on availability, photography, printing and its distribution via the Internet (Taylor & Quayle, 2003; Ropelato, 2006; Bourke & Hernandez, 2009). New issues are arising with regard to pornographic images of children online, recent reports from professionals in the field highlight a disturbing trend; *self-produced child pornography*, that is explicit images produced by children (Leary, 2010). Offenders may be increasingly moving online given the increasingly restricted 'real world' access to children, this a cause for concern as some parents lack the necessary digital skills to safeguard their children (Byron, 2008).

There is some consensus in terms of demographic profiling of online male sex offenders (Wortley & Smallbone, 2006; Webb, Craissati & Keen, 2007; Siegfried, Lovely & Rogers, 2008), however some psychological and behavioural traits associated with contact offending, appear inconsistent in terms of online offender presentation (Sheldon & Howitt, 2007; Laulik, Allam & Sheridan, 2007; Elliott, Beech, Mandeville-Norden & Hayes, 2009). There is a need to explore the implications of these inconsistencies and to establish

an online offender typology that closely reflects the demographic profile and behaviour of online offenders.

Child abuse material (CAM)

It can be argued that the term child pornography does not accurately reflect its content, and implicitly implies consensual activity (Taylor & Quayle, 2003), therefore the wording Child Abuse Material (CAM) will be used when describing child pornography. Collecting CAM is now easier and more available than before (Quayle, 2010), offering the added protection of apparent anonymity (Quayle, Vaughan & Taylor, 2006). The Internet creates opportunities for harassing and deceiving others (Meloy, 1998; Thomas & Loader, 2002), and individuals may be more inclined to behave deviantly given disinhibition, anonymity and depersonalisation online (Bocij & MacFarlane, 2003; Suler, 2004; Joinson, 2007; Mullen, Pathe & Purcell, 2009).

In order to evaluate current presentation and future progression of child related sex offending online, it is necessary to attempt to quantify the scale of the problem; this presents difficulties (Taylor & Quayle, 2003; Calder, 2004). Taylor and Quayle (2003) describe how one offender's CAM collection grew from 3,000 to about 40,000 images in just six months, an example of acute escalation on an individual scale. Ropelato (2006) reported that trade in CAM was worth \$3 billion annually; however Bourke and Hernandez (2009) cite that CAM is now estimated to be worth around \$20 billion annually, evidence of profound escalation in a global context.

Sheldon and Howitt (2007) argue that despite quantification problems, CAM is the main activity in terms of Internet related sex crime, certainly in terms of convictions. The Cyber Tip line of the National Center for Missing and Exploited Children (NCMEC, 2011) recently received its one millionth report of suspected child sexual exploitation. NCMEC estimates that 1 in 5 girls and 1 in 10 boys will be sexually victimized in some way before they reach the age of 18, arguing that increased social networking, webcams and other

technologies increasingly allow access to children. The ever expanding internet is allowing:

Predatory offenders to electronically creep into the bedrooms of our nation's youth where the engage in sexually explicit 'chat', 'cyber voyeurism'...and 'cyber exhibitionism (Bourke & Hernandez, 2009, p.183).

The estimated number of Internet users rose from 16 million in 1995, to 580 million in 2002 (Yar, 2006), and was expected to exceed 2 billion in 2010 (ITU-D, 2010). Currently there are no 'Internet Police' (Bainbridge & Berry, 2011).

Children in the images

The majority of CAM images online in the U.K. are of white Caucasian and Asian children (Taylor & Quayle, 2005), similarly to Australia (Baartz, 2008). The images are generated in a number of ways such as scanning, uploading, hidden cameras, domestic sexual abuse, commercial images, child generated responding to sexual demands of others, and activities initiated by children themselves, a recent development and a cause of serious concern (Quayle 2010). Leary (2010) has reported that 'sexting' and 'self-produced child pornography' is a complex problem ranging from naively produced images, to coercion, to the malicious viral distribution of images. The U.S National Campaign to Prevent Teen and Unplanned Pregnancy survey (N.C.P.T.U.P, 2009) reported that 1 in 5 teens (aged 13 to 19) have sent or posted online nude or semi nude pictures or videos of themselves, additionally 15% of teens surveyed (N= 1,280) who sent or posted nude/semi nude images of themselves say they did so to someone they only knew online. A recent US based study highlights that children are now online at a young age, 25% of children under the age of 6 are online regularly, 59% of 6 to 9 year olds access the Internet on a typical weekday (Time, 2011). Children are 'living on the Internet' and engage in risk taking online (Mitchell, Wolak & Finkelhor, 2008).

