Pornography, the Internet and Sexual Offending

Alexandra Jayne Bailey, BSc, MSc

Thesis Submitted to the University of Nottingham for the degree of Doctor in Forensic Psychology (DForenPsy)

December 2016

Abstract

This thesis focussed on online sexual offending, particularly the access of indecent images of children (IIOC), and whether certain risk factors associated with contact sexual offending, namely offence-supportive cognitions and deviant sexual interest (DSI), were relevant for individuals who access IIOC.

In references to offence-supportive cognitions for IIOC offenders, the issue is unclear. Research indicates that IIOC offenders do not hold these distortions, whereas the narratives from IIOC offenders indicates that distortions do exist for them. An examination of legal and illegal pornography, and its relationship to offence-supportive attitudes and sexual offence-related behaviour via a systematic review indicated that studies cited a relationship between pornography and sexual offence-related behaviours more often than a relationship with offence-supportive attitudes. However, the review found no statistically significant differences, with either outcome, regarding the number of studies citing a relationship compared to those that did not; so no consistent relationship with pornography was found. The systematic review also highlighted the difficultly in ascertaining the impact of IIOC on individuals due to the limited research comparing IIOC offenders to community controls. However, there did appear to be certain individuals for when pornography access (including IIOC) could be problematic. The case study highlighted the difference between global distortions and those specific to the offence in question, and how this might have relevance to IIOC offenders.

Regarding the second risk factor of interest, DSI with IIOC offenders is not well understood, with research indicating these offenders to be more deviant than

some contact sexual offenders, whilst the narratives of IIOC offenders suggest the opposite. Within the research project, DSI was found to be salient, with IIOC offenders differing from controls on multiple measures of DSI. DSI was also highlighted within the case study, regarding its role within the subsequent crossover offending of an IIOC offender; the Internet and accessing IIOC appeared influential in the development of the client's sexual interest in children, and in turn, their contact offending.

Discussions viewed the importance of measuring DSI within risk assessment, and its inclusion within interventions with IIOC offenders. Consideration was giving to the prevention of IIOC access online to prevent the development of offence-supportive beliefs and behaviour, and to increase the protection of children.

Overview

This thesis considered sexual offending on the Internet, with a specific focus on the access of indecent images of children (IIOC). The thesis aimed to examine IIOC offending in light of researched and established risk factors cited with contact child sexual offenders (CCSOs), and to investigate whether these factors were applicable to Internet sexual offenders. Chapter one provides an introduction to sexual offending risk factors, the debate around the potential negative impact of pornography exposure, and the phenomena of Internet sexual offending. The thesis then documents, via different methodologies, the examination of IIOC offenders and whether the presence of the risk factors of offence-supportive thinking and deviant sexual interest are of concern. Chapter two focusses on a systematic review examining legal and illegal pornography, and its relationship to offence-supportive attitudes and sexual offence-related behaviours. The potential impact of pornography exposure on individuals has been greatly researched and debated, with mixed results. With the increasing accessibility of pornography online, including IIOC, this debate becomes ever more important. The systematic review aimed to provide a basis for considering the potential impact of pornography by examining primary research exploring the relationship between pornography and IIOC on viewers' attitudes and behaviour. The systematic review is presented initially as it reflects a potential start point of an IIOC offender's behavioural process; the viewing of IIOC, or as reported by some IIOC offenders, the viewing of adult pornography (Allen, Dervley & Bailey, 2015). Chapter three focusses on the risk factor of deviant sexual interest (DSI) and aimed to give a background and critical analysis of a methodology for measuring DSI. This critique examined the difficulties with measuring sexual interest, and considered the advantages of measuring this

sensitive issue in an indirect manner, with specific reference to the Explicit and Implicit Sexual Interest Profile (EISIP; Banse, Schmidt & Clarbour, 2010). The EISIP measure was used within the research project documented in chapter four, therefore chapter three is placed to give background to both the issue of measuring DSI and an introduction to indirect modes of DSI measurement. The research project in chapter four focussed on measuring sexual interest with IIOC offenders. The research aimed to examine whether DSI was of relevance for IIOC offenders by comparing IIOC offenders to community controls, and considered the utility of different and ostensibly objective measures of DSI with this population. It was found that the objective measures discriminated between IIOC offenders and controls, but not as successfully as a self-report measure. This discussion followed-on from that of the systematic review; considering the potential consequences of IIOC exposure regarding the development of a DSI. Chapter five examined the assessment and intervention with an IIOC offender who had escalated to commit a contact offence against a child. This case study considered offence-supportive thinking and DSI, and its relationship to the Internet and access to IIOC, and the potential role of these risk factors in the escalation of the case study's offending. This case study provides an examination of how offence-supportive thinking and DSI could be factors in the offence escalation of an IIOC offender. Chapter six aims to consolidate each aspect of the thesis, to consider IIOC offending and the aforementioned contact sexual offending risk factors. This was further considered in the light of risk assessment and intervention with this population, as well as preventing the access of online IIOC in order to protect children from sexual harm. It was concluded that the risk factors were pertinent for some IIOC offenders, and developing new prevention strategies regarding accessing IIOC was important.

Acknowledgements

This thesis could not have been completed without the support and guidance of my supervisors; Associate Professor Vincent Egan, Dr Simon Duff, Professor Derek Perkins, and Dr Hannah Merdian.

I would like to extend my gratitude to The Lucy Faithfull Foundation for their support during this Doctorate. In particular I would like to thank Tom Squire, Annie Stubley, Simon Sauze, Lucy Allen, Rebekah Dervley, Vicky Young and Tracy Shonk. I would also like to thank Assistant Professor Ian Elliott for his support and guidance, and extent my gratitude to Dr Alexander Schmidt and Professor David Glasgow for kindly allowing me the use of their measurement tools.

I would like to thank all those that participated in my research. I extend my thanks to the Metropolitan Police for their support during my research. My thanks to DI Simon Giles, DC Wendy Pearson and DC Jo Steele, but with particular gratitude to DS Dan Callahan. Without your support, this research would not have happened.

I would like to thank my Grandfather, Thomas Hartley, for his financial support, without which none of this would not have been possible. I would like to thank my family and friends for their support, but particularly my Mother, Julia Bailey, and my partner, Jason Mckinless, for their love, support and patience. I could not have done it without you.

Table of Contents

Chapter	Contents	Page Number
	Abstract……	i
	Overview……	iii
	Acknowledgements……	v
1	Introduction	13
2	Legal and Illegal Pornography, and its Relationships to Offence-Supportive Attitudes and Sexual Offence-Related Behaviour: A Systematic Review……	19
3	A Critique of the Explicit and Implicit Sexual Interest Profile (EISIP)……	72
4	Measuring Sexual Interest with Indecent Images of Children Offenders……..	96
5	Assessment and Psycho-educational Intervention with a Crossover Internet to Contact Sexual Offender……	135
6	Discussion……	180
7	References……	189
8	Appendices……	220

Table of Appendices

Appendix Number	Title
1	Systematic Review Database Search Syntax
2	Systematic Review Study Eligibility Form
3	Systematic Review Data Extraction Form
4	Systematic Review Quality Assessment Form
5	Table of Included Studies for Systematic Review
6	Chi-square analyses for the number of studies in the systematic review outcomes
7	Examples of Not Real People (NRP) images used within the EISIP (from the Pacific Psychological Assessment Corporation)
8	Screen shot from the Viewing Time (VT) measure
9	Screen shot from Implicit Association Test (IAT) measure word discrimination
10	Items included in the Explicit Sexual Interest Questionnaire (ESIQ)
11	Example of EISIP graph profiles (heterosexual control participant)
12	Ethical Approval Letter
13	Research Information and Invitation Sheet
14	Consent Form
15	Demographic Forms
16	Debrief Sheet
17	Screen shot from the NRP-Choice
18	SPSS output for Mann Whitney U tests for age and amount of time spent viewing sexually arousing material

19	SPSS output for Chi-Square analysis for previous convictions
20	SPSS output for Chi-Square analysis for completed education level
21	SPSS output for Chi-Square analysis for whether participants had children
22	SPSS output MANCOVA analysis for NRP-Choice
23	SPSS output Kruskal-Wallis-H test for NRP-Choice Deviance Index
24	SPSS output ANOVA and ANCOVA analysis for VT latencies
25	SPSS output of Age and Group interaction for Male Tanner 1 and 3 images, and scatterplots
26	SPSS output ANCOVAs and Kruskal-Wallis-H test for IATs
27	SPSS output Kruskal-Wallis-H tests for VT ratings
28	SPSS output Kruskal-Wallis-H tests for ESIQ
29	SPSS output Kruskal-Wallis-H tests, ANOVA and ANCOVA analyses for deviance indexes
30	SPSS output Binary Logistic Regression analyses
31	SPSS output correlations between deviance indexes and the amount of time since viewing IIOC
32	SPSS output Receiver Operating Characteristic (ROC) analysis for deviance indexes
33	Sentencing Guidelines Council (2007) Sexual Offences Act (2003) Definitive Guidelines. Part 6A.2
34	Case study consent form
35	Table of the length of the assessment and intervention sessions completed with R
36	Risk Matrix (RM) 2000/S

37	Descriptions of psychometric measures
38	R's completed Finkelhor (1984) in reference to his own offences
39	R's Cycle of offending for his own Internet offences
40	R's completed Pathway Model exercise and Self-Regulation Model exercise
41	R's completed offence process model
42	R's completed Footsteps personal work
43	R's completed disclosure exercise
44	Defining empathy exercise

List of Tables

Table Number	Title	Page Number
Table 1	The frequency for type of bias for included studies……	37
Table 2	Studies examining offence-supportive attitudes and the frequency of relationships……	43
Table 3	Studies examining sexual offence-related behaviour and the frequency of relationships……	53
Table 4	The frequencies of studies showing relationships within grouped outcomes……	62
Table 5	The number of results for each type of pornography for both attitudes and behaviours……	63
Table 6	Internal consistencies for all EISIP scales……	87
Table 7	Criterion validity (AUC) of all singular scales (CCSOs versus controls)……	89
Table 8	Criterion validity (ROC) after binary logistic regression……	90
Table 9	Reliability and validity comparison between the EISIP and other similar measures……	91
Table 10	Indirect NRP-Choice and EISIP measures across IIOC offenders and controls……	119
Table 11	Direct EISIP measures across IIOC offenders and controls……	120
Table 12	Summary of sequential regression for indexes predicting the presence of IIOC offending……	124

Table 13	Classification table for regression model with all variables entered……	125
Table 14	Spearman's Rho correlations for deviance indexes and amount of time since viewing IIOC……	126
Table 15	ROC analysis: AUC for deviance indexes……	127
Table 16	R's Pre-intervention psychometric results……	157
Table 17	R's pre and post intervention scores, and Reliable Change Index (RCI)……	172

List of Figures

Figure Number	Title	Page Number
Figure 1	Flow chart of Systematic Review searches……	36
Figure 2	R's formulation using functional analysis……	165

Table of Acronyms

AIV	Acceptance of Interpersonal Violence
AUC	Area Under Curve
CCSO	Contact Child Sexual Offenders
CD	Cognitive Distortions
CJS	Criminal Justice System
CRT	Choice Reaction Time
DSI	Deviant Sexual Interest

EC	Emotional Congruence
EISIP	Explicit and Implicit Sexual Interest Profile
ESIQ	Explicit Sexual Interest Questionnaire
IAT	Implicit Association Test
IIOC	Indecent Images of Children
ITSO	Integrated Theory of Sexual Offending
MO	Mixed Offender
NOMS	National Offender Management Service
NRP	Not Real People
PPG	Penile Plethysmograph
PPO	Public Protection Officer
PSICS	Pictorial Sexual Interest Card-Sort
RCI	Reliable Change Index
RMA	Rape Myth Acceptance
ROC	Receiver Operating Characteristic
SCID	Sexual Content Induced Delay
SO	Sexual Offender
SOTP	Sex Offender Treatment Programme
SR	Systematic Review
SRC	Stimulus Response Compatibility
TLFF	The Lucy Faithfull Foundation
VT	Viewing Time

Chapter One: Introduction

It is rare for any significant period of time to pass in the United Kingdom without media attention focussing on the issue of sexual offending against children. A recent number of high profile celebrity and political cases, such as Jimmy Savile, Rolf Harris, and Cyril Smith, has brought this issue to the forefront of societal and government concerns. Child sexual offending is not a new phenomenon, yet its notoriety and impact on the public appears to be ever increasing, perhaps indicating greater awareness of the problem, and a decline in defence to the powerful.

There are many theories and models of contact sexual offending (e.g. Finkelhor, 1984; Ward & Beech, 2006; Ward & Siegert, 2002; Wolf, 1984), which function at all levels of the theory hierarchy (Ward & Hudson, 1998a); these include multifactorial theories, single-factor theories and descriptive/offence process models. Within this literature has been a considerable focus on risk factors; both factors relating to vulnerability and likelihood of committing a contact sexual offence, and factors associated with the risk of recidivism. The literature has tended to cite four main risk domains for sexual offending, these being offence-supportive thinking; deviant sexual interest; interpersonal functioning; and self-management (Beech & Ward, 2004). For the current thesis, the risk factors of offence-supportive thinking and deviant sexual interest will be focussed upon.

Deviant sexual interest (DSI) is one of the strongest predictors of recidivism with contact sexual offenders (Hanson & Morton-Bourgon, 2005). Much research has

found evidence for the presence of DSI in sexual offenders, with methods of measuring DSI differentiating child sexual offenders according to victim gender (e.g. Laws, Hanson, Osborn & Greenbaum, 2000), and from community males with no history of sexual offending (e.g. Harris, Rice, Quinsey & Chaplin, 1996). DSI is not an essential component for a sexual offence (O'Donohue & Letourneau, 1992), as other motivations (such as emotional dysregulation or intimacy deficits; Ward & Siegert, 2002) can be influential within the etiology of sexually offending. However, it might be reasonable to hypothesise that DSI could underline some individual's motivation to sexually abuse a child.

Offence-supportive thinking/attitudes, also termed 'cognitive distortions', have been described as rationalisations developed by sexual offenders as a result of the discrepancy between their sexual interests, and societal norms (Abel, Gore, Holland & Camp, 1989); a process also known as cognitive dissonance (Festinger, 1962). Cognitive distortions form a part of sex offence theories (e.g. Finkelhor, 1984), as well as being the focus for some theory in themselves (e.g. Implicit Theories; Ward & Keenan, 1999). The concept of cognitive distortions has been debated considerably, especially in regard to the function these beliefs serve regarding the point in the offending process they might originate (O Ciardha & Ward, 2013); entry points for cognitive distortions could be at an etiological or maintenance stage, or as post-offence justifications, including as a means to minimise an individual's negative feelings about the offence they have committed (Schneider & Wright, 2004). There is also the issue of abuse-level distortions compared to offence-level distortions (Elliott & Beech, 2009). This examines whether the distortions are global attitudes about children and sex, or whether they are specific to the offence or victim in question. However,

regardless of the function, there appears to be evidence that attitudes supportive of sexual offending are related to sexual recidivism (Hanson & Morton-Bourgon, 2005; Helmus, Hanson, Babchishin & Mann, 2013), and are often addressed in sexual offending interventions.

Another type of sexual offending has increasing attention in today's technology era. This regards individuals who have sexually offended on the Internet, in particular those who have accessed indecent images of children (IIOC). Internet offending is also not new, but is under researched in comparison to its contact counterpart, due to the relative infancy of the World Wide Web. The Internet offers individuals the ability to access an ever increasing amount of information, and to be able to do this in the privacy of their own home and at next to no cost (Cooper, 1998). However this vast availability of information includes a corresponding vast amount of sexual material, including IIOC. Due to this availability, and the concern/ease of detection, the number of individuals being convicted of this type of sexual offending against children has increased (McGuire & Dowling, 2013).

Pornography has a large presence on the Internet; with pornography being defined by English Oxford Living Dictionaries (n.d.) as *"printed or visual material containing the explicit description or display of sexual organs or activity, intended to stimulate sexual excitement."* The debate around the impact of pornography has been live for many years, and has included large investigations into the potential damaging effects of pornography, such as the Attorney General's Commission on Pornography (1986). Some researchers have argued

that exposure to pornography can have a detrimental effect on an individual's attitudes towards sexual behaviour and the role of women (Dworkin & MacKinnon, 1988; Hald, Malamuth & Yuen, 2010), as well as sexual behaviour itself (D'Abreu & Krahe, 2014; Demare, Lips, & Briere, 1993). However, others have argued that the access to pornography constitutes a right of freedom of speech and that research is yet to find consistent causal links between pornography and sexually harmful behaviour (Linsley, 1989). Other researchers feel that the harmful effects of pornography are more likely for certain types of individuals, such as those with pre-existing hostile attitudes (Confluence Model; Malamuth, Addison & Koss, 2000). For some IIOC offenders, the use of adult pornography has been cited as a pathway to offending, with individuals reporting habituation to adult images and escalation to viewing IIOC (Taylor & Quayle, 2003), indicating that online pornography access could play a role in the offence process for these offenders. There is little ambiguity regarding the harmfulness of IIOC, and it is widely recognised that the children in the images are victims of sexual abuse, and are not of appropriate age to consent to the distribution of their images i.e. self-taken 'sexting' images. Research is still developing regarding understanding the impact that IIOC could have on the individual viewing them, particularly in regard to the possibility of these individuals crossing over to commit contact sexual offences again children.

Research has examined the psychometric characteristics of IIOC offenders (Elliott, Beech, & Mandeville-Norden, 2013; Elliott, Beech, Mandeville-Norden & Hayes, 2009; Middleton, Elliott, Mandeville-Norden & Beech, 2006) , as well as developing typologies (Beech, Elliott, Birgden & Findlater, 2008; Krone, 2004; Lanning, 2010) in order to further understand their motivations. Research has

examined recidivism rates (Endrass et al., 2009; Seto & Eke, 2005; Seto & Eke, 2015), and has started to consider the issue of crossover offending and the potential associated factors (Long, Alison & McManus, 2012). However, one area that is lacking in research is that of DSI; an important consideration given its cited validity in profiling contact sexual offenders. Some research has examined DSI with IIOC offenders (Seto, Canter & Blanchard, 2006), with a recent meta-analysis (Babchishin, Hanson & VanZuylen, 2015) finding that IIOC offenders had more deviant sexual interests than contact offenders. However, it is still an under researched area, and a focus of the current thesis research project and psychometric critique.

The current thesis examines the impact of IIOC on viewers in reference to the risk factors of offence-supportive thinking, and DSI. This was done through a systematic review considering the relationship between pornography, and offence-supportive attitudes and sexual offence-related behaviour. The inclusion of persons viewing illegal images, namely IIOC, made this review different from others on the impact of pornography. DSI with IIOC offenders was examined within an empirical research project. DSI measurement was conducted using both direct and indirect measures. Such information has been previously examined in few research projects with IIOC offenders, but only with small sample sizes (Hempel, Buck, Goethals & van Marle, 2013; Schmidt, Gykiere, Vanhoeck, Mann & Banse, 2013). These risk factors, offence-supportive attitudes and DSI, were then also considered regarding the issue of cross over from non-contact to contact offending. This was examined via a case study with an offender who had done just that. The thesis concludes with a consideration of how this information could translate into more effective risk assessment and

intervention, as well as how it can contribute to the prevention of IIOC offending and the protection of children.

Chapter Two: Legal and Illegal Pornography, and its Relationships to Offence-Supportive Attitudes and Sexual Offence-Related Behaviour: A Systematic Review

2.0 Abstract

Background – The potential effects of pornography exposure have been the centre of considerable debate and research, resulting in mixed findings regarding the potential harm. The availability of both legal and illegal pornography has increased considerably with the invention of the Internet, meaning that this debate is increasingly important in today's technological era.

Aims - The current systematic review aimed to examine whether relationships existed between the viewing of legal and illegal pornography, offence-supportive attitudes, and sexual offence-related behaviour.

Method – Databases and reference lists were searched to identify studies on these issues. Studies were data extracted and quality assessed using pre-defined criteria.

Results – Seventy nine studies were included in the review. More studies citied a relationship between exposure to pornography and sexual offence-related behaviours (k = 30) than offence-supportive attitudes (k = 20), however no statistically significant differences were found between the number of studies in each outcome and whether a relationship was present. The data synthesis indicated that the impact of legal and illegal pornography was complex, and could not be based purely on the reporting of a linear relationship.

Discussion and Conclusion – The review produced mixed findings, reflecting variation in study type, target sample, the outcomes studied, and their measurement. Direction was given regarding the need for longitudinal research

on pornography effects, and more research focussed on the differences between those accessing illegal pornography and those accessing only mainstream pornography, to further understand the potential risks and to consider effective intervention both individually and publically.

2.1 Background

The impact pornography may have on its viewers has been of debate for a considerable time (Donnerstein & Linz, 1986; Seto, Maric, & Barbaree, 2001). Many of the population have been exposed to pornography at some point. Research by Carroll et al. (2008) reported that as many as 87% of young men and 31% of young women had accessed pornography in the previous 12 months, with 79.4% of men reporting pornography use as least twice a month.

A prominent concern regarding pornography exposure relates to attitudinal and behavioural outcomes that have the potential to cause harm to others, particularly women. Longino (1980) argues that the problem with pornography "is its degrading and dehumanising portrayal of women…" (p. 45). Pornography has also been cited to depict aggression towards women; Bridges, Wosnitzer, Scharrer, Sun and Liberman's (2010) content analysis of best-selling pornography videos found that 88.2% contained scenes of physical aggression, and 48.7% verbal aggression, with the perpetrators being mostly men, and the victims being mostly women.

When it comes to the impact of pornography, researchers have cited the potential that the behaviours depicted in pornography may be subject to imitation and modelling by those who view them as per Social Learning Theory

(Bandura, 1977). Concerns include that those exposed to pornography may learn about inappropriate or harmful sexual behaviour via observational learning. Research has considered young peoples' learning about sex from pornography, linking pornography use to factors such as early onset of intercourse (Johansson & Hammaren, 2007) and unsafe sexual practices, e.g. multiple sex partners and negative attitudes towards using condoms (Wingwood et al., 2001). Consequently, the modelling or imitation of pornography remains of concern, particularly for pornography with aggressive content.

Related to Social Learning is the concept of both classical and operant Conditioning (Laws & Marshall, 1990; McGuire, Carlisle, & Young, 1964), with particular focus on an individual's interaction with pornography. It has been argued that if pornography is used as an aid to masturbation, under the principles of conditioning, sexual gratification may positively reinforce an individual's sexual arousal to the behaviours depicted in the pornography (Seto et al., 2001). Therefore, it could be hypothesised that viewing pornography and engaging in masturbation may increase the likelihood of engaging in the depicted behaviours due to the 'rewarding' nature of sexual gratification. However, not all individuals who masturbate to pornography will engage in sexually harmful behaviour, so this concept may be one that is dependent on the type of behaviours depicted.

Previous research has also indicated that long-term exposure to pornography could result in habituation and desensitisation to normal sexual imagery for some individuals (O'Donohue & Geer, 1985), and a progression to more deviant and extreme depictions of sexual behaviour; a progression that has been

reported by some indecent images of children (IIOC) offenders (Taylor & Quayle, 2003). Seigfried-Spellar and Rogers (2013) found that those who reported early use of adult pornography were significantly more likely to have also viewed pornography featuring children and/or animals. Seto et al. (2014) also found a significant association between having viewed IIOC, frequent pornography viewing and having viewed violent pornography. However, it is unclear whether this is habituation, or whether varied pornography use could be a product of an individual's already established diverse sexual interests.

Anxieties exist not just for pornography viewer's behaviours, but also regarding the development of concerning attitudes. Attitudes tend to be defined as positive or negative evaluations (Ajzen, 2001; Nunes, Hermann, Maimone, & Woods, 2015) and for pornography presenting women in a submissive or degrading manner, there is argument that exposure could alter the perceptions of women in a negative way (Dworkin & MacKinnon, 1988), for example regarding the acceptance of rape myths.

It might be reasonable to hypothesise that all of the above could be most pertinent to those in the process of sexual development, i.e. young people, Pornography exposure may impact on this development by the learning of unhealthy behaviours and attitudes, especially when pornography exposure represents their first sexual experience, and the presence of mediating factors promoting prosocial sexual development are lacking. This learning of sexuality from pornography has been suggested to impact the development of sexual scripts (Gagnon & Simon, 1973), which relates to an individual's cognitive mapping of their sexual world. Pornography could influence the development of

these sexual scripts, including an individual's perceptions of their own and others sexual roles, and what constitutes good sex (Stulhofer, Busko, & Landripet, 2010). Adults are mostly assumed to have sexually developed, and perhaps possess established sexual scripts, and therefore might be less impacted by pornography use.

Research has examined many issues regarding pornography and its impact on adult viewers, but limited consensus between research is common, resulting in a subject where the literature is inconsistent (Fisher & Barak, 1991). Research on the availability of pornography and the rates of sexual offences finds no simple relationship (Diamond & Uchiyama, 1999). Diamond, Jozifkova and Weiss (2011) found that in the Czech Republic the number of reported cases of child sexual abuse declined significantly after pornography, including the possession of IIOC, was legalised. This could indicate that pornography serves a cathartic or habituation effect for some individuals, and perhaps causes a diversion from contact offending. However, this type of research only provides trend information, and cannot indicate a causal link. Other research has found that pornography has a negative impact on some individuals' behaviour, resulting in those being exposed to pornography being more likely to engage in sexually aggressive behaviour (D'Abreu & Krahe, 2014; Demare, Lips, & Briere, 1993).

This mix of results is also found for attitudinal beliefs. Allen, Emmers, Gebhardt and Giery (1995) failed to find an association between rape myths or attitudes supportive of violence against women and pornography in non-experimental studies. However, Hald, Malamuth and Yuen (2010) cited problems with Allen et al. (1995), regarding the inclusion of certain studies and an error in the

statistical analysis. Hald et al. (2010) found an overall positive association with attitudes supportive of violence, albeit based on a small number of studies (n = 9). Oddone Paolucci, Genuis and Violato (2001) found a positive relationship between pornography use and rape myths, with Lyons, Anderson and Larson (1994) finding in their systematic review on aggressive and nonaggressive pornography that 70% of the studies indicated a causal effect of pornography on issues including rape aggressive attitudes and behaviours towards women. However, both Oddone Paolucci et al. (2001) and Lyons et al. (1994) included only peer reviewed studies, and could therefore have been subject to publication bias.

