Psychological Profiles of Internet Sexual Offenders

Comparisons With Contact Sexual Offenders

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A sample of 505 Internet sex offenders and 526 contact sex offenders were compared on a range of psychological measures relating to offense-supportive beliefs, empathic concern, interpersonal functioning, and emotional management. Internet offenders could be successfully discriminated from contact offenders on 7 out of 15 measures. Contact offenders were found to have significantly more victim empathy distortions and cognitive distortions than Internet offenders. Internet offenders were found to have significantly higher identification with fictional characters than contact offenders. Further analysis indicated that an increase in scores on scales of fantasy, underassertiveness, and motor impulsivity were predictive of an Internet offense type. An increase in scores of scales of locus of control, perspective taking, empathic concern, overassertiveness, victim empathy distortions, cognitive distortions, and cognitive impulsivity were found to be predictive of a contact offense type. These findings are discussed in the context of the etiology of sexual offending.

Keywords: *Internet; child pornography; psychological profiles; etiology; etiological
             pathways*

Introduction

The use of the Internet to view sexually abusive images of children is a politically and emotionally salient problem in modern society. The number of abusive images

of children available on the Internet at any one time is difficult to quantify (Taylor & Quayle, 2003), but the international policing agency Interpol stated that as of October 2007, their Child Abuse Image Database contained more than 512,000 images submitted from 36 member countries (Interpol, 2007). The steady flow of court cases involving online child pornography in both the United Kingdom and the United States certainly suggests a relatively high level of activity by users seemingly insensitive to the risk of detection (Taylor & Quayle, 2006). In the United Kingdom, assessment and treatment tools for individuals convicted of Internet child pornography crimes tend to be based on the adaptation of generic programs for sex offenders that target dynamic risk factors that are assumed to be as relevant for Internet offenders as other forms of sexual offending (Middleton, 2004). These dynamic, trait vulnerabilities are identified as interpersonal functioning, deviant sexual arousal, general self-regulation problems, and offense-supportive cognitions (Beech, 1998; Beech & Ward, 2004; Hanson & Harris, 2000; Thornton, 2002). These four sets of clinical phenomenon also form the basis of Ward and Siegert's (2002) pathways model of the etiology of child sexual abuse.

Ward and Siegert's (2002) model followed a series of systematic critiques of three previous models of sexually offensive behavior: Finkelhor's (1984) preconditions theory, Marshall and Barbaree's (1990) integrated theory, and Hall and Hirschman's (1992) quadripartite model, "knitting together" the best elements of each to develop one comprehensive multifactorial theory. The model proposes that there are four distinct clinical pathways, each with a characteristic array of mechanisms derived from various developmental experiences, that when coupled with environmental factors create vulnerability conducive to the commission of a sexual offense: (1) intimacy deficits—where insecure attachment styles result in low self-efficacy, critical self-evaluation, and poor interpersonal dependence, in turn leading to social isolation, loneliness, and personal dissatisfaction; (2) deviant sexual scripts—where early learning experiences result in the acquisition of faulty cognitive representations of how to behave in sexual encounters, leading to deviant sexual fantasies and arousal; (3) emotional dysregulation—where problematic early social encounters result in difficulties identifying and modulating negative emotional states and the use of maladaptive coping strategies; and (4) antisocial cognitions—where underlying causal schemata used to infer mental states and interpret and predict behavior are faulty, resulting in offense-supportive belief systems in relation to their actions and their victim(s) that justify and maintain behavior (Ward, Polaschek, & Beech, 2006). A sexual offense will necessarily involve the interaction between combinations of the four clinical phenomena, with the most dominant pathway representing the core primary deficit (Ward & Sorbello, 2003). A fifth pathway, multiple dysfunctional mechanisms, contains individuals who have developed distorted sexual scripts coinciding with dysfunctions in all of the other primary psychological mechanisms. This group is likely to exhibit a multitude of offending behaviors and constitute "pure pedophiles" (Ward et al., 2006).

Though these constructs are, to some extent, still only assumed to be relevant to Internet offenders, the extant research on this offender group does appear to suggest that a four-construct clinical approach warrants closer analysis. Middleton, Elliott, Mandeville-Norden, and Beech (2006) examined the applicability of the Ward and Siegert (2002) pathways model by manually assigning a sample of 72 Internet offenders to one of the four pathways based on selected psychological self-report assessments. They found they could assign 60% of their sample to the model, with the majority being assigned to the intimacy deficits or emotional dysregulation pathways.