There is a paucity of official data on self-generated child pornography online, the age and gender of participants, or the motivation to engage in this behaviour. The Barnes (2006) "privacy paradox" may be a factor, occurring when teens may not be aware of the public nature of the Internet. This activity may be exacerbated by known cyberpsychology online behavioural traits such as disinhibition (Suler, 2004) and perceived online anonymity (Joinson, 2007).

Livingstone (2006) reported a "reverse generation gap" in internet expertise, while Byron (2008) describes a "generational digital divide" highlighing the difficulties involved for parents in the education, empowerment and protection of digitally literate children. Children are now online at a young age (Time, 2011) some parents may have virtual world skill deficits, CAM sex offenders are increasingly online (Moran, 2010), arguably the combination of these trends leads to serious concern for the future.

The consumer of pornography online

Evidently increased use of the Internet has coincided with an increase in cyber criminality, including the sexual exploitation of children. There is some consensus in terms of an online offender profile; likely to be white, male and aged 26 to 40 (Wortley & Smallbone 2006; Webb et al., 2007). Online offenders may experience some symptoms of Internet dependence (Blundell, Sherry, Burke & Sowerbutts, 2002). Work by Young (1998) with regard to *Internet Addiction* should be considered in the context of online sex offending. In terms of CAM online Siegfried et al. (2008) found that 80% of users were 35 or younger. Wolak, Finkelhor and Mitchell (2005) found evidence of good levels of education in this group. Regarding online female sex offenders, Quayle, Erooga, Wright, Taylor and Harbinson (2006), did not report evidence of same, however Siegfried et al. (2008) claimed one in three respondents to their Internet child pornography user survey were female, this gender assessment discrepancy requires further study.

Quayle (2010) states that sexual arousal is a primary function for online sex offenders however social activity, collecting behaviour and meeting emotionally avoidant needs must be considered (Quayle & Taylor 2002;

Middleton, Elliott, Mandeville-Norden & Beech 2006; Sheldon & Howitt, 2007). In their study of 51 offenders, Howitt and Sheldon (2007) reported that contact offenders were characterised by lengthy criminal records, childhood sexual abuse, and use of emotionally orientated coping strategies. While online offenders had few criminal convictions, high levels of sexual fantasies and cognitive distortions, some childhood difficulties, with evidence of associations between fantasy, 'sex play', early childhood sexual experience and sequentially adult abusive behaviour (Howitt & Sheldon, 2007). Childhood difficulties were also reported by Webb et al. (2007). Given reports of self generated child pornography and 'sex play' online (Leary, 2010), and the association between childhood sexual experience and adult abusive behaviour (Howitt & Sheldon, 2007; Webb et al., 2007), research should be undertaken to predict the likely impact of technology facilitated and accelerated sex play in children, and its impact on future sex offending.

Bates and Metcalf (2007) study of 78 online offenders showed higher self-esteem but more emotional isolation than contact offenders, and scored higher on the impression management scale, a subject explored in the discipline of Cyberpsychology (Chester & Bretherton, 2007). Laulik et al. (2007) compared internet sex offenders to the general population and found that they differed with regard to warmth, dominance and depression. Elliot et al. (2009) conducted a study of 1,031 online and contact sex offenders and reported that internet offenders had higher identification with fictional characters, and increased scores on scales of fantasy and motor impulsivity. Grundner (2000) explored the 'Skinner Box Effect' sexual addiction, online pornography and the role of classical conditioning. Greenfield (2010) links motor impulsivity online and *intermittent reinforcement* qualities of the internet, it would be useful in terms of further research to consider the available data in this area.

Webb et al. (2007) found no major differences in terms of mental health or personality. While Reijnen, Bulten and Nijman (2009), reported that their 134 internet CAM offenders were mostly single, living alone, nonetheless there is no easy way to recognise a child offender (Wortley & Smallbone, 2006). Undoubtedly certain factors such as psychiatric disorders, psychological and

developmental impairments impact on criminality. Fantasies, cognitive distortions, emotional deficits, sex play, impression management, depression and impulsivity (Sheldon & Howitt, 2007; Webb et al. 2007; Laulik et al., 2007; Elliot et al., 2009) define online offenders and arguably their related use of technology. Carich and Calder (2003) argue that 'disowning behaviours' enables avoidance of responsibility, minimising the offender's guilt. However reported psychological traits result mostly from self reported test measures, therefore honesty must be considered as a variable, additionally offenders are likely to be well educated (Wolak et al. 2005) and therefore capable of falsifying results, experience indicates that many sex offenders are in denial or basically lie about their behaviour.