The issue of pornography effects remains complicated. A possible contributing factor to these inconsistent findings could be differing definitions of 'pornography' (Seto et al., 2001). Research has referred to a number of descriptors including erotica (Barak & Fisher, 1997; Fisher & Grenier, 1994), violent/non-violent (Malamuth & Ceniti, 1986), dehumanising (Check & Guloien, 1989), egalitarian (Bauserman, 1998), and aggressive (Gonslaves, 2010). With such wide ranging operationalisations of pornography, it is unsurprising that results have been unclear. Additionally, differing methodologies are likely to cause discrepancy. Allen et al. (1995) found that results differed for rape myths depending on whether the studies were experimental or not. Importantly however, is the recognition of individual differences, reflected prominently with the discussion of pornography's impact within the Confluence Model (Malamuth, Addison & Koss, 2000). The model states that there are certain individuals that are likely to be harmed by frequent pornography exposure; those with pre-existing risk indicators of hostile masculinity and sexual promiscuity. The model

hypothesises that these factors will interact with pornography exposure to put these individuals at more risk of engaging in sexual aggression. This model has received support within the literature (e.g. Baer, Kohut & Fisher, 2015), and could account for differing results, particularly for research that does not account for individual participant differences.

This issue of the impact of pornography has become more prominent with the invention of the Internet. The Internet has increased the availability and accessibility of many types of pornography, with there no longer being the need for individuals to expend much effort to obtain pornography, nor contend with issues such as lack of confidence or embarrassment. The Internet allows pornography access without leaving the privacy of one's own home and where the majority of material can be obtained at no cost. Selwyn (2008) found that 40% of a student sample had viewed online pornography, but only 5% had paid for it. The Internet offers 'Anonymity, Accessibility and Affordability' (Cooper, 1998).

This online access includes legal pornography i.e. previously found via mainstream magazines and videos, which has been the focus of the majority of research. However, the Internet has also increased the amount of and access to illegal pornography (by UK law), such as IIOC and pornography depicting sexual violence and bestiality (extreme pornography). Before the Internet, accessing illegal pornography required considerable effort and risk. Given the ease of acquisition, the access and impact of illegal pornography is an important issue in today's technological age. The effect that this type of sexual material may have on a viewer's attitudes towards, and engagement in, sexually abusive

behaviours, is of growing concern. Consequently, pornography remains an important consideration when examining sexual offending. A dynamic risk factor known to be associated with sexual offending is that of offence-supportive cognitions or attitudes (Beech & Ward, 2004), such as beliefs that sexual offending may be acceptable for a variety of reasons (e.g. that a child is not harmed by sexual contact). These cognitions are believed to be held by those who commit sexual offences (Mann, Webster, Wakeling, & Marshall, 2007). With increased access to illegal pornography, it may be that this pornography type could contribute to shaping the offence-supportive attitudes in those who sexually offend; research indicates that cognitive distortions do exist for those who have accessed IIOC (Seto et al., 2014; Taylor & Quayle, 2003). However, it is difficult to ascertain if these are the product of viewing such material, or an already existing attitude that has facilitated the individual's viewing behaviour. Concerns have also been raised regarding the potential for those who view IIOC to crossover to contact offending. It might be that this type of sexual material aids in encouraging abusive beliefs or lowering inhibitions in regard to engaging in abusive behaviour (Seto, 2013), however more evidence is needed to uphold the notion of crossover offending.

With pornography access being so readily available, the discussion continues around its potential harmful effects. It is important to consider the potential impact of pornography on an individual's attitudes and behaviour, given its easy availability online. Additionally, there may be important differences between viewers of legal and illegal pornography, and whether one pornography type means that the viewer is more likely to hold offence-supportive attitudes or

display sexual offence-related behaviour or whether this effect is general. These were focusses of the current systematic review.

2.2 Aims and Objectives

The aim of the systematic review (SR) was to examine the relationship between exposure to pornography (legal and illegal), and offence-supportive attitudes, and sexual offence-related behaviours with adult males. The inclusion of illegal pornography made this review different from previous reviews, which have tended to focus on legal pornography alone.

The objectives of this systematic review were:

- To determine if exposure to pornography has a relationship to the presence of offence-supportive attitudes.
- To determine if exposure to pornography has a relationship to the presence of sexual offence-related behaviour.
- To determine if the presence of the above outcomes differ between exposure to legal or illegal pornography.

2.3 Inclusion/Exclusion Criteria

The following criteria was set prior to the commencement of the review searches.

Population

Research participants were adult males (over 18-years-old). Studies that exclusively examined women or young people were excluded. Females were excluded as males appear to be the primary consumers of pornography (Böhm,

Franz, Dekker, & Matthiesen, 2014; Hald, 2006), so the majority of research necessarily includes male populations. Additionally, the review focussed on prohibited material (age restricted to adults only; i.e. 18 plus), so young people were excluded. Studies where the results for males and females could be separated were included. Studies focussing on the availability of pornography and rates of sexual offending without a specific gender or age breakdown were excluded due to the inability to ascertain whether any offences were committed by women or young people. Participants included both convicted sexual offenders, and those with no history of sexual offending.

Exposure

Participants were exposed to either legal (18 plus prohibited) or illegal pornography. Legal pornography included mainstream pornography magazines/videos/films/online material. Illegal pornography (as deemed by UK law) included IIOC (sexual images of children under 18), and extreme pornography as defined by the Criminal Justice and Immigration Act 2008. This act defines extreme pornography as 'pornographic images that depict acts which threaten a person's life; acts which result in or are likely to result in serious injury to a person's anus, breasts or genitals; bestiality; or necrophilia.' Studies focussed exclusively on narratives or audio recordings were excluded, due to the complication in establishing legality; by UK law, IIOC were illegal, however possessing a child sexual abuse narrative was not. Any duration of exposure was included.

Comparator

The review did not exclude studies lacking a control group. This decision was based on the ethical considerations that might prevent research from producing randomised studies for certain outcomes. Studies containing a control group were considered favourably within the quality assessment.

Outcome

The studies examined either offence-supportive attitudes/cognitions, and/or sexual offence-related behaviours.

Offence-supportive attitudes/cognitions – This included attitudes such as rape myth acceptance, attitudes supportive of sexual contact with children or animals, or attitudes supportive of a want/potential to commit a sexual offence or that minimised the seriousness of sexual offending or the harm caused to victims. Attitudes focussed on non-sexual offending (e.g., domestic violence) were excluded.

Sexual offence-related behaviours – Included convictions of sexual offending, online grooming, and/or concerning behaviours (e.g., masturbation to offence-related fantasies, perpetration of sexual aggression, or coercion). This outcome also included viewing IIOC after exposure to legal pornography. This outcome excluded behaviours related to legal but risky sexual behaviour (e.g., visiting a prostitute) and excluded outcomes focussed on sexual arousal (e.g. Penile Plethysmograph results).

In addition to the above exclusions, care was taken around the categorisation of outcomes. Where participants were convicted of a contact sexual offence, but pornography use occurred prior, the contact offence was considered an outcome. Where participants were convicted of an illegal pornography-related offence, this was considered an exposure, and the research needed to identify an outcome other than the conviction for illegal pornography.

Study Type

The review included only primary studies. Qualitative research was excluded due to the inability to establish a potential relationship due to the lack of statistical information or comparator. The review included all types of quantitative experimental and observational research.

Language

Due to the databases searched, almost all studies were of English language. However, one Portuguese study was included (D'Abreu, 2013), and translated via Google Translate on advice of the study's author.

2.4 Methods

The review focussed on studies between 1985 and 2015. This was due to the time frame during which the Internet became widely available. The first commercial dial-up Internet Service Provider was launched in 1989[1]. Given the focus on illegal pornography, this became more available through the Internet.

[1] The first commercial dialup ISP in the US was 'The World' and opened in 1989. It was founded by Barry Shein. http://theworld.com/~bzs/

Therefore, the time frame comfortably captured studies conducted during this period of availability.

2.4.1 Sources of literature

The Cochrane Library, Campbell Collaboration and EPPI Centre websites were accessed to ascertain whether any previous reviews existed on the current review aims. These searches did not reveal any previous reviews with the same focus as the current review. The following resources were used to obtain published and unpublished studies for the SR.

- Electronic databases – PsychINFO, Web of Science, NCJRS, PubMed.
- Hand searching reference lists from identified reviews and meta-analyses.
- Hand searching reference lists from key research papers.
- Contact with experts in the field of pornography and Internet sexual offending.

2.4.2 Search strategy

The following terms were used to search databases. Where relevant, subject mapping of each term was included, and topical-related searches conducted. All searches included title, abstracts and key words.

(porn* OR sex* mat* OR sex* imag* OR erotic*) AND (legal* OR illegal* OR child* OR abus* OR indecen* OR extrem* OR softcore OR hardcore OR violen* OR aggressi*) AND (attitud* OR cognit* OR sex* behav* OR offen* OR convict*)

The syntax for database searches can be found in Appendix 1.

2.4.3 Study Selection

Studies were initially searched by title, and excluded if it was clear they were unrelated to the review. The abstract was reviewed for the remaining studies and those unrelated were excluded. The remaining studies were included or excluded based on a full paper review. Some studies could not be obtained, namely unpublished dissertations, so the author was contacted via email (if the author could be located) and a request made to access the paper.

Each database reference list was searched in turn; PsychINFO, then NCJRS, then PubMed, and finally Web of Science. References were not collated within a reference management software so that duplicate references could be double reviewed to avoid exclusions in error.

Studies were initially included and excluded on the basis of whether the participants were adult males, pornography exposure was documented, and one of the outcomes was measured (see Appendix 2).

Once included papers were located from the databases, reference lists from identified reviews, meta-analyses, and research papers were hand searched. Once hand searching was completed, experts in the field of pornography and Internet offending were contacted with particular reference to grey literature.

Once all included studies were identified, each paper was data extracted and quality assessed by the author.

2.4.4 Data Extraction

A data extraction form (see Appendix 3) was used to extrapolate information from each study. The form included the following information:

• Population – target population, participant inclusion and exclusion criteria, recruitment process and participant characteristics.

• Exposure – medium of pornography exposure (online/offline), type of pornography exposed to (legal/illegal), duration and measurement of exposure.

• Outcome – the outcome measured, method of measurement and whether measures were validated.

• Analysis – statistics used, management of missing data, whether confounding variables were accounted for and analysis results.

2.4.5 Quality Assessment

Each study was quality assessed by the author in line with the same pre-specified criteria (see Appendix 4). After completing the initial quality assessment, twenty percent of the studies (n = 15) were assessed by a trained researcher with expertise in the field (IE) to ensure consistency. Disagreements were rectified via discussion.

2.5 Results

Figure 1 below presents the number of hits, exclusions, and inclusions from the SR searches.

The database searches accumulated in 11,226 hits, of which 11,071 were excluded by title, abstract or full paper. Of the remaining papers, 20 could not be obtained and attempts were made to locate the authors. The contact details

of eight authors were searched for but were not found. Twelve authors were emailed but no response was received and no paper obtained. Additional emails were sent to authors to locate papers, with these authors providing the requested paper. These papers were included within the database search statistics.

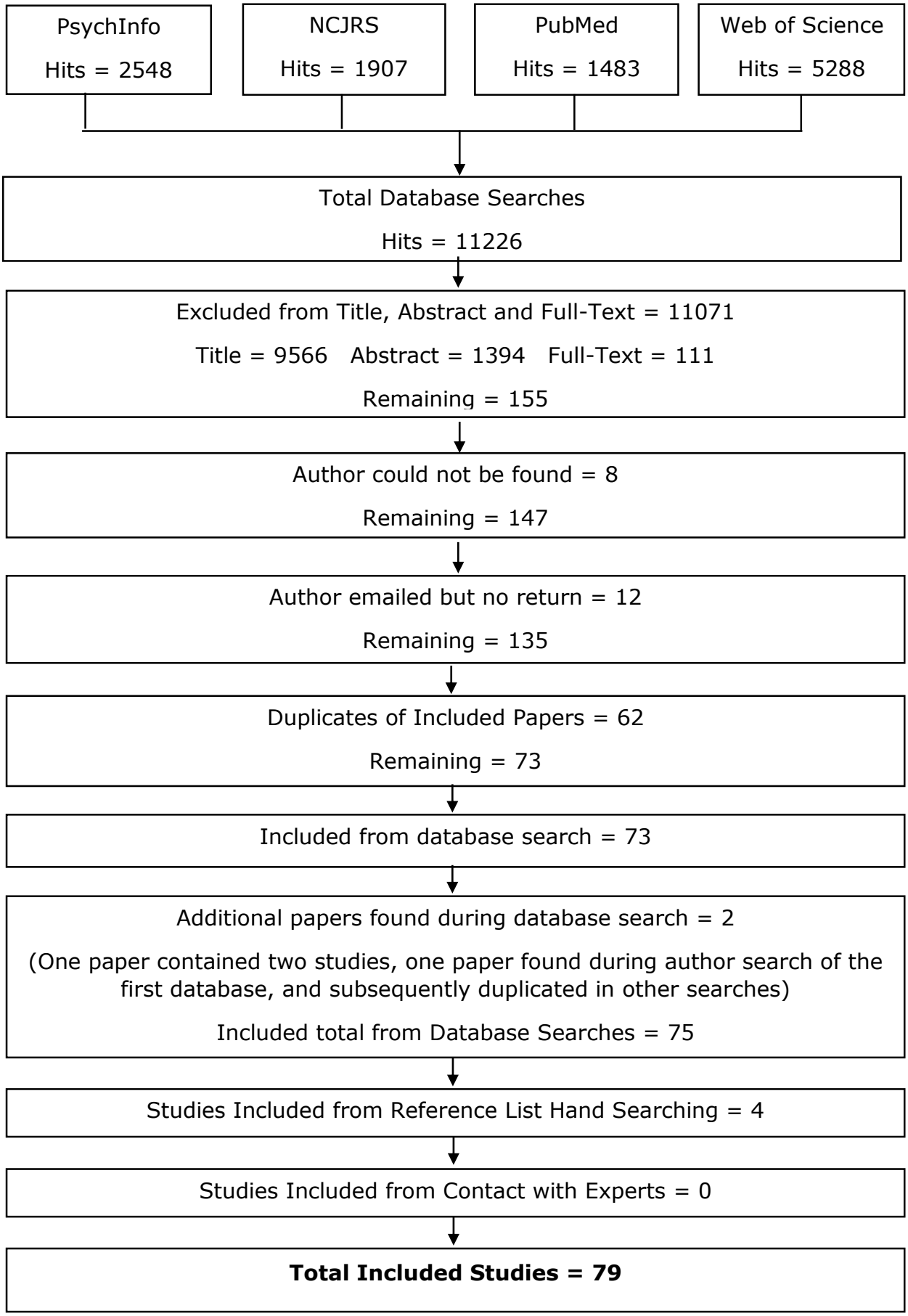
Seventy five papers were included from the database searches. These were from 73 separate references, with one paper including two primary studies (Barak, Fisher, Belfry, & Lashambe, 1999) and one paper being found during an author search within the first database (Ray, Kimonis, & Seto, 2013). This paper emerged during subsequent database searches and was classed as a duplicate. Sixty two of the included papers were duplicated within the database searches.

Four studies were obtained from hand searching the references lists of relevant meta-analyses and research papers (Babchishin, Hanson, & Hermann, 2011; Bauserman, 1996; Cowburn & Pringle, 2000; Linz, 1989; Long, Alison, & McManus, 2012; Lyons et al., 1994; Oddone Paolucci et al., 2001; Pollard, 1995; Seto et al., 2001). Three experts were contacted regarding unpublished studies, with a response waiting period of three months. No additional papers were obtained from these experts. This search strategy resulted in a total of 79 included studies.

The included 79 studies consisted of 12 quasi-experimental studies, where the allocation of participants to study conditions was under the control of the investigator. These studies are referred to throughout the review as 'experimental' studies. The remaining 67 studies were observational, due to the

pornography exposure being one of natural occurrence and not controlled by the investigator. These studies are referred to throughout the review as 'non-experimental studies'. Additionally, within the non-experimental, four were cohort studies, 22 were case-control, 33 were cross-sectional, and eight were case-series.

Figure 1. Flow Chart of SR Searches



The included studies differed regarding study characteristics, and will be discussed in more detail within the data synthesis. A table of the included studies can be found in Appendix 5.

2.6 Quality Assessment

Table 1: The frequency for type of bias for included studies.

Type of Bias	Low Risk	Unclear Risk	High Risk
Sampling and Selection	31	24	24
Exposure Measurement	53	19	7
Outcome Measurement	65	8	6
Attrition	71	8	0
Statistical	23	52	4

The most common bias type was for the sampling and selection of participants, with the least occurring bias being participant attrition. Each bias will be discussed regarding the common quality assessment issues that arose. The methodological hierarchy of included papers (experimental through to case series) will be discussed further within the data synthesis due to its relevance in analysing the importance of the study results.

2.6.1 Sampling and Selection Bias

This bias was based on whether the sample was generalisable, and the selection of participants was objective.

A large amount of the studies displaying this bias recruited their participants from students (Barak & Fisher, 1997; Bauserman, 1998; Fisher & Grenier,

1994), and often students studying psychology (Demare et al., 1993; Vega & Malamuth, 2007). These samples could not be viewed as generalisable. Additionally, given the age of students, this sample would have been likely to have had less access to pornography within their lifetime than a wider community sample.

Studies often recruited participants from one setting, be that one university (Foubert, Brosi, & Bannon, 2011), one prison (Gwee, Lim, & Woo, 2002), one probation area (Bates & Metcalf, 2007), or one treatment programme (Marshall, 1988). This limits the generalisability of findings i.e. IIOC offenders in the community would be likely to differ in comparison to IIOC offenders in custody.

Most participants were self-selecting, which has inherent biases. Given the sexual nature of the majority of the studies, it was likely that a certain type of individual would be willing to participate i.e. those more comfortable with discussing sexual issues. However, this bias would be difficult to manage due to ethical reasons.

2.6.2 Exposure Measurement Bias

The main issue regarding this bias was in defining the type of pornography. It was difficult at times to ascertain legal from illegal pornography, other than the division between pornography depicting adults versus IIOC. Some studies contained pornography defined as 'violent' or to depict rape (Check & Guloien, 1989; Demare, Lips, & Briere, 1988; Foubert et al., 2011), but it was unclear whether this pornography would have reached the definition of 'extreme' pornography as stipulated by UK law. Additionally, studies would often ask

participants to self-report their pornography use via questionnaires (Klein, Kennedy, & Gorzalka, 2008; Lam & Chan, 2006; Wurtele, Simons, & Moreno, 2014). In these cases, some studies would not define what was meant by pornography, providing statements such as 'sexually explicit material' or images depicting sexual intercourse (D'Abreu & Krahe, 2014; Thompson & Morrison, 2013).

Regarding IIOC offenders, it was uncommon for studies to report the length of time participants had been accessing IIOC, which could have been important for the outcome variables.

For the majority of studies, the measure of exposure tended to be self-report, making it susceptible to socially desirable responding. Of the 79 studies, only 12 were experimental, whereby the pornography exposure was in a laboratory setting. In these circumstances the exposure tended to be well controlled, with explicit definitions and time frames given.

The majority of studies had a control group of some kind, however this differed depending on the original sample. Only seven papers did not contain a control group, and for all of these the participants were sexual offenders. For community samples, the control was either that the sample was compared to one another, i.e. low versus high pornography exposure, or the sample was divided into groups (in experimental studies) with one group being a 'no exposure' control group. However, for studies on IIOC offenders, the control group was usually contact child sexual offenders (CCSOs) or mixed offenders (MOs: with both Internet and contact offences). The extent to which these groups could be

referred to as control was questionable. There was a noticeable dearth in studies comparing IIOC offenders to a community control sample.

2.6.3 Outcome Measurement Bias

Improving on the exposure bias, 25 studies used at least one objective measure of outcome, however all but one were focussed on sexual offenders. The outcome measures included police records, convictions, and polygraphs. For research on community samples, the measure of outcome was usually a self-report questionnaire. Given the nature of the outcomes i.e. likelihood of sexual coercion/aggression, self-report might have encouraged socially desirable responding. However, without police records, these would be difficult measures to obtain objectively, resulting in a common bias for many studies.

Almost half of the studies (35) did not account for any confounding variables, which meant that it could be difficult to attribute any results purely to pornography use. For some studies, the reason for this was that the focus of the study was not pornography, and pornography exposure was one variable of many. Therefore, it would be important to treat the review results with caution due to the lack of confounders/control variables in a large amount of the studies.

2.6.4 Attrition Bias

Where relevant, most studies reported on the amount of attrition and how that was managed; often by removing participants from the analysis. Where this bias was unclear reflected a lack of clear reporting on any present attrition, or how that was dealt with.

2.6.5 Statistical Bias

When statistical bias was high, this tended to result from the study not using statistics that could have indicated statistical significance, even though the data had scope to make this possible. Some studies did not use these types of statistical methods and used descriptive statistics, but this was appropriate for the data (Buschman et al., 2010; Middleton, Elliott, Mandeville-Norden, & Beech, 2006).

The inflated amount of studies with an unclear assessment on this bias related to the lack of reporting of whether the assumptions of statistical tests were met, and whether the power of the data was acceptable. However, although not explicitly stated, 32 of the 52 studies utilised a large sample meaning acceptable power might have been more likely.

2.7 Data Synthesis

The type of pornography studied in the papers ranged from legal pornography magazines to IIOC. Forty four studies examined participants' use of or exposure to legal pornography, and 22 studies focussed exclusively on exposure to illegal pornography. Five studies included exposure to illegal and legal pornography. For eight studies the division was unclear as it included 'violent' or 'rape' pornography. It may be that these types of pornography would be deemed illegal in the UK, but not at the time of the research. Ten studies did not specify the pornography type, however it would be reasonable to insinuate that legal pornography was being referred to, so these are included in the legal pornography figures above. However, illegal pornography may have been included in participants' interpretation of the questions. Given this difficulty in

ascertaining the categorisations of pornography, the data synthesis will focus on the division of outcomes. However mention will be given at the end of this section regarding whether the relationships with pornography appeared different for legal versus illegal pornography.

2.7.1 Offence-supportive Attitudes

Table 2 gives the frequency of studies examining offence-supportive attitudes and whether a relationship with pornography was found. 43 papers examined one or more offence-supportive attitudes. The number of studies that showed some relationship (k = 20) were fairly evenly matched with those that did not (k = 23). However as shown in table 2, the studies differed regarding the attitudes examined, and study type. Additionally, studies often documented more than one attitude or behaviour. Therefore some studies feature more than once in table 2 due to them examining more than one type of offence-supportive attitude.

Table 2: Studies examining offence-supportive attitudes and the frequency of relationships

Attitude	Relationship		No Relationship		Total No. of Studies
	Experimental (k = 3; n = 849)	Non experimental (k = 23; n = 7931)	Experimental (k = 12; n = 1128)	Non experimental (k = 21; n = 4472)	
Rape Myth Acceptance	0	6	5	7	18
Acceptance of Interpersonal Violence	0	5	2	4	11
Likelihood of Sexual Offending	3	10	3	1	17
Cognitive distortions, emotional congruence and/or Empathy*	0	2	0	7	9
Perceptions of offending and/or Victims	0	0	2	2	4

*This attitude included no experimental studies

2.7.1.1 Rape Myth Acceptance (RMA)

Eighteen studies comprising 4,586 participants reported on RMA. The hierarchy of studies varied greatly, being experimental (k = 5), case control (k = 1) and cross-sectional (k = 12)[2]. All studies focussed on legal or unclearly defined pornography; none focussed explicitly on illegal pornography.

Six studies found a relationship between pornography exposure and RMA. Three found a relationship with mainstream pornography (Bleecker & Murnen, 2005;

[2] Studies were considered case-control if participants were in predefined groups i.e. fraternity males and non-fraternity males. Studies were considered cross-sectional if all the research data were collected at one time point, with one participant group.

Check & Guloien, 1989; Vega & Malamuth, 2007). However Bleecker and Murnen (2005), who examined 'pin ups' in the bedrooms of fraternity and non-fraternity males, found that RMA was also related to the level of degradation in the images, and fraternity membership. Therefore, it was possible the results were the product of a fraternity culture as opposed to exposure to images. Garcia (1986) found that overall pornography exposure was related to the attitude that women should not resist rape, but that exposure to violent pornography was related to a higher amount of RMA including women being responsible for rape prevention, rapists should not be severely punished, and rapists are normal. Similar findings were reflected in Foubert, Brosi and Bannon (2011) where RMA was only related to S&M (defined as depicting bondage, whipping and spanking but without explicit lack of consent) and rape pornography, and not mainstream. Barak, Fisher, Belfry and Lashambe (1999) found that self-reported use of pornography was significant in the regression predicting rape myths. However, this study also conducted an experimental exposure and found no relationship between pornography and RMA.

For the majority of studies (k = 12) no relationship was found between exposure to pornography and RMA (Barak & Fisher, 1997; Barak et al., 1999; Bauserman, 1998; Bogaert, Woodard, & Hafer, 1999; Briere, Malamuth, & Check, 1985; Carr & VanDeusen, 2004; Demare et al., 1988; Fisher & Grenier, 1994; Gonslaves, 2010; Monto & Hotaling, 2001). For two studies a negative relationship was cited, indicating that exposure to pornography was related to lower RMA (Klein et al., 2008; Taylor, 2006). None of the experimental studies, i.e. those higher in the quality hierarchy, found a relationship between RMA and exposure.

These results indicated that more often than not, pornography exposure was not related to RMA, unless under certain circumstances, such as with more violent pornography.

2.7.1.2 Acceptance of Interpersonal Violence (AIV) / Violence against women

This attitudinal outcome encompassed the acceptance of violence against women, of which sexual violence was a prominent factor. This was judged by the items present within the outcome measures.

Eleven studies comprising 6,488 participants examined this issue, with five finding a relationship between pornography exposure and the outcome, and six not. All focused on community males and legal pornography. It was interesting to note, as with RMA, that both the experimental studies found no relationship between pornography alone and the AIV.

For studies that found a relationship, Vega and Malamuth (2007) found a correlation between pornography and AIV, and Check and Guloien (1989) found a significant difference between high and low pornography users and their AIV. Crossman (1995) found hostility towards women (which was unrelated to non-sexual aggression), correlated with pornography exposure. Busch, Bell, Hotaling and Monto (2002) examined attitudes regarding violence against women and interest in violent sexual practices for men arrested for trying to hire a prostitute, and found that greater use of pornography videos correlated with both outcomes. Malamuth, Hald and Koss (2012) examined a combined scale of RMA and AIV and found that there was a correlation between the frequency of

viewing sexually explicit men's magazines and the combined scale's Z-score. However, it was also found that this correlation was mediated by risk level, so those participants deemed most 'at risk' of sexual aggression had the strongest relationship between pornography and these attitudes. This could indicate that individual differences are important regarding the impact of pornography on attitudes such as AIV. Similarly, Hald and Malamuth (2015) found no relationship for use of pornography alone, only one that was mediated through agreeableness; those with low agreeableness had more concerning attitudes.