Those with intimacy deficits were described as having low expectations of the efficacy of initiating and maintaining age-appropriate relationships and accessed child pornography at times of loneliness and dissatisfaction. This creates a form of pseudo-intimacy, whereby the images represent a less fearful and accepting "part-ner" and circumvent problems initiating appropriate sexual relationships. These maladaptive cognitions about the self, such as low self-efficacy and negative self-appraisal, can also lead to problematic use of the Internet in general, especially for individuals who have problems obtaining face-to-face social contact (Davis, 2001). The anonymity provided by the lack of face-to-face communication on the Internet may function to lessen social risk and will have a powerful disinhibiting effect on users (Morahan-Martin & Schumacher, 2000), and within these social contexts, offenders are able to normalize their activities and legitimize their orientations and behaviors (Durkin & Bryant, 1999; Quayle & Taylor, 2002).

Those with emotional dysregulation problems were described as lacking control during periods of strong negative mood states, which when coupled with deviant sexual desire could lead to the use of pornography (in this context child pornogra-phy) as a mood-alleviating strategy (Middleton et al., 2006). Prolonged use of the Internet in general is believed to have mood-alleviating functions and represents a world over which they have a perceived sense of control (Kennedy-Souza, 1998). Quayle, Vaughan, and Taylor (2006) provided a comprehensive review of the effects of emotional states on Internet offending and stated that "clearly for some offenders, but not all, accessing images on the Internet may function as a way of avoiding or dealing with difficult emotional states" (p. 10).

The Middleton et al. (2006) study, however, had some limitations. It was assumed that the psychological measures used were measuring constructs relevant to Internet offenders and that they can discriminate between Internet offenders and other types of sex offenders. Their rationale for pathway selection was such that offenders who displayed deficits indicative of either two or three pathways simultaneously were excluded from analysis. They did not include a measure of accountability, leaving their analysis limited by the possibility of the respondents responding to questions in a socially desirable manner (Hammond, 2004). Finally, though other studies have stressed the importance of both of these constructs in Internet offenders, Middleton et al. found little evidence of deviant arousal or cognitive distortions.

For example, Howitt and Sheldon (2007) reported that cognitive distortions are held by the majority, or at least a substantial minority, of both Internet and contact offenders. Cognitive distortions characteristic of Internet offenders appeared to be those related to the notion that sexual fantasies and images were not directly harmful (e.g., "Having sexual thoughts and fantasies about a child isn't all that bad because at least it is not really hurting the child"). Internet offenders were also more likely to endorse some cognitive distortions regarding the sexual sophistication of children (e.g., "Some children are willing and eager to be involved in sexual activities that are with, and for, adults"). Similarly, the use of child pornography as a means to achieving sexual arousal has been found to be an important function in Internet offending. Internet offenders are often highly selective about the images that they access in terms of age, gender, physical types, and the activities depicted, and these selections typically correspond to preexisting sexual fantasies (Quayle & Taylor, 2002). Seto, Cantor, and Blanchard (2006) reported that child pornography offenses are a stronger diagnostic indicator of pedophilic sexual arousal than offending against a child. Child pornography offenders, regardless of whether or not they had previous convictions for contact offenses, were significantly more likely to be identified as showing a pedophilic pattern of sexual interest than a combined group of contact offenders.

The current study had two aims. The first was to evaluate the assumption that Internet and contact offenders share similar clinically observable deficits, based on those outlined in the Ward and Siegert (2002) pathways model, using psychological self-assessment measures. Internet and contact offenders were compared on a series of offense-specific, socio-affective, and accountability measures. The second aim was to examine whether or not scores on these self-report measures could predict whether an individual was convicted of either an Internet offense or a contact offense. Our specific hypotheses were (a) that there will be no significant differences on the psychological scales between the two groups and (b) that we would be able to successfully create a statistical model that can predict offense type from a combination of these scores.

