



# Understanding online child pornography use: Applying sexual offense theory to internet offenders

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## ABSTRACT

This review outlines the links between contemporary etiological and offense-process theories of child sexual abuse and our current knowledge of individuals who commit offenses related to online child pornography. First, we integrate previous behavioral typologies into a four-category internet offender typology. Second, we summarize development of etiological theory and evaluate the strengths and weaknesses of these theories in explaining the child pornography offender. Third, we outline the potential situational and ecological factors relating to the online environment that may also be a cause for the development and maintenance of prurient online behavior. Fourth, we review theories of the offense process and apply these to research into the modus operandi of child pornography offenders. Finally, we examine the usefulness of this approach in the assessment of risk and the treatment of online offenders.

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## 1. Child pornography online

Over the last two decades there has been a significant increase in professional and public awareness of the use of communications technologies in the commission of child sexual abuse, both through the consumption and dissemination of child pornography<sup>1</sup> and for the purpose of acquiring victims for contact sexual abuse. As the Internet continues to evolve from fixed-location access to third-generation (3G) mobile technology, prevention of child sexual abuse through the Internet continues to present new challenges for traditional policing and legislative systems (O'Connell, 2004; Beech, Elliott, Birgden, & Findlater, 2008).

The extent of child pornography currently available, and the number of users accessing it, is difficult to estimate due to the inherently dynamic nature of online systems (Taylor & Quayle, 2003). As online networks utilize packet switching<sup>2</sup> in the transfer of computer files across networks detection and monitoring of data is resource-intensive and impractical. Unless the individual compromises their anonymity (e.g., by using a credit card to access a child pornography website) detecting offenses requires the analysis of an individual's computer(s). Additionally, producers of websites that provide access to child pornography images regularly hop to and from different servers, thus making detection and removal even more problematic (Internet Watch Foundation, 2008).

There appears to be vast amounts of child pornography images on the Internet. The international policing agency Interpol's Child Abuse Image Database (ICAID) – a global database for the forensic analysis of digital images of child abuse – currently contains more than 520,000 images and has been used to identify 680 victims worldwide (Interpol, 2008). A U.K based internet watchdog organization, the Internet Watch Foundation (IWF), recently reported that they had positively identified 2,755 worldwide internet domains containing images of child sexual abuse – 80% of which were found to be commercial in nature, an increase of 33% from 2006 (IWF, 2008). Analysis of site content indicates that 80% of the images recovered were of children under 10 years of age, with 10% of under 2 years of age, 33% between 3 and 6 years of age and 37% between 6 and 10 years of age. These images predominantly depicted more female victims (79%) than male victims (7%), with 14% of images depicting both male and female victims.

Several researchers (e.g., Krone, 2004; Lanning, 2001; Sullivan & Beech, 2003) have suggested typologies of individuals using the Internet to access child pornography. These typological approaches broadly comprise four groups: (1) *periodically prurient* offenders, consisting of those accessing impulsively, or out of a general curiosity, who carry out this behavior sporadically, potentially as part of a broader interest in pornography (including 'extreme' pornography<sup>3</sup>) that may not be related to a specific sexual interest in children; (2) *fantasy-only* offenders, consisting of those who access/trade images to fuel a sexual interest in children and who have no *known* history of contact sexual offending (e.g., Osborn & Beech, 2006; Webb, Craisatti, & Keen, 2007); (3) *direct victimization* offenders, consisting of those who utilize online technologies as part of a larger pattern of contact and non-contact sexual offending, including child pornography and the grooming<sup>4</sup> of children online in order to facilitate the later offline commission of contact sexual offenses (Krone, 2004); and (4) *commercial exploitation* offenders, consisting of the criminally-minded who produce or trade images to make money (Lanning, 2001).

This review will focus on those offenders who use the Internet to access and trade child pornography, either impulsively or out of curiosity (periodically prurient) or to fuel a sexual interest in children (fantasy-only), to provide a better understanding of why these individuals carry out these kinds of behaviors. We will not discuss direct victimization offenders in depth as theories as to why these individuals have committed contact sexual offenses have been extensively reviewed elsewhere (e.g., Ward, Polaschek, & Beech, 2006). Also, commercial exploitation offenders will not be reviewed as their form of offending is associated with a wider pattern of criminal behavior driven by financial profit rather than a sexual interest in children *per se* (Lanning, 2001). Hence, in this paper we will outline the major theories of the etiology, maintenance and potential escalation of sexual offending, and we will examine the potential for these to give us some understanding of why individuals view child pornography on the Internet. After this, we will examine the applicability of theories of the offense process itself, that have been developed for contact sex offenders, in understanding internet offenders. Finally, we will examine how such an understanding gathered from the application of such theoretical ideas can advance our thinking both in terms of risk assessment and treatment.

<sup>1</sup> There are conflicting views on the use of the term 'child pornography', arguing that it minimizes the abusive nature of the images (see Edwards, 2000; Tate, 1992; Taylor & Quayle, 2003). However, alternative terms such as 'abuse images' do not reflect the myriad of non-sexual images of children that can be used for sexual gratification, and hence we are inclined to use the term child pornography as it is easily recognizable and carries international meaning (Taylor & Quayle, 2003).

<sup>2</sup> To optimize online network efficiency, files are broken down into segments or 'packets' of data, labeled with a destination address and a packet number, and then sent to the receiving computer via different network routes (potentially crossing boundaries of legal jurisdiction) where the file is reconstructed in the correct order (Barnett & Maynard-Smith, 1988).

<sup>3</sup> The U.K. Criminal Justice and Immigration Act (2008) introduced legislation prohibiting the possession of a limited range of 'extreme pornographic' material, including *explicit and realistic* depictions of acts that: (1) could threaten a human's life (e.g., hanging, suffocation); (2) could result in serious genital injury; or (3) involve bestiality (sex with animals) or necrophilia (sex with a human corpse). Possession of prohibited materials carries a sentence of a maximum 5 years imprisonment.

<sup>4</sup> Careful goal-directed behavior aimed at gaining and subsequently abusing the trust of an individual (Finkelhor, 1984).

## 2. Current etiological theories of child sexual abuse

Ward and Hudson (1998) have suggested a framework for theory classification that distinguishes between three levels of sexual offending theory: *Level I* (multi-factorial) theories that form comprehensive accounts of the core features of sexually offensive behavior – the causes of these features and how those features manifest themselves as sexually abusive actions; *Level II* (single factor) theories that explain single phenomena implicated in generating sexually offensive behavior, such as victim empathy deficits or cognitive distortions; *Level III* (offense process) theories that provide descriptive models of the offense chain or relapse processes.

We will now outline perhaps the most contemporary theories of child sexual abuse: the *pathways model* (Ward & Siegert, 2002), the *integrated theory of sexual offending* (Ward & Beech, 2006), and Wortley and Smallbone (2006) situational approach to sexual offending in order to assess whether this can advance our understanding of the causes of internet-related sexual abuse.

### 2.1. The pathways model

The pathways model (Ward & Siegert, 2002) is conceptualized by the authors as a ‘theory-knitting’ exercise designed to combine the best elements of three previous Level II theories (i.e., Finkelhor, 1984; Hall & Hirschman, 1992; Marshall & Barbaree, 1990) into one comprehensive Level I theory explaining the psychological causes of offending. They incorporated Marshall and Barbaree’s description of the effects of developmental adversity in the offense process, Hall and Hirschman’s comprehensive discussions of a typology of child molesters, and the psychological vulnerabilities involved in child sexual abuse described by Finkelhor (1984), into a model that the authors suggest accounts for the wealth and diversity of cognitive, emotional, interpersonal and sexual factors evident in child sexual abuse.

Ward and Siegert’s model suggests that there are multiple flexible, independent etiological pathways, each associated with a set of interacting primary psychological mechanisms that can culminate in sexually abusive behavior. Learning events, situational environments,

biological factors and cultural factors exert proximal and distal influences on development, creating the following five pathways: (1) *intimacy deficits*; (2) *distorted sexual scripts*; (3) *emotional dysregulation*; (4) *anti-social cognitions*; and (5) *multiple dysfunctional mechanisms*. These deficits relate to the dynamic risk domains outlined in the risk assessment literature (e.g., Beech & Ward, 2004; Hanson & Harris, 2000, 2001; Thornton, 2002) (see Section 5. below). Although all sexual offenses will involve these deficits, Ward and Siegert argue that one mechanism will exert a primary causal influence, the others only exerting a harmful effect due to the driving force of the primary deficit (Ward & Sorbello, 2003; Ward et al., 2006).

