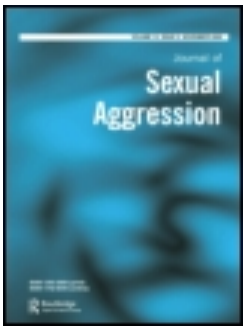

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Internet sexual activity: A comparison between contact and non-contact child pornography offenders

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Abstract *By exploring the internet sexual activity of two groups of adult male child pornography offenders (n = 110), this study sought to identify potential risk factors associated with those offenders who also sexually abused minors. In this endeavour, six areas of internet sexual activity were explored: (1) the level of involvement with child pornography; (2) the level of involvement with non-pornographic material depicting minors; (3) the online seduction of minors; (4) the level of communication with individuals who also have a sexual interest in minors; (5) the level of involvement with adult pornography; and (6) the level of involvement in internet chatrooms related to adults. Results indicated that child pornography offenders are a heterogeneous group. Additionally, dispositional factors related to substance abuse, antisocial orientation and deviant sexual interest and situational factors related to internet sexual activity discriminated child pornography offenders who sexually abused minors from those who did not.*

Keywords *Child pornography; internet sex crimes; internet sex offender; indecent images of children; online predators; child sexual exploitation*

Introduction

As with many of its technological predecessors, there are advantages and disadvantages to the internet. To our advantage, the internet has transformed our culture significantly in the contexts of learning, social discourse and interpersonal relationships. To our disadvantage, however, it has created an environment free of social norms, boundaries and limited controls wherein individuals can engage in criminal behaviour from the comfort of their homes, at work or via any devise (e.g. cellphone or personal digital assistant) that supports internet access. A significant disadvantage of the internet is how it facilitates the pursuit and expression of pathological or deviant sexual interests (Taylor & Quayle, 2003; Young, 2001). In this context, the internet has revolutionized the accessibility of child pornography and facilitated the viewing, downloading, distribution and production of this material. Additionally, it has provided a new forum for adults to have contact with potential sexual abuse victims and has also provided the opportunity for individuals to

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network with others who share their prurient sexual interest in minors (Beech, Elliott, Brigden & Findlater, 2008; Burke, Sowerbutts, Blundell & Sherry, 2002; O'Connell, 2001; Taylor & Quayle, 2003).

In modern society, child pornography on the internet has become a global problem. On an international level, criminal justice agencies are experiencing an influx of cases related to this phenomenon (Elliot, Beech, Mandeville-Norden & Hayes, 2009; Motivans & Kychelhahn, 2007; Webb, Craissatti & Keen, 2007) and, reportedly, these agencies are also experiencing increased difficulties in not only locating the minor victims depicted in child pornography, but also those individuals involved in the production/dissemination of the material (Davidson, 2007). Additionally, the collective concern about child pornography offenders has emerged in the context of their management and their level of dangerousness to the community. Questions have been raised with regard to the extent to which this type of offender is likely to sexually abuse a minor or, conversely, whether their deviant sexual behaviour is confined strictly to the internet. The answers to these questions, however, remain equivocal, as empirical research in this area is extremely lacking.

Characteristics of child pornography offenders

At this juncture, there is no typical profile of the child pornography offender. None the less, according to the literature, these offenders are primarily white, aged between 25 and 50 years, of above-average intelligence and employed (Bourke & Hernandez, 2009; Burke et al., 2002; Webb et al., 2007; Wolak, Finkelhor & Mitchell, 2005). Although Burke et al. (2002) also found that these offenders tended to be in a relationship at the time of their offence(s), Webb et al. (2007) found that 48% of their sample (n = 90) were single and Wolak et al. (2005) found that 41% of their sample (n = 429) were single and had never been married. With regard to a paraphilic diagnosis, Seto, Cantor and Blanchard (2006) reported that the possession of child pornography was a valid indicator of paedophilia. These authors, however, did not specify the level of exclusivity with regard to sexual preference (i.e. sexually attracted primarily to prepubescent children or sexually attracted to both prepubescent children and adults). Galbreath, Berlin and Sawyer (2002) found that 23% of their sample of 39 internet offenders were diagnosed with paedophilia, 8% were diagnosed with voyeurism, 3% were diagnosed with exhibitionism and 49% were diagnosed with paraphilia [not otherwise specified (NOS)]. Antisocial orientation was found significant for child pornography offenders by Seto and Eke (2005) and Foley (2002), although Wolak et al. (2005) and Galbreath et al.'s (2002) findings stand in contrast, as this orientation was not a common characteristic in their offender samples. Sullivan (2005) studied 202 sex offenders in New Zealand, 92% of whom were charged with possession of child pornography. The results of this study revealed that 74.51% of offenders had no criminal history, 4.41% had a history of having sexual contact with a female under the age of 16 and 2.45% had a history of having sexual contact with a male under the age of 16. Foley (2002) found that 50% of his sample (n = 22) had a history of sexual abuse during childhood and Webb et al. (2007) found that 26% of their sample had a similar history. With regard to a history of psychological problems, Webb et al. (2007) found that 41% of their sample had a history of contact with mental health services and Galbreath et al. (2002) found that 21% of their sample had a history of major depression. A history of substance abuse was not found significant for child pornography offenders, as Galbreath et al. (2002) reported that 38% of their sample had no history of this