Method

U.K. National Probation Service Treatment Programs

As part of the presentence report (PSR) stage of their contact with the U.K. Probation Service, each offender is assessed on their suitability for either the Community Sex Offender Groupwork Program (C-SOGP) or the Internet Sex Offender Treatment Program (i-SOTP). These nationally accredited programs address four components: denial, offense-specific behaviors, social adequacy, and relapse prevention skills, with the i-SOTP also containing Internet-specific elements such as victim awareness, compulsivity, and collecting behavior (Middleton, 2004;

National Probation Service, 2005). Suitability for the community program is determined using Beech's (1998) deviancy algorithm, which is calculated from the results of an initial screening using a battery of psychological self-report measures (described in the following). These measures are designed to assess three[1] of the four sets of clinical phenomena in the pathways model (Ward & Siegert, 2002): offense-supportive beliefs, interpersonal and intimacy deficits, and emotional dysregulation. These measures are then specifically administered pre- and posttreatment to assess each offender's progress on the program and hence completion of the measures is mandatory. Those offenders with literacy difficulties are given necessary support to enable them to complete each measure in full.

Sample

A data set consisting of 505 adult male Internet offenders and 526 adult male contact sexual offenders was compared. Each was allocated to one of two groups (Internet vs. contact offender) based on their current index offense. The Internet offender group had one or more index offenses relating to accessing, downloading, trading, and/or making indecent images of a child or children younger than 18 years of age only (no index contact offenses). The contact offender group had one or more index offenses relating to direct contact sexual victimization of a child younger than 16 years of age, such as rape, indecent assault, or gross indecency only (no index Internet offenses). Offenders with a combination of contact and Internet index offenses were excluded from the analysis. Offenders with index offenses related to online "grooming" or the procurement of children online were also excluded from the sample as these were considered to represent direct victimization of children. Demographic information was obtained from each offender's PSR, which for Internet offenders included a breakdown of the results from the forensic analysis of their computer(s). Table 1 shows the demographics of these two samples. The PSR demographic details were not available for all offenders in the sample and therefore the total numbers in Table 1 correspond to those offenders for whom this data had been recorded.

An independent samples t test revealed that Internet offenders were significantly younger than contact offenders, $t(1005) = 2.58$, $p < .05$, $r = .08$, however the magnitude of this difference was not deemed sufficiently large enough to warrant including age as a covariate in the main analysis. There was a significant association between offense type and whether or not an offender has a previous known sexual offense, $\chi^2(1) = 29.20$, $p < .001$, and based on the odds ratio, contact offenders were 2.73 times more likely to have a previous known sexual offense than Internet offenders. There was also a significant association between offense type and the gender of the child either victimized directly or depicted in the images, $\chi^2(2) = 180.77$, $p < .001$, though this is likely to be related to the finding that a larger proportion of Internet offenders were reported to have images depicting the victimization of both males and females,

Table 1
Sociodemographic and Offense-Related Demographic
Characteristics of Internet and Contact Offenders

	Internet	Contact
Age mean score (*SD*)	(*n* = 489)	(*n* = 518)
	40.1 (11.2)	42.2 (14.3)*
Number in relationship (%)	(*n* = 487)	(*n* = 512)
	144 (23.4)	104 (20.3)
Number with one or more previous	(*n* = 494)	(*n* = 520)
known convictions (%)	54 (10.9)	124 (23.8)**
Frequency of victim gender (%)	(*n* = 418)	(*n* = 524)
Male	45 (10.8)	92 (17.5)
Female	220 (52.6)	417 (79.6)
Both	153 (36.6)	15 (2.9)**

*$p < .05$. **$p < .001$.

compared to the number of contact offenders who directly victimized both males and females. However, this may potentially reflect the vast quantities of images that Internet offenders amass in their collections rather than a systematic difference in the characteristics of children that individuals in the two groups may target.

Measures

The following scales were used in the analysis. Scales 1 through 3 measure offense-related beliefs and attitudes, Scales 4 through 10 measure levels of social adequacy and interpersonal functioning, Scales 11 through 15 measure ability to effectively manage emotions and behaviors, and Scale 16 was used to correct for socially desirable responding.

1. Victim Empathy Distortion Scale (Beckett & Fisher, 1994). This 28-item questionnaire measures an offender's understanding of the impact of their sexual offending from the point of view of the victim. The client is asked to think about the child involved in their offense and indicate their views, on a 4-point scale, on the effects of sexual contact for that child and the extent to which the client believes children enjoy or encourage sexual contact, how able they are to stop it, and whether they would wish to have similar experiences in the future. The higher the score, the greater the number of victim empathy distortions. Beckett and Fisher reported high internal validity (coefficient alpha = .90). Similarly, Beech (1998) reported an internal consistency of .89 in 140 untreated child molesters and a test-retest reliability of .95 in 46 untreated child molesters.