The intimacy deficits pathway describes individuals offend at times of social isolation, rejection, or when adult relationships are compromised. The *deviant sexual scripts* pathway describes individuals who have subtle distortions of cognitive scripts that guide sexual conduct and where interpersonal closeness is only achieved via sexual contact. The dysregulation pathway describes individuals who have difficulties in the self-regulation of emotions and behavior. The anti-social cognitions pathway describes individuals who possess general pro-criminal attitudes and beliefs and their offending reflects these anti-social tendencies. A fifth pathway, multiple dysfunctional mechanisms, describes those individuals who have dysfunctions in all of the primary psychological mechanisms and Ward and Siegert note that fixated pedophiles typically have all four pathways in operation at the same time.

### 2.2. The integrated theory of sexual offending

Ward and Beech (2006) have since argued that although previous theories have significantly advanced our knowledge of sexually offensive behavior they lack explanatory depth and simply describe the clinical symptoms created by underlying causal factors, highlighting a need for a more neuropsychological explanation. Hence, the integrated theory of sexual offending (ITSO; Ward & Beech, 2006) was designed to subsume and unify previous theories of sexual offending, incorporating Levels I, II and III explanations of sexual abusive behaviors that also provides a neuropsychological explanation of offending.

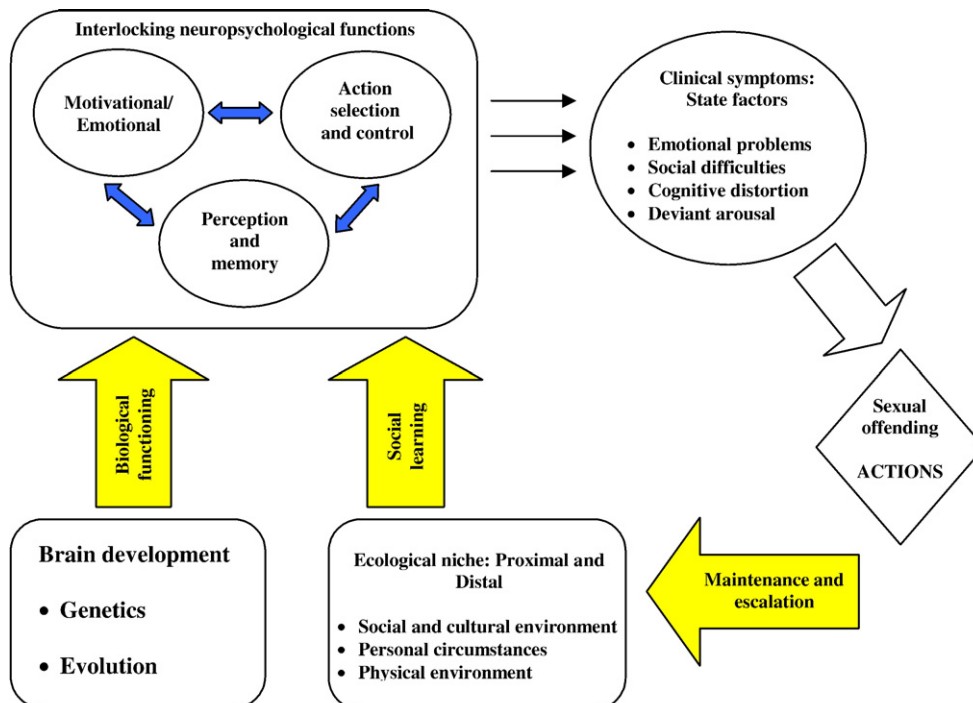


Fig. 1. A schematic representation of the ITSO.

In the ITSO, Beech and Ward note (from Pennington, 2002), that any complete account of human behavior requires four levels of analysis: (1) *etiological* – the influence of genetic and environmental factors; (2) *brain mechanism* – the effects of etiological factors on brain development; (3) *neuropsychological* – the brain-based psychological systems whose circuitry and architecture generate behavior; and (4) *symptom based* – the clinical phenomena observed at the surface level. Fig. 1 provides a schematic representation of the ITSO.

As can be seen from Fig. 1, the ITSO suggests that two developmental resources combine and interact to shape an individual's unique psychological functioning: (1) *biological factors* (essentially genetic and evolutionary factors); and (2) *social learning factors* (i.e., the social, cultural and physical environment, along with an individual's personal circumstances). Ward and Beech use the term *ecological niche* to refer to the potentially adverse environments facing the individual as they develop throughout their life. An individual's ecological niche can have a significant effect on the development of the brain and neurobiological systems, creating the clinical symptoms often seen in child sexual abusers, as well as having the potential, under some circumstances, to “override normal psychological controls to facilitate sexually abusive behavior” (Ward & Beech, 2006: p. 57).

In a major part of the ITSO, Ward and Beech also draw on Pennington's (2002) description of three interlocking neuropsychological mechanisms (shown in Fig. 1), each with distinct functions and structures that interact to produce all psychological processes (or pathways/dynamic risk factors): (1) the *motivational/emotional system* – deficits here manifesting themselves as problems in intimacy; (2) the *action selection and control system* – deficits here manifesting themselves in self-regulation problems; and (3) the *perception and memory system* – deficits here manifesting themselves as maladaptive belief systems (pro-offending attitudes, distorted sexual scripts). According to the ITSO, *deviant sexual arousal* (i.e., being sexually aroused by children) arises from a combination of deficits in these three neuropsychological systems, given that arousal itself is a mechanical process.

Ward and Beech further suggest that it is this neuropsychological level that represents the critical area for the development of our understanding of sexually abusive behavior. It is when the integrity and function of these mechanisms are compromised that the clinical phenomena (or dynamic risk factors – Thornton, 2002) that are: *failures in self-regulatory control* (i.e., deficits in self-regulation of behaviors and emotions); *social problems* (difficulties in relating to others); *anti-social thinking patterns* (offense-related cognitions); and *deviant sexual interest/arousal patterns*, are in operation, increasing the risk of sexually abusive behavior.

### 2.3. ITSO/pathways explanations of internet offending

We will now examine the extent to which internet offenders display the clinical symptoms that represent these clinical phenomena/dynamic risk factors.

#### 2.3.1. Self-regulatory control problems

The first set of clinical symptoms relates to behavioral expressions of emotional regulation and arises from deficits in two systems: (1) problems in the motivational/emotional system manifesting in problematic mood states; and (2) problems in the action selection and control manifesting in impulsive behaviors (Ward & Beech, 2006).

Early research suggested that prolonged use of the Internet could also elicit a change in mood state (Kennedy-Souza, 1998) and those who misuse the Internet often turn to online activities as a way of dealing with difficult emotional states, such as depression, anxiety and stress (Morahan-Martin & Schumacher, 2000; Quayle, Vaughan, & Taylor, 2006). Quayle and Taylor (2002) describe how internet offenders in their sample reported that they could escape from unpleasant realities using child pornography, and described how they ‘shut themselves off

from their personal circumstances, finding pleasure in online sexual arousal and masturbation. Cortoni and Marshall (2001) suggest that contact offenders use sexual behaviors, such as masturbation as a coping/soothing strategy to deal with negative moods far more frequently than non-sexual offenders, when faced with problems they were unable to deal with. For some internet offenders, accessing pornography (including child pornography) on the Internet may function in a similar way. As humans are a highly visual species the immediate rewards associated with such online activities including mood-ameliorating strategies, coupled with masturbation, will be highly reinforcing (Gifford, 2002; Quayle et al., 2006).

There is currently a gap in the literature relating to impulsivity in internet offenders, especially in our knowledge of how the online environment may affect impulse control. This is likely to be a specific concern for our periodically prurient group. Middleton, Elliott, Mandeville-Norden, and Beech (2006) found that a sizeable proportion of their sample of internet offenders scored highly on psychological measures of impulsivity (BIS-11; Barratt, 1994) and suggested that their emotional dysregulation group tended to act without thinking and had a lack of regard for future consequences. Danet (1998) noted that the perceived anonymity and the ‘playful’ nature of the online environment can have a powerful disinhibiting effect on users, and this diminished impulse control has been found to a factor in problematic use of the Internet (this is discussed in Section 3.4.). Consequently, the online environment might be a place where risk-taking behavior is more acceptable, which, if the victim of those risky decisions is a child, may represent a real danger (Taylor, Holland, & Quayle, 2001). Further research on impulsive behaviors online is certainly needed to ascertain a better understanding of how the online environment and computer use in general impacts on individual's risk-acceptant and risk-avoidant decision making.