The remaining five studies found no relationship between any pornography type and AIV against women (Briere et al., 1985; Carr & VanDeusen, 2004; Demare et al., 1988; Fisher & Grenier, 1994; Gonslaves, 2010).

The AIV outcome produced mixed results, but those studies that examined mediating factors found that these were of importance, and studies with the more robust experimental designs indicated no relationship. What could be equally important to consider was that when a relationship was cited, this was mostly (in 4 of the 5 studies) correlational in nature, meaning that no judgments could be made about causality.

2.7.1.3 Likelihood/indication of committing a sexual offence

Seventeen studies comprising 3,780 participants examined a relationship between pornography and the likelihood of committing a sexual offence or engaging in sexual aggression. For all but one of these studies, the participants were community males. Six studies were experimental, nine cross-sectional, one case-control, and one case series.

Of the 16 community male studies, the majority (k = 13) found some relationship between pornography exposure and reported likelihood of sexual offending/aggression.

Three community participant studies found no significant link between pornography and the likelihood of sexual harassment (Barak et al., 1999), attraction to sexual aggression (Bauserman, 1998), or likelihood to rape (Malamuth & Ceniti, 1986). The above studies were all experimental. For the study that was not with community males (Riegel, 2004), this was case series study of 'boy-attracted' males, some being convicted CCSOs. Participants were asked if viewing boy erotica increased their tendency to want to find a boy victim. The response from the majority of participants was that it did not, and that boy erotica actually redirected their urges, and a useful substitute for actual sexual contact with boys.

Four studies examined the likelihood of sexual offending regarding sexual interest in children, all of which found a relationship. Wurtele, Simons and Moreno (2014) found that men with a 'sexual interest in children' (including the likelihood of having sex with a child) were significantly more likely to view 'sexually explicit websites' and to have had early exposure to pornography, than those with no interest in children. Briere and Runtz (1989) found that attraction to and likelihood of having sex with a child were related to masturbation to pornographic books, magazines, and films, but not to pornography use itself. This finding indicated that the interaction between the individual and pornography was an important factor. Hegna, Mossige and Wichstrom (2004) found a relationship in older adolescents (18-19 years old) between the

frequency of their pornography use (books, magazines, films, and 'cyber' material) and their reported likelihood of having sex with a 13/14-year-old. However, Hegna et al. (2004) found that this relationship was not present for IIOC ('pornography material depicting children'), which was contrary to Ray et al. (2013), who found that users of IIOC were significantly more likely to report that they would have sex with a minor than those who did not view IIOC.

Two studies examined sexual harassment proclivity, and both found a relationship between pornography use and the likelihood of sexual harassment (Barak et al., 1999; Lam & Chan, 2006).

Spokes, Hine, Marks, Quain and Lykins (2014) examined the point in which participants indicated they would stop the behaviour within a date rape vignette, finding that the optional viewing time of 'non-consensual' pornography predicted later stopping. Bouffard and Miller (2014) found that pornography condition (depicting heterosexual consenting sexual activity) was related to participants' reporting of 'trying to get the female drunk' in order to engage in sexual activity. However, in this study reported sexual arousal was also related to a greater likelihood of coercive behaviours including using force and saying things participants did not mean.

Five studies examined the likelihood for sexual aggression, including sexual assault, forced sex and/or rape, and found a relationship with pornography exposure. Crossman (1995) found that pornography use significantly contributed to predicting the likelihood of rape, and Foubert et al. (2011) found that exposure to mainstream, S&M and rape pornography were all related to the

participants' reported likelihood of committing rape and sexual assault. However, for the majority of studies examining the likelihood of sexual aggression (k = 3), the relationship was dependent on pornography type. Demare, Lips and Briere (1993) found only violent pornography predictive regarding the likelihood of sexual aggression, whereas non-violent pornography was not. Similarly, Demare et al. (1988) found a relationship was only present between sexually violent pornography, and not between violent or nonviolent pornography, and reported likelihood of committing rape. Check and Guloien (1989) found a relationship between the likelihood of rape/forced sex for violent and dehumanising pornography but not for erotica. Therefore there appeared to be a link between the violence portrayed in the pornography and the attitude of reported likelihood of committing sexual violence.

Overall, studies show a link between violent pornography exposure and the likelihood of sexual offending/aggressing. However, this outcome is based on hypothetical situations, and different to actually engaging in the behaviour.

2.7.1.4 Cognitive Distortions (CDs), Emotional Congruence (EC) and/or Empathy

Nine studies comprising 1,835 participants examined at least one of these outcomes; CD, EC, and empathy. All were focussed on deviant sexual interest in children, with the target population being sexual offenders. Seven studies were case control, one cross-sectional, and one case series. For eight studies, the focus was on IIOC (illegal pornography) offenders.

Three studies examined all three outcomes, comparing IIOC offenders to CCSOs (Bates & Metcalf, 2007; Elliott, Beech, Mandeville-Norden, & Hayes, 2009) and MOs (Elliott, Beech, & Mandeville-Norden, 2013). In all of these, IIOC offenders had lower CDs, less EC and less victim empathy deficits than CCSOs. This finding was replicated by Merdian, Curtis, Thakker, Wilson and Boer (2014) who examined the CDs of IIOC offenders in comparison to CCSOs and MOs, finding that IIOC offenders had the lowest amount of distortions of all offender groups. Webb, Craissati and Keen (2007) examined attitudes supportive of sexual offending indicated by the Stable 2000 assessment, finding that IIOC offenders had less problems with these attitudes that CCSOs. Although a case series with no comparison group, Middleton, Elliott, Mandeville-Norden and Beech (2006) found the results for CDs and EC for IIOC offenders showed only a small number of IIOC offenders (n = 9, 12.5%) were elevated on these measures.

Howitt and Sheldon (2007) was the only study that found IIOC offenders to be elevated in comparison to CCSOs and MOs on any CD measure. This was for 'children as sexual objects' which could be an understandable finding given the manner in which children might be portrayed in IIOC. Simons, Wurtele and Heil (2002) examined sexual offenders and their use of legal pornography, and found that greater legal pornography use was related to empathy deficits regarding children.

All of the above studies indicated that exposure to IIOC itself was not related to problems with CDs, EC, or less empathy for children. However, caution is required due to the comparison groups used tending to be CCSOs. Results indicate that exposure to IIOC is not related to the outcomes, but only in

comparison to those with a recognised sexual interest in children. It might be that IIOC offenders would be more likely to present with higher CDs, EC, or less empathy when compared to community controls. Neutze, Seto, Schaefer, Mundt, Beier (2011) reflected this, finding that IIOC offenders, CCSOs and MOs did not differ on their level of CDs or empathy for children. The lack of studies comparing those who have accessed IIOC to general community males makes it difficult to draw conclusions regarding IIOC offenders' level of deviancy.

2.7.1.5 Perceptions/attitudes toward sexual offending/victims

Four studies, comprising 951 participants, examined participants' perspectives of some aspect of sexual offending.

The two studies that examined issues around tolerance of offending behaviours were cross-sectional. Lam and Chan (2006) examined the relationship between pornography and perceptions of sexual harassment. Davies (1997) examined participants' views regarding whether they were in favour of laws and punishment for martial and date rape. Both studies found no relationship between pornography exposure and the participants' tolerance of these sexual offences.

Two studies that examined victim issues used experimental methodology. Linz, Donnerstein and Penrod (1988) found no relationship between X-rated non-violent film exposure and participants' views on victim sympathy, injury, or resistance, and responsibility in a vignette task. Bouffard and Miller (2014) validated this, finding no difference in pornography condition (pornography exposure vs. no exposure) regarding participants' views of a victim's willingness

and pleasure in a date rape scenario. However, the latter study found participants reporting more sexual arousal, reported the victim to have been more willing, and gained more pleasure from the offence. This highlighted a potential difficulty with experimental studies regarding whether the pornography that participants are exposed to results in sexual arousal. If sexual arousal is important for influencing attitudes, pornography may impact on victim perceptions due to pornography being arousing for that individual. Individuals are likely to seek out pornography to meet their individual arousal needs, which may not be the case for pre-chosen stimuli used in experimental studies.

Nonetheless, the above studies failed to find a systematic relationship between pornography exposure and the aforementioned perceptions of sexual offending tolerance and victims.

2.7.2 Sexual Offence-Related Behaviour

Forty eight studies examined a relationship between pornography exposure and sexual offence-related behaviour. Of these, 30 studies found such a relationship, whereas 18 did not. Six studies were case series, where no comparison group was present. However, a relationship was considered present if the majority of participants reported the outcome. As with offence-supportive attitudes, some studies appear in table 3 for than once due to the study examining more than one type of sexual offence-related behaviour.

Table 3: Studies examining sexual offence-related behaviour and the frequencies of relationships.

Behaviour	Relationship		No Relationship		Total No. of Studies
	Experimental (k = 1; n = 80)	Non experimental (k = 31; n = 9770)	Experimental (k = 1; n = 63)	Non experimental (k = 18; n = 2914)	
Sexual Offending/ Aggression/ Coercion*	0	17	0	5	22
Deviant Sexual Fantasy	0	4	1	1	6
Escalation / Seriousness of Offending	1	10	0	12	23

*This behaviour included no experimental studies

2.7.2.1 Sexual Aggression, Sexual Offending and Sexual Coercion

Twenty two studies (n = 8,243 participants) examined a relationship between pornography exposure and the above outcomes. These studies primarily took two forms; those where community males was asked about their pornography use and their perpetration of sexual aggression/coercion (k = 15), or those where sexual offenders were asked about their use of pornography compared to control participants or used as a predictor (k = 7). There were no experimental studies for this outcome, which was likely to reflect ethical issues. Thirteen studies were cross-sectional, seven were case-control, and two were cohort studies.

Where sexual offenders were the target population, only two studies found a difference between sex offenders and controls. Gwee, Lim and Woo (2002) found that rapists used more pornography in the six months prior to their offence than

non-violent offender controls, however there was no difference when compared to violent controls. Similarly, Marshall (1988) found that CCSOs and rapists used more pornography than controls currently but no difference was cited regarding pubescent use of pornography. In the remaining studies (k = 5), no difference was found between sex offenders and controls for exposure to pornography (Kearns Condron & Nutter, 1988; Pawlak, 1996), with some even finding that controls used more pornography (Langevin et al., 1988) or were exposed at an earlier age (Nutter & Kearns, 1993). Pornography did not contribute to the prediction of sexual recidivism in a group of CCSOs after controlling for risk level (Kingston, Fedoroff, Firestone, Curry, & Bradford, 2008). However, Nutter and Kearns (1993) did find that more sex offenders than controls used pornography during their first masturbatory experience.

Two of the above studies also examined exposure to illegal pornography. Kingston et al. (2008) found that although legal pornography use did not contribute to sexual recidivism prediction, deviant pornography (IIOC and/or violence) did; those who had viewed deviant pornography were more likely to recidivate. Langevin et al. (1988) found that although there was no difference between controls and sex offenders for regular pornography use, sex offenders had seen or bought more child erotica.

Regarding studies of community males, the majority (13 out of 15 studies) found a direct link between pornography and sexual aggression/coercion. Vega and Malamuth (2007), Crossman (1995), Malamuth, Addison and Koss (2000), Check and Guloien (1989), Bouffard (2010) and Carr and VanDeusen (2004) all found that pornography exposure was related to participants' reported sexual

aggression. Busch et al. (2002) found this was the case for pornography videos, with Demare et al. (1993) finding it to be the case for violent (but not non-violent) pornography. Wright, Sun, Steffen and Tokunaga (2015) found that pornography consumption related to participants' interest and participation in sexually aggressive behaviours, including hard spanking, forced sex, face slapping, choking, and penile gagging. Thompson and Morrison (2013) found a correlation between pornography use and technology-based sexual coercion, with pornography being one of five significant predictors in the regression. Simons, Simons, Lei and Sutton (2012) found that pornography was related to sexual coercion, and D'Abreu (2013) found that participants reporting sexual assault behaviour reported greater pornography consumption. D'Abreu and Krahe (2014) found that pornography exposure related to sexual aggression at two time points, however pornography use at time point one was only indirectly related to sexual aggression at time point two.

Others have not found a relationship between and sexual aggression/coercion. Gonslaves (2010) found no relationship between exposure to different pornography types and sexual coercion, and Ray et al. (2013) found only an indirect link between pornography use and the viewing of IIOC, which was mediated through sensation seeking.

These studies provide a mixed picture regarding pornography impact, with those focussing on the pornography use of sexual offenders indicating no link to sexual aggression, whereas those with community males indicating the opposite, indicating a participant-based contradiction. Sexual offenders' socially desirable responding could have resulted in the lack of significant results when they were

the target population. Additionally, the contradiction could relate to the behaviour under consideration. For sexual offenders their behaviour was detected and serious enough to warrant conviction, whereas for community males, their behaviours appeared to be undetected, and may not be deemed antisocial. This could indicate a qualitative difference in the outcome behaviour being examined, i.e. sexual offending versus sexual aggression/coercion.

2.7.2.2 Deviant Sexual Fantasy and Behaviour

Six studies (n = 665 participants) examined pornography use and its relationship to deviant sexual fantasies and behaviours. These studies were mixed in terms of participants, with three focussing on offenders and three on community males. Studies differed in their type, with two being cross-sectional, two being case control, one experimental and one case series. Four studies indicated a relationship between pornography and deviant sexual fantasy.

Briere and Runtz (1989) found a relationship between reported sexual fantasies about children, and more masturbation to pornography, however this result was not significant for pornography use generally. Sheldon and Howitt (2008) examined IIOC offenders and compared them to CCSOs and MOs, finding that those who had accessed IIOC reported more girl-related sexual fantasies. For Buschman et al. (2010), IIOC offenders were asked about their masturbation to child fantasies. Two results were given, one a self-report, and one a polygraph examination. The two results differed, with four of the 25 self-reporting fantasies, rising to 19 out of 25 following polygraph testing. Therefore, there was indication that masturbation to child fantasies was engaged in by the majority of participants, and that the polygraph may elicit disclosure effects. Williams,

Cooper, Howell, Yuille and Paulhus (2008) found that for students, those that reported higher pornography use, reported a higher amount of deviant fantasies and behaviours including frotteurism, exhibitionism, and object fetishism. However, in a second study they found only a mediated relationship with deviant behaviour via greater psychopathy in participants.

Two studies did not find a relationship between pornography and deviant fantasies. Fisher and Grenier (1994) found no relationship between pornography exposure and violent fantasies, whilst Aslan and Edelmann (2014) found that when comparing IIOC offenders with CCSOs and MOs, IIOC offenders reported a significantly lower amount of deviant fantasies than MOs. They also reported less fantasies that CCSOs, but this effect was not significant.

The results of this outcome were also mixed in terms of participants, pornography type and outcome, however there appeared an indication that pornography had the potential of influencing deviant sexual fantasy for some participants.

2.7.2.3 Escalation and/or Seriousness of Behaviour

Twenty three studies (n = 4,354 participants) examined this outcome. The majority (k = 21) focussed on offenders, with two being cohort, six being cross-sectional, seven being case control and six being case series. Two studies examined community males, with one being cross sectional and one being experimental.

Of the offender studies, 14 focussed on the escalation of offending with IIOC offenders. This tended to be done in two ways; examining the recidivism or self-reported offending of IIOC offenders, or examining groups of offenders i.e. IIOC offenders and MOs, and researching the differences in their illegal pornography use.

Ten studies examined IIOC offenders' escalation of offending via recidivism and/or self-report, with distinct result differences depending on the method of measurement. Seven studies examined contact recidivism, all finding that this was low. Endrass et al. (2009) found that only 0.8% of participants were re-convicted of a contact offence. Seto and Eke (2005) found IIOC offenders with no criminal history less likely at follow-up to have committed a contact offence (only one did), with similar found in a later study by Seto and Eke (2015), where a low level of contact offending was committed at follow-up, and that most of these were by IIOC offenders with a contact offending history. Aslan and Edelmann (2014) found that when comparing IIOC offenders with MOs and CCSOs, IIOC offenders were the least likely to have been accused of a contact offence. Jung, Ennis, Stein, Choy and Hook (2013) also found IIOC offenders had the lowest recidivism of any group (contact or non-contact) and that none of the recidivism was for contact offending. Webb et al. (2007) also found that none of their participants committed a further contact offence. Eke, Seto and Williams (2011) found a low recidivism rate for contact offences (3.9%) amongst IIOC offenders, with a negative relationship between IIOC only offending and further contact offending. Research consensus is that contact reoffending by IIOC offenders is low, and that the IIOC offenders most likely to contact re-offend were those who had contact offended previously.

For the three studies focussed on the self-reported offending of IIOC offenders, all found the majority of IIOC offenders had committed a contact offence or engaged in high risk behaviour. For Buschman, Wilcox, Krapohl, Oelrich and Hackett (2010), polygraph examination indicated that 55% of participants had committed a contact sexual offence. Bourke and Hernandez (2009) found that 85% of participants admitted to contact offences, but only 26% were known in official records to have committed contact offences. Buschman et al. (2010) found that in self-report, one of 25 IIOC offenders self-reported cruising public places with the intention of seeking contact with children, but in polygraph this number rose to 15 out of 25. These studies highlight two important issues; the difference between self-report and recorded offences, but also the sequence of offending. In the latter three studies, there was no indication of whether the more serious offending took place before the IIOC offences. If so, these offenders would not be IIOC offenders but CCSOs who had also Internet offended; it would not show a relationship between exposure to illegal pornography and offending escalation.

Three studies examined IIOC offenders who had contact offended with those who had not regarding use of illegal images. Long, Alison and McManus (2012) found that IIOC-only offenders had more images than MOs, but that MOs had more level three and four images[3], and less level one movies, indicating that contact offending was related to exposure to more extreme IIOC. However,

[3] Sentencing Advisory Panel categorisation prior to April 2014: Level 1 - erotic posing with no sexual activity; Level 2 - Non-penetrative sexual activity between children, or solo masturbation by a child; Level 3 - Non-penetrative sexual activity between adults and children; Level 4 - Penetrative sexual activity involving children, or children and adults; Level 5 - Sadism or bestiality.

McCarthy (2010) found that MOs had larger IIOC collections, indicating that the amount of exposure could be important, and MOs reported significantly more masturbation to IIOC. McCarthy (2010) found no difference between groups for adult pornography use. Smid, Schepers, Kamphuis, van Linden and Bartling (2014) found IIOC offenders had more high level and extreme images than MOs, contradicting that of Long et al. (2012). In relation to the above, a fourth study by Briggs, Simon and Simonsen (2011) examined solicitation offenders and found that only a small number had accessed IIOC. These studies suggest that the amount or severity of images accessed does not indicate whether an IIOC offender had contact offended or not.

The remaining seven studies on offenders focussed on the seriousness of offences. Proulx, Blais and Beauregard (2007) examined sadistic and non-sadistic sexual offenders who victimised adults. They found that sadists were exposed to more pornography before age 18, but that no difference was found in the use of pornography 48 hours prior to the offence. Mieczkowski and Beauregard (2012) examined the level of force used in the offending, and found that pornography was the most frequent disinhibitor for penetration and violence beyond that needed to commit the offence, but not associated with using lethal force. Mancini, Reckenwald, Beauregard and Levenson (2014) found that pornography exposure in adolescence was related to early onset of offending, and pornography magazine use in adulthood was related to the frequency of offending. However, in this study, lots of the control variables were also significant, including age, relationship and poor self-image. Mancini, Reckenwald and Beauregard (2012) found that pornography use in adolescence was related to more humiliation in the offence, and increased victim injury, however the

injury result disappeared when the control variables were included. Interestingly, this study also found that pornography use prior to the offence was related to less victim injury, suggesting pornography had a cathartic effect in discouraging violence.

A similar finding was highlighted in Beauregard, Lussier and Proulx (2005), with pornography use 48 hours before the offence relating to less force, less injury to the victim, and less organisation of the offence regarding sexual offenders against women. Proulx, Perreault and Ouimet (1999) found pornography use 12 hours prior to the offence related to non-coercive and non-coital behaviour for CCSOs. However, pornography use was also found to relate to having male and stranger victims. This was interesting, given that male and stranger victims are viewed as aggravating risk factors for sexual offending. In turn, this suggests that pornography use might have been more relevant for offenders considered high risk. The final study, Simons, Wurtele and Heil (2002), found no direct relationship, only an indirect relationship to the number of child victims via empathy for children.

For the two studies involving community males, both found some relationship between pornography and the seriousness of behaviour. D'Abreu (2013) found that sexual assault, as opposed to sexual coercion, was related to more violent pornography, but also that general pornography use significantly contributed to the variance regarding the severity of the behaviour. Zillman and Bryant (1986) examined participants' exposure to pornography in an experimental study, and found that those in the massive exposure group (compared to no exposure) viewed more extreme pornography (S&M, bondage, and bestiality) in an optional

viewing condition. This indicated repeated viewing of pornography could result in habituation for participants, and a want to view more extreme material.

Escalation and seriousness was the most complex review outcome, with the largest lack of consensus. In some cases pornography acted as a catalyst for more serious behaviour, in others had a cathartic effect, and this could reflect individual differences in the participants. However, one consensus appeared to be the lack of relationship between exposure to IIOC and further contact offending. However, as the self-report studies showed, this needs to be considered in the light of offences that become known to the authorities.

2.7.3 Overall Relationships

Table 4: The frequencies of studies showing relationships within grouped outcomes.

	Relationship		No Relationship		Total No. of Studies
	Experimental	Non experimental	Experimental	Non experimental	
Offence-supportive attitudes	3	17	8	15	43
Sexual offence-related behaviour	1	29	1	17	48

Table 4 indicated, that in regard to the number of studies citing a relationship, that the most likely relationship to be found was one between pornography use and sexual offence-related behaviour, rather than between pornography use and offence-supportive attitudes. However, there was no significant difference between the number studies indicating a relationship compared to those that did not for both offence-supportive attitudes (χ^2 = 1.24, df = 1, p = .266), and

sexual offence-related behaviour (χ^2 = 1.11, df = 1, p = .293). For all chi-square analyses for the systematic review, see Appendix 6.

2.7.4 Legal versus Illegal Pornography

Regarding whether more relationships were evident for a certain type of pornography, findings reflected the main data synthesis, highlighting the complexity of the relationship with pornography.

Table 5: The number of results for each type of pornography for both attitudes and behaviours.

	Offence-supportive attitudes		Sexual offence-related behaviour	
	Relationship	No relationship	Relationship	No Relationship
Legal	14	13	19	10
Illegal	2	9	8	9

For offence-supportive attitudes and its relationship to legal pornography, the number of studies showing a relationship was fairly evenly split with those that did not, and as with the main analysis, showed no significant difference (χ^2 = .56, df = 1, p = .455). For illegal pornography, the split was not so even. However, this does not indicate that illegal pornography was less likely to relate to offence-supportive attitudes. This was a reflection of the difference in control groups depending on which type of pornography was being examined. Additionally, as with legal pornography, there was not significant difference for the number of illegal pornography studies regarding the presence of a relationship (χ^2 = 1.47, df = 1, p = .225).

In regard to sexual offence-related behaviour, the number of studies was reflective of the general results for this group of outcomes; the number of studies was greater for the presence of a relationship, but there was actually no statistically significant difference when compared to the number of studies not showing a relationship (χ^2 = .52, df = 1, p = .471). For illegal pornography, the majority of studies indicated no relationship, but again this was not significantly different in number to those that did show a relationship (χ^2 = .95, df = 1, p = .329).

There were eight studies in which the illegal and legal divide could not be made, and the pornography was deemed as violent or 'rape'. For three studies, no relationship was found between either violent or non-violent pornography, and any outcome. Three studies found a relationship with violent pornography, but not non-violent; two for offence-supportive attitudes, and one for both offence-supportive attitudes and sexual offence-related behaviour. Two studies found a relationship for both violent and non-violent pornography; for one study this was regarding sexual offence-related behaviour, and for the other it was offence-supportive attitudes. None of these studies found a relationship with non-violent pornography that was not present for violent pornography.

2.8 Discussion

This systematic review examined legal and illegal pornography and its relationship to offence-supportive attitudes and sexual offence-related behaviour. The results of the review indicated that this subject is complex, with no clear consensus regarding study results, a finding often cited by other researchers in this field (Fisher & Barak, 1991).

Overall, where the studies more often found a relationship, this was most between pornography and sexual offence-related behaviour. This could indicate that the behaviours depicted within pornography have the potential to be learnt and imitated by those that view them, giving rise to the possibility that Social Learning (Bandura, 1977) is of relevance to pornography use. However, the chi-square analysis showed that the difference between the numbers of studies showing a relationship compared to those that did not was not significantly different. This means that although a higher number of studies found a relationship, this does not translate into being a proven impact of pornography. It is also difficult to give directional conclusions; do people learn behaviour from pornography, or does engaging in the behaviour increase a persons' want to view pornography depicting that behaviour? There was also some indication of habituation (O'Donohue & Geer, 1985) and the progression to more extreme pornography (Zillman & Bryant, 1986) for some pornography viewers. The relationships were more unclear for offence-supportive attitudes, with the majority of studies examining RMA and all the studies for perceptions of offending showing no relationship. The chi-squared analysis for offence-supportive attitudes was again non-significant.

Examining the results purely in terms of the presence of a linear relationship was unhelpful for this particular review. Therefore, rather than producing clear conclusions regarding the impact of pornography, the review further highlighted important methodological issues within this field of study.

One issue was study type. For attitudes, the experimental studies more often validated a lack of relationship. This could indicate that with higher quality studies, with true control groups and more controlled exposure, this lack of relationship finding was more credible. However, it is worth considering whether the lack of results in these experimental studies was the product of short-term pornography exposure and whether longer-term exposure might have shown different results. This appeared to be validated by some studies finding that exposure in adolescence or 'early exposure' were important factors in their findings (Mancini et al., 2014; Wurtele et al., 2014). This could reflect the presence of already established sexual scripts (Gagnon & Simon, 1973), and perhaps that the altering of these scripts was possible (as some relationships in the studies were found), but only when the pornography exposure outweighs previous sexual learning, e.g. by occurring during sexual development, or by repeated long-term exposure.

Whilst robust in design, experimental studies lack ecological validity. Observational studies attempt to address this by asking participants about 'real world' pornography access, but mostly rely on self-report. This is impacted upon by potential socially desirable responding. This difficulty highlights a need for more longitudinal studies where pornography exposure could be measured over time.

The actual measurement of the outcome could also impact on findings. For example, the likelihood of sexual offending was the attitudinal outcome with the highest frequency of an association. However, it is important to consider the hypothetical nature of this outcome, which may not translate into actually

committing this behaviour. There was also indication within the review of the importance of the pornography type, indicating that violent pornography may specifically warrant further exploration in terms of its negative attitudinal effects. Several studies cited a relationship primarily with violent/aggressive pornography (Check & Guloien, 1989; Demare et al., 1988, 1993; Garcia, 1986), reflecting past reviews (Lyons et al., 1994).