2, 3. Children and Sex Cognitions Questionnaire (Beckett, 1987). This 30-item questionnaire measures two scales of 15 items each. The client is asked to indicate, on a 4-point scale from 1 (*very untrue*) to 4 (*very true*), the response to each item that best represents their view or direct experience. The Cognitive Distortions Scale measures offenders' beliefs about the sexual sophistication of children, a child's ability to initiate and/or encourage sexual contact, the extent to which a child is believed to enjoy such sexual contact, and the harm caused to children by sexual contact. The higher the score, the greater the number of cognitive distortions. Beech (1998) reported high internal consistency (Cronbach's alpha = .90) and a test-retest reliability of .77 in 45 untreated child molesters. The Emotional Congruence Scale measures the emotional significance of children to the offender and the extent to which adults relate to what they consider to be the thoughts and feelings of a child. The higher the score, the greater the individual's level of emotional congruence. Beech reported high internal validity (Cronbach's alpha = .90) in a sample of 270 child molesters and a test-retest reliability of .63 in 45 untreated child molesters.

4. Short Self-Esteem Scale (Thornton, 1989; Webster, Mann, Thornton, & Wakeling, 2006). This 8-item questionnaire assesses levels of self-esteem. Clients answer true or false to questions regarding how they feel about themselves. The higher the score, the higher the individual's self-esteem. Webster et al. (2006) reported that the scale has high internal reliability (Cronbach's alpha = .84) and a test-retest reliability of .90 of in a sample of 30 sexual offenders.

5. University of California Los Angeles (UCLA) Loneliness Scale (Russell, Peplau, & Cutrona, 1980). This 20-item scale measures variations in loneliness within everyday life and measures ability to be appropriately intimate with other adults. Clients complete the measure by responding how often they feel each statement is true of them on a 4-point scale from 1 (*never*) to 4 (*often*). The higher the score, the more emotionally lonely the individual feels. Russell et al. (1980) reported high internal reliability (Cronbach's alpha = .91) and Beech (1998) reported a test-retest reliability of .70 in a sample of 44 treated child molesters over a 7-month period.

6, 7. Kingston Sexual Behavior Clinic: Social Response Inventory (Keltner, Marshall, & Marshall, 1981). This questionnaire measures assertive behavior in 22 different social situations. Clients are asked to select the response, from a selection of five that range from –2 (*extremely underassertive*) to +2 (*extremely overassertive*), that closest matches how they believe they would actually respond. This results in a score for both underassertiveness and overassertiveness that vary independently of each other. The higher the score on the Overassertiveness Scale, the higher the individual's tendency to react overassertively. The higher the score on the Underassertiveness Scale, the higher the individual's tendency to react underassertively. Beech (1998) reported a test-retest reliability of .80 for the Underassertiveness Scale over a 7-month period in a sample of 44 treated child molesters.

8, 9, 10, 11. Interpersonal Reactivity Index (IRI; Davis, 1980). This 28-item questionnaire measures four dimensions of general empathy, separating cognitive and emotional components. Clients complete the measure by responding how well they feel each statement describes them on a 5-point scale from 0 (*never*) to 4 (*often*). The Perspective Taking Scale measures the ability to assume, cognitively, the role of another. The lower the score on this scale, the lower the individual's ability to take the perspective of another. The Empathic Concern Scale measures feelings of compassion and concern. The lower the score on this scale, the lower the individual's level of empathic concern for others. The Fantasy Scale measures the ability to identify with fictional characters. The higher the score on this scale, the higher the level of fantasy. The Personal Distress Scale is a self-regulation measure that assesses the individual's ability to cope with negative feelings (Salter, 1988). The higher the score on this scale, the higher the level of personal distress. Davis (1980) reported an internal reliability of .78 and a test-retest reliability of .68 in 56 adult males over a 2½-month period.

12. Nowicki-Strickland Locus of Control (Nowicki, 1976). This 40-item questionnaire measures the extent to which individuals feel that events in their life are contingent upon their own behavior or are outside of their control. Clients answer yes or no depending on whether or not they agree with each statement. The higher the score, the more externally controlled the individual believes themselves and events to be. Nowicki and Duke (1982) reported an internal consistency of .69 and Nowicki and Duke (1974) reported the test-retest reliability to be .83 in a sample of 158 participants over a 6-week period.