#### 2.3.2. Social problems

This second set of clinical symptoms involves social difficulties and problems initiating and maintaining intimate relationships with adults, as a reflection of deficits in the motivational/emotional systems (Ward & Beech, 2006). Putnam (2000) notes that online sexual behaviors can be particularly significant for individuals who have trouble obtaining face-to-face sexual contact, and hence those with intimacy deficits may be prone to developing online sexual habits. Coupled with either a curious (periodically prurient), or established (fantasy-only), interest in sexual images of children, some of these individuals may be led to access child pornography online.

Middleton et al. (2006) suggest that the images to some online consumers of child pornography (fantasy-only) represent less of a threat than initiating and/or maintaining age-appropriate relationships, and consequently a form of pseudo-intimacy can develop between the offender and particular images of children. Research suggests that these offenders are often overly self-conscious, lack assertiveness, lack empathy in relationships, and demonstrate low levels of self-efficacy (Laulik, Allam, & Sheridan, 2007), are emotionally lonely, inadequate, have low self-esteem, and display a passive victim stance (Middleton et al., 2006). Laulik et al. report in the levels of these interpersonal problems as the amount of time online increases at the expense of offline activities.

Along with its ability to provide a level of perceived pseudo-sexual intimacy with children, the Internet also would appear to provide a social outlet for individuals who have difficulties initiating and maintaining relationships with other adults. Through this medium, the related online chat enables a level social cohesion that is often more important to the offender than the sexual arousal provided by the images (Quayle & Taylor, 2002). Quayle and Taylor note that the groups that form from such exchanges often have a complex social hierarchy, where popularity and influence of a particular individual are associated with an ability to provide new or rare material, or to complete sets of related images. These ensuing networks hence would



appear to have three functions: (1) facilitating the trade of images and information; (2) providing a supportive community; and (3) providing a justification for the individual's behavior. Hence, images in themselves may not always be indicative of particular sexual interests, but perhaps are a currency used to facilitate social exchanges.

### 2.3.3. Anti-social thinking patterns

This area of clinical problems/dynamic risk factors describe dysfunctional belief systems that support sexual contact between adults and children (Abel, Becker, & Cunningham-Rathner, 1984), and are typically termed *cognitive distortions* in child sexual abusers. The term is also used to describe justifications and perceptions that sex offenders use to rationalize their offense behaviors. Hence, there is confusion about the nature of the term in that it used to explain both motivations and post-offense rationalizations for offending at the same time (Maruna & Mann, 2006; Howitt & Sheldon, 2007, for a debate around this issue).

According to Ward (2000), these cognitive schema represent implicit theories (ITs) – motivational schemas containing both an individual's own beliefs and desires, and those of the people around them, interacting with personal and interpersonal experiences to form coherent structures. ITs are thought to be generated early in the offender's life, hence, placing them in the context of motivation rather than post-offense rationalizations. Such ITs, according to Ward and Beech, are located in the perception and memory system of the ITSO, and are used by offenders to explain and predict their own, and other's, behavior. Ward (2000; Marziano, Ward, Beech, & Pattison, 2006; Ward & Keenan, 1999) argues that there is a core set of five ITs in child sexual abusers: (1) *children as sexual beings* – where children need and/or desire sexual contact with adults are able to consent to such contact; (2) *nature of harm* – that sexual activity is not harmful to a child; (3) *entitlement* – that the offender is superior to the child and deserving of special treatment; (4) *dangerous world* – that the world is an inherently hostile place and people are untrustworthy; and (5) *uncontrollability* – that the world, including events, thoughts and emotions, are unmanageable and the individual's own behavior occurs due to the factors that they have little control over.

Howitt and Sheldon (2007) investigated applicability of the IT theory to individuals who use the Internet for sexually exploitative purposes and found that their internet-only (our fantasy-only) offenders could not be differentiated from cross-over (our direct victimization) offenders on the overall level of their cognitive distortions. They did, however, find that fantasy-only offenders were significantly more likely than direct victimization offenders to endorse items relating to the willingness and ability of children to consent to sexual activity with adults. In that the fantasy-only group specifically endorsed items tapping the children as sexual beings IT such as: (i) a child can make its own decision as to whether to have sexual activities with an adult or not; (ii) Some children are willing and eager to be involved in sexual activities that are with, and for, adults; and nature of harm items such as: (iii) having sexual thoughts and fantasies about a child is not that bad, because at least it is not really hurting the child; and (iv) just looking at a naked child is not as bad as touching and will not affect the child as much.

One explanation for fantasy-only offenders endorsing statements suggesting that children are sexually sophisticated and wish to actively engage in sexual activity with adults may be that contact offenders have been exposed to the reality that children are not actually sexual beings and consequently may be less likely to endorse these items. Another explanation may be the deliberate and stylized nature of child pornography itself, where the child is typically depicted as smiling and seemingly enjoying themselves (Taylor & Quayle, 2003). Therefore, for some individuals holding the views that sex does not harm children and/or children enjoy sexual activity, the content of these images may be seen as evidence to them that children actually enjoy what is happening to them.

Taylor and Quayle (2003) have outlined four types of cognitive distortions reported by internet offenders: *Category 1* distortions that justify child pornography because they are 'only pictures'; *Category 2* distortions that normalize the internet offender's behavior because of the large number of other people engaged in the same online behaviors; *Category 3* distortions that objectify the images through a process of collecting; *Category 4* distortions that justify other forms of engagement with the images or, on occasions, real children through colluding in online social networks.

Here, Ward (2000) and Taylor and Quayle (2003) appear to be describing two independent conceptions of cognitive distortion potentially relevant for internet offenders: (1) *offense-level* cognitions relating to the appropriateness of viewing child pornography images and the consequences of engagement in these images for the individual concerned; and (2) *sexual abuse-level* cognitions relating to the appropriateness and consequences of sexual contact between adults and children. It has been noted that these offense-level type cognitive distortions about child pornography being victimless and that they are just images possibly hold a significant intrinsic value as they serve to make the distinction, for the offender, between themselves and those who commit contact offenses (Burke, Sowerbutts, Blundell, & Sherry, 2002). Though we would argue that fantasy-only and periodically prurient internet offenders appear more likely to employ offense-level distortions than sexual abuse-level distortions, there is certainly the potential that repeated engagement with child pornography may lead to the development of sexual abuse-level cognitive distortions.

We would also argue that Taylor and Quayle's Categories 2 and 3 distortions would drive the formation of Categories 1 and 4 distortions. The processes of normalization and objectification reduce the image to a commodity, divorcing the physical image and its sexual utility from the abusive nature of the reality it depicts, fuelling the amoral perspective that they are 'only pictures'. Consequently, the internet offender will endorse statements about the child in the image being willing and eager to engage in sexual activities, while simultaneously knowing that the child in reality would not. Through this 'commodification' process they also may justify further forms of engagement such as trading images, or perhaps even producing images. This may also be the case for pornography in general, where viewers are often able to morally divorce themselves from any thoughts about exploitation or its impersonal nature. Hence, periodically prurient offenders curious about any form of pornography online are already likely to have developed this amoral platform and would allow them to justify online any form of pornography use in the same way. This development of amoral offense-level cognitive distortions appears to link to the mechanisms of *moral disengagement* (Bandura, 1986, 2002).

In essence, moral disengagement posits that moral standards are not fixed internal regulators of conduct and that moral conduct is self-regulatory (Bandura, 2002). These self-regulatory mechanisms do not operate unless they are activated, and consequently moral self-sanctions can be disengaged from inhumane conduct. Therefore, rather than holding sexual abuse-level cognitive distortions regarding the victim in the image, internet offenders may simply reconstruct the offence itself so that theirs is simply a crime of possession, not sexual abuse, and as such they cannot be held responsible for any harm caused to children by the sexual activities depicted (*reconstruction of action*). The process of moral disengagement also involves *dehumanization* (e.g., viewing the image as a sexual commodity), *displacement/diffusion of responsibility* (e.g., placing the responsibility onto the producers, the traders, or even the Internet itself), and *disregarding consequences* (e.g., perceiving the likelihood of detection on the Internet to be zero). Examples of these types of moral disengagement have certainly been noted in internet offenders in the past (e.g., Burke et al., 2002). Hence, rather than concentrating on internet offender's distorted thinking about children and sex we should also be concentrating on the mechanisms by which they frame child pornography offending.