Additional methodological issues that appeared to cause contradictory results were the target population and control groups. For cognitive distortions, emotional congruence and empathy, judging the studies purely on their results, access to IIOC had no relationship to these attitudes. However, clinically, and based on previous research (Seto et al., 2014; Taylor & Quayle, 2003), relationships appear to have been found. The contradiction rested with the lack of community control comparisons, with IIOC offenders being compared to CCSOs. Therefore, the review findings could not be taken as conclusive evidence.

For sexual aggression, more significant results were found in community males than for sexual offenders, which could indicate possible socially desirable responding by sexual offenders, but also perhaps a spectrum of seriousness (detected versus undetected offences), meaning that pornography could relate to more 'coercive' behaviour, rather than serious sexual offending. However, this could also relate to changing attitudes around what is acceptable and unacceptable sexual behaviour; behaviours considered coercive or aggressive in research might be considered culturally-acceptable sexual behaviour by some. Wright et al. (2015) showed that the amount of sexual behaviours individuals

were interested in or had tried, were often represented in pornography. This again could indicate Social Learning factors for some individuals, particularly in an age where pornography access is less restrictive.

However, this did not seem the case regarding behavioural escalation in IIOC offenders. This might be related to the strong societal views about contact sexual abuse of children, making it more difficult for individuals to justify crossing that boundary. There was some indication that pornography could redirect urges away from the contact offending against children (Diamond et al., 2011; Riegel, 2004), however, there was also indication that pornography had a relationship to deviant sexual fantasies (Sheldon & Howitt, 2008; Williams et al., 2008). When considering the concept of conditioning (Laws & Marshall, 1990), the more a person is sexual gratified by the use of pornography and fantasy, the more the behaviour involved is reinforced. This could be an important issue, especially regarding IIOC offenders, as it could indicate the presence of important risk factors such as shaping deviant sexual interest. There was indication in the review that sexual arousal and gratification was more important regarding the presence of a relationship, than exposure itself (Barak & Fisher, 1997; Bouffard & Miller, 2014; Briere & Runtz, 1989; Nutter & Kearns, 1993). Therefore, when we consider pornography, we must also consider individual differences in preference regarding a person's sexual arousal, and their history of interaction with pornography.

There was further indication within the review that individual differences in participants was an important factor regarding whether a relationship was found. Those studies that included mediating and control variables, often found a

relationship with them. These relationships included sensation seeking (Ray et al., 2013), agreeableness (Hald & Malamuth, 2015), and risk level (Malamuth et al., 2012). This finding, as well as the general overall non-consensus of results, indicated that there might be certain types of individuals for whom pornography exposure is more likely to have a negative impact. This appears a shared opinion within this field of study, and provides validation for models such as the Confluence Model (Malamuth et al., 2000).

There were a number of limitations of the current SR. One was that it cannot be assumed that the review contained all the studies on this well-researched and documented topic. References were searched thoroughly, however this subject has generated a great amount of research. One of the contacted experts reported possessing unpublished studies in the area of the review, however this research was not forwarded. This could mean that the review was biased in the direction of published research.

Another limitation, of the research in general, and therefore of the current review, were differences in pornography definition (Seto et al., 2001). This made it difficult for studies to be compared to one another in a meaningful way, and made one of the review aims difficult to obtain. The difficulty in definitions meant that any research difference regarding legal and illegal pornography was hard to establish and define. However, this definition was not always related to pornography and was also present for outcomes. Often the division between coercion and aggression was not clear, and this issue requires further examination.

The current review highlighted a lack of research examining those exposed to illegal pornography in comparison to a control sample, or a sample of males that had accessed legal pornography. The research that has been conducted on IIOC offenders has primarily focussed on comparisons with CCSOs or MOs offenders. These studies do not provide information regarding how different the views of legal pornography viewing adults are, compared to those who view illegal pornography. This information could aid understanding about the impact of illegal pornography and the risks it may pose, particular to those who may not have a pre-existing sexual interest in children.

2.9 Conclusion and Recommendations

In conclusion, as with most research examining the effects of pornography, the current SR could not find a consistent relationship between pornography and the examined outcomes. The results indicated that the presence of a relationship could be affected by the research method, target population, type of pornography, and participant differences. Non-experimental studies with a community sample examining exposure to violent/aggressive pornography appeared most likely to report a relationship. There was an indication that it could be most useful to focus on the individual differences in people that could result in them being more likely to be influenced by pornography. In practice, it appeared that exposure to pornography could impact on the attitudes and behaviours of certain individuals, which has important clinical considerations. Given the wide availability of online pornography, attention should be paid regarding how damaging this exposure is to certain people, such as those with long-term pornography exposure, high sensation-seeking, high psychopathy, and those already considered high risk of engaging in sexual aggression, i.e.

with pre-existing hostile attitudes (Confluence Model; Malamuth et al., 2000). Public education, particularly for young people, is of importance. Individuals should be informed of the potential impact that pornography may have, particularly violent/aggressive pornography, and the legal implications of access to this sort of pornography, including IIOC. More research is required on those who access illegal pornography in order to understand how this access may occur. This would aid in implementing prevention strategies, both in the online or offline environment, and for developing Practitioners' awareness of the factors that might put an individual at increased risk of being negatively impacted by pornography. More longitudinal research is important regarding mainstream pornography, in order to consider the longer-term impacts of viewing sexual material.

Chapter Three: Critique of the Explicit and Implicit Sexual Interest Profile (EISIP)

3.0 Abstract

The critique examined a new measure for assessing the presence of deviant sexual interest; the Explicit and Implicit Sexual Interest Profile (EISIP; Banse, Schmidt & Clabour, 2010). The critique discussed the reliability and validity of the EISIP, finding it have promise; however further validation is needed, with specific reference to the importance of establishing test-rest reliability. The critique discussed the concepts underpinning the measure (viewing time, implicit association test and self-report), due to the lack of published research on the EISIP specifically. Advantages were discussed for all of the EISIP measures, including reduced intrusiveness and that the paradigms appear to measure sexual interest. However, limitations were highlighted regarding some lack of clarity of how some of the measures determine sexual interest, as well as the potential for associations to be found for reasons other than sexual interest. The critique indicated that the EISIP could be a valuable measure to use to generate discussions with sexual offenders, but that currently it should not be used as the sole means of determining sexual interest. Additionally, the critique highlighted the importance that those administering and interpreting the EISIP holding good knowledge of the underpinning concepts and their limitations.

3.1 Introduction

An important risk increasing factor for sexual offending against children is deviant sexual interest (DSI). DSI has been found to be one of the strongest predictors of recidivism (Hanson & Morton-Bourgon, 2005). This critique will examine a new measure of DSI; the Explicit and Implicit Sexual Interest Profile

(EISIP; Banse, Schmidt, & Clarbour, 2010). The EISIP will be examined regarding its scientific properties, underpinning concepts and utility in measuring DSI with child sexual offenders.

3.2 The measure

The EISIP is computer-based and includes three methods of measuring sexual interest; a Viewing Time (VT) measure, Implicit Association Tests (IAT), and a self-report measure. It contains computer-generated, 'Not Real People' (NRP) images of males and females at different stages of maturity (see Appendix 7), presented according to the Tanner stages of development (Tanner, 1978).

The VT task requests individuals to rate how sexually exciting a person in an image is, using a Likert scale ranging from one (sexually unexciting) to five (very sexually exciting; see Appendix 8). The time taken to rate the image is recorded covertly in milliseconds. The rating and time scores are averaged according to Tanner stage and stimulus gender. These scores are ipsative, which makes the measure useful for individual clinical applications. However, no norms currently exist for the EISIP, meaning that a person's average scores on the VT cannot be compared to others; a problem cited with similar VT measures (Fischer & Smith, 1999). Additionally, providing average scores could potentially result in important preference information being lost regarding particular images.

On the VT self-report Likert scale, only a rating of one indicates no interest in the stimulus. This means that no 'neutral' value exists. This reduces ambiguity

when interpreting the ratings, as any rating above one indicates some sexual interest, and is an advantage of the VT.

In the IAT, individuals categorise images and words using keys on the computer keyboard (see Appendix 9). Three IATs are used with image categories of woman-man, woman-girl, and man-boy, and the word categories of 'sexually exciting' and 'unexciting'. Each IAT has five blocks. The first two blocks are used to obtain discrimination for 10 words, classifying them as 'sexually exciting' or 'unexciting', and classifying 10 pictures as being a man or woman. The third block mixes both tasks. The fourth block replicates the second, but with reversed key assignments. The fifth block is the same as block three but with key assignments to match block four. The IAT is scored by calculating the difference between the average latencies of blocks three and five, divided by the pooled standard deviation of response latencies (Greenwald, Nosek, & Banaji, 2003). This results in an effect score (the closer to 1 or -1, the stronger the effect). This is repeated for the categories of woman-girl and man-boy.

The self-report Explicit Sexual Interest Questionnaire (ESIQ) comprises two subscales; sexual behaviour and sexual fantasy (see Appendix 10). It contains 40 items, with 10 items (5 behaviour and 5 fantasy) per person type (man, woman, boy or girl). Items are scored as a dichotomous 'Agree'/'Don't Agree'. The scale scores are calculated from the number of 'Agree' responses divided by the number of items.

On completion of the EISIP, graph profiles are produced presenting the raw data (see Appendix 11).

3.3 Research using the EISIP

The EISIP is a new measure, with currently only three published studies using it (A. Schmidt, personal communication, October 15, 2014). However, the measure appears able to discriminate between sexual offender (SO) subtypes, and between CCSOs and controls.

Banse et al. (2010) found significant differences between CCSOs and controls on all the subscales except for the difference between a preference for men and boys. The ESIQ was significant regarding victim gender, with boy-only offenders showing a stronger interest in boys and little interest in girls, and vice versa. All but one VT category showed group effects; there were no group differences regarding women. For the IATs, the woman-man, woman-girl and averaged adult-children produced significant group differences between CCSOs and controls.

Schmidt, Gykiere, Vanhoeck, Mann and Banse (2013) examined DSI in intra-familial, extra-familial and indecent image offenders. The results showed that most of the EISIP measures correlated with the Screening Scale for Pedophilic Interest (Seto & Lalumiere, 2001). The results indicated that intra-familial offenders with girl victims appeared to be primarily non-deviant, with positive correlations indicating sexual interest in women on the ESIQ and VT. This highlighted the importance of not making assumptions regarding DSI and those who abuse children.

Schmidt, Mokros and Banse (2013) examined SOs and controls as to whether DSI was a continuous or categorical phenomena. During latent profile analysis,

two (non-random) clusters emerged, one being the 'paedophilic' group. No SOs against adults, or non-offenders were in this group. The authors felt the analysis indicated the presence of a categorical interpretation of paedophilic preference. However, the number of participants in the 'paedophilic' group was significantly smaller than the other group (74 versus 230). Furthermore, with 183 CCSO participants, the majority of CCSOs were not within the 'paedophilic' group. Therefore, although the research indicated that the EISIP could discriminate between CCSOs and controls, it illustrated the importance of not using the measure as a diagnostic tool, and also the non-categorical nature of paedophilic expression.

3.4 Use of the EISIP

As a new measure, few organisations currently use the EISIP. Nevertheless, it is being utilised within some prisons and Probation Trusts to encourage open engagement and discussion with offenders, and for research. It has been introduced as a pre and post-intervention measure for the Healthy Sexual Functioning Programme within the National Offender Management Service (NOMS).

Given the lack of research as yet, the EISIP manual stipulates that the purpose of the EISIP is to generate discussions, and should not be used within formal reports. It should not be used to challenge denial or an offence account, or determine whether an offence was committed. Furthermore, the EISIP should not be used in isolation for making risk judgments. However, subject to validation, the EISIP could possibly be utilised as part of a multi-method risk

assessment, used for generating discussions and encouraging open dialogue about DSI.

3.5 The rationale underlying the EISIP

While little research exists regarding the EISIP specifically, research exists around the concepts underpinning the measure. These will be discussed regarding their advantages and disadvantages.

The EISIP incorporates indirect measures. The methods are indirect, as the attribute of interest is not directly rated by the participant so much as inferred on the basis of another response.

An attentional paradigm underpins VT, working on the premise that individuals will spend longer viewing images they find sexually interesting. The most recognised VT measures used with CCSOs are the Abel assessment (Abel, Lawry, Karlstom, Osborn, & Gillespie, 1994) and Affinity (Glasgow, Osborne, & Croxen, 2003). Research using VT paradigms has shown significant differences between CCSOs and controls (Mokros et al., 2013). VT has been able to distinguish CCSOs and non-offenders (Harris, Rice, Quinsey, & Chaplin, 1996), and to demonstrate discriminant validity sufficient (AUC = .87) for VT to be practically useful in applied settings (Glasgow, 2009). Letourneau (2002) found that VT was able to accurately identify CCSOs favouring boy or adolescent female victims, with VT performing better than the Penile Plethysmograph (PPG) regarding identification of men preferring adolescent female victims. VT is quick to administer, inexpensive, and less intrusive than the PPG. Therefore, VT has a number of practical advantages, and appears to measure DSI.

However, it has been disputed as to whether the duration of viewing an image is an indicator of sexual interest. Other explanations have been proposed, including that same-sex images might be viewed for longer due to the evaluation of sexual-competition, or that being a parent may cause increased VT of images representing the same sex and age as an individual's own children (Glasgow, 2009). These could potentially affect the validity of VT, and subsequently the EISIP.

Additionally, although the premise behind VT is one of automatic attentional processes, the evidence does not always support this. Imhoff, Schmidt, Weiß, Young and Banse (2012) found that when participants were requested to complete the VT from an opposite perspective (i.e. heterosexual men asked to complete the task from the perspective of homosexual men), task-specific processes were found indicating that participants could successfully complete the measure from another perspective. This suggests decision-making processes based on stimulus evaluation (more explicit than implicit), rather than automatic attentional processes. This is not necessary a disadvantage, if the participant does not know the purpose of the measure. However, if a participant knew how VT worked, it could be susceptible to faking (although less so than self-report). This has to be seen as a limitation of the EISIP.

The assumption behind IAT is that of stimulus response compatibility (SRC; Kornblum & Lee, 1995). SRC is based on the degree of association between a concept category (i.e. woman versus man), and an attribute category (i.e. sexually exciting versus unexciting). Participants are expected to perform quicker and more accurately when the association between the categories is

high. If the individual completing the EISIP is a heterosexual non-offending male, when 'sexually exciting' and woman are combined on a key, their implicit association means the task utilises less cognitive resources, so performance should be faster.

IATs have been used in research with CCSOs, and found to have internal consistency (Brown, 2006) and fair test-retest reliability (Brown, Gray, & Snowden, 2009). Research has shown that for a 'child' versus 'sex' IAT, CCSOs performed faster when 'child' and 'sex' were combined on a key, whilst non-sexual offenders were faster when 'adult' and 'sex' were combined (Brown et al., 2009; Gray, Brown, MacCulloch, Smith, & Snowden, 2005). It was also found that CCSOs who denied their offending were still faster on the child-sex IAT when 'child' and 'sex' shared a response key (Brown et al., 2009). An advantage of the IAT is that it does not require direct questioning, so reduces the possibility of deliberate responding. Similar to VT, an IAT is apparently objective, quick to administer, inexpensive, and has reduced intrusiveness. IAT appear minimally affected by faking attempts (Cvencek, Greenwald, Brown, Snowden, & Gray, 2010). A meta-analysis by Babchishin, Nunes and Hermann (2013) found that IAT research (including EISIP research) could distinguish between child sexual offenders and non-child sexual offenders with a moderate effect size (d = .63), but the largest effect size and difference was noted for child sexual offenders compared to non-offenders (d = .96). This suggests that IAT is a valid measure to include in the EISIP.

However, the meta-analysis also noted limitations with aspects of the IAT. These included the task's discriminant ability differing depending on the attribute

category. For the EISIP, the attribute category of 'sexually exciting' versus 'unexciting' had lower discriminative accuracy compared to 'sex' versus 'not sex'. The meta-analysis's effects were also moderated when the participants were treated child sexual offenders. However, if this effect was due to treatment effects, this could be an advantage for the EISIP, demonstrating its sensitivity to change, so applicable as a pre and post-intervention measure.

Another limitation of the EISIP is that the IAT only provides information about comparative preference. For an EISIP IAT, a score close to zero indicates equal interest, but cannot differentiate between equal high interest and equal disinterest. An offender may also have DSI in children without this being their primary sexual preference. This may result in IAT overestimating healthy sexual interest. Equally, associations between children and sex might occur for other reasons, such as for expectant mothers, or those working with child sexual offenders. However, the EISIP categories might be an advantage as they refer to children being 'sexually exciting' rather than being associated with 'sex' i.e. expectant mothers might be more likely to associated children with sex, than children with being sexually exciting.

Self-report is the most direct way to elicit information, and a number of measures exist to explore DSI, such as the Multiphasic Sex Inventory (Nichols & Molinder, 2000), the Pictorial Sexual Interest Card-Sort (PSICS; Haywood, Grossman, & Cavanaugh, 1990), and the "My Private Interests" measure (Farren & Barnett, 2014). Questionnaires are a less invasive way of measuring DSI (Babchishin et al., 2013) and if an offender is open, they may be the most appropriate and reliable method. Haywood et al. (1990) found that CCSOs

reported greater arousal to child images and less to adult images than controls, with self-report correlating with PPG responses. For some participants, the PSICS elicited more information than the PGG. This supports the view that if participants are open, self-report may be preferable to an objective measure. This endorses the inclusion of the ESIQ, and the importance of not assuming child sexual offenders will inevitably impression-manage; some may have insight into the problematic behaviour, and have ownership of their problems.

Nevertheless, DSI is a difficult subject to discuss, and self-reports may be susceptible to socially desirable responding in some persons (Cooper, 2005). Research has found a discrepancy between self-reported sexual interest and PPG responses in some studies (Harris et al., 1996). Additionally, self-report requires the individual to be able to consciously access the information being asked (Snowden, Craig, & Gray, 2011). This might not always be possible, particularly for sexual preference, which some individuals might find difficult to quantify. These are disadvantages of self-report, and therefore the ESIQ, but validate the inclusion of indirect measures within the EISIP.

3.6 Alternatives to the EISIP

Given the focus on indirect measures in the EISIP, the focus on alternative measures of DSI is also on indirect methods.

3.6.1 Choice Reaction Time

One alternative to the EISIP is Choice Reaction Time (CRT), as operationalised by the NRP-Choice (Mokros, Dombert, Osterheider, Zappala, & Santtila, 2010). The concept underpinning CRT is one regarding the allocation of attentional

resources. Individuals locate the position of a super-imposed dot on an image, via a keyboard response. The assumption is that some distraction of detection will occur if the image is of sexual interest, resulting in increased time to locate the dot. This is known as Sexual Content Induced Delay (SCID; Geer & Bellard, 1996). CRT is under-researched with SOs (Mokros et al., 2010) compared to VT and IAT, but research has nevertheless found CRT differences between CCSOs and controls. For example, Mokros et al. (2010) found that CCSOs had longer latencies for images of infants, whereas non-sexual offenders had longer latencies for adult images.

A concern with CRT is habituation (Harris, 1943), which is a decrease in responsiveness resulting from a stimulus being presented repeatedly over a prolonged period of time. As images are shown frequently in the EISIP, including a distraction-based measure involving quick responding, such as CRT, might result in habituation. Given this limitation, and the lack of research with child sexual offenders, the indirect measures within the EISIP appear preferable to CRT, so an advantage of the EISIP.

3.6.2 PPG

Another indirect method is PPG, which involves measuring the amount of penile erection an individual experiences when exposed to a given stimulus. PPG is a common method of measuring DSI, having been used with SOs since the 1960's (Bancroft, Jones, & Pullan, 1966). Haywood et al. (1990) found that CCSOs' PPG results were different from controls in relation to slides of children. A meta-analysis by Hanson and Bussière (1998) found that a paedophile index created

from PPG results was one of the main predictors of recidivism for CCSOs. The task also appears objective and face-valid.

However, there are concerns with PPG; first that it is expensive and invasive (Laws, 2009). Concerns also exist around the lack of methodological standardisation (Kalmus & Beech, 2005), such as variation in stimuli content, and the duration of stimulus presentation (O'Donohue & Letourneau, 1992). PPG also relies on participants having a physiological response. Blanchard et al. (2009) tested men with problematic sexual behaviour (including men that had committed sexual offences), comparing an adult sexual preference group with a paedophilic group. The PPG results for the paedophilic group were significantly lower (in absolute terms) for all stimuli apart from neutral stimuli. However, the paedophilic group had a larger relative response to stimuli depicting prepubescent girls in comparison to adult women. This poses an important question about the relative contributions of absolute and relative change in determining the validity of PPG results. Differences in interpretation could result in lack of consistency in how results are utilised.

There is also the question as to what PPG is measuring. The PPG is ostensibly a measure of sexual arousal, and it is reasonable to assume that sexual arousal would be synonymous with sexual interest. However, this may not always be the case. For example when sexual arousal is the result of conditioning (McGuire, Carlisle, & Young, 1964), rather than a generalised sexual interest i.e. for some individuals accessing indecent images of children. Additionally, older men may experience erectile dysfunction but continue to commit sexual offences.

PPG is seen as an effective way to measure DSI. However, the limitations of PPG emphasise the advantages of the EISIP, namely that it is inexpensive, less intrusive, and not reliant on a physiological response, whilst still appearing to measure sexual interest.

3.6.3 Attentional Blink (AB)

Further considering indirect measures, another is the 'attentional blink' (Raymond, Shapiro & Arnell, 1992). In AB, two target stimuli are presented one after the other, usually with a time of within or below half a second (Flak, Beech & Humpreys, 2009). The hypothesis is that when the first target stimulus is one that is deemed emotionally arousing to the respondent i.e. an image of sexual interest, this interferes with information processing and decreases the identification accuracy of the second stimulus. For example, for a child sex offender it would be hypothesised that more errors would be present for the identification of the second target stimulus when the first target stimulus was a child, in comparison to an adult or neutral stimulus. Beech et al (2008) found the presence of AB between child sexual offenders and controls in research using first target stimulus images of children and animal; child sexual offenders displayed a greater error in reporting the second stimulus when the first was a child, a finding not present with controls.

Measures like AB have their advantages over CRT and VT as there is the ability for the researcher to control the speed of which the stimuli occur. This means that the speed of the target presentation could be explored in order to understand the AB paradigm to the fullest, such as possible differences between conscious and unconscious processing.

However, there has been indication that the AB paradigm may be impacted by other factors. Mac Conaill (2012) found that AB was impacted by the sex of the participants, with male participants showing more of an AB effect than females. This research also found that the type of image impacted the amount of AB; real (as opposed to computer generated) and nude (as opposed to clothed) images produced a larger AB effect.

3.7 EISIP Reliability and Validity

As a new measure, the EISIP has a number of issues yet to be tested. One is predictive validity. The other is test-retest reliability, meaning that little is known regarding whether EISIP results are consistent across time. This is particularly important because test-retest reliability gives an indication as to the stability of the measure in question. With an issue such as sexual interest, which would not be assumed to fluctuate with a short time frame, the measure's test-retest reliability could indicate whether the measure is examining what it aims to. If test-retest for a measure like the EISIP was low, this would raise questions around the underlying constructs of the measures or whether the results are dependent on other confounding variables. The literature on the measures used within the EISIP suggest that in principle there should be reliability, but for the EISIP specifically, this is yet to be tested and needs to be a further research priority. Equally the EISIP has yet to be fully utilised as a pre-and post-intervention measure, so it is unknown whether it would be sensitive to detecting potential treatment changes.

There are generalisation issues. The EISIP has only been tested on Caucasian individuals, and the images presented are thus far also Caucasian. This suggests the EISIP cannot be generalised to those from other ethnic backgrounds, or those sexually interested in other ethnicities. Additionally, the EISIP has only been tested on child sexual offender cohorts, and not on SOs against adults. Currently, the EISIP profile for a SO against an adult would resemble a non-offending adult, as the EISIP poses no questions/tasks related to sexually abusive behaviours towards adults.

Some data on the EISIP is nevertheless forthcoming. Reliability and validity of the EISIP was completed using 113 participants; 38 CCSOs, 37 offender controls and 38 non-offending controls (Banse et al., 2010). The size of each group was small but comparable to previous research on similar measures.

Internal consistencies for all ESIQ scales were good (see table 6). An internal consistency of $\alpha > .95$ ($\alpha > .97$ for the 'man' scale) is not always desirable as it may indicate that some items are redundant due to their marked similarity. However, the ESIQ items are the same for each target category, so this high reliability might have resulted from the small number of participants sexually interested in men. Similar results were found for the VT, indicating internal consistency was at an acceptable level.

Table 6: Internal consistencies for all EISIP scales

EISIP measure and scales		Reliability (α)
ESIQ	Men	.97
	Boys	.88
	Women	.94
	Girls	.90
VT	Men	.85
	Boys	.85
	Women	.86
	Girls	.77
IAT	Man-woman	.79
	Man-boy	.65
	Woman-girl	.79

For the IATs, the reliability analyses were mixed. The man-woman and woman-girl IATs showed acceptable reliabilities. However, the man-boy IAT was modest. The authors explained this regarding the limited number of homosexual participants within the control groups. Therefore, this could represent a sampling bias, rather than a measure limitation.

Convergent and discriminant validity were examined between the EISIP measures. All correlations were in the expected positive direction. Three of the four VT groups significantly correlated to the corresponding ESIQ scales. The only exception was for responses to women. An explanation was not provided for this, but the discrepancy could have arisen from socially desirable responding on the ESIQ, or perhaps because the VT paradigm is likely to examine current

sexual interest, whereas the ESIQ refers to the participant's entire adulthood. A significant correlation was found between the VT for men and VT for boys. The authors felt that due to the small number of homosexuals in the control group, almost all participants with a sexual interest in boys, were also interested in men. VT for boys correlated with VT for girls, perhaps indicating a general DSI in children within the offender sample. Therefore, the correlations found appear explainable given the sample used.

The correlations between the IATs and the ESIQ indicated convergent validity. This was significant for woman-man and woman-girl IATs, however not for the man-boy IAT. Regarding the VT and IAT measures, a significant correlation was only present for the woman-girl IAT, again likely to relate to the limited number of homosexual participants.

Receiver Operating Characteristic (ROC) statistics were calculated to test the criterion validity of all single and combined EISIP measures. ROC examines the classification accuracy of a measure, and is useful for assessing if a measure is able to discriminate between two groups.