13, 14, 15. Barratt Impulsivity Scale 11 (BIS-11; Barratt, 1994). This 30-item questionnaire measures scales based on three components of impulsivity: motor impulsivity—acting without thinking; cognitive impulsivity—making quick cognitive decisions; and nonplanning impulsivity—a lack of concern for the future. Clients complete the measure by indicating whether or not each item is true of them on a 4-point scale from 1 (*rarely/never*) to 4 (*almost always/always*). The higher the score on each scale, the higher the level of motor, cognitive, or nonplanning impulsivity. Patton, Stanford, and Barratt (1995) reported high internal consistency (.79 to .83), and Flory et al. (2006) reported unpublished data that suggest that scores are highly reproducible in a nonpatient sample over 6 months ($r = .88$).

16. Paulhus Deception Scales (PDS; Paulhus, 1998). This 40-item self-report questionnaire is designed to measure the validity of self-report responses as they relate to the tendency to give socially desirable responses. Respondents on this measure are asked to rate each item along a 5-point scale from 1 (*very true*) to 5 (*very untrue*). The PDS separates socially desirable responding into two scales: Impression Management (IM), conscious use of faking, lying, and inflated self-description (i.e., "faking good"), and Self-deceptive Enhancement (SDE), honest but

inflated or overconfident self-descriptions that result from an unconscious bias toward favorable self-description. The higher the score on each measure, the more prone the individual toward denial and favorable self-description. Paulhus (1998) reported high internal validity (Cronbach's alpha = .85).

Adjustment for Socially Desirable Responding

To correct for any socially desirable response bias, the self-report scores were adjusted using a statistical technique devised by Saunders (1991). The regression coefficient for predicting the unadjusted score for each measure from the offender's score on the response validity measure is derived for each comparison group using the regression formula: $Y = (a)(x) + b$, where Y is the unadjusted score, (a) is the regression coefficient, and (x) is the score on the accountability measure. The adjusted score (Y^1) is the calculated by multiplying the accountability score by the regression coefficient and subtracting this from the unadjusted score: $Y^1 = Y - (a)(x)$.

Results

Assessment of Socially Desirable Responding

A full-factorial multiple analysis of variance[2] (MANOVA) revealed a significant difference between contact offenders and Internet offenders on the subscales of the PDS, $F(1, 1028) = 34.12$, p < .001. Univariate F tests also revealed that the two groups significantly differed on each of the subscales: IM ($p < .01$; $r = .10$) and SDE ($p < .001$; $r = .25$). Though this suggests that contact offenders are somewhat more likely to "fake good" on tests and are more likely to have an unconscious bias toward favorable self-description, it is important to note that the effect sizes[3] (.10 and .25, respectively) are low to medium in magnitude.

Comparison of Samples

A full-factorial MANOVA revealed that there was a significant multivariate difference between contact offenders and Internet offenders on the range of psychological self-report measures, $F(15, 1029) = 16.94$, $p < .001$. Univariate F tests revealed that Internet offenders could be successfully discriminated from contact offenders on 7 out of the 15 measures. These can be seen in Table 2, together with the means, standard deviations, and Pearson's r correlational effect size.

It can be seen from Table 2 that contact offenders have more victim empathy distortions ($r = .30$) and general cognitive distortions ($r = .23$), report higher levels of emotional congruence with children ($r = .12$), have a more externalized locus of control ($r = .16$), are more prone to overassertive reactions ($r = .14$), and are more likely to make quick cognitive decisions than Internet offenders ($r = .13$). Internet offenders

Table 2
Multivariate ANOVA Analysis Between the Internet and
Contact Groups on a Range of Psychological Measures
After Adjustment for Socially Desirable Responding