Early work by Lanning (2001) identified the role of "computer offenders" suggesting a typology of three broad categories, situational, preferential and miscellaneous, the latter evidently is not a comprehensive title for a distinct classification. Krone (2004) developed a continuum typology, ranging from online engagement to direct contact and physical abuse of children. Beech, Elliot, Birgden and Findlater (2008) argue that Lanning's typology categories overlap, and are not discrete. Lanning (2001) and Krone (2004) refer to abusers and exploiters; however do not make specific distinctions between these groups.

Typology of online child abuse material users

Typology research to date is limited (Lanning, 2001; Krone, 2004; Beech et al., 2008) and arguably given advances in technology increasingly out of date. It may be useful to consider a specific online content offender typology (Moran, 2010) centring on CAM collection, and based on experience gained in monitoring and pursuing online sex offenders in this area. Categories as follows: *Simple Viewers*; beginners who may be curious about CAM. *Open Traders*; offenders that distribute CAM online. *Closed Traders*; distributers of illegal content, high levels of security, gathered in restricted access communities, and *Experts*; long term and committed offenders, security is a

significant aspect of this group. The triangular shape represents a hypothetical model of distribution of offenders (Appendix A).

To gain understanding of Child Sex Offender Networking Sites (CSONS) it is useful to consider theories regarding behaviour in both *real world* and *online communities*. Haythornthwaite (2007) asserts that social networks are built of the following:

"Actors who are connected or *tied* ...strong ties are with people we refer to as friends, close friends, collaborators and colleagues". (p.126).

Sex offenders collaborate online, and have 'collegial' friendships; Moran (2010) argues in Closed Trader groups "community becomes important, 'friendships' form".

Preece (2001) proposed that *Sociability* is concerned with developing policies and practices to support social interaction online. Three components contribute to good sociability, *Purpose*, *People* and *Policies*. Purpose; "a communities shared focus on an interest or need" (Preece, 2001, p. 349) collection and distribution of CAM is a shared focus. People; persons interacting in CSONS's are likely to be of paedophilic disposition (Sheldon & Howitt, 2007). Preece (2001) argues policies provide community governance and that honesty is an important issue. At 'Closed Trader' level, as trust increases offenders will start to share material they have sourced elsewhere, or produced themselves, the price of building trust is the sharing of images (Moran, 2010)

Socialisation

Socialisation, Role transition, Investigation and Contribution are key factors in real world group socialisation dynamics (Moreland & Levine, 1982). In terms of contribution; failure to fulfil can lead to rejection. Moran (2010) suggests that 'Closed Trader' groups are made up of *sharers* and *leechers*; sharers may break away and create new groups elsewhere online. Role transition; the Moran (2010) typology refers to Simple Viewers "moving up the typology to

the next level, the Open Trader" (p. 37). Investigation; 'Closed Traders' introduce high levels of security for entry, gathering in closed restricted access communities (Moran, 2010).

Socialisation: groups assimilate new members, 'newbies' familiarising and educating them, in Closed Trader groups 'those not familiar...will soon be brought up to speed by other members' (Moran, 2010). At Expert level, security people in the group "may even create a whitepaper...given to all new and existing members" (Moran, 2010).

Socialisation can be formal and informal, norms and rules explicit, or implicit (Moreland & Levine, 1982), implicit rules are more common at lower levels (e.g. 'Simple Viewers' and 'Open Traders'), however at the Closed Trader and Expert level explicit rules exist. Expert groups develop a distinct hierarchy; jobs include administrators, technology advisors, security personnel and intelligence experts (Moran, 2010), a daunting prospect for law enforcement.

The Moran (2010) typology may provide a useful guide and arguably can be supported by established online and real world community development theories. However there are deficiencies; the typology refers only to possession and distribution of CAM, not to offenders who produce CAM, a largely offline practice to date, however this may change going forward. Neither does the typology refer to the offence of grooming. Nonetheless the typology does provide a practical, experienced based working structure. Classifications may provide a platform to examine benefits online and psychological motivation to offend, thus potentially providing insight into the nature and manifestation of sex offender behaviour online, a subject that merits further research and exploration.

Seeking and collecting

Two distinct potentially compulsive issues have been identified, 'seeking behaviour' (Panksepp, 2004), and 'online collecting' (Sheldon & Howitt, 2007, Quayle, 2010), it is necessary to consider same with a view to

understanding the stimulants and accelerants of these behaviours; in particular the role Cyberpsychology literature may play in understanding sex offending behaviour online (Suler, 2004; Joinson, 2007; Greenfield, 2010). Internet offenders are

"very different psychologically to contact offenders... simplistic ideas such as sexual fantasies and cognitive distortion in offending behaviour may need revision" (Sheldon & Howitt, 2007, p. 254).