Table 7. Criterion validity (AUC) of all singular EISIP scales (CCSOs versus controls)

	ESIQ	VT	IAT
Men	.66*	.82*	-
Boys	.72*	.80*	-
Women	.29 (.71)[1]*	.56(ns)	-
Girls	.69*	.76*	-
Men-women	.74*	.72*	.57(ns)
Men-boys	.42(ns)	.29 (.71)[1]*	.62*
Women-girls	.83*	.61*	.72*
Adult-children (average)	.71*	.51(ns)	.71*

[1]AUC inversed when below .50 *significant at p<.05

Almost all singular scales were significant. The scales that were not appear likely to be explained by the sample used i.e. the limited number of homosexual participants in the control group, and the high level of sexual interest in women across both groups. Binary logistic regression was used to combine the scales and classify CCSOs versus controls. The results were then used within ROC analysis.

Table 8. Criterion validity (ROC) after binary logistic regression

Measures	Correct classifications (%)	AUC	Significant at p<.001
IAT	77	.77	Significant
VT	80	.86	Significant
ESIQ	87	.88	Significant
All measures combined	90	.95	Significant

Table 8 shows that IAT explained the smallest amount of variance, with VT second. The ESIQ explained the most variance. This analysis indicated that all the measures, even individually, classified CCSOs from controls at greater than chance level.

Overall, the reliability and validity of the EISIP appear satisfactory and comparable to other similar measures (see table 9).

Table 9. Reliability and validity comparison between the EISIP and other similar measures

EISIP			My Private Interests (Farren & Barnett, 2014)		Affinity (Glasgow, 2009; Mokros et al., 2013)		IAT (Brown, 2006; Gray et al., 2005)	
			Alpha	AUC	Alpha	AUC	Alpha	AUC
ESIQ	Alpha	.86 - .97	.92 - .94	-	-	-	-	-
	AUC	.88	-	N/A	-	-	-	
VT	Alpha	.77 - .86	-	-	.79 - .82	-	-	-
	AUC	.86	-	-	-	.62 - .87	-	-
IAT	Alpha	.65 - .79	-	-	-	-	.80 - .87	-
	AUC	.77	-	-	-	-	-	.73

The main exception to EISIPs reliability and validity came from the lack of significant results regarding sexual interest in men and boys. The lack of homosexual participants in the control group meant that this could not be examined with confidence, limiting the validity of the EISIP. Given the measure's infancy, these results indicate that the measure has promise, but that larger and broader samples and more analysis (test-retest and predictive validity) are needed to be more confident in the EISIP's potential.

3.8 Training

The current author received training on the administration and interpretation of the EISIP by one of the measure's devisors, Dr Alexander Schmidt. Dr Schmidt's clarity regarding the EISIP never being used to determine if an offence has been or is likely to be committed emphasised the importance of appropriate interpretation. The EISIP does not need to be administered by a Psychologist, but it would be important that a Psychologist, who understood the underlying principles, supervised and oversaw the interpretation and feedback of EISIP results.

The instructions given to those completing the EISIP are important. Participants can be told that the measure is examining sexual interest, but not how this is achieved. Research indicates that if an individual is given specific instructions

on the workings of, and how to complete some indirect measures, particularly VT and IAT, then faking is possible (Fiedler & Bluemke, 2005; Imhoff et al., 2012). Training should be clear about the instructions, as these could influence responding.

3.9 Observations regarding procedural factors of EISIP administration

Observations were noted regarding participants' engagement with the measure, which are salient for optimising the EISIP paradigm.

Some participants commented that some of the child images had faces that appeared older than the corresponding body. This could mean that individuals spent longer viewing these images due to this incongruity. However, those making this statement were from the offender group. This would suggest that a longer evaluation process of the child images was present for offenders (Imhoff et al., 2012), which would still be relevant regarding sexual interest. Additionally, an advantage to the EISIP is that the VT is averaged, which would reduce the effect from the above issue, providing it related to isolated images.

Another observation was the potential influence of the administrator's behaviour during testing. It is possible that a participant's behaviour may compromise a measure, i.e. by talking during the VT task, resulting in latencies that are unrepresentative of their sexual interests. The administrator's behaviour is therefore important, as the dismissal of questions or speed of responding might cause the participant to decipher that the task is timed, compromising the measure further regarding the potential of faking.

At times, discrepancies were evident between IAT scores and the other measures. This may have resulted from the IAT being an indication of preference only, whereas the ESIQ and VT allow estimation of interest in each category. In some cases, a clear preference might not exist. This emphasises the importance of interpretation being done by someone with understanding of the measures.

The time the EISIP takes to complete is economical, taking on average 30 minutes. However, the length of the IATs appeared to cause participant fatigue, and would present difficulties if participants stopped for a break during an IAT block. This relates to the importance of instructions. With the right instructions, this could be managed effectively.

Completion of the EISIP can be difficult for control participants, given the request to rate how sexually exciting a child is. Concerns arose amongst controls that the VT lacked the ability to rate an image as 'repelling' and that the scale related to increased excitement. Training and familiarity was important regarding the ability to reinforce the meaning of a 'one' rating to reassure participants.

3.10 Conclusion

Preliminary use and research of the EISIP indicates that it has potential utility in the field of forensic psychology. The measure demonstrates reliability and validity suggesting it is consistent and relates to important related constructs. Its preliminary findings suggest the EISIP is as able to measure sexual interest as other similar measures, with some advantages over other indirect methods. The fact that it is inexpensive and less intrusive makes it perhaps more helpful

than PPG, and the inclusion of indirect measures reduces the risk of socially desirable responding and faking. However, more reliability and validity analysis needs to be conducted before we can be sure. More research needs to be conducted on larger samples and more diverse control groups, in particular those of homosexual orientation. The use of the EISIP with women also needs to be considered, as currently research has focussed on males. Until this work is done the EISIP should only be used with males, as this has been the validation population. Equally, until further development is completed, caution should be taken when using the EISIP with those not of Caucasian ethnicity, or those with a sexual preference for other ethnicities, due to the lack of validation on these populations and stimuli.

The EISIP is a promising measure to complement other measures of sexual interest, as well as risk assessments and measures of treatment progress. However, if the EISIP were to be utilised within assessment and intervention, it should be used in conjunction with other methods. It is preferable for multiple measures of DSI to be combined to improve classification accuracy (Banse et al., 2010; Laws, Hanson, Osborn, & Greenbaum, 2000). The EISIP is already at an advantage with this recommendation as it includes three different measures. Nevertheless, given its infancy, and until further research is conducted, the EISIP should be considered a supplementary assessment and not a standalone tool for measuring DSI.

Chapter Four: Measuring Sexual Interest with Indecent Images of Children Offenders

4.0 Abstract

Deviant Sexual Interest (DSI) has been cited as one of the strongest predictors of recidivism for contact child sexual offenders (CCSOs). Differing measures of DSI exist, some of which are indirect cognitive tasks. Little research has examined this issue with offenders who have been identified as having accessed Indecent Images of Children (IIOC). The current study compared IIOC offenders with community controls on direct and indirect measures of sexual interest in order to establish if group differences on these tasks existed regarding DSI in children. There were differences between the groups in measures of Viewing Time (VT), Implicit Association Tests (IATs), and self-report. Though these measures were found to discriminate between IIOC offenders and controls at above chance level, the direct self-report measure showed the strongest discriminatory ability. The results indicate that experimental assessment of DSI in children is worth examining with IIOC offenders. Given the indication of quantifiable DSI for IIOC offenders, it would be important to further investigate how this might relate to risk of recidivism and cross-over offending.

4.1 Introduction

4.1.1 Measuring Deviant Sexual Interest (DSI)

An objective assessment of sexual preference for children in sexual offenders is a research priority, as DSI relates to risk of recidivism with contact child sexual offenders (CCSOs; Hanson & Morton-Bourgon, 2005), and sexual offenders may not provide this information spontaneously. The inclusion of DSI within standard sexual offending risk assessments reflects its perceived importance when it comes to establishing levels of intervention and risk management with CCSOs.

A common 'objective' method used for determining the existence of DSI is that of Penile Plethysmography (PGG). Used since the 1960's (Bancroft, Jones, & Pullan, 1966), PPG has long been seen as the most appropriate method to measure DSI with those who have committed sexual offences. The outcomes of PPG assessments have been promising in terms of its ability to discriminate between sexual offenders and controls (Haywood, Grossman, & Cavanaugh, 1990). However, PPG has also come under scrutiny for its lack of standardisation and susceptibility to faking (Kalmus & Beech, 2005). PPG's also possess questionable ecological validity (O'Donohue & Letourneau, 1992), which is unsurprising given the usual administration conditions. These conditions, such as within a prison or mental health setting, may not be conducive to encouraging sexual arousal, nor comparable to realistic sexual interactions. It may also be problematic for older males, or those on anti-libidinal medication.

DSI has been measured by means of self-report (Farren & Barnett, 2014), and in some cases such direct assessment has reported better outcomes than PPG assessment (Haywood et al., 1990). However, there is a reliance on participants'

honesty within their responding (Cooper, 2005); this is an issue of particular importance when considering the sensitive subject of DSI in children and the accurate assessment of this behaviour.

As a result of the possibility of offender dissimilation during self-report, research interest has grown regarding the use of cognitive and objective methods of assessing sexual interest. These methods are 'indirect' as the attribute of interest is not directly rated by the participant but inferred on the basis of some other behavioural response. An example of this is the 'attentional blink' (Raymond, Shapiro & Arnell, 1992), where two target stimuli are presented one after the other. The hypothesis is that when the first target stimulus is one that is deemed emotionally arousing to the respondent i.e. an image of sexual interest, a decreased in identification accuracy of the second stimulus will occur. A variety of indirect measures have been developed for measuring sexual interest, including Viewing Time (VT; Abel, Lawry, Karlstom, Osborn, & Gillespie, 1994; Glasgow, Osborne, & Croxen, 2003), the Implicit Association Test (IAT; Gray, Brown, MacCulloch, Smith, & Snowden, 2005), the Emotional Stroop task (Smith & Waterman, 2004), the Rapid Serial Visual Presentation task (Flak, Beech, & Humphreys, 2009), and Choice Reaction Time (CRT; Mokros, Dombert, Osterheider, Zappala, & Santtila, 2010). The current research focussed on VT, IAT and CRT.

VT measures ask a respondent to rate stimulus images on a scale of how sexually exciting they find them, whilst covertly recording the amount of time the respondent spends viewing each image. CRT measures examine the time it takes for a respondent to perform a task when certain images are presented as

compared to others. The task usually involves identifying the location of a superimposed dot on an image. Both of these measures are based on an attentional paradigm, known as Sexual Content-Induced Delay (SCID; Geer & Bellard, 1996). SCID is based on the premise that a sexually interesting stimulus affects completion of another task by interfering with the attentional resources needed for task completion. This also relates to the attentional-based assumption that participants will spend more time on, or pay greater attention to, stimuli they find attractive. This is the premise behind CRT, and was initially thought the premise behind VT. However, some research indicates that VT measures may utilise more of an explicit decision-making process, rather than an involuntary distraction-based latency (Imhoff, Schmidt, Weiß, Young, & Banse, 2012). VT measures are able to distinguish between CCSOs and controls (Harris, Rice, Quinsey, & Chaplin, 1996), and have found significant group differences between adult sexual offenders, youth non-sexual offenders and non-offending university students (Gress, Anderson, & Laws, 2013). VT has also been used as an individual clinical tool (Glasgow et al., 2003). The use of CRT is limited with sexual offenders, and findings have been inconsistent. Mokros et al. (2010) found CRT able to successfully discriminate sexual offenders from control participants, whereas Gress et al. (2013) did not. However, methodological differences were present between these two studies, including differences in participant response method, i.e. mouse vs keypad. Additionally, Gress et al (2013) acknowledged that there were significant differences between their participant groups regarding the number of errors in responding. In particular, an interaction effect was present indicating longer latencies for younger non-sexual offenders on female child images, however this group also had the

highest frequency of response errors, suggesting potential confusion during the task.

IAT paradigms are well-established in psychology. IAT measures examine whether the respondent holds cognitive associations between two different issues i.e. children and sex, by asking respondents to categorise words and/or pictures into groups. Relevant and Irrelevant Stimulus Response Compatibility (SRC; Kornblum & Lee, 1995) forms the assumption base for IAT, and reflects the degree of association between the target stimulus and the response the participant is required to give; participants are expected to perform quicker and more accurately when the association between the target and the response is high. This can include both relevant (response is relevant to the target stimuli) and irrelevant (response is irrelevant to some properties of the target stimuli). IAT uses both relevant and irrelevant SRC as it combines more than one response category, and at some point one response category is not relevant to the presented stimulus. For example, an IAT examining sexual interest in children may have target categories of child or adult, sex or not sex. One key may represent child or sex, and another adult or not sex. The task may present the word 'beard' for categorisation; this word would be relevant to the response choice of child/adult, but irrelevant to sex/not sex. Furthermore, given the premise of the above example, the IAT paradigm hypothesises that a child sexual offender would display quicker responding when the categories of child and sex are combined on a response key (compared to adult and sex) due to the child sexual offender's automatic cognitive association between children and sex. Research finds IATs are able to discriminate, and find significant differences, between sexual offenders and controls (Babchishin, Nunes, & Hermann, 2013;

Nunes, Firestone, & Baldwin, 2007). IAT has additionally been found to be unaffected by denial in CCSOs, with Brown, Gray and Snowden (2009) finding no significant differences between admitters and deniers in regard to IAT effect, whereas both groups significantly differed from controls. This helps to illustrate the potential utility indirect measures may have as an alternative to measures such as self-report, where impression management may confound results due to socially desirable responding and/or feelings of intrusion into a sensitive and compromising private world.

4.1.2 IIOC offenders

People viewing Indecent Images of Children (IIOC) is not new, but the Internet has made them available and accessible in a way that was not present previously, perhaps resulting in IIOC being easily accessed by those who would not otherwise have sought this type of material. As the Internet has developed, the number of individuals convicted of accessing IIOC online has increased (Davidson, Quayle, Morgenbesser, & Brown, 2010). Much research into IIOC offending has focussed on characteristics of IIOC offenders in comparison to their contact offending counterparts (Elliott, Beech, & Mandeville-Norden, 2013; Elliott, Beech, Mandeville-Norden, & Hayes, 2009; Webb, Craissati, & Keen, 2007). This has included the development of typologies to differentiate IIOC offenders with a pre-existing sexual interest in children, from those whose offending has been facilitated by the availability of IIOC on the Internet (Alexy, Burgess, & Baker, 2005; Lanning, 2010). These typologies have aided researchers and practitioners considering the motivations of those accessing IIOC. An additional issue with IIOC offenders is that of recidivism and cross-over into contact sexual offending against children. The recidivism rates for IIOC

offenders appear low (Eke, Seto, & Williams, 2011; Seto & Eke, 2005), and in some research even non-existent (Webb et al., 2007), however other research has indicated high rates of self-reported contact offending by IIOC offenders (Bourke & Hernandez, 2009). Two issues arise here; one relates to detected versus undetected offending, and whether the contact offending of IIOC offenders has simply been undetected. Another issue rests with the offending chronology, and whether those who self-report contact offences are truly cross-over offenders, or whether their contact offending occurred prior to Internet offences, making them contact offenders in the first instance. The field remains subject to mixed results and limited understanding.

4.1.3 IIOC offenders and DSI

Not all sexual offences are committed due to DSI (O'Donohue & Letourneau, 1992). However, research has been limited in addressing the issue of DSI in offenders who have committed online sexual offences against children but without known contact offences. In research examining DSI with IIOC offenders, Sheldon and Howitt (2008) found IIOC offenders reported more girl-related sexual fantasies than CCSOs. Babchishin, Hanson & VanZuylen's (2015) meta-analysis found that IIOC offenders were more likely to have deviant sexual interests than CCSOs. Seto, Canter and Blanchard (2006) compared PPG responses of IIOC offenders to other subgroups of sexual offenders and non-offenders. Their results indicated that IIOC offenders showed a greater sexual arousal to children than adults, which differentiated them from all other comparison groups, including CCSOs. The authors felt that accessing IIOC was an important diagnostic indicator of paedophilia. However, for IIOC offenders who have spent time accessing IIOC and masturbating to the images, it would

not be unexpected for an arousal response to be present when they are exposed to child sexual stimuli, which may reflect conditioning processes (Laws & Marshall, 1990; Skinner, 1953). There may be a difference between sexual arousal and sexual interest, as these do not always occur concurrently, i.e. males experiencing penile erection during sleep and after waking from sleep, or sex offenders who experience erectile dysfunction. Given this, PPG may not the most appropriate way to consider DSI with IIOC. Webb, Craissati and Keen (2007) found that IIOC offenders scored significantly higher than CCSOs on the sexual self-regulation domain on the Stable 2000, which includes an assessment of DSI. However this domain also includes issues such as 'sex as coping', which has been commonly cited with IIOC offenders, i.e. using IIOC to 'self-soothe' (Quayle & Taylor, 2003; Taylor & Quayle, 2003) and could have been a primary contributor to their significantly higher score on the self-regulation domain. Nonetheless, research indicates that DSI holds relevance for IIOC offenders.

To date, very little research has measured DSI within IIOC offenders using indirect cognitive measures. Schmidt, Gykiere, Vanhoeck, Mann and Banse (2013) compared IIOC offenders, CCSOs, and non-sexual offending males on measures of self-report, VT, and IAT measures using the Explicit and Implicit Sexual Internet Profile (EISIP; Banse, Schmidt, & Clarbour, 2010). Their results replicated that of previous PPG studies indicating similar levels of preference for sex with children between IIOC offenders and extrafamilial CCSOs. They also found IIOC offenders reported the most varied and deviant sexual fantasies involving a preference for children over adults. Hempel, Buck, Goethals & van Marle (2013) also tested CCSOs and non-contact offenders (including IIOC offenders) with a child-sex IAT measure. It was found that non-contact offenders

were faster to make child/sex than adult/sex associations, but not to the extent that they significantly differed from controls. The samples of IIOC offenders in the above research were small (18 and 16 respectively). Due to the heterogeneity of this offender group, and sexual offenders in general, larger sample research is needed on this population, and with indirect measures, to better understand the issue of DSI with IIOC offenders.

4.2 The Present Study

The present study compliments that of Schmidt et al. (2013), and broadens the existing research base by comparing a larger community-based sample of IIOC offenders with a non-offending community control sample on the EISIP. The present research also utilised a measure of CRT, the NRP-Choice (Mokros et al., 2010), not previously examined with IIOC offenders. The inclusion of this measure was to widen the scope of indirect measures of sexual interest potentially applicable with IIOC, which might distinguish between IIOC offenders and non-offenders. Given the previous research on indirect measures of DSI with CCSOs, and the limited research with IIOC offenders, the following one-tailed hypotheses were generated:

Hypothesis One: IIOC offenders would have significantly longer average response latencies than controls when images of prepubescent children were the presented stimuli on the NRP-Choice. This would be due to longer latencies indicating sexual interest in children.

Hypothesis Two: IIOC offenders would demonstrate significantly longer average response latencies and significantly higher stimulus ratings for images of

prepubescent children on the VT measure of the EISIP compared to controls. This would be due to longer latencies and higher ratings indicating sexual interest in children.

Hypothesis Three: IIOC offenders would show a significantly greater preference for children than controls on the EISIP IAT trials, resulting in a larger effect size score.

Hypothesis Four: IIOC offenders would indicate a significantly greater level of fantasies about children on the Fantasy subscale of the EISIP self-report measure, as this would indicate sexual interest in children, than non-offending controls.

Hypothesis Five: There would be no significant difference found between IIOC offenders and controls on the Behaviour subscale (regarding children) of the EISIP self-report measure. This was due to the IIOC offender group having no known previous contact offences.

4.3 Method

4.3.1 Participants

A priori analysis was conducted on G*Power, which indicated that for a MANOVA with a large effect size ($f^2 = .25$), a total sample of at least 86 participants would be required. The sample consisted of 105 participants; 54 IIOC offenders and 51 community controls. Inclusion criteria for all participants was being male, and over the age of 18. Participants were excluded from the control group if they had ever been investigated, charged, or convicted of a sexual offence of any kind.

Participants in the IIOC offender sample were required to have been investigated, charged or convicted of offence relating to the access of IIOC.

The IIOC offender sample was recruited through The Lucy Faithfull Foundation (TLFF) and the Metropolitan Police, with the method of recruitment being different at each organisation.

Regarding participant recruitment at TLFF, potential participants were provided with the Information and Invitation sheet (see Appendix 13) by a Practitioner. Participants gave their consent to be contacted by the researcher, or they contacted the researcher themselves, to arrange a convenient time for the research to take place. The research for TLFF participants took place at TLFF offices. The number of information sheets given to TLFF potential participants was not recorded, therefore no information can be provided regarding how many potential participants refused to participate.

Participant recruitment via the Metropolitan Police was completed at a Police Station in London. Participants were returning to the Police station to answer bail, and completed the bail process to ensure that they were not booked into custody when the research was introduced. This meant that participants were free to leave the Police Station at any point. The Metropolitan Police participants were provided the information and invitation sheet by the bail Sergeant and were offered a chance to meet with the researcher. It was made clear to participants that their participation would be completely voluntary and would form no part of their criminal investigation. The research for Metropolitan Police participants took place within a soundproofed interview room at the Police

Station. Of the 60 potential participants approached through the Metropolitan Police, 40 refused to participate (66.6%).

Recruitment of control participants was completed using a snowball sampling method. Potential participants were provided with an information sheet by someone known to them with awareness of the research, and would either contact the researcher or pass on their consent to be contacted. The number of information sheets given to potential control participants was not recorded, therefore no information can be provided regarding how many refused to participate. The research for control participants took place in premises owned by someone known to the researcher; this was due to the research taking place mostly outside of working hours. The rooms used for control participants were arranged to reflect the rooms used for testing the IIOC offender participants, i.e. with minimal distractions, and where participants were confident that the laptop screen could not be overlooked.

4.3.2 Measures

1. The Explicit and Implicit Sexual Interest Profile (EISIP; Banse, Schmidt & Clarbour, 2010).

The EISIP consisted of a self-report, VT and an IAT measure, as outlined below:

- *Explicit Sexual Interest Questionnaire (ESIQ)* – This self-report measure consisted of two subscales; sexual behaviour, and sexual fantasy. Each subscale contained 10 items per sexual target (man, woman, boy, or girl), consisting of five fantasy items and five behaviour items (see Appendix 10). The total number of items was 40. Items were scored dichotomously as 'agree' or 'don't agree'. For the items regarding young boys and young girls, participants were advised

via on-screen instructions that these referred to children before the age of puberty. Frequency scores for each subscale were calculated from the number of agree responses divided by the number of items. The measure gave a total score for each target (men, women, boys and girls) and a score for the fantasy and behaviour subscales for each target. Banse et al. (2010) reported reliabilities for these subscales between .86 and .97.

- *IATs* – Three IATs were administered, with object categories of woman-man, woman-girl, and man-boy, and attribute categories of sexually exciting/unexciting. Each IAT had five blocks. The first two blocks were for discriminating and classifying 10 words as 'sexually exciting' or 'unexciting', and 10 pictures as a man or a woman. In block three, both tasks were mixed, with four practice trials followed by 80 test trials. The fourth block was the same as block two, but with reversed key assignments. Block five was the same as block three but with the key assignment to match block four. The IAT was scored by calculating the difference between the average response latencies of blocks three and five, divided by the pooled standard deviation of the latencies (Greenwald, Nosek & Banaji, 2003). This resulted in a positive or negative IAT effect score. This procedure was repeated for the target categories of woman-girl and man-boy. Reliabilities were reported of .65 to .79 for the IATs (Banse et al., 2010).
- *VT* – Participants were asked to rate how sexually exciting they found the person(s) in a presented image on a five-point likert scale ranging from one (sexually unexciting) to five (sexually very exciting). The viewing time of each image was recorded covertly in milliseconds. Eighty stimulus pictures were presented, representing the five stages of sexual maturity (Tanner, 1978). Participants' response latencies and image ratings were averaged by gender and

Tanner stage. Reported reliabilities for VT groupings of men, boys, women and girls were .77 to .86 (Banse et al., 2010).

Within the EISIP, the tasks were programmed to present in the following order: VT, IAT and self-report. The EISIP computerised programme provided total and average scores on completion, but not individual item scores. Therefore, reliabilities could not be calculated for the current research.

2. NRP-Choice (Mokros, Dombert, Osterhieder, Zappala & Santtila, 2010)

The NRP-Choice is a computerised CRT measure manufactured by the Pacific Psychological Assessment Corporation. Participants were shown images depicting children and adults of both genders. When each image appeared, a superimposed dot appeared on the screen in one of five locations (top left, top right, middle, bottom left and bottom right; see Appendix 17). Participants were asked to locate the dot using the corresponding key assigned to the dot's position. Participants' response latencies (in milliseconds) were averaged by gender and Tanner stage. The measure was set for five blank practice frames, with 48 following images which were each presented twice, giving a total of 101 frames. The colour of the superimposed dot was set to white, with the maximum strength of colour and darkest outline. These settings were chosen on the basis of practice trials undertaken by the researcher and other affiliates of the research. The NRP-Choice measure provided total and average scores on completion. Therefore, reliabilities could not be calculated for the current research, and none were cited in the previous published research using this

measure (Mokros et al., 2010). Therefore, published reliability data would be important further research for this measure.

The EISIP and the NRP-Choice order sequence was alternated to counteract any order effects.

The images used for the VT and IAT tasks in the EISIP and the NRP-Choice originated from the Not-Real-People picture set (Pacific Psychological Assessment Corporation; http://www.pacific-assmt.com/). The picture set featured categories of sexual maturation (Tanner, 1978); category one to three (prepubescent children), category four (adolescents) and category five (adults). The images showed the head and full body in swimming clothes (see Appendix 7). The EISIP utilised images in all five Tanner stages, whereas the NRP-Choice utilised Tanner stages one, three and five images only.

Participants were asked to complete a demographic sheet (see Appendix 15), providing information on their age, offending history, relationship status, sexual orientation, completed education level, and their frequency of viewing material they found sexually arousing.

In addition, for the IIOC offender group, the demographic form asked about their current offence, their age at the start of offending, the ages of the children in the images, their estimated viewing ratio of child compared to adult material, whether they had communicated with a child online for a sexual purpose, and the length of time since they last viewed IIOC. The demographic form also asked

about the content of the IIOC viewed, including the percentage split between boy and girl images, and the categories of images.

4.3.3 Materials

The computerised measures were presented and completed on an Acer Aspire V5 laptop, with the EISIP using Inquisit lab software. The required response keys (not represented by a numerical value) were colour coded to ease completion i.e. for the IAT, the keys were labelled with yellow stickers, for the NRP-Choice the keys were labelled with red stickers.