	Internet (n = 505)		Contact (n = 526)			Correlational
	M	*SD*	*M*	*SD*	*F*	Effect Size (*r*)
Victim empathy	21.8	18.5	36.0	25.9	101.34**	.30
Children and Sex: Cognitive Distortion	11.2	8.4	15.6	1.1	57.45**	.23
Children and Sex: Emotional Congruence	12.4	8.7	14.6	1.3	14.23**	.12
Thornton Self-Esteem	3.2	2.4	3.2	2.3	0.04	.01
Emotional loneliness	46.4	11.1	47.1	1.6	1.10	.03
Underassertiveness	12.5	6.4	11.5	6.6	5.34	.07
Overassertiveness	1.2	1.8	1.8	2.6	19.90**	.14
Interpersonal Reactivity Index: Perspective Taking	15.1	4.6	15.2	5.1	0.12	.01
Interpersonal Reactivity Index: Empathic Concern	18.9	4.4	19.0	4.3	0.20	.01
Interpersonal Reactivity Index: Fantasy	14.8	4.8	12.6	4.8	50.36**	.22
Interpersonal Reactivity Index: Personal Distress	12.5	5.0	12.6	5.4	0.01	.00
Locus of control	13.3	5.2	15.0	5.5	26.87**	.16
Barratt Impulsivity Scale-11: Motor	22.2	3.9	21.8	4.3	2.65	.05
Barratt Impulsivity Scale-11: Cognitive	24.7	3.6	25.7	3.8	18.49**	.13
Barratt Impulsivity Scale-11: Nonplanning	26.1	4.3	26.6	4.9	2.46	.05

**$p < .001$.

report a greater ability to identify with fictional characters ($r = .22$) compared to contact offenders. No other differences reached a level of statistical significance.

Predictive Ability of the Measures

A logistic regression analysis was conducted with offense type as the dependent variable and each psychological measure as predictor variables. The resulting model was significantly reliable, $\chi^2(10) = 232.23$, $p < .001$, and the overall accuracy of the table was 67%, with 65.2% of the contact offenders and 68.9% of the Internet offenders being correctly classified (see Table 3).

Table 3
The Results of a Forwards-Stepwise Logistic Regression for the Prediction of Membership to One of Two Groups—Internet Versus Contact Offender

				99% Confidence Intervals for Exp(b)		
	B	SE	Wald	Lower	Exp(b)	Upper
Constant	2.30	.68*	11.45			
Victim empathy	−0.03	.00**	51.06	0.97	0.98	0.98
Children and Sex: Cognitive Distortion	−0.02	.01*	5.22	0.96	0.98	1.00
Underassertiveness	0.05	.01**	13.64	1.02	1.05	1.07
Overassertiveness	−0.12	.04*	8.77	0.82	0.89	0.96
Interpersonal Reactivity Index: Perspective Taking	−0.05	.02*	7.63	0.92	0.95	0.99
Interpersonal Reactivity Index: Empathic Concern	−0.05	.02*	7.58	0.92	0.95	0.99
Interpersonal Reactivity Index: Fantasy	0.11	.02**	46.71	1.08	1.11	1.15
Locus of control	−0.05	.02*	9.86	0.92	0.95	0.98
Barratt Impulsivity Scale-11: Motor	0.08	.02**	14.35	1.04	1.08	1.12
Barratt Impulsivity Scale-11: Cognitive	−0.10	.02**	16.17	0.87	0.91	0.95

Note: R^2 = .16 (Hosmer & Lemeshow), .20 (Cox & Snell), .27 (Nagelkerke). Model $\chi^2(10)$ = 232.23, $p <$ .001.
*$p < .05$. **$p < .001$.

Table 3 shows that a one-unit increase in scores was associated with increased odds of an Internet offense type on the IRI Fantasy Scale, exp(b) = 1.11; the Underassertiveness Scale, exp(b) = 1.05; and the BIS-11 Motor Impulsivity Scale, exp(b) = 1.08. Conversely, a one-unit increase in scores was associated with an increase in the odds of a contact offense type on the Locus of Control Scale, exp(b) = .95; the IRI Perspective Taking Scale, exp(b) = .95; the IRI Empathic Concern Scale, exp(b) = .92; the Overassertiveness Scale, exp(b) = .82; the Victim Empathy Distortions Scale, exp(b) = .97; the Children and Sex: Cognitive Distortions Scale, exp(b) = .96; and the BIS-11 Cognitive Impulsivity Scale, exp(b) = .87. Table 3 gives the coefficients, Wald statistics, and the 95% confidence intervals for each scale. The Self-Esteem, UCLA Emotional Loneliness, IRI Perspective Taking, Children and Sex: Emotional Congruence, and BIS-11 Nonplanning Impulsivity scales were removed from the model as they did not significantly improve predictive ability.