### 2.3.4. Sexual interests

Deviant sexual interests are hypothesized to be generated by the simultaneous interaction of an inability to regulate mood states and sexual desire (motivation/emotional system) and problems relating to sexual control (action selection and control) in the presence of offense-related schema (perception and memory system) which create deviant fantasies and a sexual pre-occupation (Ward & Beech, 2006).

Lanning (1992) was one of the first to suggest the role that child pornography plays in sexual fantasy and deviant arousal. Internet offenders are thought to select images that fit pre-existing fantasies, which are typically related to an increase in masturbation, and can be regarded by some as an alternative to contact offenses. In some cases they may act as a 'blueprint' for contact offenses (Quayle & Taylor, 2002), though it should be noted that nine of the thirteen in Quayle and Taylor's sample had committed contact sexual offenses either prior, or in addition, to their internet offense and as such would clearly fit our direct victimization type of internet offender. Webb et al. (2007) compared internet and contact offenders and found that internet offenders more problems relating to sexual self-regulation domain, which includes sexual pre-occupations, sex as coping, and deviant sexual interests.

A recent investigation by Seto, Cantor, and Blanchard (2006) has suggested that child pornography offenses are a powerful diagnostic indicator for deviant sexual interest in men, as measured by penile plethysmograph (PPG). Child pornography offenders were almost three times more likely to be identified as having a pedophilic phallometric pattern of sexual arousal than contact child molesters. Seto et al. suggest that the main reason for these findings are that contact offenders may have reasons to need to suppress their sexual attraction to children (to initiate or maintain access to potential victims, for example), while internet offenders, with immediate and perpetual access to a wide range of potential victims in the privacy of their own home, are less likely/able to suppress their sexual arousal.

Quayle et al. (2006) suggest that arousal may play a significant role in searching for child pornography, turning attention inwards, and focusing on short-term state factors that may lead to an increase in search perseverance, and risk-taking online activities. In that such heightened states of sexual arousal appear to decrease the perception of the cost of sexually coercive behavior to the individual concerned (Quayle et al., 2006). Quayle and Taylor (2002) also found that after masturbation a number of offenders actually found the material distasteful and aversive. It has been noted that strong positive affect, such as states of sexual arousal, can affect the individual's willingness, and/or ability to infer mental states in others (Ward, Keenan, & Hudson, 2000; Taylor & Quayle, 2003). Therefore it is possible that the abusive nature of the images may become apparent once the individual exits a heightened state in, for example, in periodically prurient offenders. Again though, it should be noted that Quayle and Taylor's study are more likely to represent direct victimization offenders and hence are more likely to exhibit sexual abuse-level cognitive distortions.

## 3. Situational/ecological approaches to sexual offending

Wortley and Smallbone (2006) have challenged the notion that sexual offenders are dedicated, serial offenders driven by irresistible sexual urges and long-standing, pathological motivations, arguing that more attention should be paid to situational factors in the sexual offense process<sup>5</sup>. These situational approaches to sexual offending offer a great deal of potential in explaining the effect of the Internet

itself on child pornography offending, as it represents a unique criminological environment, and one in which secrecy, anonymity and isolationism are key components (Wortley & Smallbone, 2006).

### 3.1. The situational approach

Wortley and Smallbone (2006) outline two distinct theoretical roots to the situational perspective. The first approach is based on the *rational choice perspective* (Cornish & Clarke, 1986); the assumption that offenders are active, purposeful, decision-makers who undertake cost-benefit analyses of criminal opportunities. Therefore, the immediate environment provides the information regarding the potential costs, and benefits of crime, about which rational decisions to commit crime are made. The second approach is derived from behavioral, social and environmental psychology, and proposes that there is a subtle and intimate relationship between the individual and their environment, where environments (e.g., online environments) can influence people to perform behaviors that they may not under different circumstances.

In essence, the situational approach is thus: though individuals differ in their propensity to commit crime, most people are capable of committing a crime given the right circumstances and when certain favorable conditions are met (Wortley & Smallbone, 2006). The immediate environment, according to Wortley and Smallbone, can precipitate crime occurs in four basic ways: (1) by presenting cues that prompt an individual to commit a criminal act; (2) by exerting a social pressure on the individual to offend; (3) by weakening moral constraints permitting potential offenders to commit an offense; and (4) by producing emotional arousal that provokes a criminal response (Wortley & Smallbone, 2006).

There are key points of convergence and divergence between the situational approach and etiological theories of sexual offending behavior, which we will now examine.

#### 3.1.1. Convergence with the ITSO model

Psychological constructs described in the situational approach are similar to those outlined in the ITSO (i.e., social/interpersonal factors, anti-social cognitions, emotional regulation) and how these environments influence behavior is the key concept in the proximal ecological niche outlined in the ITSO. Ward and Beech (2006) also state that the physical environment is a significant contributor to the etiology of sexual offending by creating circumstances that can trigger these psychological vulnerabilities. Ward and Beech (2006) also note that in some circumstances ecological variables can override psychological factors to facilitate sexually abusive behavior, stating that "in these kinds of unique circumstances individuals can behave in ways they would not normally consider and may even engage in actions that they would view as utterly reprehensible in their normal environments... [it] is not simply the consequence of individual psychopathology" (p. 53). It is not, however, explained how or what unique circumstances or immediate environments can override their neuropsychological approach or the processes by which this occurs.

#### 3.1.2. Divergence with the ITSO model

Ward and Beech (2006) suggest that environmental issues can act either *distally* on the individual's social development, or act *proximally* as 'triggers' for psychological vulnerabilities. The situational approach suggests that any individual has the potential, given favorable present environmental circumstances, to commit a crime regardless of their psychological disposition. Wortley and Smallbone suggest that rather than representing *trait* vulnerabilities that produce emotional *states* conducive to criminal behavior, it is the effect of the immediate environment that creates these emotional states. Hence, the potential strengths of the situational approach lie in filling this theoretical gap in the ITSO. We have seen in Sections 2.3.1–2.3.4. that the online environment can create and affect emotional states (i.e.,

<sup>5</sup> Evidence from self-report psychometric testing certainly suggests that there is a sizeable minority of Internet offenders who do not score outside non-offender ranges for social function, emotional regulation, and/or distorted attitudes (Middleton et al., 2006).

elevated mood, sexual arousal) and it is likely to be these visceral states in which individuals can behave in ways they would not usually.

What we can see is that both the ITSO and the situational approach reflect that there is a unique relationship between the individual and their environment. Next, we outline (1) the effect of the ecological niche and (2) the situational approaches to the maintenance and escalation of offending.

### 3.2. *The ecological niche explanation of internet offending*

According to the ITSO the ecological niche can have a significant effect on the function of three neuropsychological mechanisms (outlined in Section 2.2.) compromising an individual's psychological functioning. Ward and Beech (2006) note that the ecological niche can act both: distally, where childhood influences affect the psychological and social development of the individual by directly and negatively affecting the core functional systems, leading to problems such as psychological disorders, poor social adjustment or problematic adult sexual function (Beitchman et al., 1992; Watkins & Bentovim, 1992); and proximally, creating the circumstances that make the commission of an offense more likely. We will now look at these two areas in more detail.

### 3.3. *Distal factors: developmental histories of internet offenders*

Relatively little research exists into the developmental histories of internet offenders. What little research there is suggests that the reported experiences of contact sexual abuse in childhood is lower for internet offenders compared to contact sexual offenders (e.g., Sheldon & Howitt, 2007; Webb et al., 2007). Webb et al., for example, found that around that just over a quarter of their sample of internet offenders had been the victims of sexual abuse during childhood compared to one-third of their sample of contact offenders, though this was not a significant difference. Sheldon and Howitt found that the age at which internet offenders were sexually victimized tended to be older than contact-only offenders and that extra-familial abuse was more likely to be reported in the internet group compared to contact offenders.

But rather than just examine prevalence of sexual abuse as a precursor to sexually offensive behavior some suggest that there should be more of a focus on early sexualized behavior (e.g., Howitt, 1995a; Sheldon & Howitt, 2007), which involves to sexual activities with other children (Sperry & Gilbert, 2005). For example, Sheldon and Howitt (2007) found that internet offenders were more likely to have engaged in heterosexual child–child sexual play prior to puberty than contact offenders, who were, conversely, more likely to have engaged in homosexual child–child sexual play. However, without knowledge of levels of sexual play in the normal population the potential distal influence of childhood sexual play remains a gap in our knowledge of sexual offenders.