4.3.4 Procedure

Participants were reissued the Information and Invitation sheet when they attended their research appointment and given the opportunity to ask questions or discuss concerns regarding the research. Participants were asked to read and sign the consent form (see Appendix 14).

Participants were asked to place the laptop and the screen wherever was comfortable.

Each participant was given the same verbal instructions before each separate task. For the EISIP, the researcher did not provide the participant with any additional information to that on the instruction screen, other than indicating the keys to be used. For the NRP-Choice, participants were told that the task was to locate a super-imposed dot on an image using the red keys to signify the dots location. Participants were informed to locate the dot as quickly as possible, using only one finger for the keys.

Once the first measure was completed, participants were requested to complete the demographic form whilst the researcher alternated the measures on the computer and saved any data (NRP-Choice only). Participants then completed the second measure.

Once both measures were completed, participants were provided with a debrief sheet (see Appendix 16) and the opportunity to ask questions or discuss concerns arising from their participation. Additional time was given to participants that the researcher felt needed an extended debrief as a result of negative feelings arising from the research. Participants were made aware of support resources, namely the details of TLFF's Stop it Now! Helpline[4]. The research was approved by the University of Nottingham Faculty for Medicine and Health Sciences Ethics Committee (see Appendix 12).

4.4 Results

4.4.1 Sample Demographics

IIOC offenders had a mean age of 45.20 (sd = 11.21, range 27 to 64), with the mean age of controls being 39.63 (sd = 12.45, range 20-68). Due to non-normality of data, significance was tested using non-parametric testing; the difference was significant (Mann-Whitney U, $p<.05$; see Appendix 18). This significant difference was important as it may have had an impact on the research results. First, the older age of the IIOC offenders may have meant that,

[4] The Stop it Now! Helpline offers advice and support around all issues regarding child sexual abuse. The helpline takes calls from adults concerned about their own thoughts or behaviour towards a child, adults concerned about another adult's behaviour towards a child, and parents concerned about a child displaying sexually harmful behaviour.

as a group, they might have had more access in their life time to sexual images, including sexual images on the internet. In contrast, the younger age of the control participants could have meant that they, as a group, would be more comfortable with computers, and therefore using a computer-based measure, due to this technology being present in their lives from a younger age. The majority of the participants were White British (82.9%).

There was no significant difference between IIOC offenders and controls regarding the presence of previous convictions or cautions (χ^2 = 0.13, df = 1, p = .908; see Appendix 19). For IIOC offenders, the most frequent previous conviction or caution was for downloading IIOC (9.3%, n = 5). For controls, the most frequent previous conviction or caution was for drunk driving (7.8%, n = 4).

There was a trend to a significant difference between the groups regarding completed educational level (χ^2 = 8.710, df = 4, p = .064; see Appendix 20); a higher frequency of IIOC offenders had completed a postgraduate degree (13 compared to 3 controls).

Thirty five point two per cent of IIOC offenders and 39.2% of controls had children, which was not significantly different (χ^2 = .182, df = 1, p = .669; see Appendix 21).

Due to Chi-Square analyses cells for sexual orientation and relationship status not meeting their expected count value, no significance data could be computed. However, it was clear from the data that the IIOC offender group contained a

higher number of homosexual (8 compared to 1 control) and bisexual (6 compared to 1 control) participants. In regard to relationship status, 16 IIOC offenders were married, compared to 19 controls. IIOC offenders were more likely to be single than control participants (25 compared to 15), more likely to be divorced (5 compared to 1), separated (6 compared to 1), and less likely to be co-habiting (2 compared to 15). This reflected their current relationship status and not that at the time of the offending.

There was no significant difference between the groups in regard to the amount of time spent per week viewing sexually arousing material (Mann-Whitney U, $p>.05$; see Appendix 18), with controls spending an average of 1.61 hours and IIOC offenders spending an average of 1.76 hours.

4.4.1.1 IIOC offenders

Fifty four point seven per cent of IIOC offenders were either under investigation for, charged with, or convicted of Possession of IIOC. For 45.3%, their index offence was Making or Downloading IIOC. Three participants (5.7%) had an additional contact offence (Indecent Assault). For one participant, this represented an offence perpetrated when the participant was a teenager. The length of time participants had allegedly ceased viewing IIOC varied greatly, from one to 96 months (mean = 13.79, sd = 18.11).

IIOC offenders were asked what percentage of their IIOC image viewing was within each of the sentencing guideline categories[5]. IIOC offenders reported, on

[5] Category A refers to images depicting penetrative sexual activity, sadism and bestiality. Category B refers to images depicting non-penetrative sexual activity. Category C refers to all images not contained in Categories A and B i.e. erotic posing.

average, viewing a higher percentage of category C IIOC (mean = 60.4, sd = 32.63), compared to category B IIOC (mean = 25.4, sd = 22.61), and category A IIOC (mean = 15.1, sd = 22.91). Missing data from eight participants was removed from the descriptives.

IIOC offenders were asked about the age range of the children in the images they viewed. The majority of participants viewed IIOC ranging from prepubescent to teenage children (n = 34, 68%), with nine participants viewing teenage children only (18%). The remaining IIOC offenders viewed infant to teenage children (n = 4, 8%), and prepubescent children only (n = 3, 6%). Missing data from four participants was removed from the descriptives.

Only one IIOC participant (1.9%) reported communicating with a child online for a sexual purpose.

All IIOC offenders reported some use of adult pornography; 17.3% of participants reported that the majority (over 50%) of their pornography use involved IIOC; 11.8% of participants viewed exclusively images of boys, and 41.2% viewed exclusively images of girls. The remaining participants viewed child images of both sexes.

4.4.2 Group Differences – Multivariate Analysis

Due to the participant groups being significantly different in age, where assumptions were met and it was possible, participant age was treated as a covariate in the analyses below.

4.4.2.1 Indirect Measures

NRP-Choice

The results for the NRP-Choice task were completed with two MANCOVA analyses; one for male and one for female images. The data violated multivariate normality so was transformed using LOG10. One transformed, the assumptions for MANCOVA were satisfied. The group means are presented in table 10. No significant differences were found between groups regarding Tanner stage images, for either male ($F = .768$, $df = 1$, $p>.05$) or female stimuli ($F = .734$, $df = 1$, $p>.05$; see Appendix 22). Multivariate outliers were found within the female images, but once removed no change in significance was present. To examine if any child versus adult relative group differences were present, a deviance index was calculated by subtracting the highest latency from the adult images, from the highest latency for the child images. This technique was one utilised in previous research (Mokros et al., 2010). The index violated normality, even after transformation, therefore a Kruskal-Wallis-H test was performed to see if there was a significant group difference; the result was also non-significant ($\chi^2 = .067$, $df = 1$, $p = .795$; Appendix 23).

EISIP – VT latencies

The results for the VT measure were completed via a series of one-way ANOVA and ANCOVA analyses (see Appendix 24). This was due to the data violating the assumption of homogeneity of variance and the need to use the Welch and Brown-Forsythe statistics for tanner one to three male and female images, and tanner four male images. This implied, along with the group standard deviations, that the viewing time for IIOC offenders on these images was wider spread than

the viewing time for controls. For male images, three significant multivariate outliers were identified (two IIOC offenders and one control) and removed.

As can be seen in table 10, for female images in Tanner stages one to three (prepubescent children), group differences were significant, with IIOC offenders viewing images of prepubescent females significantly longer than controls. Although participant age could not be controlled for due to violating ANCOVA homogeneity of variance, a comparison of results showed no changes in significance. No significant differences were noted for the adolescent or adult female images (Tanner 4 and 5 respectively), indicating that both groups viewed post-pubescent female images for a comparable amount of time.

For the male image ANOVAs, significant group differences were found for Tanner one and three prepubescent images, with Tanner two images nearing significance ($p = .018$); IIOC offenders viewed these images for significantly longer than controls. No significant group differences were found for the remaining male images (Tanner 4 and 5). Tanner stage one to four male images violated homogeneity of variance within ANCOVA, so the results presented in table 10 reflect those of the ANOVA analyses. However, when comparing ANOVA and ANCOVA statistics, participant age significantly impacted on the group differences, with group differences for Tanner stages one and three male images becoming non-significant. When this was further examined, a significant interaction was found between participant age and participant group for Tanner one ($F = 4.029$, $df = 1$, $p = .047$), and Tanner three ($F = 4.274$, $df = 1$, $p = .041$) images, further violating the assumptions of ANCOVA. This interaction was examined via scatterplots (see Appendix 25), which indicated that as control

participants increased in age, their viewing time on Tanner one and three male images increased. However, this was not the case with IIOC offenders, whose viewing time remained relatively constant. Given the reduced amount of homosexual and bisexual participants in the control group, this interaction might represent the comfort and ease for younger control participants and IIOC offenders with using computer technology, compared to older controls.

EISIP IAT

The EISIP IAT data violated the assumptions of MANOVA, even after variable transformation, so group difference for IATs were analysed by one-way ANCOVAs and a Kruskal-Wallis-H test (see Appendix 26). As seen in table 10, a significant group difference was found for the woman-girl IAT ($F = 7.566$, $df = 1$, $p = .007$), with IIOC offenders having a smaller negative effect size statistic than controls, giving partial support for hypothesis three. No significant group differences were found for the woman-man or man-boy IATs.

Table 10: Indirect NRP Choice and EISIP measures across IIOC offenders and controls

	IIOC Offenders		Controls		
Measures	M	SD	M	SD	Group effect
NRP-Choice					
Tanner 1 Male[1]	1155.90	242.97	1139.74	251.64	.913
Tanner 3 Male[1]	1157.61	199.42	1161.98	241.47	1.930
Tanner 5 Male[1]	1114.87	223.35	1102.44	213.36	1.082
Tanner 1 Female[1]	1111.10	264.19	1104.79	210.16	2.041
Tanner 3 Female[1]	1112.59	277.56	1106.03	258.52	1.786
Tanner 5 Female[1]	1168.91	277.77	1175.26	251.01	2.051
Children-Adults Deviance Index[2]	-3.62	171.40	-12.96	206.54	.067
EISIP					
IAT					
Woman-Man[2]	-.51	.50	-.71	.40	3.446
Woman-Girl[3]	-.37	.44	-.62	.40	7.566*
Man-Boy[3]	-.17	.36	-.31	.33	3.841
Relevant IAT[3]	-.31	.51	-.61	.41	8.908*
VT					
Tanner 1 Males[4]	2109.74	2040.25	1388.49	659.39	9.822*
Tanner 2 Males[4]	1910.41	1521.47	1395.25	540.43	5.811
Tanner 3 Males[4]	1964.56	1305.92	1457.24	775.19	7.204*
Tanner 4 Males[4]	2004.63	1879.51	1538.25	877.87	3.022
Tanner 5 Males[3]	1789.50	914.13	1618.65	908.02	.559
Tanner 1 Females[4]	2145.69	1411.98	1319.63	603.14	19.186**
Tanner 2 Females[4]	2766.15	1644.10	1697.27	722.75	18.494**
Tanner 3 Females[4]	2557.54	1430.30	1552.37	764.69	23.185**
Tanner 4 Females[3]	3732.54	1937.91	3388.73	1835.78	3.022
Tanner 5 Females[3]	3241.17	1610.61	3725.33	1842.17	1.691
Children-Adult Deviance Index[2]	-611.11	2583.59	-1446.06	1271.49	8.548*

*p<.01 **p<.001 (P value based on Bonferroni correction)

[1] Group effect F - MANCOVA analysis controlling for participant age, unadjusted M and SD of raw data

[2] Group effect χ^2 - Nonparametric Kruskal-Wallis-Test

[3] Group effect F – ANCOVA analysis controlling for participant age, unadjusted M and SD of raw data

[4] Group effect F – ANOVA analysis, unadjusted M and SD of raw data

Table 11: Direct EISIP measures across IIOC offenders and controls

	IIOC Offenders		Controls		
Measures	M	SD	M	SD	Group effect
EISIP					
ESIQ Men[2]	.22	.35	.05	.17	10.574*
ESIQ Women[2]	.86	.28	.96	.15	7.016*
ESIQ Boys[2]	.09	.19	.00	.01	13.708**
ESIQ Girls[2]	.18	.20	.00	.00	33.083**
Men Fantasies[2]	.20	.35	.05	.18	6.871*
Men Behaviours[2]	.24	.40	.05	.21	11.682*
Women Fantasies[2]	.83	.34	.95	.17	3.661
Women Behaviours[2]	.89	.26	.97	.14	5.775
Boy Fantasies[2]	.16	.32	.00	.03	12.541**
Boy Behaviours[2]	.03	.11	.00	.00	2.888
Girl Fantasies[2]	.36	.40	.00	.00	33.078**
Girl Behaviours[2]	.00	.00	.00	.00	.000
Children-Adults Deviance Index[2]	-.69	.28	-.97	.25	42.564**
VT Ratings					
Tanner 1 Males[2]	.25	.63	.00	.00	12.614**
Tanner 2 Males[2]	.32	.72	.00	.00	12.613**
Tanner 3 Males[2]	.34	.79	.01	.05	12.311**
Tanner 4 Males[2]	.38	.83	.05	.32	9.908**
Tanner 5 Males[2]	.26	.70	.05	.22	3.637
Tanner 1 Females[2]	.31	.62	.00	.00	21.421**
Tanner 2 Females[2]	.49	.64	.00	.00	33.028**
Tanner 3 Females[2]	.58	.77	.01	.05	34.394**
Tanner 4 Females[2]	1.22	.93	.64	.51	9.421**
Tanner 5 Females[2]	1.55	1.10	1.65	.93	.323
Children-Adult Deviance Index[4]	-.79	1.33	-1.65	.89	14.938**

*p<.01 **p<.001 (P value based on Bonferroni correction)

[1] Group effect F - MANCOVA analysis controlling for participant age, unadjusted M and SD of raw data

[2] Group effect χ^2 - Nonparametric Kruskal-Wallis-Test

[3] Group effect F – ANCOVA analysis controlling for participant age, unadjusted M and SD of raw data

[4] Group effect F – ANOVA analysis, unadjusted M and SD of raw data

4.4.2.2 Direct Measures

EISIP - VT image ratings

Even after variable transformation, the image rating variables for the EISIP VT violated the assumptions of parametric analyses, so analyses were completed using Kruskal-Wallis-H tests (see Appendix 27). As can be seen in table 11, significant group differences were found for both male and female images across Tanner stages one to four. Table 11 shows that for all of these comparisons, IIOC offenders had an average rating higher than those of controls, giving support to the second part of hypothesis two that IIOC offenders would rate images of children significantly higher than controls. No significant group differences were noted for either male or female Tanner five images, indicating that IIOC offenders' and controls' ratings on these images were comparable (see table 11).

EISIP - ESIQ

All ESIQ data violated the assumptions of parametric analyses, even after transformation, so were analysed with Kruskal-Wallis-H tests (see Appendix 28).

As cited in table 11, ESIQ total scores showed significant groups differences for all groupings; men, women, boys, and girls. IIOC offenders indicated significantly more sexual interest in men, boys, and girls, than controls, but significantly less interest in women. The largest differences were cited for the variables representing sexual interest in children; which was the total of the separate boy and girl scales.

When these scales were further broken down to examine fantasies and behaviours, significant group differences were found indicating that IIOC offenders engaged in a larger variety of fantasies than controls, with IIOC offenders reporting significantly more fantasies of men, boys and girls, than controls. No differences were cited for women fantasies. In regard to behaviours, the only group difference was for adult men, with IIOC offenders reporting having engaged in more sexual behaviours with men than controls. All of the above gave support for hypotheses four and five.

4.4.3 Deviance Indexes – Group differences

For each measure in the EISIP, a deviance index was created to provide a preference indicator. For the two VT measures (average latencies and ratings), and the ESIQ total scores, this was done by subtracting the highest adult score from the highest child score. This created an index where the higher the score, the more interest in children was indicated. For the IAT, given that the effect size score was already an indication of preference, and in the same direction as the computed deviance indexes, the relevant IAT for each participant, based on their sexual orientation, was taken as the IAT index. For bisexual participants, the IAT with the strongest effect size, regardless of whether this represented an adult or child, was taken.

The deviance indexes for the ESIQ and VT latencies violated the assumptions of parametric analyses, so were examined with Kruskal-Wallis-H tests (see Appendix 29). The relevant IAT and VT rating indexes both met the assumptions for one-way ANOVAs, although the VT rating index violated homogeneity of variance for ANCOVA (see Appendix 29). As shown in tables 10 and 11, each of

the indexes found significant group differences, with IIOC offenders scoring higher on each index than controls. The strongest significance was found for the direct measure indexes of the ESIQ and the VT ratings.

4.4.4 Predicting Group Membership

The above deviance indexes were used to test how well the measures predicted participant group membership. A Binary Logistic Regression was used to analyse the prediction of group membership for the indirect versus direct indexes, then all the four indexes (see Appendix 30). Assumptions regarding outliers, multicollinearity and singularity were satisfied.

For indirect measures, the VT latencies and relevant IAT explained between 12.3% and 16.4% of the variance, leading to a classification improvement from 51.4% to 61.9%. However, only the relevant IAT was significant within this model, ($B = 1.382$, $df = 1$, $p<.01$), as the VT latency index did not significantly contribute to the explained variance and classification improvement.

For direct measures, the variance explained was greatly improved, with the ESIQ and VT ratings indexes accounting for between 39.6% and 52.8% of the variance, giving a classification improvement of 51.4% to 80.0%. This finding was accounted for by the ESIQ index alone ($B = 11.420$, $df = 1$, $p<.001$).

All four indices were examined in a sequential Binary Logistic Regression. This method was used to examine the unique contribution of each individual variable, and whether these contributions were impacted by the inclusion of subsequent variables; this would not have been evident with all variables being entered into

the model simultaneously. The IAT index was entered at the first step, with the VT latencies index at step two. The VT ratings index was added at step three, with the ESIQ index at step 4. Table 12 shows the results of the sequential Binary Logistic Regression.

Table 12: Summary of sequential regression for indexes predicting the presence of IIOC offending

	B	**S.E**	**Wald**	***df***	***p***
Step 1					
IAT index	1.469	.483	9.264	1	.002
Step 2					
IAT index	1.382	.497	7.750	1	.005
VT latency index	.000	.000	2.534	1	.111
Step 3					
IAT index	1.027	.534	3.704	1	.054
VT latency index	.000	.000	2.052	1	.152
VT ratings index	.558	.219	6.478	1	.011
Step 4					
IAT index	.413	.619	.445	1	.504
VT latency index	.000	.000	.114	1	.736
VT ratings index	.064	.289	.049	1	.824
ESIQ index	10.986	2.840	14.964	1	.000

As shown in table 12, the IAT index significantly contributed to the explained variance in step one and step two, with the VT latencies index being unable to improve on this and not significantly contributing to the model. However, the

inclusion of the VT ratings in step three resulted in the IAT index becoming non-significant. Furthermore, in step four, the inclusion of the ESIQ index then resulted in all other variables becoming non-significant. This indicated that the ESIQ deviance index outperformed all the other indexes in the prediction of group membership. Table 13 (see appendix 30) below displays the correct classification of participant groups when all variables had been entered into the regression model.

Table 13: Classification table for regression model with all variables entered

Observed		Predicted		
		Group		Percentage Correct
		Control	IIOC Offender	
Group	Control	45	6	88.2
	IIOC Offender	15	39	72.2
Overall Percentage				80.0

In order to examine further why the ESIQ measure might have outperformed the other variables, correlations were run between each index score and the amount of time that had passed since the IIOC offenders last viewed IIOC. It was possible that because the ESIQ items referred to the IIOC offenders' entire adulthood, this might have been more predictive of group membership than the other measures, which were based on current sexual interest. Therefore, these indexes may have been influenced by the proximity in which IIOC offenders had been viewing IIOC. However, no correlation was significant (see table 14 and

Appendix 31), indicating no relationship between index score and the amount of time since IIOC had been viewed.

Table 14: Spearman's Rho correlations for deviance indexes and amount of time since viewing IIOC

Index	Rho	P value
ESIQ index	-.141	.324
VT latency index	-.179	.210
VT ratings index	-.141	.325
IAT index	-.171	.229

4.4.5 Receiver Operating Characteristic (ROC) and Area Under Curve (AUC)

To further explore the predictive ability of the deviance indexes, ROC analyses were performed on each index, and then on all indexes combined (see Appendix 32). Table 15 below shows the results of the ROC analysis.

Table 15: ROC analysis: AUC for deviance indexes

	AUC values	95% confidence interval	P value
ESIQ index	.841	.762 - .920	<.001
VT latency index	.666	.560 - .771	.003
Relevant IAT	.667	.564 - .769	.003
VT ratings index	.694	.594 - .794	.001
All indexes	.850	.774 - .926	<.001

As can be seen in table 15, all indexes were significant and able to discriminate between IIOC offenders and controls at above chance level. However, the ESIQ index again outperformed the other indexes, indicating that a direct self-report measure was the most able to discriminate between the two groups. Even when all the indexes were combined, the AUC value increase was very little from that of the ESIQ index alone (.841 to .850).

4.5 Discussion

This study examined measures of sexual interest with IIOC offenders and community controls, focussing on whether DSI was present more for IIOC offenders than controls, to what extent, and on which types of measures.

There were no significant effects for the NRP-Choice, refuting hypothesis one that IIOC offenders would have significantly longer average response latencies to images of prepubescent children. This finding differed from the previous reported accuracy of CRT tasks for discriminating CCSOs from controls (Mokros

et al., 2010). However, this measure had not been administered to IIOC offenders. These results could indicate differences between IIOC offenders and CCSOs regarding this particular measure. One possibility could be the nature of the offence and the theory upon which the CRT paradigm is based; Sexual Content Induced Delay (SCID; Geer & Bellard, 1996). The images that IIOC offenders are likely to have viewed would have been more explicitly sexual in nature than those permissible within the measure. Therefore, it may be that IIOC offenders habituate (Harris, 1943; O'Donohue & Geer, 1985) to images of children, and the stimuli included in the NRP-Choice had too small an effect to induce SCID with IIOC offenders. For CCSOs who have not accessed IIOC, this process of habituation would not have occurred, and therefore the images presented in the NRP-Choice may have been sufficient to produce SCID in this group of sexual offenders. Interestingly, CRT and VT are both thought to measure sexual interest on the basis of SCID, but in this research, along with previous research (Gress et al., 2013), the results for these two measures differed.

It could be that CRT does not measure the same construct as VT, and perhaps VT is, as considered by Imhoff et al. (2012), more an explicit measure than one based on automatic attentional processes, i.e. the latency delay for VT related to explicit decision-making, whereas the delay for CRT related to automatic distraction. It is worth noting that the mean latencies for female images were in the expected direction for the NRP-Choice, i.e. longer latencies for IIOC offenders on Tanner one and three images, with longer latencies for controls on Tanner five images. The lack of significant results could therefore have related to the amount of times the images were shown. Presenting the images more than

twice could have resulted in larger latency differences between the groups. The same trend was true for the deviance index, with IIOC offenders having a mean index score higher than controls, but not significantly so. Nonetheless, given the small differences and the large standard deviations, this effect could also have been an artefact of the data. Further research would be required to establish if these non-significant findings were due to methodological issues.

For the EISIP VT measure, a number of significant group differences were found, with IIOC offenders spending significantly longer (on average) viewing images of prepubescent males and females than controls. This indicated that IIOC offenders were responding in a way that indicated a sexual interest in prepubescent children based on VT assumptions, i.e. longer average response latencies for images of prepubescent children. This was in support of hypothesis two and reflective of previous research with sexual offenders (Gress et al., 2013). However, no differences were found regarding images of adults of either sex, indicating that IIOC offenders' sexual interest in adults was comparable to controls. This highlights an important issue regarding sexual interests; the presence of multiple sexual interests, rather than a specific preference or fixation. This was further validated with the VT ratings, which gave significant group differences for both sexes at Tanner stages one to four, but not for Tanner five (adult), indicating that IIOC offenders rated adults as being as sexual exciting as controls.

For the IAT, only one significant difference was found, and that was for the woman-girl IAT, giving partial support for hypothesis three. The lack of significance for the man-boy IAT, along with the some of the male VT scores,

might have been influenced by the fewer number of homosexual participants, particularly within the control group, which was a problem also experienced by Banse et al. (2010). This indicates the importance of a replication of the current research with a focus on homosexual males. The woman-girl IAT indicated that IIOC offenders held a stronger preference for girls than controls. Having said that, as with all of the other deviance indexes, although a significant difference was found, this was not a case of IIOC offenders having an average score that indicated sexual preference for children over adults. The average IAT score for IIOC offenders still indicated an overall preference for women, just to a lesser extent than controls. Seto et al. (2006) found IIOC offenders to have a greater arousal response to children than adults, but the current research found the opposite; IIOC offenders indicated more of a preference for adults in the deviance indexes. This could be a reflection of the difference between sexual arousal and sexual interest; sexual arousal in a lab-based condition does not necessarily translate to sexual interest and behaviour in a realistic environment (O'Donohue & Letourneau, 1992). This distinction could also provide potential support for conditioning (Laws & Marshall, 1990; Skinner, 1953) regarding IIOC offenders' arousal to IIOC; arousal may or may not translate into sexual preference for children, and the current research indicated that such a preference was not inevitable. Although DSI is not always present in those that commit sexual offences (O'Donohue & Letourneau, 1992), the Internet provides individuals with access to an abundance of diverse sexual material from which to choose stimuli to meet individual sexual needs. The findings – no specific preference for children so much as the presence of multiple sexual interests in IIOC offenders - feels like an important caveat; how much is the access of IIOC

by some offenders more about impulsive accessibility and exploration, rather than an existing DSI? (Egan & Parmar, 2013).

Of all the measures, the ESIQ was the most effective, in that it appeared to detect the most significant differences. These were present for all the total target groups; men, women, boys, and girls, and for fantasies of men, boys, and girls, supporting hypothesis four. This replicates previous research that IIOC offenders report a wider variety of sexual fantasies than controls (Schmidt et al., 2013). However, no differences were found regarding sexual behaviour towards children. This was unsurprising given that the focus of the study was with IIOC offenders, and supported hypothesis five.

Regarding the ability to discriminate between groups, the deviance indexes created showed that the ESIQ self-report measure outperformed all of the other measures. This was so much the case that all the other measures were rendered non-significant in a Binary Logistic Regression explaining the model variance. All the deviance index measures were found to discriminate between the groups at above chance level in the ROC analysis, reiterating previous research with CCSOs (Babchishin et al., 2013; Banse et al., 2010; Harris et al., 1993). However, the ESIQ did this to the greatest extent, with the discriminative ability of the other indexes being lower, such that they could not be confidently used for group prediction. This finding might have been due to the method by which the deviance indexes were calculated, which resulted in the ESIQ index here being almost a categorical variable; almost none of the control participants reported sexual behaviours or fantasies regarding children.