behaviour, and Webb et al. (2007) reported that 87% of their sample also had no history of substance abuse at the time of the index offence.

Relationship between child pornography and the sexual abuse of minors

The idea of a causal relationship between possessing child pornography and the sexual abuse of minors is not only the basis for child pornography legislation, but also espoused frequently in academic and political discourses (Carr, 2003; Foley, 2000; Kim, 2004). According to Howitt (1995) and Williams (2004), this idea is based on what is known as the "harm thesis" wherein it is perceived as "common sense" that viewing pornography causes men to commit sex crimes. The idea of a causal relationship between both phenomena, however, flies in the face of decades of literature on child sexual abuse—literature which contends that child sexual abuse is a complex phenomenon that is best explained by considering various factors (Finkelhor, 1984; Marshall & Barbaree, 1990; Smallbone, Marshall & Wortley, 2008; Ward, Polaschek & Beech, 2006).

To date, there is a dearth of empirical research exploring the propensity of child pornography offenders to sexually abuse minors, and studies in this area have relied upon self-report or reconviction data of small samples of offenders. Owing to the methodological limitations of these studies, however, caution must be taken when interpreting the results.

By exploring the prevalence of child sexual abuse in the offence histories of convicted child pornography offenders, Bourke and Hernandez (2009) reported on a sample of 155 child pornography offenders who participated in a prison-based sex offender treatment programme. According to the authors, at the time of sentencing 74% of the sample (115) had no known history of child sexual abuse. By the end of their treatment, however, 85% (131) of the sample had admitted to sexually abusing a child on more than one occasion. Additionally, these authors found that offenders who sexually abused children were likely to have multiple victims. Based on information provided by investigators (from all levels of law enforcement) of internet sex crimes involving minors, Wolak et al. (2005) described 40% of a sample of 1,713 child pornography offenders as "dual offenders", i.e. they possessed child pornography and also had a history of sexually abusing minors. Further, these authors found that an additional 15% were dual offenders who had attempted to sexually abuse minors by soliciting undercover agents who posed as minors online. In general, Wolak et al. described 39% of offenders who met their victims on the internet and 43% of offenders who solicited undercover agents as "dual offenders".

By examining recidivism data on 201 offenders over a two-and-a-half-year period, Seto and Eke (2005) found that child pornography offenders who had a history of sexually abusing children prior to their index offence were the most likely to re-offend. Further, the authors found that offenders with only child pornography convictions did not progress to having sexual contact with minors during the follow-up period. Seto and Eke contended that these findings challenged the assumption that all child pornography offenders are at a very high risk to commit offences involving child sexual abuse. Webb et al. (2007) compared 90 child pornography offenders and 118 child molesters and found that while there is a subgroup of child pornography offenders who may recidivate via the internet, there is no evidence to suggest that these offenders would escalate to a contact sex offence. Via websites, Riegel (2004) conducted an anonymous online survey of 290 self-identified "boy-attracted pedosexual males" and found that 84% of respondents reported that viewing erotica depicting boys acted as a substitute for being with an actual child, and 84.5% of

respondents reported that viewing this material did not increase their tendency toward sexually abusing a boy.

Motivation to collect child pornography

Legal and academic discourses contend that child pornography is collected by child sexual abusers and/or paedophiles (Bourke & Hernandez, 2009; Foley 2000). While some researchers have found that individuals seek out pornographic content that is in keeping with their sexual proclivities (Quayle & Taylor, 2002; Seto et al., 2006), other researchers have found that the use of explicit child pornography was the exception among paedophiles (Howitt, 1995), and suggested that the motivation to collect this material be viewed along a continuum (Cooper, McLoughlin & Campbell, 2000; Foley, 2002; Krone, 2004; Lanning 2001; Taylor, Quayle & Holland, 2001). In Howitt's sample of 11 fixated paedophiles, participants expressed actual distaste for child pornography and professed instead a sexual preference for viewing images of non-naked children depicted in magazines, on television programmes and in videos. Based on this, Howitt concluded that sexual stimulation was not based on overt content but instead on what is in the "mind" of the offender.