Ward and Siegert, in their pathways model, proposed a mechanism through which early sexualization can manifest in inappropriate and/or deviant sexual behavior. They incorporated Gagon's (1990) (Money, 1986) description of *sexual scripts*, whereby internal, interpersonal and cultural (norms, values, rules and beliefs) factors converge to create the individual's knowledge of the nature of sexual behavior, and the procedures and limits of sexual acts and responses. If the development of these cognitive scripts, presumably held in the ITSO perception and memory system and functioning in a similar manner to pro-offending belief schemas, is comprised it can result in distortions (in comparison to normal functioning) in the individual's mental representations of intimate or sexual encounters. These subtle distortions would serve to bias the interpretation of cues and signals associated with sexual encounters, and hence direct sexually relevant behaviors in inappropriate ways (Ward & Siegert, 2002).

Ward and Siegert focused on the effects of childhood sexual abuse on sexual scripts, but there is also scope to suggest that exposure to

pornography too may similarly lead to the creation of inappropriate sexual scripts that involve unrealistic expectations of sexual encounters. Marshall (2000) suggests that though there is no causal link between pornography use and sexual offending, pornography can accelerate psychological processes that are already underway by enhancing cognitive distortions. Additionally, these distortions could also be developed in the context of pornography at any time, not just childhood or adolescent exposure, given that sex offender theory proposes that pro-offending schemas can be developed and maintained during adulthood. These pornography-related deviations in sexual scripts may include inappropriate or unrealistic views on partner selection, the normalization of extreme sexual activities (e.g., deviant or sadistic acts, multiple simultaneous partners), and/or an acceptance of, or perhaps preference for, impersonal sexual contexts. Consequently, these subtle distortions could lead to dissatisfaction with offline sexual activity and encourage an increased use of pornography for sexual gratification. Perhaps rather than focus on the effect of pornography on pro-offending attitudes we should instead concentrate at its effect on these cognitive scripts.

### 3.4. *Proximal factors: problematic internet use*

Perhaps the key proximal factor related to the maintenance of online child pornography access is compulsive, or pathological, use of the Internet itself. As Putnam (2000) notes, people who had not previously been sexually compulsive have developed problems due to a combination of personal vulnerability and proximal factors unique to the online environment. Pathological internet use (PIU) is defined as problematic behavior 'focused on a particular online activity or application, such as online pornography or online gambling' (Davis, Flett, & Besser, 2002: p. 332). Davis (2001) developed a cognitive-behavioral model of PIU whereby PIU results from problematic cognitions coupled with behaviors that intensify and maintain the maladaptive response. Davis' model is a diathesis-stress framework, where existing psychopathological vulnerabilities/neuropsychological problems (see Section 2.3.), such as depression and/or social anxiety (diathesis), are exacerbated by the introduction of a new technology (stressor), in this context internet pornography.

The main proximal factor here is suggested to be a ruminative cognitive style relating to the self, and the world around the individual, that includes the types of problems outlined in Section 2.3., specifically: self-doubt, low self-efficacy, and negative self-appraisal (e.g., 'I'm only good on the Internet'; 'The Internet is the only place I am respected'; 'Nobody loves me offline'). As internet pornography represents an immediate stimulus-response condition from which the individual can obtain and receive reinforcement, the behavioral response becomes stronger. This can lead to obsessive thoughts about the Internet, diminished impulse control as well as social isolation and a loss of interest in offline activities. Other proximal factors typically are seen as perceptions of anonymity and ease of access to pornographic material. While, Davis et al. (2002) suggest that the main proximal factors related to PIU consist of four distinct, but related dimensions: (1) diminished impulse control; (2) acute loneliness/depression; (3) social comfort; and (4) distraction.

Though this represents an in-depth analysis of the problem of compulsive internet use there is a focus on the development of PIU for individuals with psychosocial difficulties. As we have noted, though the Internet may be attractive to people who have difficulty initiating or maintaining relationships, it does not account for the diversity of individuals who might develop PIU, including those who have well-functioning offline lives. We would argue that the strength of Davis' model is in the conditioning process of reinforcement and how this intensifies and maintains behavior, especially in diminishing control over behavioral responses.

In the next section of the paper we will examine how PIU is maintained once it has been established.



### 3.5. Maintenance and escalation of problematic internet use

The ITSO accounts for maintenance and escalation of sexual offending by virtue of its impact on the ecology of the offender and on their psychological functioning. Here, [Ward and Beech \(2006\)](#) suggest that the commission of sexual crime may result in a person becoming further socially isolated from their normal social supports and lowers their chances of forming appropriate intimate relationships. If an individual in this situation also has problems regulating mood, then sex becomes an increasingly a powerful way of regulating problematic emotional states. In other words, the consequences of sexually abusive actions can modify, entrench, or worsen the personal circumstances of an offender and in this way increase or maintain the offending behavior ([Ward & Beech, 2006](#)). In this section we will outline what has been further theorized about the maintenance and escalation of PIU, both by ourselves and others in the field.

#### 3.5.1. The habituation explanation

A potential factor in the maintenance of child pornography offending is the effect of *habituation* – a reduction in arousal levels to the same stimuli over repeated exposures – where, in viewing sexual images, offenders are likely to seek out novel, more extreme images over time to feed their arousal levels. [Zillmann and Bryant \(1986\)](#) suggest that those consumers of general adult pornography drift towards viewing different and more extreme pornography, including “uncommon or unusual sexual practices” (p. 577), such as bondage, sadomasochism and bestiality. [Taylor \(1999\)](#) noted that early research suggested this was the case in internet child pornography use, where newer images appeared to depict younger and younger victims together with increasing severity of sexual abuse. We should also note though, that internet offenders are also typically highly selective about the specific age groups, physical factors, gender, and particular sexual activities depicted in the material they collect ([Howitt, 1995b; Quayle & Taylor, 2002](#)).

Research has been mixed in its support for any habituation effect to sexual stimuli. Some studies have reported that non-offending males exhibit a habituation effect, both physically and subjectively, during repeated exposure to sexually arousing stimuli (e.g., [O'Donohue & Geer, 1985; Koukounas & Over, 1993](#)), and that arousal (physical and subjective) to the same stimuli appears to return to near pre-habituation levels with the introduction of a single novel stimulus, suggesting a shift in attentional focus ([Koukounas & Over, 1993](#)). [Palk and O'Gorman \(2004\)](#), however, report that sexual offenders do not seem to exhibit habituation in sexual arousal responses to erotic stimuli. Additionally, they found that the introduction of a novel response did not increase arousal levels. However, it did elicit an increase in self-reported levels of absorption in fantasy and the vividness of the images. Palk and O'Gorman suggest that this finding indicates that, for sexual offenders, particular sexual fantasies retain a strong erotic valence over time despite continual use.

#### 3.5.2. The Quayle and Taylor model of problematic internet use

[Quayle and Taylor \(2003\)](#) have developed a model of PIU for internet offenders, which we have modified for our own purposes here. In brief, the PIU model suggests that *distal* factors (e.g., early sexualization, poor socialization, attachment problems) and problems arising from difficulties in neuropsychological function (e.g., loneliness; problematic cognitions; dissatisfaction with persona; disinhibition) when coupled with specific *proximal* internet factors (e.g., perceptions of anonymity; ease of access to pornographic material) causes the escalation of PIU.

In the Quayle and Taylor model, social cognition factors, such as increased risk-taking, reduction in offline contact, increased empowerment and validation/normalization, coupled with process factors relating to the Internet (e.g., the acquisition of skills), lead to online sexual behaviors. These can be legal (e.g., cybersex or adult por-

nography) or illegal (e.g., child pornography access and/or online child seduction and procurement). Subsequent engagement with like-minded online communities facilitate such behaviors equip individuals with the skills to avoid detection, while distorted attitudes related to these behaviors are reinforced and remain unchallenged ([Quayle & Taylor, 2003](#)).

Greater use of the Internet, as described in the PIU model, is associated with a decrease in social engagement with the real world (e.g., family members and other social relationships) that represent another material change to the offender's social environment, which may both increase depression and loneliness, and also limits any reality checks on the appropriateness of the behavior. At the same time, engagement with facilitating online communities possibly leads to escalation in behavior from downloading child pornography to the possibility of contact offending – although evidence would suggest that this probably only happens in a minority of cases ([Seto & Eke, 2005; Taylor & Quayle, 2003](#)).