There is a need to understand online sex offenders from a Cyberpsychology perspective, in terms of disinhibition online (Suler, 2004), anonymity (Joinson, 2007) and intermittent reinforcement (Greenfield, 2010). Additionally neuroscientific research by Panksepp (2004) exploring the emotional states of foraging, anticipation, craving and seeking may provide insight, particularly given the role of emotion in online sex offending (Howitt & Sheldon, 2007). Panksepp (2004) explored 'seeking' behaviour, the mammalian motivational engine rousing from bed, den, or hole to venture forth and explore the world, the neurotransmitter dopamine fuelling the seeking system resulting in a pleasurable state.

Consideration of 'seeking' theory online in addition to Cyberpsychology theories may contribute to differentiating online and offline offending. Hypothetically online offending may evolve into a distinct classification with fully differentiated traits, a co-morbid state of classic sex offending and technology induced acceleration, evolving at digital speed. Doubling abnormal pleasure, the known rewards associated with the deviancy, compounded by online stimulation. Early research into Cyberchondria a form of health anxiety manifested online (White & Horvitz, 2009; Aiken, 2011), indicates that technology not only exacerbates but may also differentiates a syndrome, theoretically this could apply to online sex offending, the specific areas of information seeking and sex offending online require further investigation.

Collecting

Central to public and legal concerns about CAM is the ability to determine when imagery contravenes the law. The Copine scale denotes ten levels of CAM, rising from least to most extreme (Taylor, Holland & Quayle, 2001), however Jones (2003) would argue that material under levels 4 or 5 on the Copine scale may not in some cases be considered illegal. In 2002 the U.K., Sensory Advisory Panel (SAP) adapted and reduced the Copine scale to five levels for its own purposes (Gillespie, 2005). Collecting CAM is a known sex offender characteristic (Sheldon & Howitt, 2007, Quayle, 2010) accelerating dramatically online (Taylor & Quayle, 2003; Bourke & Hernandez, 2009). Research to date has perhaps not fully dealt with the issue, standard argument being it happens because technology affords the ability to do so (Wortley & Smallbone, 2006 Quayle et al., 2006). On consideration of the underlying motives regarding accelerated collecting behaviour, storing of information may not be the primary driver, arguably it is the ability to retrieve that is paramount, offenders on occasion take "trophies" from rape or murder victims to relive deviant pleasure (Howitt, 2009), the question is; could CAM collections be trophies relating to image discovery and initial masturbatory experience, is this a shared underlying pathology? Further research is required to clarify this presupposition.

Hierarchical scales are often used for classification of imagery, for example manufacturers of image centric trading cards and collectibles stimulate trading by designing official distinct hierarchies solely with the purpose of driving collectability (Vasquez, 2003). The hierarchical system empowers the trading card image, creating classification, generating 'rares', and in turn creating 'commercial value'.

Numerical scales have greatly contributed to problems associated with CAM to date, specifically in terms of sentencing, and allowing the legal profession to avoid viewing explicit material. It has been suggested that official 'scale type numbers' may be used for collecting and trading purposes in chat rooms populated by sex offenders. The question is could use of numbers provide

cover in terms of law enforcement tracking methodologies? Arguably consideration of these hypothetical points may be useful; perhaps future research concerning scales may investigate drivers of collectability, and may be supplemented by offender data such as the accessing and viewing of CAM.

Collection of images online is apparently prolific (Moran, 2010); further research is required to determine if this level of collection is in fact a defining feature of online sex offending. Day and Moseley (2010) assert that determining motivation for any behaviour can be difficult to establish from the behaviour itself, conversely Burke and Hernandez (2009) argue that:

"The collection and trading behaviour were simply behavioural manifestations of a larger more pervasive and enduring paraphilic lifestyle" (Burke & Hernandez, 2009 p. 188).

That being the case, any stimulation of collecting or trading predilection may impact on underlying pathological paraphilic tendencies, although Sheldon and Howitt (2007) claimed trading and swapping CAM was not common in the small group they studied.