Discussion

This investigation found that contact offenders are characterized by a greater number of victim empathy distortions and cognitive distortions than Internet offenders and a greater bias toward favorable self-description. In contrast, Internet offenders are characterized by a greater ability to identify with fictional characters. To a lesser degree it was found that contact offenders were more likely to have an externalized locus of control, were more likely to respond overassertively and make snap cognitive decisions, and reported higher levels of emotional congruence with children. However, only the significant difference in victim empathy distortions reached the threshold for a medium effect size, the rest relating to small effect sizes, and as such they are more likely to represent subtle rather than substantial differences between the groups. A subsequent statistical model indicted that an increase in scores on scales of fantasy, underassertiveness, and motor impulsivity were found to be predictive of an Internet offense type. An increase in scores of scales of locus of control, perspective taking, empathic concern, overassertiveness, victim empathy distortions, cognitive distortions, and cognitive impulsivity were found to be predictive of a contact offense type.

The most substantial distinction between the two groups is the difference in cognitive distortions and victim empathy distortions, particularly victim empathy distortions, suggesting that the contact offenders are more likely to have primary deficits related to the antisocial cognitions pathway (Ward & Siegert, 2002) than Internet offenders. These two scales measure similar constructs and suggest that contact offenders have greater difficulty identifying the harmful impact of sexual contact on a child and that they hold maladaptive beliefs relating to the sexual sophistication of children that diminish their ability to display empathy. The types of distortions measured in the Victim Empathy Distortion Scale included: "The victim enjoyed what happened," "The victim was not harmed in the long term by what happened," and "The victim was in control of the situation." Deficits in victim empathy distortions and cognitive distortions in child molesters have been well documented in previous research (e.g., Abel, Becker, & Cunningham-Rathner, 1984; Mann & Beech, 2003; Marshall, Anderson, & Fernandez, 1999; Ward & Keenan, 1999; Ward & Siegert, 2002).

The finding that Internet offenders do not appear to have the same levels of cognitive distortions or victim empathy distortions is potentially a very positive one. The lower frequency of pro-offending attitudes and beliefs that serve to legitimize and maintain sexually abusive behaviors (Ward & Keenan, 1999) displayed by Internet offenders suggests that they may be unlikely to represent persistent offenders or potentially progress to commit future contact sexual offenses. This may be related to the finding that contact offenders are more than twice as likely as Internet offenders to have a known history of prior contact sexual offenses. Similarly, a greater ability to empathize with victims, coupled with an ability to relate to fictional characters,

may also contribute positively to Internet offenders' achievements in therapeutic interventions. In most forms of cognitive-behavioral therapy there is a specific focus on creating an understanding of the harm caused to children by sexual contact with adults and developing appropriate perception of the sexual sophistication of children, relying on the ability of the offender to consider abstract examples.

It may be the case that Internet offenders are more aware than contact offenders of the harm caused by sexual contact between adults and children and do not believe children to be sexually sophisticated and able to consent to sexual activity with adults but are able to distance themselves from the abusive nature of the material and justify continued access in a context that they are not directly responsible for the harm and are simply a passive viewer (Howitt & Sheldon, 2007; Quayle & Taylor, 2002). This potentially suggests that should an Internet offender begin to develop more cognitive distortions related to the sexual sophistication of children and the nature of harm and display increasing deficits in victim empathy, this may serve to increase the risk of them committing a contact offense.

Another potential explanation for the observed differences between the two groups may be the psychological self-report approach to measurement. These psychological scales were developed for contact offenders and adapted for Internet offenders, and hence they may not be measuring constructs in a way that reflects any potential offense-related deficits distinctive of Internet offending as compared to contact offending. Howitt and Sheldon (2007) asserted that the great disparity between clinical and self-report measure approaches to eliciting and measuring cognitive distortions in Internet offenders somewhat undermines the self-report approach. Previously, clinical observation and qualitative research methods have elicited a series of types of cognitive distortions commonly held by Internet offenders (e.g., Howitt & Sheldon, 2007; O'Brien & Webster, 2007; Quayle & Taylor, 2002). Quayle and Taylor (2003), for example, developed a cognitive-behavioral model based on their qualitative analyses that is related to the individual's attitudes and values that support the legitimacy of using the Internet as a means to meet their sexual needs and highlights the role of distorted cognitions in the nature of problematic Internet use in general.