Lanning (2001) described the motivation to collect child pornography along a continuum which ranges from individuals who "just" collect the material to individuals who collect child pornography, abduct children and sexually abuse children. While Cooper et al. (2000) discussed a continuum in the context of Internet sexuality in general, Krone (2004), Foley (2002) and Taylor et al. (2001) also identified typologies of child pornography offenders based on their motivation to collect this material.

Young (2001) discussed the possession of child pornography from the perspective of "internet-enabled pathology" (hereafter "IEP"). According to Young, IEP contributes to the development of deviant online experimentation. Specifically, what Young is referring to are "cybersex-addicts" who, owing to the habituation process of their addictive cycle, become bored with routine sexual themes. To this end, they seek to satiate their sexual desires by escalating their internet access gradually to sexually inappropriate material, including child pornography, which in turn puts them at risk of arrest. Unlike the paedophile or child molester who may have a sexual interest in children, the "cybersex addict" reportedly accesses child pornography because of poor impulse control and an insatiable sexual appetite. Combined, these factors can impel the addicted individual to spend a great number of hours downloading child pornography, which can result in the possession of a significant number of images/video clips. Moreover, owing to the obsessive quality of their collecting, some addicts, according to Young, go on to divide and subdivide their cache of child pornography into various files according to category (e.g. physical attributes or sexual content). This is akin to what Taylor (1999) described as "the collector syndrome". Reportedly, this syndrome involves the compulsive acquisition of child pornographic material for its own sake, rather than the careful selection of images based on inappropriate sexual arousal.

Other authors have purported that collectors of child pornography, including paedophiles and child molesters, use this material as a method of escape, to relieve sexual tension and/or to indulge their fantasy (Calcetas-Santos, 2001; Carter, Prentky, Knight, Vanderveer & Boucher, 1987; Krone, 2004). For these collectors, child pornography leads no further than masturbation. Despite Carter et al.'s (1987) finding that child molesters were significantly more likely to use child pornography both prior to and during their offences, they also found that child molesters used pornography to relieve the impulse to act out (i.e. sexually abuse a child)—a notion the authors referred to as the "Catharsis Hypothesis". Based on this

hypothesis, it would appear that the use of child pornography may actually prevent child sexual abuse.

The purpose of the current study was to explore the internet sexual activity of two groups of child pornography offenders in order to identify potential risk factors associated with those offenders who have a history of sexually abusing a minor. Initially, a demographic profile of both groups was explored via a descriptive analysis. Both groups were compared across six areas of internet sexual activity: (1) the level of involvement with child pornography; (2) the level of involvement with non-pornographic material depicting minors; (3) the online seduction of minors; (4) the level of communication with individuals who also have a sexual interest in minors; (5) the level of involvement with adult pornography; and (6) the level of involvement in internet chatrooms related to adults. In the context of risk, these areas were considered relevant for a variety of reasons. First, research in this area has suggested that an offender's involvement with child pornography be viewed along a continuum (Cooper et al., 2000; Foley, 2002; Krone, 2004; Lanning, 2001; Taylor et al., 2001). Second, there is a noteworthy gap in the literature with regard to the extent to which child pornography offenders use non-pornographic depictions of minors in the offending process. And third, comparing internet sexual activity involving minors to that of adults reflects relative sexual interest and it has been argued that unlike absolute measures, relative measures are more useful as they consider individual differences (Seto, 2008).

Method

Participants

From archival information, records on 107 adult male sex offenders served as the data source for this study. These offenders were evaluated and participated in sex offender treatment at the New York Center for Neuropsychology and Forensic Behavioral Science (hereafter "New York Forensic"). New York Forensic is a private practice that has been evaluating and treating sex offenders for the past 14 years. Offenders are referred to this practice by various sources, including Federal and State agencies, Child Protective Services (ACS), Family Court and private attorneys. Offenders participating in the sex offender treatment programme at New York Forensic submit initially to a comprehensive psychosexual evaluation, which includes a review of records, a clinical interview, an Abel Assessment and self-report questionnaires pertaining to sexual history both offline and online. The sex offender treatment programme employs a cognitive–behavioural orientation and subscribes to the "containment approach" with regard to the management of offenders in the programme. All offenders undergo random clinical polygraphs throughout treatment unless specified otherwise by the referral source. Polygraphs are conducted by an examiner who is qualified in post-conviction sex offender testing (PCSOT) standards as per the American Polygraph Association.