## 4. Offense-process theories

In this section we will describe theory related to sexual offense processes, in particular we will examine [Finkelhor's \(1984\)](#) preconditions model, [Wolf's \(1984, 1985\)](#) cycle, [Eldridge's \(1998\)](#) multi-cycle approach, and [Ward and Hudson's \(1998\)](#) Self-regulation [deficit] model.

### 4.1. Finkelhor's preconditions model

[Finkelhor's \(1984\)](#) preconditions model has possibly, until recent times, been the most widely employed description of the offense process in contact child sexual offenses. In brief, this model suggests that there four steps in the offense process:

- (1) The *motivation to offend* comprises at least one of the four following preconditions: (a) they believe that sex with children is emotionally satisfying (emotional congruence); (b) they are sexually aroused by children; (c) normal sexual outlets have been blocked; and (d) they have become disinhibited and behave in ways that they would not normally;
- (2) *Overcoming the individual's own internal inhibitors* occurs either through temporary processes, such as substance abuse or impulsivity, or through more enduring processes, for example through the development of cognitive distortions justifying the idea of offending;
- (3) *Overcoming external inhibitors* describes the surmounting of external barriers to create the opportunity to abuse a child, typically through grooming. This may involve grooming any combination of the following: (a) a child victim for sexual contact; (b) a caregiver to gain access to a potential victim, or (c) ‘institutionalized’ grooming of professionals working with a particular victim ([McAlinden, 2006](#));
- (4) *Overcoming the resistance of the child*, this final step in the model describes how the offender gains and maintains sexual access to a victim, typically through the use of a combination of the following strategies: threats of violence or gifts; giving/withholding privileges; and desensitization (perhaps through the exposure of the potential victim to pornography).

### 4.2. Wolf's cyclical model of the offense process

Though Finkelhor's model is a clear description of the process of a single sexual offense, offending is more often regarded as a continual process ([Ward et al., 2006](#)) and subsequently [Wolf \(1984, 1985\)](#) developed the *offence cycle*. In Wolf's cycle offenders begin with a negative self-perception that perpetuates the expectation of rejection, and subsequent withdrawal and unassertiveness. To compensate,



Wolf suggests that the offender engages in sexual fantasies (offense rehearsal) as a coping mechanism, which are typically paired with masturbation. Cognitive distortions (distorted attitudes where the offender justifies their behavior<sup>6</sup>) are developed to reduce guilt, and offending is maintained through either the justification of the acts or the acceptance of the wrongness of the act that feeds back into the offender's poor self-image.

#### 4.3. Eldridge's expanded cycle approach

Eldridge (1998) expanded the notion of Wolf's cycle into three distinct types:

- (1) The *continuous* cycle, which involves constant pro-offending thinking and fantasy rehearsal, followed by the targeting and grooming, of a potential victim leading to the offense itself. The offense itself in this model can be seen as reinforcing, and/or the generation of new fantasies. This cycle is only moderated by a fear of being apprehended;
- (2) The *inhibited* cycle (which is more like the Wolf cycle) is described as follows: initial pro-offending thinking, and behavior, is regulated by internal inhibitors until a trigger (typically a justification/excuse of their behavior), leads them to target and groom a victim. Once the offense occurs and fantasy reinforcement begins the offender experiences feelings of guilt and/or fear and these inhibitors return until a relapse occurs;
- (3) The *short-circuit* cycle which is associated with offenders who abuse their own children or have consistent access to the same victim(s). The continuous cycle is in effect and no feelings of guilt and/or fear occur, however, as the offender does not need to target or groom a new victim they move directly from fantasy reinforcement directly into further offending.

All of the above approaches (Finkelhor, Wolf, Eldridge) would suggest that offending occurs as part of a single process based on negative mood states and poor coping strategies, and as such do not account for the clinical reports of differences in *modus operandi* of child sexual offenders (Ward & Hudson, 1998). Hence, some have argued that these models are not rich enough to fully describe the offenses process. Ward and Hudson (1998) have been some of the strongest critics of the 'one size fits all' approach and they consequently developed the Self-regulation model, which is described in the next section.

#### 4.4. Ward and Hudson's Self-regulation model

Ward and Hudson (1998) suggest any complete description should take into account the diversity of sexual offenders. In addition to those individuals described by the cyclical approach a number of individuals offend as a result of positive mood states and some of these will systematically plan their offense. Ward and Hudson expanded the idea of internal inhibition and self-regulation, touched upon in Finkelhor's and Wolf's work, and developed a multiple pathway model based on goal-directed behavior.

In their Self-regulation (S-R) model, Ward and Hudson (1998) suggest that it is possible to classify offenders according to a number of different routes to offending, defined by the individual offender's goal towards sexual offending – either *approach* (acquisitive) or *avoidant* (inhibitory) goals (Cochran & Tesser, 1996) – and the selection of strategies designed to achieve these goals – either active (action taken) or passive (no action taken). The approach goal offender is described as wanting to offend and hence is linked to

positive affective states, coupled with the presence of distorted attitudes (cognitive distortions) about potential victims. The avoidant goal offender is described as not wanting to offend (i.e., having a commitment to restraint) so their overall goal is one of avoidance. Self-regulation deficiencies, however, result in goal failure and so the avoidant pathway is characterized by negative affective states and covert planning. This type of pathway can be seen as being similar to the Wolf description of the offense process.

The interaction between goal and strategy creates four pathways. The *approach explicit* goal offender employs active strategies and is constantly seeking opportunities to offend, and purposefully manipulates their environment to create such offenses. The *approach automatic* offender, although motivated to offend, only does so when the opportunity presents itself and does not employ specific strategies to create opportunities. The *avoidant active* offender takes purposeful action to avoid offending, but employs poor strategies to do so, such as masturbating to fantasies of children, the employment of which produce 'ironic effects' and actually increase risk. The *avoidant passive* offender would prefer not to offend but does nothing to prevent himself from doing so.

In the next section we will examine how useful theories of the offense process are in understanding the processes by which internet offending develops, is established and maintained.

#### 4.5. Theories of the offense process applied to internet offenders

Internet offending, like contact child molestation, is considered to be a dynamic rather than static process, with offenders traversing a range of potential continua (Quayle & Taylor, 2003), and these cyclic offense-process models would intuitively appear to relate to the Internet offense process as it has been described in various studies. As we have outlined above (see Sections 2.3.1. and 2.3.2.), there is certainly evidence to suggest that internet offenders use various online behaviors (which may or may not include the use of child pornography) to address immediate problems relating to interpersonal difficulties and emotional problems and that child pornography images are used to fuel often quite specific sexual fantasies.

Quayle and Taylor's (2003) model of PIU suggests that this leads to problematic cognitions that can lead to the escalation of online behavior. In itself, PIU would relate to the disinhibition described by Finkelhor (1984) as a motivating factor, and makes potentially important distinctions between the motivations of the fantasy-only (sexually attracted to children) and the periodically prurient (disinhibited/impulsive) offenders. PIU also involves similar socio-cognitive factors to those described in Wolf (1984, 1985) and Eldridge's (1998) cyclical descriptions of the offense process, specifically: increased fantasy; increased sexual activity; validation and normalization of what the offenders are doing (the development of cognitive distortions justifying behavior). Internet offenders also appear to display behaviors that suggest the presence of the guilt described in Eldridge's inhibited cycles, as some offenders have reported feeling that the images were distasteful and aversive immediately after masturbating to images (Quayle & Taylor, 2002).

We would particularly note the benefits of applying the S-R model (Ward & Hudson, 1998) to internet sexual offending over cyclical models to explain the processes of such offending. Specifically, in the S-R model the distinction is made between under-regulation/mis-regulation in goal-related behaviors. Passive under-regulation of behavior, with its related disinhibition and impulsive behaviors, is something that is clearly relevant to the internet offender population. In addition, internet offenders have explained their use of the Internet in a very passive manner, often placing the responsibility for their behavior onto the benign technology itself (Quayle & Taylor, 2002). Similarly, active mis-regulation of behavior is also prevalent, as evidenced by those internet offenders often using child pornography, as well as other online behaviors, as a coping mechanism to address

<sup>6</sup> See Section 2.3.3. for a more complete description of this concept.

various shortcomings in their immediate lives, such as boredom, anxiety or depression (e.g., Quayle et al., 2006).