The current sample was mostly recruited from an organisation where IIOC offenders seek help voluntarily. This could have resulted in an unusually honest sample of offenders, meaning that the self-report was an accurate way of obtaining information, and more effective than an indirect measure. This has also been found in previous research (Haywood et al., 1990). A sample of IIOC offenders denying their offending may have led the indirect measures to be more influential in group membership discrimination. Nonetheless, even though the self-report measure had a superior performance, the other indirect measures still found group differences and showed above chance discrimination, meaning that DSI in children appears to be relevant for IIOC offenders, and the EISIP was a measure that could aid in establishing its presence where participants are less honest.

Some study limitations require mention regarding the conclusions being drawn. First, as mentioned previously, a limited number of homosexual participants were present for both groups, but particularly in the control group, resulting in an unbalanced representation of homosexuals in the IIOC offender group. Second, the majority of the IIOC offenders were recruited from an organisation where offenders attend voluntarily for an intervention. Attempts were made, by accessing the Metropolitan Police sample, to counterbalance this. However the IIOC offenders that participated at the Police Station may have been those that held less confidentiality concerns over participating in the research, perhaps because they had already made full admissions to the Police. Therefore, as mentioned above, this sample may have represented an unusually honest sample of IIOC offenders, and therefore modelling 'true positive' effects. Third, given the difficulty with recruiting control participants for research involving

sexual offenders, a number of the control group consisted of current or previous Police Officers with experience of investigating Internet-related sexual offences. This meant that these participants would have been exposed to IIOC as part of their occupation, and the extent to which they can be classed as controls might be questionable. However, these participants were the minority in the control group (11 out of 51).

Overall, this research indicated that some indirect cognitive measures of DSI (VT and IAT) may have utility in the assessment of IIOC offenders, and the EISIP appeared to be a tool that could be utilised with those who have committed Internet-based offences. However, group membership predictive ability of the indirect measures was less effective compared to the direct measure. Therefore, the EISIP should not be used to make diagnostic decisions or as the sole means for determining DSI, so much as a means used with IIOC offenders to facilitate discussions around sexual interests; a discussion that may be difficult for IIOC offenders to initiate themselves.

In regard to further research, it might be beneficial to examine the results of the EISIP in line with the classification of offenders being 'high or low deviance' (Beech, 1998; Beech, Fisher & Beckett, 1998). According to Beech (1998), one of the factors associated with 'high deviance' offenders is having offended against male only, or male and female, victims. This consideration of male victims is also present in risk assessment (e.g. Thornton, 2007), with those offenders with a male victim being consider higher risk of recidivism. Given the importance of DSI in sex offender recidivism, it might be worth comparing the current EISIP results between those who viewed female images only, compared

to those who viewed male images only, or male and female images. If the results of these groups indicate a difference in the expected direction regarding the level of deviant sexual interest, this could further validate the notion of 'high deviance' sexual offenders, and potentially extend the examination of this classification to IIOC offenders.

Given the limited amount of research examining DSI with IIOC offenders, further research is needed to replicate the current results and those of other researchers. There is also need for follow-up research to understand the role of DSI in IIOC offender recidivism. This would be of particular importance regarding the risk of IIOC offenders' crossing over to contact sexual offending. At present, there is limited understanding of what differentiates IIOC offenders who cross over from those that do not. Given the role of DSI in the recidivism of CCSOs, it might be reasonable to hypothesise that DSI could be relevant for risk of recidivism for IIOC offenders, both for online sexual offences and escalation to contact abuse. Further research is needed to determine this. If DSI is then established as being as important for recidivism risk for IIOC offenders as it is for CCSOs, then ascertaining the most effective sexual interest assessments for IIOC offenders would play a significant role in identifying IIOC offender risk levels and effective risk management strategies.

Chapter Five: Assessment and Psycho-educational Intervention with a Crossover Internet to Contact Sexual Offender

5.0 Abstract

Concern surrounds individuals that access indecent images of children (IIOC) and whether these offenders may crossover to commit contact sexual offences. Little research has examined risk factors for this crossover, resulting in lack of consensus over what the risk factors are. This makes understanding an individual's journey through the offence pathway paramount for intervention and risk management. This case study examined the assessment and intervention of an offender convicted of Internet and contact sexual offending against a child. The Client undertook an assessment which included clinical and offence-focussed interviews, psychometric assessment, and an actuarial risk assessment. The Client completed an eight session psycho-educational intervention based on prominent factors identified within the assessment and formulation. The formulation highlighted motivations of sexual gratification and intimacy, and the role of masturbation in reinforcing inappropriate fantasy. No significant psychometric score changes occurred at post-intervention follow-up, but improvement in victim empathy was noted. The Client related to some past research but deviated from others, illustrating the importance of case study and examining individual differences through the offence pathway in order to intervene and manage risk.

5.1 Case study link to Systematic Review and Empirical Research

This case study follows on from the systematic review and empirical research on IIOC offenders by providing a case example of an IIOC offender who crossed over to commit a contact offence. The chapter considers the established risk factors discussed within earlier chapters; offence-supportive attitudes and DSI. The case study considered how these factors may be influential in an individual's escalation of their offending behaviour, and their role regarding the risk of IIOC offenders. Therefore the case study represents the interaction between these factors and the individual to present a pathway of how they might contribute to the sexual offending of an IIOC offender. This model could be seen at the final step in a potential chronology from repeated access to IIOC, to the development of cognitions and DSI, to a 'real' world demonstration of sexual offending against a child.

5.2 Introduction

Client R was a 34-year-old male, convicted of the sexual assault of an eight-year-old female, and possession of a level one indecent image (Sentencing Guidelines Council, 2007, Part 6A.2; see Appendix 33)[6] of a teenage female. Level one images depict erotic posing and are deemed the 'least serious' in terms of sentencing. R was sentenced to 10 months custody and 10 years on the Sex Offenders Register. He did not receive any offence-focussed work in prison, as his sentence lacked sufficient duration to complete a Sex Offender Treatment Programme (SOTP), or a community-based SOTP whilst on licence. Additionally, R was not supervised by the Probation Service, removing the possibility of offence-focussed work with an Offender Manager. Consequently, R contacted

[6] These guidelines were updated in April 2014. Image levels are now referred to by category (A, B or C).

The Lucy Faithfull Foundation's (TLFF) 'Stop it Now!' Helpline upon release from custody as he felt he would benefit from some offence-focussed work. He was provided the information by his Public Protection Officer (PPO).

TLFF is a child protection charity dealing with the assessment and intervention of alleged and convicted child sexual offenders. The 'Stop it Now!' Helpline is an anonymous and confidential helpline and primarily deals with three target caller groups:

- Adults concerned about their own thoughts or behaviour towards a child
- Adults concerned about another adult's behaviour towards a child
- Adults concerned about a child displaying sexually harmful behaviour

Some callers, if appropriate, engage in other TLFF services including psycho-educational interventions. As contact with the helpline is voluntary, most clients self-refer. R wished to engage voluntarily in an intervention to understand his offending.

An offence type frequently dealt with by TLFF is the access of IIOC on the Internet. The 'Stop it Now!' Helpline saw a 162% increase in calls from IIOC offenders between 2008 and 2013 (S. Collins, personal communication, April 15, 2014). Although awareness regarding this type of sexual offending is increasing, Internet offending remains under-researched in comparison to contact offending. Well-established theories exist regarding contact sexual offending against children, which have relevance for the current case study. However, examining these theories with IIOC offenders is important, as R had accessed IIOC prior to contact offending.

A concern regarding IIOC offenders is the likelihood of escalation from IIOC to contact offending against a child (crossover). R made this transition. Crossover offenders are likely to be treated the same as contact offenders who have not accessed IIOC, which is unsurprising given the reasonable assumption of which offence type is considered the most serious. However, the role of problematic Internet use in the offence pathway cannot be ignored and could be paramount for recognising risk and determining treatment need. This makes it important to consider the utility of established theories of sexual offending in examining IIOC offenders.

5.2.1 Theories of contact sexual offending applied to IIOC offenders and crossover

Theories of sexual offending primarily focus on four categories of dynamic risk factors, or vulnerabilities; interpersonal functioning, deviant sexual arousal, self-regulatory problems, and offence-supportive cognitions (Beech & Ward, 2004). One comprehensive theory of sexual offending is the Integrated Theory of Sexual Offending (ITSO; Ward & Beech, 2006). ITSO explores four factor levels that account for human behaviour, including sexual offending; etiological (genetic and environmental factors), brain mechanisms (effects of etiological factors on brain development), neuropsychological (brain-based systems that generate behaviour), and symptom-based (the observable surface phenomena). The etiological level refers to biological and social learning factors. ITSO stipulates that etiological factors, for example experiencing an abusive environment, could affect brain development, and in turn these brain-based changes affect behaviour via the neuropsychological level. The authors describe three interacting neuropsychological mechanisms which produce all psychological

processes: the motivational/emotional system (such as problems with intimacy), the action selection and control system (such as self-regulation problems), and the perception and memory system (such pro-offending thinking). The surface symptoms observed with sexual offenders result from problems with the above systems, and, as noted previously, are reflective of the dynamic risk factors for sexual offending. For contact offenders, research has identified difficulties with adult intimate relationships (Ward & Siegert, 2002), problems with self-regulation such as impulsivity (Craissati & Beech, 2003), and the presence of offence-supportive thinking or 'cognitive distortions' (Mann, Webster, Wakeling, & Marshall, 2007).

Research has found some of the above to be also applicable to IIOC offenders. Regarding intimacy, the Internet may seem like a safe place to meet intimacy needs. Middleton, Elliott, Mandeville-Norden and Beech (2006) suggest for some IIOC offenders, accessing IIOC may be less threatening than initiating age-appropriate relationships. Marshall, O'Brien and Marshall (2012) suggested IIOC offenders have significantly greater problems with loneliness than contact offenders. Regarding self-regulation, IIOC offenders have reported impulsivity in their offending, including not considering the consequences of their actions (Middleton et al., 2006), as well as using their offending to soothe difficult emotional states (Quayle & Taylor, 2002). The presence of cognitive distortions has also been linked to Internet offending. However, caution is needed regarding the function of these distortions and their role in the offence process. Cognitive distortions can differ in regard to their scope. For example, an offender may hold sexual-abuse level cognitions that relate to the general appropriateness of sexual contact between adults and children i.e. 'children are not harmed by

sexual activity.' However, some offenders may not hold these views about sexual abuse in general, but hold offence-level cognitions related to the specific act of viewing IIOC i.e. 'it's only pictures' (Elliott & Beech, 2009). Offence-level cognitions can be used as post-offence justifications and excuses to maintain the offending (O Ciardha & Ward, 2013), or to protect an offender's view of themselves (Schneider & Wright, 2004). IIOC offenders commonly state their offending was not harming children as the images were already available, as well as justifying their offending in relation to other individuals engaging in the same behaviour (Taylor & Quayle, 2003). Henry, Mandeville-Norden, Hayes and Egan (2010) found that within a sample of 422 Internet offenders, a cluster of 'deviant' Internet offenders could be found using measures of victim empathy, cognitive distortions and emotional congruence. However, this group did not have scores indicating general distortions about children and sex. Therefore, for offenders who only view IIOC, their distortions could more likely reflect offence-level cognitions. This may differ for those who crossover. A relevant factor could be whether crossover offenders are more likely to hold sexual-abuse level cognitions, perhaps making them more comparable to contact only offenders. Elliott, Beech and Mandeville-Norden (2013) found contact offenders had increased cognitive distortions and lower victim empathy than either IIOC offenders or offenders convicted of both Internet and contact offences. However, the sample contained no participants with index offences for contact offending and previous Internet offending, representing crossover offenders. Therefore this finding has not been shown to apply to crossover offenders.

Given the above research, explanations by ITSO may aid understanding of both contact and IIOC offenders. However, researchers have noted a gap in ITSO

regarding IIOC offenders. ITSO states environmental factors can trigger psychological vulnerabilities, whereas the situational approach states the immediate environment can create and affect emotional states, regardless of whether a psychological vulnerability exists (Wortley & Smallbone, 2006). This means anyone might have the propensity to commit a crime given the right circumstances (Elliott & Beech, 2009). This could apply to IIOC offenders where no previous concerns are evident regarding their sexual behaviour, and the offender reports no sexual thoughts about children until accessing IIOC. This could also be relevant to crossover offenders whose sexual interest in children stemmed from using indecent imagery, rather than an existing psychological vulnerability.

Another theory of sexual offending is the Pathways Model (Ward & Siegert, 2002), which is focussed on psychological causes of offending. The theory stipulated fives pathways to offending: intimacy deficits, emotional dysregulation, distorted sexual scripts, anti-social cognitions, and multiple dysfunction. This theory has been examined with IIOC offenders. Middleton et al. (2006) examined Pathways with 72 IIOC offenders, and found the majority (those which could be assigned to a specific pathway) could fit into the intimacy deficits or emotional dysregulation pathways. However, almost half the sample could not be assigned to a specific pathway. This could have been affected by the exclusion criteria, as offenders with scores indicative of two or three simultaneous pathways were removed from the analysis, meaning pathway variation may have been reduced. The overall results indicated a sample of IIOC offenders not sharing the typical vulnerabilities displayed by contact offenders. It would be important to consider this with crossover offenders, and whether these

offenders would be more comparable to the IIOC or contact offender sample. Elliott et al. (2013) found the psychological profiles of 'mixed' offenders more closely related to IIOC offenders than contact offenders. However, during group membership classification using discriminant function analysis, only one 'mixed' offender was correctly categorised. The others were evenly incorrectly categorised between Internet and contact offenders. This could suggest that individuals with both Internet and contact offending might be more usefully examined as a separate offender type.

Another consideration with crossover offenders is deviant sexual interest, which could be dependent on its definition. If this included sexual fantasy and masturbation to thoughts about children, this may have occurred through use of IIOC, and be reflective of a shaping conditioning effect (McGuire, Carlisle, & Young, 1964) rather than generalised deviant sexual interests that have been consistent throughout the offender's life. Research indicates deviant sexual interest is one of the strongest predictors of recidivism for contact offenders (Hanson & Morton-Bourgon, 2005), but it is not known if this is the case with IIOC offenders. Seto, Cantor and Blanchard (2006) found that when measuring IIOC offenders sexual interests via penile plethysmograph, they showed greater arousal to children than adults, indicating deviant sexual interest crosses both offender types. This was contrary to Middleton et al.'s findings (2006), and the limited number of IIOC offenders falling into the distorted sexual scripts pathway. Given its link to recidivism, deviant sexual interest should be considered important for IIOC offenders, and could help differentiate between crossover and Internet only offenders.

5.2.2 Methodological problems with researching crossover offenders

For crossover offenders, associated risk factors can be difficult to ascertain and this relates to methodological issues. Often research fails to identify which offending came first, but examines those with convictions of both offence types (referred to as 'mixed' or 'dual' offenders). Distinguishing the offence order is vital, as it can give a whole different meaning to the causal antecedents for offending. An IIOC offender who has crossed over to contact offend (escalation of offending), could differ from a contact offender who accessed IIOC (which may be to maintain the offending, or be an attempt to de-escalate their offending).

The above distinction was apparent in Seto, Hanson and Babchishin's (2011) meta-analysis regarding contact offending by IIOC offenders. The authors found around 12% of IIOC offenders had a previous contact offence history, though around half admitted to previous unprosecuted contact offending. However, contact reconviction rates of IIOC offenders with no known contact sexual offences were two percent. The difficulty with these statistics could lie with low detection rates. This was reflected in the case study, as R's convictions indicated his contact offending occurred before Internet offending. However, this was not the case and R had first committed undetected Internet offences. Neutze, Grundmann, Scherner and Beier (2012) found that of a group of mixed offenders, seven percent had been detected for both types of offending. This is interesting, especially for those detected for contact offending, as it would be best practice as part of a Police investigation into contact offending to remove and examine any internet enabled devices (D. Callahan, personal communication, May 18, 2016). It could be that this did not take place, but, as

with R, another explanation might be that the Internet offending occurred on a computer or internet-accessible device the offender no longer possessed. These methodological issues highlight the value of case study, and understanding the contributing factors for an individual's transition from IIOC to contact offending.

5.2.3 IIOC offenders and the risk of crossover

A potential step forward in attempting to ascertain the risk of IIOC offenders crossing over may be assisted by typologies. A number of IIOC offender typologies have been developed, which according to Beech, Elliott, Birgden and Findlater (2008) categorise IIOC offenders into four groups; those who access IIOC sporadically, impulsivity or out of curiosity, such as Krone's (2004) 'browser'; those who access IIOC to fuel their sexual interest in children, such as Lanning's (2010) 'latent offenders'; those who use the Internet as part of their offline offending including grooming children and trading their own produced images; and those who access IIOC for non-sexual reasons such as financial benefits i.e. Lanning's (2010) 'profiteer offenders'.

Typologies help to understand the behavioural process and potential motivations of IIOC offender types. For those accessing IIOC, who have not contact offended, it is not unfeasible to believe those most at risk of crossing over might be those fuelling an existing sexual interest in children, or where the conditional pairing of IIOC with masturbation may lower inhibitions (Sullivan & Beech, 2004). The latter might depend on their degree of engagement with the images and general sexual thoughts about children, i.e. continued fantasy offline, so strengthening their offence–supportive thinking.

Another factor that has been researched in an attempt to differentiate IIOC offenders that contact offend from those that do not is the quantity and severity of IIOC accessed. Long, Alison and McManus (2012) found 'dual' offenders were likely to have a significantly fewer IIOC, with significantly smaller amount of lower level images, than IIOC offenders. However, again this research did not differentiate between offenders who had crossed over in either direction. The research also classified the production of personal IIOC as non-contact. This offence in itself would indicate more direct victimisation of a child, and is not comparable to IIOC offenders who had not produced their own images.

Previous research, particularly the methodological difficulties, highlight the importance of case studies for examining the escalation from IIOC to contact offending in the individual. The current case study aimed to do this through a process of assessment and formulation, and addressed the emerging issues (as much as could be expected) in a short-term psycho-educational intervention.

5.3 Assessment, Analysis and Formulation

The following sources were used to assess R:

- Information from R's 'Stop it Now!' Helpline calls and face-to-face meeting
- Clinical interview - Personal history
- Offence-focussed interview
- Actuarial risk assessment
- Psychometric assessment

A request was made to access collateral information, specifically R's pre-sentence report. This information was never received given R's Public Protection Officer reported difficulty retrieving the report from the Probation Service. This

illustrated an inherent difficulty within voluntary services when the client has self-referred. This meant throughout the assessment and intervention there was no ability for R's self-report to be cross referenced with official documentation from the Criminal Justice System (CJS).

5.3.1 'Stop it Now!' Helpline calls and the Face-to-Face meeting

R made two calls to the helpline and expressed interest in an intervention. The information gathered at this stage was minimal (basic offence details) but helpful for checking continuity in R's self-report. Further details were gathered at the meeting about R's situation and offending. All information derived from R's self-report and was potentially subject to impression management, and reliant on R's memory of events. As this meeting was the first with R, it was valuable for evaluating his engagement and motivation. R found it difficult to discuss the offending, presenting as upset and anxious. This responsivity-related information was taken into account for the assessment, and the decision was made to not end the assessment examining the offending, but instead give R an opportunity to stabilise his emotions prior to leaving.

5.3.2 Clinical Interview

Consent for the case study was obtained at the start of the assessment (see Appendix 34). A table of the assessment and intervention sessions can be found in Appendix 35. The following personal history information was given by R:

Childhood: R lived with his mother, father and younger siblings. He reported no significant issues regarding his relationship with his parents or siblings. He enjoyed primary school and had friends. He could not think of any difficult times

in childhood but also no happy times. He said it was *"pretty everyday life"* and he was *"pretty happy".* He was shy at primary and secondary school, lacking courage to *"speak up".* He recalled, at the end of primary school, liking a girl but lacking courage to ask her out as he feared her rejecting him. R stated his father *"could do anything"* and saw him as a hard worker. R admired his father for this and felt that was the origins of his own work ethic.

Adolescence: R reported no significant problems. He was an average pupil but was shy and nervous about secondary school. He remembered being teased for having a second hand blazer but, being shy, he did nothing about it. His friends were similar to him; shy, average students. He had no girlfriends as he was not confident in approaching girls, concerned about rejection. He did not know why he lacked confidence other than having low self-esteem regarding his appearance.

Occupational history: R worked after school and in the summer at a convenience store. After leaving school at 16 his employers trained him to take on more responsibilities and purchased another business. R moved away to continue work with them. He ran part of a chain of businesses at a young age, which was a lot of responsibility. He stated *"if a challenge is put in front of me, I'll do it".* In his mid-twenties he changed career and was promoted within this industry. He worked in his higher role up until arrest. R was proud of his occupational achievements.

Physical and Mental Health: R reported being *"very healthy",* having never smoked or taken drugs. He drank alcohol occasionally. R reported no mental health issues. He sometimes felt *"depressed"* but did not dwell on this.

Social relationships: R did not have a *"massive circle of friends".* He and his ex-partner were happy with each other's company. He stated *"I'm not anti-social, but I don't tend to need to know that many people".* He said *"it's good to have friends, but I didn't count on them, I'm self-sufficient".* He reported a good friendship with his son's mother and the victim's mother (prior to the offence). He stated he did a lot for them and liked to help people and make them happy.

Sexual history: R first learnt about sex through sex education at primary school at around age 11, this comprising information about safe sex and reproduction. He and his friends found it funny. He masturbated at 13 after being informed about it by a friend. He never spoke to his parents about sexual issues, not because they would not allow it but because of his embarrassment. He had his first girlfriend at 17, this lasting a few months. It was a sexual relationship, and his first sexual experience, including intercourse. He was conscious he was behind his peers regarding sexual experiences, so needed to catch up. His next girlfriend was not until he was 21. In between, he met his sexual needs via masturbation and viewing pornography, including reading sexual stories about children. He masturbated to appropriate fantasies involving adults but also inappropriate fantasies of children, on an ongoing basis until the arrest.

R had two children, a son and a daughter. He was not in a relationship with his son's mother, but was a private sperm donor arranged via the Internet; his son

was born when R was 24. He stated that he did this as he did not think he would have children within a relationship. The initial arrangement was that he was not going to have contact with his son, but he formed a friendship with his son's mother and she consented to him having contact with the boy on a weekly basis. It was through this friendship that R had contact with his victim, and committed the contact offence at age 28 (see offence-focussed interview). R stated that between his son and work he lacked time to meet a partner, and did not meet his ex-partner for almost six years; he was around 29. During that time he used masturbation, IIOC and fantasies (including about children) to meet sexual needs.

His daughter was born when he was around 30. He reported a good sexual relationship with his ex-partner. Pornography did not play a role in their relationship. He continued to masturbate to fantasies about children but the frequency reduced. He reported a high sex drive but no sexual preoccupation.

Issues from R's personal history formed core parts of the formulation. One was his description of being shy and this resulting in him not initiating intimate relationships. This linked to his late sexual development, followed by access to sexual stories about children early in his sexual development. R was clear about the effect these stories had on his fantasies. His apparent lack of intimacy skills could also have related to his attitude about close friendships, although this appeared more dismissive, whereas R appeared to be more fearful regarding the prospect of romantic relationships.

R had difficulty discussing and remembering his feelings, preferring to distract himself from emotions by engaging in productive activity. This demonstrated the

importance of not only the information R was giving, but also the lack of information and his reduced engagement with certain questions. His behaviour seemed reflective of his description of his father, practical and hard-working, but not someone he discussed his feelings with.

5.3.2 Offence-focussed Interview

R's route into offending happened whilst working away in his late teens/early twenties. He spent time alone in his room and used the Internet to view pornography. He reported boredom and sexual gratification as his motivations. He had never bought a pornography magazine, saying *"Don't think I'd have the guts"*, so this was his first solo access to pornography for a sexual purpose. He used the Internet for non-sexual reasons, and out of curiosity searched for pornography. He viewed adult pornography for gratification and to *"kill time"*, but reported not being interested in adult pornography.

Whilst searching, he found a website containing sexual stories. He accessed this site a considerable amount. There were sexual stories about children in categories such as 'pre-teen' and 'incest'. He was shocked as it was something he had never contemplated before, but curiosity took over, *"like stepping into the unknown".* He found the stories more arousing than images. He reported a website disclaimer stating the material was legal, so he did not worry about breaking the law. He used the stories for masturbation but *"knew deep down it was wrong".* He told himself they were *"just fictional stories"* and relied on that not to be *"deterred"* from the *"sexual pull".* He would fantasise outside the Internet about children, although not exclusively.

After returning home at around 21 years old, he had a period (weeks) of accessing IIOC until he decided he *"needed to get out of this"* so deleted everything. He accessed images via a chatroom specific for trading IIOC, which he came across whilst browsing chatrooms. R would choose another user and swap images with them. He knew it was wrong but there was a *"sexual pull that was difficult to resist"* and no real deterrent. He collected around 100 images of females and males, levels one to four, from toddlers to teenagers. He would not really talk to others as he saw them as *"dirty old men"* and did not want to be associated with them. His fantasies about children continued and involved pre and post pubescent females.

He claimed he had no further access to IIOC or stories between the above viewing time and the contact offence. One reason was his method of access ceased when the chatroom closed. He used a photo-sharing website, initially for non-sexual purposes. He viewed one individual's profile containing pictures of their children at the beach. These images were of sexual interest and he regularly checked the profile for additional pictures. The image he was convicted of was obtained via social networking, which he found whilst browsing profiles and saved for repeat viewing.

His contact offending occurred when R was 28, in his home whilst babysitting. The victim was his son's mother's partner's daughter, who he described as a *"step daughter in vague terms".* He stated that the eight-year-old victim, *"looked at me as a father figure"* due to lack of contact with her own father. He described her as an *"intelligent, likeable young lady".* He and the victim would play 'games' of writing on each other's backs and massaging. He stated initially

this was about having a good relationship with the victim. He would allow her to stay up later and stated *"she was grown up for her age and liked to be treated like an adult".* He did not think his feelings towards her changed but acknowledged the games might have been a way to push boundaries. At times they would both have tops off and he believed he recognised this was inappropriate. He said he was *"unable to resist the temptation".* He stated he was not sexually aroused during the massaging, but fantasised about it afterwards. He could not remember touching the inside of the victim's thigh, *"It's hazy",* but he did not state the victim was dishonest. He believed it happened once.