Records for this study were selected based on two criteria: (1) an offender history of or conviction for possessing child pornography—possession of this material was also assumed if an offender had a conviction for distribution or receipt of child pornography; and (2) an offender passed a polygraph concluding that he either had or did not have a history of sexually abusing a minor. Additionally, offenders who admitted to having a history of sexually abusing a minor, without polygraph testing, were included.

Based on the records, offenders in this sample were predominantly white (82.2%) and ranged in age between 18 and 72 years [mean = 39 years, standard deviation (SD) = 12.9 years]. With regard to having a history of sexually abusing a minor, 79.4% ($n = 85$) passed a polygraph test in relation to this issue, 8.4% ($n = 9$) failed but admitted to sexually abusing

a minor and 12.1% ($n = 13$) did not take a polygraph test but also admitted to sexually abusing a minor.

Procedure

Once records were selected, they were divided into two groups: non-contact offenders ($n = 56$) and contact offenders ($n = 51$) based on offender history or conviction of sexually abusing a minor. Sexual abuse (dependent variable) was defined as any direct physical contact with a minor for the purpose of sexual gratification. For the purpose of this study, seemingly innocuous frottage (e.g. rubbing against a minor on a crowded train) was not considered sexual abuse, as reports were not consistently clear about the intent of the behaviour.

Paedophilia was diagnosed if an offender met the criterion for such diagnosis as per the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV; APA 1994). Determination of whether an offender met this criterion was based on a combination of objective testing (with the Abel Assessment), self-report with regard to sexual interest and sexual history (both online and offline) and record review with regard to personal and sexual history. Similarly, the exclusivity of an offender's paedophilic interest was determined based on a combination of the aforementioned sources of information. For example, an offender was diagnosed with an exclusive sexual interest in children if he demonstrated a greater response to prepubescent children than to adults on the Abel Assessment, he reported a sexual interest in prepubescent children and he had a marked absence of any long-term relationships with age-appropriate partners.

There were six independent variables in this study, which were defined as follows:

1. Involvement with child pornography beyond possession: a history of one or more of the following: trading child pornography, downloading child pornography to an external medium, paying for child pornography, concealing child pornography collection, organizing child pornography collection and posting child pornography to newsgroups/bulletin-boards.
2. Use of non-pornographic material depicting minors: a history of viewing child modelling websites or erotic stories involving minors.
3. Online seduction of minors: a history of one or more of the following: chatting online in a sexual manner with a minor, sending child pornography to a minor; sending adult pornography to a minor or attempting to meet with a minor after chatting online.
4. Communicating with other individuals who have a sexual interest in minors: a history of one or more of the following: either communicating online or in person with another individual who has an interest in child pornography or an interest in sexually abusing a minor.
5. Level of involvement with adult pornography: history of trading or paying for adult pornography.
6. Level of involvement in internet chatrooms related to adults: history of one or more of the following: cybersex with adults, attempting to meet with adults from the internet, or meeting with adults from the internet.

Additionally, size of internet pornography collection, both child and adult, as well as time spent viewing internet pornography, both child and adult, was compared for both groups.

Results

The sample comprised 107 child pornography offenders. Demographic characteristics for the whole sample are presented in Table I. The majority of the offenders were white (82.2%) and the average age was 39 years (mean = 39 years, SD = 13). More than half the offenders (55.1%) were single and had never married. More than one-third (35%) took some college courses with 22% completing undergraduate school and 10% completing graduate school. With regard to a history of childhood abuse, fewer than 15% had a history of physical abuse and fewer than 20% had a history of sexual abuse. A history of drug abuse was evident for 27% of the offenders and 21% also had a history of alcohol abuse. Mental health problems were evident for approximately one-third of the offenders, with 29% evidencing a history of depression and 35% evidencing a history of anxiety. With regard to antisocial orientation, 14% of the offenders had more than one conviction for a sexual crime and 21% had a conviction for a non-sexual crime. A little more than half the offenders (52%) received a diagnosis of paedophilia and of those, 26% were found to be attracted to females, non-exclusive type (i.e. they were also sexually attracted to adult females).