In addition to a greater ability than contact offenders to empathize with their victims, in their case the child in the image, Internet offenders also appear to have a better ability to relate to fictional characters. The Fantasy Scale of the IRI measures the ability of individuals to put themselves in the place of fictional characters and to identify with the feelings of that person. This appears to correspond to the nature of child pornography, in which the children depicted in the images represent fictional characters performing a role, as abusive that role may be, for an audience (the viewers). Child pornography production is deliberate and stylized to meet both implicit and explicit audience demands, where coercive instructions, such as to "smile" and "look at the camera," are often heard in videos (Taylor & Quayle, 2003). As Taylor and Quayle (2003) noted, this serves to generate fantasies of the compliant, sexually

involved child as a willing participant in the sexual behavior being portrayed. This virtual interaction between the offender and the child depicted in the images may reflect a form of pseudo-intimacy compensating for an absence or lack of intimacy in real life, framed in a context that eliminates the possibility of rejection. The under-assertiveness found to be predictive of an Internet offense as compared to contact offense, potentially coupled with low self-esteem and emotional loneliness, may reduce the offender's estimation of the efficacy of developing and maintaining age-appropriate relationships. Therefore, the suggestion here would be that Internet offenders use child pornography due to its lack of face-to-face contact and lowered social risk to meet needs relating both to a lack of intimacy (Pathway 1: Ward & Siegert, 2002) and that this pseudo-intimacy may form part of the generation of fantasy for sexual arousal (Pathway 3).

However, these findings also suggest that rather than being pathologically moti-vated or driven by uncontrollable sexual urges, there may be a greater impact of situ-ational and environmental factors involved in Internet offending. As Wortley and Smallbone (2006) noted, many professionals in criminal justice settings have focused only on personal dimensions of sexual crime, overlooking the contributions of an indi-vidual's immediate circumstances. The perceived anonymity, speed, and global char-acter of the Internet and the ability to create virtual social groups all create an environment that challenges conventional notions of social organization and control (Taylor & Quayle, 2006) and creates a substantial potential for criminal behavior. This situational approach appears to be qualified somewhat by findings that Internet offend-ers do not routinely score highly on measures of clinical symptoms related to sexually offensive behavior. For example, in the Middleton et al. (2006) study, 40% of their sample did not display elevated scores in any of their self-report tests. This is certainly an area of research that is worthy of more attention.

There are limitations to the study. The analysis draws on a convenience sample where group membership was allocated via the offender's index offense, which does not account for previous offending histories. This means that there may be some overlap between the groups in terms of their respective prior Internet and/or contact offending. Though the sample was large, the participants were taken exclusively from the criminal justice population and therefore may not be representative of these offenders as a population, especially given that Internet child pornography offenses are notably difficult to detect and that experienced Internet offenders often develop information technology skills during the offending process that allow them to employ proactive strategies to avoid detection (Taylor & Quayle, 2003). The sample is also community-based offenders and may differ from an incarcerated offender sample. Also, the measures used were collected for clinical purposes and not spe-cifically collected for this study.

This investigation gives a detailed insight into the psychological profiles of these two samples and outlines the levels to which they compare and contrast in terms of their deficits on certain psychological constructs. It would appear that in terms of

socio-affective measures (i.e., those related to the intimacy deficits and emotional dysregulation pathways) Internet offenders do not differ wildly from contact offenders, and the differences between them appear to be in offense-related measures (i.e., those related to the antisocial cognitions pathway). This is based, however, on the measurements that, though underpinned by more than a decade of research into adult male contact sexual offending behavior, are still only assumed to be relevant for Internet offenders. This suggests that although contemporary sex offender theory continues to have a great deal of potential for explaining Internet offender behaviors, it is recommended that further research with this population takes more novel and explorative approaches to identifying whether or not the clinical deficits outlined in theory are appropriate for Internet offenders and if so, to what extent—especially for cognitive distortions and deviant sexual interest. Also further knowledge about how the etiology of Internet offending relates to the Internet offense process and the situational aspects of the online environment affects behavior. By improving our knowledge base regarding these issues we can to begin to develop more comprehensive and specialized assessment and treatment techniques, as well as preventive steps, for the Internet offender population.

Notes

1. Deviant sexual arousal is difficult to assess using self-report measures and is more typically measured using clinical assessment, the penile plethysmograph, or polygraph testing (Beech, Fisher, & Thornton, 2003).

2. A Bonferroni correction was included in all MANOVAs carried out in these analyses to correct for family-wise error.

3. Cohen (1988) defined the threshold of a small effect size as $d = .20$ ($r = .10$), a medium effect size as $d = .50$ ($r = .24$), and a large effect size as $d = .80$ ($r = .37$).

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