Future work and study

Increases in convictions for internet related offences are demanding for mental health professionals (Middleton, Mandeville-Norden & Hayes 2009; Bourke & Hernandez, 2009). Nevertheless there would appear to be high levels of public support for sex offender treatment (Mears, Mancini, Gertz, & Bratton, 2008), certainly there is a need to continue to develop appropriate programmes. The Middleton (2008) Internet Sex Offender Treatment Programme (i-SOTP), aims to prevent viewing behavior and escalation to contact offending. However without fully understanding how technology impacts on sex offending it will be difficult, if not impossible to develop effective treatment programmes. Cyberpsychology literature may be valuable

resource in treatment design (Young, 1998; Suler, 2004; Joinson, 2007; Greenfield, 2010).

Abnormal psychology conditions such as Post Traumatic Stress Disorder (P.T.S.D.) have had some success with Virtual Reality Treatment programmes (Rothbaum, Hodges, & Ready et al., 2001; Difede & Hoffman, 2002; Vermetten et al., 2007). The use of e-therapy or Artificial Intelligence (AI) in terms of therapeutic programmes for sex offenders may present challenges, however warrants consideration.

Endrass et al. (2009) examined the recidivism rates for 231 Internet CAM users concluding that viewing child pornography alone was not a risk factor for committing contact sex offences, however in a separate study of 155 sex offenders; Bourke and Hernandez (2009) found that less than 2% of the group who entered treatment without known contact offences were verified as being "just pictures" offenders. Sheldon and Howitt (2007) caution against complacency with regard to online offenders and argue that psychologically they are very similar to contact paedophiles.

The future is likely to present even more challenges, however there is an urgent need to address CAM and sex offending online. One recommendation in terms of protecting children online is to teach them *resilience* Byron (2008); arguably this is not a long term solution, particularly given the recent phenomenon of child generated pornography online. Steel (2009) stated that technology was not only important to law enforcement in terms of tracking offenders, but remains critical in efforts to reduce victimization. There is a levy on plastic bags in some European territories to protect the environment, whilst a number of EU research funds do exist in this area, perhaps a specific child protection levy could be placed on broadband access, significant revenues could be used to fund initiatives between the academic community, relevant authorities and private industry to fully investigate the problem and nature of sex offending online, which a view to protecting those in society who are most vulnerable, children.

Conclusions

CAM online is a widespread and apparently growing problem (Bourke & Hernandez, 2009), There are however new technology driven issues arising with regard to explicit images of children online, *self-produced child pornography* (Leary, 2010) which not only fuels the amount of available material online but may also be inappropriate in terms of healthy sexual development. Participation in childhood sex play activity is a known characteristic of some sex offenders (Sheldon & Howitt, 2007; Quayle, 2010), technology enhanced manifestation of same may in fact impact on deviant presentation in adult life, a cause of concern that requires immediate intervention in terms of research.

There is a dearth of knowledge in respect of online offending presentation, although there would appear to be some psychological and behavioural traits associated with cognitive distortions, emotional deficits, sex play, impression management, depression, impulsivity and collecting (Sheldon & Howitt, 2007; Webb et al., 2007; Laulik et al., 2007; Elliot et al., 2009; Quayle, 2010). However the role technology plays in instigating or perpetuating these characteristics is poorly understood. Cyberpsychology learning's, disinhibition online (Suler, 2004), Internet addiction (Young, 1998), anonymity (Joinson, 2007) and Intermittent reinforcement (Greenfield, 2010); additionally seeking behaviour (Panksepp, 2004) should be considered in the context of sex offending online.

Cyberpsychology findings illustrate that online and offline behaviour can be very different, therefore these early studies may be of limited value, more work needs to be done to generate a more differentiated view of technology related sex offences.

Moran (2010) has tentatively proposed a new typology of online offending which has now been considered in accordance with Social Networking theory (Moreland & Levine, 1982; Preece, 2001); however a large scale study would

be required before implementation. Hierarchical structures may impact on collectability; however a detailed study would be required to investigate same in terms of CAM collection online. Attention must be paid to the development of assessment and rehabilitation programmes for online sex offenders, given the technology based presentation of the offending behaviour it is possible that technology focused solutions may be beneficial, AI and VRET could be considered in terms of patient/offender therapy, extensive research will be required in these areas.

Sex offending online will not diminish, indicators are that this phenomenon will continue to grow and evolve (Moran, 2010); Children in our society are thereby placed at considerable risk, either by entering an offender's online domain accidently, or becoming a high risk victim in terms of self generated pornography. Either way parents may not be best placed to inform and protect (Livingstone, 2006; Byron, 2008), thereby requiring authorities to actively engage in the protection of minors from the ever evolving problem of sex offending online.

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Appendix A- the Moran Typology (2010)