Table I. *Demographic characteristics of child pornography offenders (n = 107)*

Variables	%	*n*
Age	Mean = 39	SD = 13
Race		
White	82	(88)
African American	4	(4)
Hispanic	11	(12)
Marital status		
Single, never married	55	(59)
Married	17	(18)
Divorced	16	(17)
Education		
High school	16	(17)
Some college	35	(37)
BA/BS	22	(23)
MA/MS	10	(11)
Childhood abuse		
Physical abuse	13	(14)
Sexual abuse	17	(18)
Substance abuse		
Alcohol	21	(22)
Illicit drugs	27	(29)
Mental health problems		
Depression	29	(31)
Anxiety	35	(37)
Antisocial		
Prior conviction for a sex crime	14	(15)
Prior conviction for a non-sex crime	21	(22)
Paedophilia		
Exclusive females	6	(6)
Exclusive males	6	(6)
Non-exclusive females	26	(28)
Non-exclusive males	9	(10)
Non-exclusive females/males	5	(5)

SD: standard deviation.

Comparative demographic characteristics of non-contact and contact offenders

A comparative analysis of demographic characteristics for both groups is presented in Table II. There was no statistically significant difference in age between non-contact (mean = 38, SD = 13) and contact (mean = 41, SD = 13) offenders. Similarly, there was no statistically significant difference with regard to the age at which non-contact (mean = 34, SD = 13) and contact (mean = 33, SD = 14) offenders began viewing internet child pornography. Additionally, there was no statistically significant difference between groups with regard to other demographic characteristics such as race/ethnicity, marital status, educational attainment and history of childhood abuse.

Table II. *Comparative demographic characteristics of non-contact and contact child pornography (CP) offenders*

Variables	Non-contact ($n = 56$) %	n	Contact ($n = 51$) %	n
Age at time of index offence	Mean = 38 SD = 13		Mean = 41 SD = 13	
Age when first viewed CP	Mean = 34 SD = 13		Mean = 33 SD = 14	
Perpetration of sexual abuse prior to CP (for contact offenders)				
Yes			84	
No			16	
Race				
White	75	(42)	90	(46)
African American	4	(2)	4	(2)
Hispanic	16	(9)	6	(3)
Marital status				
Single, never married	50	(27)	62	(31)
Married	17	(9)	16	(8)
Divorced	19	(10)	12	(6)
Education				
High school	11	(6)	22	(11)
Some college	46	(26)	22	(11)
BA/BS	18	(10)	26	(13)
MA/MS	11	(6)	10	(5)
Childhood abuse				
Physical abuse	9	(5)	18	(9)
Sexual abuse	11	(6)	24	(12)
Substance abuse				
Alcohol	18	(10)	24	(12)
Illicit drugs*	16	(9)	40	(20)
Mental health problems				
Depression	30	(17)	28	(14)
Anxiety	27	(15)	43	(22)
Antisocial				
Prior conviction for a sex crime**	4	(2)	26	(13)
Prior conviction for a non-sex crime	14	(8)	28	(14)
Paedophilia**				
Exclusive females	2	(1)	10	(5)
Exclusive males	2	(1)	10	(5)
Non-exclusive females	32	(18)	20	(10)
Non-exclusive males	0	(0)	20	(10)
Non-exclusive females/males	2	(1)	8	(4)

*$p < 0.01$; **$p < 0.001$. SD: standard deviation.

Differences between groups were statistically significant, however, in the areas of drug abuse history, criminal history and deviant sexual interest. Contact offenders were more likely than non-contact offenders to have a history of drug abuse ($\chi^2_{(1)} = 7.32$, $p < 0.01$), have more than one conviction for a sexual crime ($\chi^2_{(1)} = 10.64$, $p < 0.001$) and receive a diagnosis of paedophilia ($\chi^2_{(5)} = 25.47$, $p < 0.001$).

A comparative analysis of non-contact and contact group differences on key variables is presented in Table III.

Involvement with child pornography

Contact offenders were more likely than non-contact offenders to masturbate to child pornography ($\chi^2_{(1)} = 13.13$, $p < 0.001$) and download child pornography to an external medium (i.e. other than the computer hard drive) ($\chi^2_{(1)} = 6.00$, $p < 0.05$). No statistically significant differences emerged between groups when each of the other variables—trading, paying for, concealing, organizing child pornography—were examined. When these variables were combined as an indication of severity, however, and the mean for both groups were compared (non-contact mean = 2, SD = 1; contact mean = 4, SD = 2), results indicated that offenders who engaged in a combination of these behaviours were more likely to be part of the contact group ($t_{(60)} = -2.644$, $p < 0.01$).