The S-R model's distinction between approach and explicit goals does, however, create difficulties with regard to this population, as it depends on how the crime is defined. The approach taken by Ward and Hudson is that child pornography use represents a maladaptive strategy to avoid contact offending against children, and that fantasy rehearsal and masturbation makes failure to achieve these avoidant goals more likely. However, it is clear that many internet offenders express their sexual interest solely through child pornography, and are unlikely to commit contact offenses. Conversely, many of these offenders actually display approach goal behaviors towards offending, by either actively and deliberately search for images to satiate their sexual desire (our fantasy-only group), or by under-regulating their behavior and offending impulsively or opportunistically (our periodically prurient group).

#### 4.6. Situational explanations of the internet offence process

The distinction between active and passive goals towards offending in either deliberately searching for images (fantasy-only) or responding to online opportunities (periodically prurient) can also be related to Taylor and Quayle's (2006) situational approach to the online offense process. They focused on victim targeting in the offense process and relate this to the online search process and the situational effect of the criminal opportunities it can create. They introduce Cusson's (1993) multi-stage explanation of the criminal process: *search, pre-criminal situations, pre-criminal opportunity, and criminal tactics*. We will now discuss these ideas in more detail:

- (1) The search stage refers to the need for the individual to seek out a pre-criminal situation, which can either involve systematic, deliberate searches (approach explicit), or this may occur through opportunism or chance (approach automatic);
- (2) A *pre-criminal situation* is entered when the potential to commit an offense is present, for example finding an internet site or link that provides access to abusive images of children. The criminal act is then dependent on the responsive actions of the offender. The circumstances surrounding the pre-criminal situation will make the offense less, or more, difficult, and more, or less, profitable;
- (3) Where the perceived payoff outweighs the risk of adverse consequences the pre-criminal situation becomes a pre-criminal opportunity (Cusson, 1993; Taylor & Quayle, 2006). The transition from pre-criminal opportunity to an *online criminal act*, though often preceded by other activities (e.g., entering credit card details), is often reported as being quick and comparatively effortless and is perceived by the offender as apparently 'risk free' (Taylor & Quayle, 2006);
- (4) To commit a crime afforded by a pre-criminal opportunity the offender engages in criminal tactics, the sequence of choices and actions made by the offender.

In this context behaviors are constrained by the physical constraints of the communications technologies being employed, something Taylor and Quayle (2006) call a *constrained behavioral repertoire*. The virtual world is not the same as the offline environment and is bounded by technical limitations that are determined by the core structure of the Internet and the way in which computer applications use those capacities (Taylor & Quayle, 2006). Therefore, online communication becomes a key feature in internet offending, highlighted by the complex online trade social networks that feature in child pornography downloading. These criminal behaviors, if successful, are likely to be repeated in future criminal acts and refined through experience, and this is likely to be particularly related to the search for criminal opportunities online, which appear to act as the rate limiting factor on which the other actions depend (Taylor & Quayle, 2006).

Hence, Taylor and Quayle's (2006) approach provides us with a framework through which we can understand how these active and passive search strategies, designed to meet offense goals, manifest themselves during the online criminal process. In the next section we will examine what the application of theory can tell us about risk assessment of internet offenders.

### 5. Implications for risk assessment

Risk assessment procedures, developed for the assessment of contact offenders, consist of the measurement of those offender characteristics that have been found to be statistically predictive of sexual re-offending, and are typically measured in two forms: (1) *actuarial* assessment; and (2) *clinical* assessment. While such approaches are useful in predicting whether an individual is likely to carry out the same types of behaviors again, such approaches have little to say about escalation of the level of offending behavior, in terms of level of harm, which is a specific concern in the assessment of internet offenders. Typically, along with the risk of further online offenses, assessors also want to know the likelihood of crossing-over from online child pornography use to use of online grooming, and/or offline contact offending. Statistically, internet offenders do not appear to have high rates of recidivism either for online, or offline, offenses (Seto & Eke, 2005; Osborn & Beech, 2006). This could be due to a number of factors, such as individual desistance – perhaps arrest and/or conviction shatter the myth of perceived anonymity that drives malevolent internet use – post-conviction restrictions (e.g., prohibiting computer use), or perhaps a factor of the difficulties in detecting further internet offenses.

We will now briefly discuss the processes involved in actuarial and clinical assessment, before considering the applicability of, and what is missing in, these approaches to the assessment of risk in internet offenders.

#### 5.1. Actuarial risk assessment

Actuarial instruments share a number of characteristics. Each include 'predictor' items (typically historical risk items such as previous convictions, gender of victims, current age) that were selected because they were found to be statistically predictive of further contact sexual re-conviction. A sum of the risk items, some of which may be weighted more heavily than others, produces an overall risk score, and typically a risk level (e.g., low, medium, high, very high)<sup>7</sup>. Individuals who score positively on a number of items typically obtain scores placing them in a high-risk group, individuals who score on some items are placed in a medium-risk group, while individuals who score on only a few items form a low-risk group. In most cases, the scale developers have compiled 'experience tables' from retrospective studies of released sex offenders that indicate future risk, based on the percentage of offenders in each risk category who have recidivated. Hence, a value might be extracted of 45% for a high individual of risk over a 10-year period, which means that the individual is one of 45 out of 100 predicted to recidivate within this time period.

The literature has witnessed a proliferation of such actuarial sex offender risk assessment measures in the last ten 10–15 years. Probably the most well-known, purely actuarial instruments are: Risk Matrix 2000/Sexual (RM2000/S; Thornton et al., 2003); Static-99 (Hanson & Thornton, 2000); Static-2002 (Hanson & Thornton, 2003); and the Rapid Risk Assessment of Sexual Offense Recidivism (RRASOR; Hanson, 1997). Validation studies for these instruments have consistently demonstrated predictive accuracy for contact sexual offenders across both samples and countries, including: Australia (Allan, Dawson, & Allan, 2006); Belgium (Ducro & Pham, 2006); Brazil (Baltieri & de Andrade, 2008); Canada (Kingston, Yates, Firestone,

<sup>7</sup> Risk bands from Risk Matrix 2000 (Thornton et al., 2003).

Babchishin, & Bradford, 2008); Denmark (Bengtson, 2008); Germany (Stadtland et al., 2006); New Zealand (Skelton, Riley, Wales, & Vess, 2006); and the United Kingdom (Craig, Beech, & Browne, 2006).

RM2000 has been found to be a useful measure of risk in internet offenders in the U.K. even though this type of offender was not represented in the original validation of 2-year and 19-year follow-up samples on this measure. However, in the original scoring of RM2000 being a non-contact offender is one of the 'aggravating factor' items in this schedule. Another 'aggravating factor' is whether victims are strangers (which by definition, what most of the images that this type of offender looks at are). In the scoring of RM2000 the presence of two aggravating factors puts the individual up by one risk level (i.e., from low to medium level of risk). Osborn and Beech (2006) found a revised version of RM2000 where these two items were omitted and gave a more realistic level of risk for repeat offending in this group. This, however, may still over-estimate risk in this population as male victims were also scored as an aggravating factor, which, according to the RM2000/S scoring guidelines, is not normally scored for the possession of illegal pornography, unless there is specific evidence that the offender deliberately sought images of males (Thornton, 2007).

Interestingly, Osborn and Beech also observe that only a small number of those offenders who were considered high-risk on the RM2000/S collected images in the highest severity category (Level 5: Sentencing Advisory Panel [SAP], 2002). They note that this suggests that severity of images viewed does not appear to relate to their risk of re-offending, a very pertinent finding as the severity of image is often considered a primary factor in sentencing decisions (e.g., SAP, 2002).

## 5.2. Clinical assessment of dynamic risk factors

Dynamic risk factors are comprised of psychological/situational factors linked to offending, that are amenable to change over time through intervention (i.e., treatment). These items have been further defined by Hanson et al. (2007) into *stable* dynamic and *acute* dynamic risk factors. We will now examine both of these types of dynamic risk factor in internet offenders.

### 5.2.1. Stable dynamic (psychological) risk factors

These are persistent trait characteristics of the offender and can be assessed by STABLE 2007 (Hanson et al., 2007), which covers the following: significant social influences; intimacy deficits; attitudes supportive of sexual assault; co-operation with supervision; sexual self-regulation; and general self-regulation. For our purposes it is useful to note that, Thornton (2002) has suggested that there are, broadly, four domains of dynamic risk: *Domain 1*: [deviant] Sexual interests; *Domain 2*: Distorted Attitudes; *Domain 3*: [problematic] Socio-affective functioning; and *Domain 4*: Self-Management problems. These domains and Hanson and Harris's factors can be seen as broadly similar to the distorted sexual scripts, anti-social cognitions, intimacy deficits and emotional dysregulation pathways described by Ward and Siegert (2002), or the clinical phenomena described in ITSO (as outlined in Section 2.). Hence, theory in general obviously is particularly relevant in understanding the development and maintenance of these dynamic risk factors.