Use of non-pornographic media

Contact offenders were more likely than non-contact offenders to view child modelling websites ($\chi^2_{(1)} = 6.37$, $p < 0.05$), with 17 (53%) contact offenders viewing these websites

Table III. *Comparative analysis of non-contact and contact group differences on key variables*

Variables	Non-contact ($n = 56$) %	*n*	Contact ($n = 51$) %	*n*
Involvement with CP				
Masturbation to CP***	51	(22)	91	(29)
Downloaded CP to external medium*	44	(15)	76	(19)
Traded CP	36	(20)	53	(27)
Paid for CP	29	(11)	36	(9)
Concealed CP	28	(11)	41	(13)
Organized CP	20	(8)	25	(8)
Posted CP to newsgroups/BBs	5	(2)	9	(3)
Use of non-pornographic media				
Child modelling*	24	(10)	53	(17)
Erotic stories*	21	(8)	52	(13)
Online seduction of minors				
Chat with minor***	28	(13)	74	(29)
Sent CP to minor***	0	(0)	28	(9)
Sent AP to minor*	5	(2)	22	(7)
Attempted to meet with minor*	16	(9)	35	(18)
Communication with others online				
Online***	11	(4)	50	(12)
In person**	3	(1)	28	(7)

*$p < 0.05$; ** $p < 0.01$; ***$p < 0.001$. AP: adult pornography; CP: child pornography.

compared to ten (24%) non-contact offenders. Additionally, contact offenders were more likely to view erotic stories involving minors ($\chi^2_{(1)} = 6.50$, $p < 0.05$), with 13 (52%) contact offenders viewing these stories compared to eight (21%) non-contact offenders.

Online seduction of minors

Contact offenders had significantly more involvement with minors online than non-contact offenders. As such, contact offenders were more likely than non-contact offenders to chat online in a sexual manner with minors ($\chi^2_{(1)} = 18.60$, $p < 0.001$), send child pornography ($\chi^2_{(1)} = 12.26$, $p < 0.001$) and adult pornography ($\chi^2_{(1)} = 4.28$, $p < 0.05$) to minors online and attempt to meet with a minor ($\chi^2_{(1)} = 7.319$, $p < 0.01$) with whom they had chatted with online.

Communication with others online

Contact offenders were more likely than non-contact offenders to communicate both online ($\chi^2_{(1)} = 12.00$, $p < 0.001$) and in person ($\chi^2_{(1)} = 8.80$, $p < 0.01$) with others who shared their deviant sexual interest in minors and child pornography. Twelve (50%) contact offenders communicated online and seven (28%) communicated in person, whereas four (11%) non-contact offenders communicated online and one (3%) communicated in person.

Involvement with adult pornography

Even though the percentage of offenders trading adult pornography online was higher for contact offenders (63% versus 42% for non-contact offenders), there was no statistically significant difference between groups with regard to this behaviour ($\chi^2_{(1)} = 3.18$, $p < 0.07$). Similarly, even though the percentage of offenders paying for adult pornography online was slightly higher for contact offenders (40% versus 38% for non-contact offenders), there was no statistically significant difference between groups with regard to this behaviour ($\chi^2_{(1)} = 0.026$, $p < 0.87$).

Accessing adult chat rooms

A statistically significant difference emerged between groups with regard to engaging in cybersex with adults ($\chi^2_{(1)} = 6.33$, $p < 0.05$). Interestingly, contact offenders (83%) were

Table IV. *Comparative analysis of non-contact and contact group differences on key variables*

Variables	Non-contact ($n = 56$) %	*n*	Contact ($n = 51$) %	*n*
Involvement with AP				
Trade AP	42	(17)	63	(20)
Paid for AP	38	(14)	40	(8)
Access adult chat rooms				
Had cybersex with adult*	58	(28)	83	(34)
Attempted to meet with adult for sex	16	(6)	34	(11)
Met with adult for sex	13	(5)	31	(10)

*$p < 0.05$. AP: adult pornography.

Table V. *Comparative analysis of mean differences for non-contact and contact child pornography (CP) offenders on pornography variables.*

Variables	Non-contact ($n=56$) Mean	SD	Contact ($n=51$) Mean	SD
Size of pornography collection				
CP images	782	1308	2674	8272
CP video clips	43	106	206	565
CP images and cp video clips	856	1441	3399	9166
AP images	51398	196268	630	1228
AP video clips	159	279	65	87
AP images and AP video clips	53509	2	798	1380
Ratio of CP to AP possession*	0.4167	0.3117	0.6275	0.3018
Time spent viewing pornography				
CP (hours/week)	10	12	10	12
AP (hours/week)	7	13	12	13
CP and AP (hours/week)	18	20	24	18

*$p < 0.05$. AP: adult pornography.

more likely than non-contact offenders (58%) to engage in this behaviour. No statistically significant differences emerged between groups, however, with regard to attempting to meet or meeting with adults (from the internet) for sex.

Group difference in relation to pornography collection and time spent viewing this material

Size of pornography collections (both child and adult) varied a great deal for both offender groups and was significantly positively skewed, which precluded the use of parametric statistics (several methods were attempted to transform these variables; however, normalization could not be achieved). Half the non-contact offenders had a child pornography collection that was 252 or fewer (range = 3–5,500, mean = 856, median = 252), while half the contact offenders had a child pornography collection that was 750 or higher (range = 12–50,150, mean = 3,399, median = 750). Additionally, half the non-contact offenders had an adult pornography collection that was 825 or higher (range = 0–1,000,000, mean = 53,509, median = 825), while half the contact offenders had an adult pornography collection that was 300 or fewer (range = 0–5,200, mean = 798, median = 300). Given this, both groups were compared using a Mann–Whitney *U*-analysis (a non-parametric test). In relation to size of adult pornography collections, no statistically significant difference emerged between contact offenders (mean rank = 33.35, n = 20) and non-contact offenders (mean rank = 26.65, n = 37) $Z(57) = -1.60$, $p < 0.11$). In relation to size of child pornography collections, however, a statistically significant difference emerged between groups (contact offenders: mean rank = 36.80, n = 25; non-contact offenders: mean rank = 23.97, n = 33; $Z(58) = -3.0$, $p < 0.01$). Based on the latter, contact offenders were found to have larger child pornography collections than non-contact offenders.

Proportionately, when the ratio of possessing child pornography to adult pornography was examined for both offender groups, a significant difference emerged for contact offenders ($t_{(46)} = -2.341$, $p = 0.05$). Based on this result, it appears that for these offender groups, it is not the size of the child pornography collection that is significant but instead the proportion of child pornography to adult pornography in a collection. Individuals who possessed more child pornography in relation to adult pornography were more likely to be in the contact group.

There were no statistically significant differences between contact and non-contact offenders with regard to the amount of time spent per week viewing child pornography, adult pornography and/or pornography in general. Both offender groups spent the same amount of time per week viewing child pornography; however, it appears that contact offenders spent more time per week than non-contact offenders viewing adult pornography (mean = 12; SD = 13 versus mean = 7; SD = 13) and pornography in general (mean = 24, SD = 18 versus mean = 18; SD = 20).

Discussion

By comparing two groups of child pornography offenders (contact and non-contact), this study sought to identify potential risk factors associated with child pornography offenders who had a history of child sexual abuse (i.e. "contact" offenders). The study was successful in this endeavour, as it found that contact offenders differed from non-contact offenders in various areas. That is, contact offenders were more likely to have a history of illicit drug use and a history of more than one conviction for a sexual crime. Moreover, contact offenders were more likely to receive a diagnosis of paedophilia, which is in contrast to the finding of Seto et al. (2006). In relation to being diagnosed with paedophilia, Seto et al. (2006) found no difference between non-contact and contact child pornography offenders. The diagnostic criterion for paedophilia that was used by Seto et al. (2006), however, differed from that used in this study, as did the method of measuring whether offenders met such criterion.

It is worth noting that of the 68% of contact offenders who received a diagnosis of paedophilia, only 20% were found to have an exclusive sexual preference for prepubescent minors. The remaining 48% were found to also have a sexual preference for adults. This finding is of interest, as it suggests that not all individuals who possess child pornography have a primary sexual interest in minors even when those who have a history of sexually abusing minors is considered.

It is well documented that sex offenders use the internet to groom and meet potential victims, as well as network with others who share similar deviant sexual interests (Beech et al., 2008; Burke et al., 2002; Krone, 2004; O'Connell, 2001; Sheldon & Howitt, 2007; Taylor & Quayle, 2003). Given this, it was not surprising that these factors were instrumental in distinguishing between groups in this study. In support of the literature, contact offenders in this study were more likely than non-contact offenders to use the internet to locate potential sexual abuse victims and engage in grooming behaviour by sending (via the internet) both child and adult pornography to potential victims. Similarly, contact offenders were more likely to network with others (both online and offline) who shared similar deviant sexual interests.