Therefore, assessment of these problems (whether they are called dynamic risk factors, pathways, or clinical phenomena) in internet offenders will be useful in ascertaining the level of risk that a particular type of internet offender presents, or what harm reduction strategies may be put in place to ameliorate risk level. As we have noted in Sections 2.3.1–2.3.4. most internet offenders do display clinically observable deficits in these dynamic areas. In addition, we have found (Elliott, Beech, Mandeville-Norden, & Hayes, 2009; Middleton et al., 2006), that internet offenders often have specific problems in the intimacy deficits or emotional dysregulation domains and that the presence of distorted attitudes, in essence those sexual offense-level cognitive distortions about the nature of harm caused to

victims along with a lack of victim empathy appear to primarily discriminate contact offenders from internet offenders. Hence, careful monitoring of sexual offense-level cognitive distortions is required as an increase in these may indicate whether an internet-only offender is likely to cross-over to commit contact sexual offenses.

We also note, however, that there appears to be a sizeable minority of offenders for whom the stable dynamic risk factors may not apply, and for these offenders those acute factors (see Section 5.2.2.) will need to be carefully assessed.

### 5.2.2. Acute dynamic factors

Hanson and Harris (2000) identified the types of behavior that indicated increased immediate risk in a group of sex offenders under supervision. Here they interviewed the supervising officers of sex offenders who were under supervision when they committed further sexual offenses to find out if there were any overt behaviors that had been noted by the supervisors. From this research Hanson and Harris produced the latest version of their risk assessment procedure, ACUTE 2007 (Hanson et al., 2007), that is used in concert with STABLE 2007. Acute risk factors in this system cover the following areas: victim access; emotional collapse (i.e., evidence of severe emotional disturbance/emotional crisis), collapse of social supports; hostility; substance abuse; sexual pre-occupations, and rejection of supervision. For internet offenders assessors would also need to incorporate related internet-specific acute risk factors, such as *unsupervised computer use*, *inappropriate online searching/sites*, coupled with *heightened sexual arousal*, which relate to victim access and sexual preoccupations. Also, this would need to assess their current levels of PIU (Section 3.4.), which we have noted can cause a decrease in time allocated to offline interests and lead to the potential collapse of appropriate social supports.

### 5.3. Assessing cross-over

Calder (2004) notes that the move from viewing abusive images of children on the Internet to contact offending is a massive one. Sullivan and Beech (2003) similarly suggest that not every offender who masturbates to indecent images of children will inevitably progress to contact sexual offenses, however, the subjective risk of them doing so may increase as the conditional pairing of online fantasy with masturbation and orgasm may lower their inhibitions for doing so (Sullivan & Beech, 2003). Certainly, making the distinction between: (a) the typology of internet offenders; and (b) approach and avoidant goal setting in internet offenders (Section 4.4.) will represent a key issue for the understanding cross-over risk and also represents another area in need of research development for internet offender behavior.

In the next section we will discuss what implications for treatment can be drawn from the consideration of theory in this paper.

## 6. Implications for treatment

The most frequently implemented form of treatment for sex offenders is *relapse prevention* (Pithers, 1990; Pithers, Marques, Gibat, & Marlatt, 1983) utilizing the *risk-need responsivity* (RNR) model (Andrews & Bonta, 2007). This approach has three core principles: (1) *risk* – level of intervention should be linked to risk of re-offending; (2) *need* – intervention should be aimed at the offender's pre-assessed criminogenic need (i.e., dynamic risk factors); and (3) *responsivity* – intervention should be based on cognitive-behavioral therapy (CBT) and tailored to the offender's abilities, motivation, and learning style (Andrews & Bonta, 2007). Since there is evidence to suggest that a large number of internet offenders display these criminogenic needs, the use of SOTPs for sections of the internet offender population would appear to be appropriate. In the majority of countries internet offenders would be required to complete a generic SOTP provided by their prison or regional probation service, potentially



alongside other types of sexual offender (i.e., child molesters, rapists). We would, however, include the caveat that these offenders also have specific problems related to their use of online technologies, and as Middleton et al. (2006) note, the assessment and treatment of this population should be tailored to meet their specific needs.

The U.K. Probation Service recently introduced a specific 'Internet Sex Offender Treatment Program' (i-SOTP) that, in addition to dynamic risk factors, also targets compulsivity, community engagement and online relationships, and collecting behaviors (U.K. National Probation Service, 2005). Similarly, the Lucy Faithfull Foundation (LFF, a U.K. child protection charity) provides an educational program called 'Inform+', for self-referred individuals who have been arrested of a child pornography-related offense but are yet to receive a sentence, or who have not been provided with access to a sex offender treatment program (LFF, 2008). Inform+ targets internet-specific factors, such as compulsion, collecting, and online fantasy.

A recent development in the treatment of sexual offenders is the 'Good Lives' model (GLM-C: Ward & Stewart, 2003; Ward & Gannon, 2006), a positive psychology approach, which suggest that the treatment of risk-need factors is necessary, it is not sufficient to provide complete rehabilitation, and that an individual's strengths also need to be addressed in treatment. Here the GLM-C asserts that humans are active, goal-seeking beings and these actions reflect attempts to achieve *primary human goods* (valued aspects of human functioning). Dynamic risk factors represent markers of obstacles to achieving these human goods, and hence simply seeking to remove/reduce them fails to deal with their inherently flawed strategies towards achieving primary goods.

Use of the Internet to look at child pornography represents such a flawed strategy – a dysfunctional alternative 'good life', providing primary human goods such as *sexual satisfaction, knowledge and mastery experiences* through the acquisition of computer skills, *inner peace* in the form of online escapism, and *relatedness* from online communities. Many internet offenders are often high-functioning individuals who have very specific problems relating to their online persona alone, and can simultaneously be highly successful in other areas of their lives. Hence, a strengths-based approach, concentrating on improving their ability to achieve higher-order goals in an appropriate way, may prove to be a fruitful exercise in the treatment of these individuals.

## 7. Conclusions

In conclusion, the market for child pornography appears to be huge, with a vast amount of illegal images online and a massive audience motivated to consume it. We set out to examine whether the potential for contemporary etiological and offense-process theories of sexual offending be able to explain the extant literature into internet offender behavior, and we suggest that there is a great deal of potential. The extant literature appears to suggest that internet offenders do display clinical symptoms relating to intimacy and social skills deficits, deviant sexual interest, emotional dysregulation and offense-supportive cognitions, and hence there is now potential scope to 'unpack' the biological and neuropsychological assumptions of the ITSO. We would recommend the use of more qualitative approaches to the examination of these clinical constructs to get a more specific understanding of how these relate to the internet offender population. In particular, we do not know what etiological biological factors may be causal to these symptoms given that these offenders do not appear to have highly sexualized childhoods.

Though it would be unwise to dismiss wholesale decades of work developing etiological theory, we do however run the risk that by continually endeavoring to apply sex offender theory to internet offenders we are not capturing the individual qualities of this offense type that could allow us to construct better methods of prevention, assessment and treatment. There appears to be a subset of this

population who do not appear to share the clinical symptoms outlined in etiological theory and our knowledge of these offenders is limited due to a general desire to pigeonhole these offenders into etiological theory. We would suggest that further investigation of the criminological situational factors, specific to the online environment may be important to this understanding.

These appear to have been overlooked in the internet offender literature in favor of more clinical concepts. For example, we have also highlighted the important roles that PIU and habituation to sexual stimuli may have in internet offending, though these are somewhat overlooked in general sex offender theory, given that they are likely to be specific to the online environment as compared to the offline environment in which contact sexual offenses are committed. In addition to this, changes in legislation in a variety of countries reflects the various forms of internet content are now prohibited (e.g., child pornography, extreme pornography, extremist literature) and consequently we may need a comprehensive understanding of general prurient use of the Internet that allows us to understand the motivations and psychological processes involved in accessing all forms of illicit online material.

Overall though, there is a positive message that with a focus on the correct identification of the motivations of an offender, coupled with a small number of specific theoretical additions, current assessment and treatment for internet offenders based on sex offender theory is likely to be appropriate and effective.

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