Size of child pornography collection emerged as a distinguishing factor between groups, with contact offenders reporting a larger collection of this material. This result, however, needs to be interpreted with caution given the limitations of this study. Additionally, it should be noted that in no way does this result support the use of the size of an offender's child pornography collection as a factor when determining sentencing or level of risk to the community. In some states in the United States, this factor has an impact upon sentencing and level of risk with regard to registration (Klain, Davies & Hicks, 2001; Velázquez, 2008). For states wherein this is the case, sentences can range from one year in prison (e.g. Connecticut) to 30 years (e.g. Tennessee), and it can also be the difference between low and medium risk with regard to registration which results in a significant difference in community restrictions and notification (Velázquez, 2008).

The results of this study found that contact offenders could be distinguished from non-contact offenders by the ratio of child pornography to adult pornography in their collections as well as their use of non-pornographic material depicting minors (i.e. accessing child modelling websites and online erotic stories of minors). These results suggest that during the investigative process of child pornography cases, specifically as it relates to the forensic analysis of an offender's computer, it is of equal importance to attend to an offender's level of involvement with adult pornography and non-pornographic material depicting minors. Given that the determination of an offender's relative sexual interest is a key element when considering treatment goals as well as level of risk to the community, this information would prove invaluable. In keeping with the literature on child pornography offenders, this study supports the description of these offenders as a heterogeneous group (Galbreath et al., 2002; Seto & Eke, 2005; Wolak et al., 2005). Further, it is apparent that not all child pornography offenders have a history of sexually abusing a minor (as confirmed by polygraph testing), which raises doubts in relation to the assumption that these offenders are automatically at high risk for the perpetration of child sexual abuse. Additionally the results of this study dispel the notion of a causal relationship between possessing child pornography and child sexual abuse, as the majority of contact offenders (84%) reportedly sexually abused a minor prior to possessing this material.

In the context of risk, the suggestion that the use of child pornography be viewed along a continuum (Cooper et al., 2000; Foley, 2002; Krone, 2004; Lanning, 2001; Taylor et al., 2001) is supported by this study. Contact offenders were more likely to masturbate to child pornography and save the material to an external medium. Additionally, offenders who engaged in a combination of activities such as trading, paying for, concealing and/or organizing child pornography were also more likely to be part of the contact group.

In keeping with the literature on child sexual abuse, the results of this study support the notion that child sexual abuse is a complex phenomenon that is best explained by considering various stable dispositional, transitory dispositional and situational factors (Finkelhor, 1984; Marshall & Barbaree, 1990; Marshall, Serran & Marshall, 2006; Smallbone et al., 2008; Ward & Siegert, 2002; Ward et al., 2006; Wortley & Smallbone, 2006). Drawing upon the literature of Smallbone et al. (2008) and Wortley & Smallbone (2006), this study was instrumental in identifying both dispositional and situational factors as they pertain to the internet sexual activity of child pornography offenders who sexually abuse minors.

Limitations

Although group differences were noteworthy, there are a number of limitations to this study. First, the analysis in this study is based on a sample of convenience. That is, the data source included information only on community-based child pornography offenders who were known to the criminal justice system and evaluated by an outpatient sex offender programme. This may compromise the generalizability of the results, as the information on the offenders included in this study may not be representative of child pornography offenders as a population. Information on incarcerated child pornography offenders, offenders who are unknown to the criminal justice system or non-clinical offenders may differ. Second, the data source used in this study was collected for evaluation purposes and not collected specifically for this study. Thus, there was limited control over how the data were collected and the variables included in this study were contingent upon existing data. And third, even though statistical significance was detected between groups despite the sample size, a larger sample size would allow ideally for logistic regression analysis to help tease out the effects of the

demographics and offender types. It is recommended that future studies in this area consider these limitations.

In conclusion, this study makes a significant contribution to our limited knowledge about child pornography offenders and their internet sexual behaviour. To date, few studies in this area have compared two groups of child pornography offenders (non-contact and contact) in an attempt to identify potential risk factors associated with child pornography offenders who also have a history of sexually abusing a minor. It is apparent from the results of this study that possessing child pornography, by itself, is not a causative factor in the perpetration of child sexual abuse and thus other factors need to be considered when evaluating the dangerousness of these offenders, their treatment planning and their supervision in the community. The results of this study underscore the need to view child pornography offenders as a heterogenous group, as it is further apparent that there is a subgroup of these offenders who could be considered at low risk to the community, given that their behaviour does not extend beyond collecting this material.

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