He reported the victim stayed twice after the offence with no *"qualms"* about staying. When asked why he believed the offence happened he said *"maybe experimentation, desire. At the time I was not in a relationship so that may have played a part. Wasn't sexually attracted to [victim]. Think is was opportunistic. Find it hard to think what the thoughts were."*

He has had no contact with his son, his son's mother, her partner or the victim since the victim's disclosure; she disclosed when R was 33. He requested to write a letter of apology but the victim's mother declined. He felt *"gutted"* as he might have felt better if he could have done that, saying he felt *"dismissed".* When asked about the effects on the victim, he *"didn't think it affected her originally, but the investigation may have highlighted it for her".* He did not think she found it significant at the time, but now she is older she might feel differently. He said she might have *"trust issues"* but it's *"hard to imagine*

because I haven't seen her". He said *"hopefully it won't have too much of an impact on her life moving forward".*

5.3.4 Actuarial Risk Assessment

Risk Matrix (RM) 2000/S (Thornton, 2007; see Appendix 36) was completed on R, which focusses on static risk factors and makes a statistical judgment about the likelihood of re-offending within a given time period. Risk levels are divided into low, medium, high and very high. The assessment contains items relating to aggravating factors, namely non-contact sexual offences and stranger victims. For an Internet only offender, these two aggravating factors are removed as they are likely to inflate risk level (Thornton, 2007). For an offender like R, the guidelines state a judgment should be made regarding whether the non-contact offence constituted a separate offence, *"If the offender has both an Internet offence and a non-Internet offence then consider the nature of both offences in determining whether any offence was a non-contact"* (Thornton, 2007, p. 25). It was felt R's Internet offending was separate and constituted 'non-contact', so the non-contact aggravating factor was included. This concluded R to be of **medium** risk. The reconviction rates for those of medium risk are: 13% (5 years), 16% (10 years), 19% (15 years).

However, caution should be paid when using the RM2000/S as some research has shown its predictive validity to be questionable. Wakeling, Howard & Barnett (2011) founds the RM2000/S to have poor predictive validity (AUC=.60) regarding any reoffending for offenders with both internet and contact sexual offences, and poorer still for those with internet only offenders (AUC=.50).

5.3.5 Psychometric Assessment

R completed 11 psychometric tests and his pre-intervention raw and Z scores are presented in table 16 (for a description of each measure, including subscales, see Appendix 37). The Z scores were calculated using normative data from the measures' manuals and published research data (Beech, Fisher & Beckett, 1998). The measures completed were based on factors contributing to sexual offending (Sullivan & Beech, 2004) as well as issues felt beneficial to measure based on R's interviews. A psychometric assessment can aid in validating clinical judgement, highlight potential areas of intervention need, and measure change. It should be noted that, as the intervention was short and psycho-educational, there was no expectation of significant psychometric score change.

1. Paulhus Deception Scale (Paulhus, 1998)

R's scores on both subscales fell within the normal range, indicating R's psychometric assessment could be regarded as valid.

2. Self-Esteem (Thornton, 1989; Webster, Mann, Thornton, & Wakeling, 2006)

R's score fell below normal, suggesting R was a negative thinker with a low sense of self-worth. Low self-esteem has been found to relate to recidivism for those convicted of sexual offences against children (Barnett, Wakeling, Mandeville-Norden, & Rakestrow, 2012). R reported low self-esteem as an adolescent. This score might also have represented R's loses since his conviction i.e. job, family, friends.

3. Social Response Inventory (Keltner, Marshall, & Marshall, 1981)

Research has indicated that only the under assertiveness score is sensitive to intervention change (Beckett, Beech, Fisher & Fordham, 1994), so therefore only this subscale was included within table 15 and the pre and post score comparisons. R's scores on both under and over assertiveness were within the normal range anyway. Elliott, Beech, Mandeville-Norden and Hayes (2009) found contact offenders to be more prone to over assertive reactions than IIOC offenders.

4. UCLA Loneliness scale (Russell, Peplau, & Cutrona, 1980)

R's score was above normal. This indicated that R lacked intimate relationships with adults. R's clinical interview suggested this regarding his lack of confidence in initiating relationships.

5. Nowicki-Strickland Locus of Control (Nowicki & Duke, 1974)

R's score fell within the normal range, indicating he felt he had control over his life. This concurred with R's interview, especially his work ethic, and could have indicated an ability to take responsibility for his offending. IIOC offenders have been found to be less likely to have an external locus of control compared to contact offenders, with a one unit increase in score being associated with increased odds of being a contact offender (Elliott et al., 2009).

6. Barratt Impulsivity Scale (Barratt, 1994)

R's score on motor impulsivity was above average. This indicated that R may not think adequately before he acts. This concurred with R's account of the contact offence; he acted when the opportunity presented itself. In Elliott et al. (2009),

motor impulsivity and a one unit score increase was associated with increased odds of being an IIOC offender.

7. Victim Distortions Scale (Beckett & Fisher, 1994)

R's score was above normal, indicating he may not have appreciated the extent of the harm caused to his victim. This concurred with his offence interview. Contact offenders have been found to have higher victim empathy distortions than IIOC offenders (Elliott, Beech, & Mandeville-Norden, 2013; Elliott et al., 2009).

8. Children and Sex (Beckett, 1987)

R's scores on both subscales fell within the normal range. This indicated R did not hold global distortions about children and sex, nor did he report being 'emotionally fixated' on children.

9. Internet Behaviours and Attitudes Questionnaire (O'Brien & Webster, 2007)

As this measure lacked adequate norms, R's results were examined clinically regarding items R scored with a four or five. These were:

"I have found myself aroused by the illegality of the child pornography" (self-management)

"Looking at child pornography on the Internet makes me feel good" (self-management)

"I feel that my use of Internet child pornography encourages me to act in ways that I would not normally act" (self-management)

"The Internet is a safe outlet for my fantasies" (distorted thinking)

10. Relationship Questionnaire (Bartholomew & Horowitz, 1991)

R indicated a secure attachment style by endorsing the statement 'It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me'. This did not concur with the clinical interview as R reported difficulty with intimate relationships regarding fear of rejection. His endorsement may have reflected his life after offending, where R was experiencing his first long-term relationship.

11. Toronto Alexithymia Scale (Bagby, Parker, & Taylor, 1994)

R's score did not indicate any Alexithymia difficulties. This measure was included as R had difficulty remembering feelings and would attempt to avoid emotional responses.

The psychometrics were self-reported. A measure of validity was included to try and address this, but this did not eliminate the possibility of socially desirable responding, and discrepancies are noted between some scores and R's presentation during interview.

Table 16: R's Pre-intervention psychometric results

Domain	Measure	Scale	Score	Range	Z-score
Validity	Paulhus Deception Scale	Impression Management	7	Normal	0.08
		Self-Deceptive Enhancement	0	Normal	-0.96

Inter-personal Functioning	Self-Esteem		5	Below Normal	-1.50
	Social Response Inventory	Under-assertiveness	5	Normal	-0.70
	UCLA Loneliness Scale		56	Above Normal	3.17
	Locus of control		12	Normal	0.18
	Impulsivity	Motor impulsivity	20	Above Normal	1.19
		Cognitive impulsivity	18	Normal	0.32
		Non-planning impulsivity	22	Normal	0.86
Offence Specific	Victim Distortions		31	Above Normal	1.35
	Children and Sex	Emotional congruence	30	Normal	0.58
		Cognitive Distortions	8	Normal	-0.58
Other	Relationship Questionnaire		n/a	Secure	

	Alexithymia Scale	47	Non-alexithymia	-0.03

5.3.6 Formulation Using Functional Analysis

A cognitive behavioural formulation using the five P's framework was an option for R's formulation, however a functional analysis approach felt more appropriate for formulating R's offending due to the behavioural processes involved in the development of R's sexual interest. It also felt more appropriate in order to examine the process of each offence separately and consider antecedents and behaviours that were present for one offence type but perhaps not the other.

Antecedents - Distal

R reported lacking in confidence, affecting his ability to both initiate and engage in relationships with a partner. He reported concern about rejection and having low self-esteem regarding his appearance. He therefore did not have any girlfriends for most of his adolescence. This lack of development of intimacy skills appeared an important antecedent in his offending.

R received little information regarding sexual issues and knowledge, receiving minimal sex education. He did not discuss sex with his parents or use pornography for a sexual purpose during adolescence, so had little input regarding sexual behaviour. This coupled with his lack of intimacy skills and fear of rejection may have contributed to R not having his first sexual experience until he was almost adult, which he felt was later than this peers. R's view that

his sexual experience was behind his peers may have contributed to his rush to engage in sexual activity. Therefore R lacked sufficient opportunity to develop sexually.

R's lack of emotional expression and dismissal of his feelings possibly further impacted his ability to initiate and maintain intimate relationships. R reported his ex-partner used to comment that he never discussed his feelings.

R's want to please others and meet other's needs appeared to have direct impact on his contact with the victim and offence opportunity. This was an ongoing need for R, as he asked the author after the clinical interview whether he *"did alright"* and would *"be a good case study".* The author felt this was R wanting validation of meeting the author's needs.

Antecedents - Proximal

R moved away for work, spending time alone and using the Internet to alleviate boredom. With the lack of an intimate relationship, he began to use the Internet for sexual gratification. These proximal antecedents relate to both his Internet and his contact offending.

In regard to his contact offending, his want to please others and meet their needs was self-validating. Having experienced low self-esteem and not being validated in intimate relationships, he used meeting others needs to feel positive and valued (particularly with work). This could link to R's fear of rejection, and believing rejection is less likely if he met the needs of others. This was illustrated

when stating he felt 'dismissed' by the victim's mother, as he used to do a lot for her.

Behaviours

The above antecedents appeared to lead into numerous behaviours. During R's pornography use, still early in his sexual development, he accessed sexual stories. Amongst these were sexual stories about children of all ages. R would be sexually aroused to these, and thus reinforce his arousal to this content. He used justifications such as the stories being legal and fictional to continue with behaviour he recognised was inappropriate. This reinforcement of sex with children would continue throughout his life, using fantasies about children for gratification.

It was not until returning home that R had his next sexual relationship, which was short lived. R did not have another sexual relationship for six years. During this time his sexual needs were met via fantasies about adults and children, so continuing to reinforce his arousal to sexual behaviour with children.

R spent time browsing Internet chatrooms, and he reported excitement regarding talking with others from all over the world. R accessed a chatroom for trading IIOC and reported excitement and a *"sexual pull"* towards it, again reinforcing his arousal. He justified his behaviour by thinking he was not like everyone else, who were *"dirty old men".* He accessed IIOC until a trigger, the nature of which emerged during intervention, highlighted the consequences. His next contact with images resulted from searching profiles of individuals with an interest in photography, an interest R had developed. He found an individual's

profile with pictures of their children and used these for sexual gratification. He joined a social networking site, and whilst browsing profiles found an image of a teenager he saved for a sexual purpose.

His access to images and stories, and his fantasies about children continued to reinforce his sexual arousal. Due to his lack of intimate relationships this was how he chose to meet his sexual needs. It may have felt safer to meet his sexual needs this way, as it did not involve possible rejection from others. With R's difficulty expressing feelings, his intimacy and sexual needs were being addressed in a way that was easier and did not involve emotion. All the above appear to be pertinent issues for the Internet offending.

The Internet offending itself was a proximal antecedent to the contact offence, indicating factors related to his Internet offending were also relevant to the contact offending. However, additional behaviours stemming from other antecedents appeared specific to the contact offence.

His contact with the victim occurred through the victim's mother. R recalled being helpful and doing tasks for the victim's mother, including babysitting the victim. This appeared to relate to him meeting others' needs and being validated by this. It was during these occasions that R began boundary pushing behaviours with the victim. R used fantasy and masturbation about these events after their occurrence, continuing to reinforce inappropriate arousal. The contact offence occurred when R touched the inside of the victim's thigh. Behaviour engaged in by R (massaging) appeared an intimate behaviour couples would engage in. R may have felt the victim was safe to be intimate with, as he was

less likely to be rejected when initiating intimacy. His description of the victim presented her with an older attitude, perhaps to view her as an adult partner substitute (pseudo-adult). This might have seemed more acceptable and been exacerbated by his continued reinforcement of sexual behaviour with children. He reported an awareness of his inappropriate feelings and actions towards the victim but continued to babysit as he wanted to be helpful to the victim's mother, and receive validation from this. R felt *"dismissed"* that contact with the victim's mother had ceased. It appeared he felt he should not have been rejected, even in light of the offending, as he was meeting their needs.

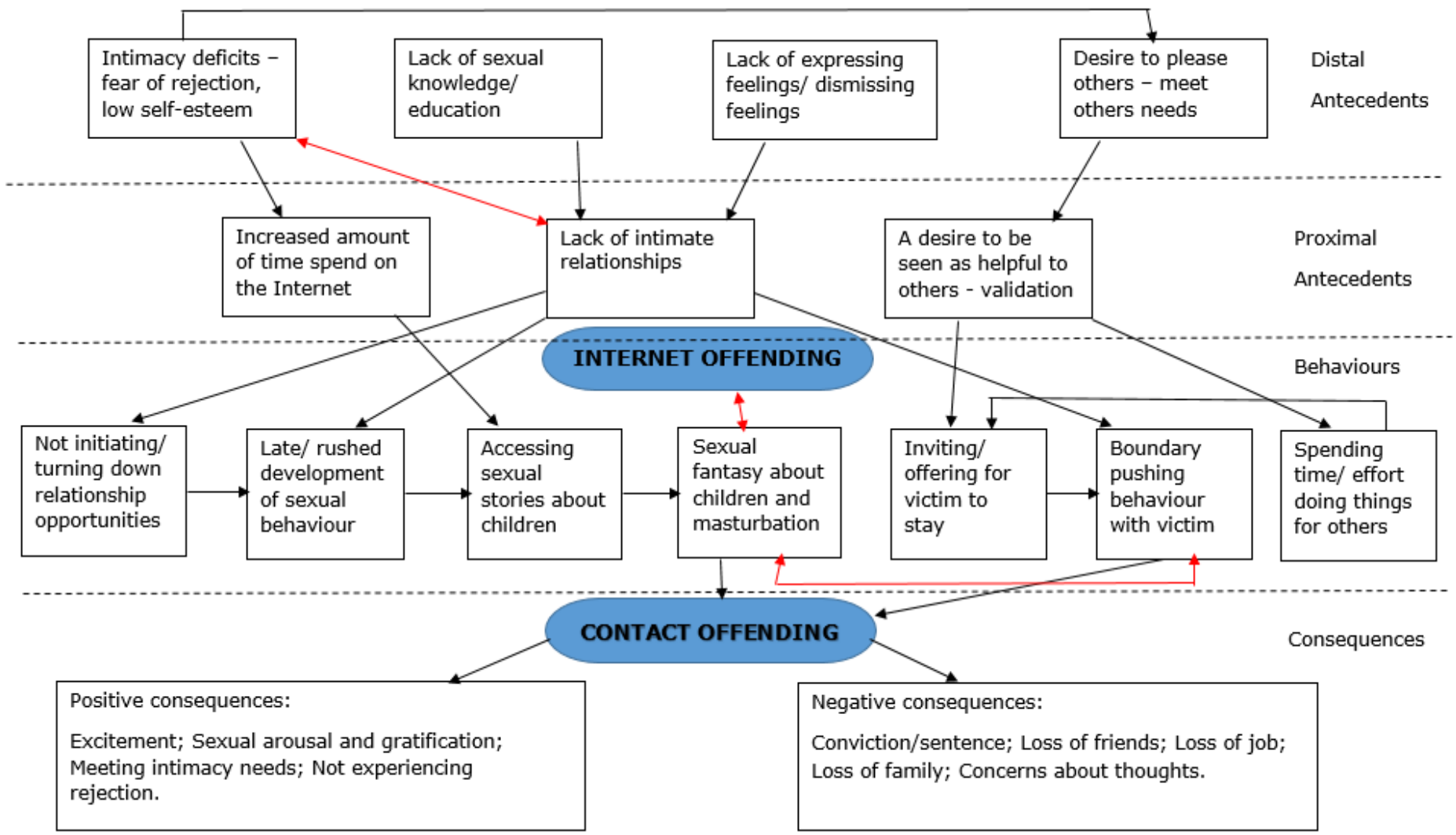
Consequences

R experienced some positive consequences from the offending. One was the continued positive reinforcement of sexual gratification across sexual stories about children, IIOC, fantasies about children and his inappropriate behaviour with the victim. The contact offending and preceding behaviour appeared to meet intimacy needs as the behaviour appeared similar to those engaged in by an intimate couple. An additional positive consequence could be that R did not experience rejection, from the victim or from those with whom he was meeting the needs of, including the victim's mother.

R experienced negative consequences, the main one being the victim's disclosure and the investigation. R lost his job, something he was proud of and gained validation from. This resulted in R living back with his parents and working a lower grade job, feeling he had gone back in his life. He lost the friendship of his son's mother, the victim's mother and contact with his son. The offence coming to light resulted in the breakdown of R's relationship and contact

with his daughter. During the offending, R was unhappy with his thoughts. He attempted to suppress them, indicating negative feelings towards his thoughts and behaviours.

Figure 2 below: R's formulation using functional analysis.


Intimacy deficits – fear of rejection, low self-esteem
Lack of sexual knowledge/ education
Lack of expressing feelings/ dismissing feelings
Desire to please others – meet others needs
Distal Antecedents
Increased amount of time spend on the Internet
Lack of intimate relationships
A desire to be seen as helpful to others - validation
Proximal Antecedents
INTERNET OFFENDING
Behaviours
Not initiating/ turning down relationship opportunities
Late/ rushed development of sexual behaviour
Accessing sexual stories about children
Sexual fantasy about children and masturbation
Inviting/ offering for victim to stay
Boundary pushing behaviour with victim
Spending time/ effort doing things for others
CONTACT OFFENDING
Consequences
Positive consequences:
Excitement; Sexual arousal and gratification; Meeting intimacy needs; Not experiencing rejection.
Negative consequences:
Conviction/sentence; Loss of friends; Loss of job; Loss of family; Concerns about thoughts.

Protective factors

It is important to highlight protective factors to recognise how they could be utilised and built upon within an intervention to reduce risk and help the offender move forward positively.

Protective factors were evident for R, the first being his motivation to engage in intervention. He accepted responsibility and was motivated not to re-offend. R was supported by his parents and siblings, and had good problem solving skills, being able to obtain work after release from custody. He was proactive in seeking practical solutions to problems and appeared able to cope with emotional upset by using distraction.

5.4 Intervention

R undertook an eight session intervention with the author at TLFF offices, attending, on average, one session a week. A follow-up session was completed three weeks after the intervention ended, which included post-intervention psychometrics.

Session One – Formulation review and Offence Analysis

R felt the formulation was a good representation of his offending and the possible contributing factors.

The session utilised an offence process model (Finkelhor, 1984). The Pre-conditions model had been criticised for its simplicity, however this can make it an attractive model for short-term intervention. It can be used for education, and offenders can easily grasp its basic ideas (Ward, Polaschek, & Beech, 2006). It was felt, due to R's difficulty identifying feelings and thoughts regarding the

offending, it would benefit R to break down the offending into stages and discuss his distorted cognitions. The model was completed regarding the Internet and contact offending (see Appendix 38). R was given personal work (PW) to build on breaking the offending down into manageable pieces. This consisted of R completing his own functional analysis of the lead up to the offending.

Session Two – Offence Analysis

Session two examined Cycles of Offending, relevant to the Internet offending as this occurred more than once. R was asked to make his own cycle, which he was able to do and explain (see Appendix 39). This was due to the importance of not being made to fit an already established cycle. He was presented with a cycle (Wolf, 1984) after completing his own. R discussed his desistance from Internet offending being triggered by seeing news about an arrest. This indicated more of a continuous cycle (Eldridge, 1998), due to the reinforcement of fantasy and distortions, but moderated by fear of apprehension. This validated R's elevated motor impulsivity. It seemed when R acknowledged the consequences, this became a protective factor.

Ward and Siegert's (2002) pathways model was examined by presenting R with key cards. He was asked to identify those relevant to his offending (see Appendix 40). In line with the formulation, the main pathway identified was Intimacy deficits, as well as influences regarding emotional dysregulation and distorted sexual scripts. R identified one anti-social cognition regarding harm caused to children by sexual contact with adults. This was a grey area for R concerning the type of contact and meaning of 'harmed'. It was important to divide his post-offence cognitions from global cognitions about children and sex

(O Ciardha & Ward, 2013). When this was done, the above cognition remained, and was addressed during the victim empathy session. The final model examined was the Self-Regulation Model (Ward & Hudson, 1998b), used to highlight R's decision making prior to the offence. He recognised both offences began as 'approach-automatic'; he wished to offend and took the opportunity. His Internet offending, whilst on the cycle, became 'approach-explicit' due to planning the offence (see Appendix 40). This was uncomfortable for R to acknowledge. A pathway was put together of R's whole offence process (see Appendix 41).

Session Three – Footsteps and Fantasy

R completed his footsteps personal work (see Appendix 42), identifying clear steps to the offending, including continued masturbation to thoughts and images of children. His viewing of photo-sharing images occurred after the contact offending. This was unclear during assessment and potentially met more of a sexual than intimacy need (at this point R had his intimacy needs met within his relationship).

R was open about his difficulty managing his inappropriate fantasies. The function of general and abusive fantasy was examined, including costs and benefits. An exercise was completed around the difference between legal and illegal fantasy, in comparison to appropriate and inappropriate; fantasy could be legal and inappropriate. The sexual arousal process was presented to highlight the different stages such as stimulus, physiological arousal, fantasy, masturbation, and ejaculation. The process was used to examine the optimal point of control, and discuss reinforcement of continued fantasy and

masturbation to a particular stimulus. Due to time constraints, discussions around management techniques were delayed until session four. Given the prominence of R's fantasies during his offending, this required more focussed time. R was given a fantasy exercise and collecting exercise as PW. R exhibited behaviours during this session reflective of his want to meet the author's needs and be validated. He stated he *"didn't know many of the answers today"* but *"I usually know the answers, don't I?"*

Session Four – Problematic Internet Use

R completed his fantasy exercise PW well, illustrating negative messages his fantasies had reinforced about himself, others and the world. He recognised positive feelings he received from collecting IIOC, i.e. achievement and anticipation. Fantasy management techniques were discussed, which R found useful. The main focus of the session was to make R aware of aspects of the Internet that make it an 'attractive' place to engage in sexual behaviour. This included the 'Triple A Engine' (Cooper, 1998), Cyberhex (Carnes, Delmonico, & Griffin, 2007) and Moral Disengagement (Bandura, 2002). The Internet offending happened more than once so it felt important for R to understand the potential factors involved in choosing to offend online.

Session Five – Relationships and Attachment

R recognised a potential need to disclose his offending i.e. should he meet a future partner, finding discussions around disclosure considerations useful (see Appendix 43). Different adult attachment styles were then discussed (Bartholomew & Horowitz, 1991). This was important to address, due to issues raised in the formulation, particularly R's tendency to want to meet others'

needs to receive validation and avoid rejection. R identified an essential component for a relationship as 'give and take', and always meeting the needs of others could result in resentment if they do not reciprocate (illustrated when R felt 'dismissed' by the victim's mother). He recognised neglecting his own needs, and then meeting them in inappropriate ways. Some of R's statements during the intervention, such as wanting to be a good case study, were reflected back to him. He saw, upon reflection, these displays of wanting to meet the author's needs. R was asked to do something positive and validating before session six that did not involve others. His PW was to write a letter to the victim of his offence.

Session Six – Victim Empathy

R's victim letter demonstrated awareness of the victim's feelings, however it also illustrated a want to soothe his conscience, with statements such as *"I hope that with the whole issue coming out in the open it has helped you find some closure…".* This was discussed with R in relation to what empathy was i.e. about the other person's needs, not his own (see Appendix 44). Discussions were had about what blocks empathy, and how this related to the offending, with R's own needs blocking his empathy for the victim and the children in the images. He understood this, although it was uncomfortable for him. He recognised some of his empathy difficulties were about wanting to retain his self-esteem. R appeared to learn a lot, and was receptive to challenges regarding his empathy distortions.

Sessions Seven and Eight – Relapse Prevention

R identified his risky behaviours and thoughts i.e. boredom, going online with no purpose, his cognitive distortions around the offending and offering to babysit. He identified both avoidant and cognitive-based coping strategies for these risks. The needs the behaviour was meeting were discussed in relation to the Good Lives Model (Ward, 2002). R identified, as in the formulation, his needs were intimacy-related. However, when a discussion was had about meeting these needs in the future, R's lack of self-confidence and fear of rejection was a clear barrier in feeling he could initiate a relationship. Further work was suggested around working with a Therapist on confidence issues and self-validation.

5.5 Results

R's engagement throughout the intervention was good. He appeared motivated to discuss and understand his offending. R completed an evaluation form upon completion of the intervention, stating that the disclosure session was the most useful, as having to do this in the future caused him concern. He reported making 'maximum progress' in the following areas: Ability to manage inappropriate thinking and fantasy, understanding of relationship issues, and ability to understand own offending pattern.

A follow-up meeting was conducted three weeks after the intervention ended. During this meeting R completed the post-intervention psychometrics, as well as the author ascertaining whether changes had been implemented since the intervention or whether R planned to implement changes. The results of R's pre and post psychometric tests are presented in table 17, along with the Reliable Change Index (RCI) for each measure. Reliable Change Index (Jacobson &

Truax, 1991) is a statistical method for determining if a change in an individual's test score is unlikely to have occurred by chance. RCI is calculated by subtracting the pre score from the post score and then dividing by the standard difference of the measure. The measures' reliability and standard deviations were obtained either via the manual or previous research using a comparable sample (Barnett et al., 2012; Beech, Fisher, & Beckett, 1998; Elliott et al., 2009). RCI of over 1.96 in either direction is considered significant at the 0.05 level.

Table 17: R's pre and post intervention scores, and RCI

Measure	**Scale**	**Pre Score**	**Post Score**	**RCI**
Paulhus Deception Scale	Impression Management	7	5	-0.60
	Self-Deceptive Enhancement	0	0	0.00
Self-Esteem		5	7	1.13
Social Response Inventory	Under-assertiveness	5	8	0.62
UCLA Loneliness Scale		56	56	0.00
Locus of control		12	7	-1.68
Impulsivity	Motor impulsivity	20	19	-
	Cognitive impulsivity	18	22	-

	Non-planning impulsivity	22	23	-
Victim Distortions		31	11	-2.67
Children and Sex	Emotional Congruence	30	10	-1.62
	Cognitive Distortions	8	2	-0.81
Relationship Questionnaire		Secure	Fearful-avoidant	n/a
Alexithymia Scale		47	39	-1.04

- no test-retest reliability value

One RCI score for R's post psychometrics reached statistical significance, Victim Distortions scale. Positive score changes were also present for Locus of Control and Emotional Congruence, although these were non-significant. For the Internet Behaviours and Attitudes Questionnaire, all items endorsed by R at pre-intervention were no longer endorsed at follow-up. For the Relationship Questionnaire, at pre-intervention R endorsed himself as a secure attachment style, however post-intervention he categorised himself as fearful-avoidant.

The conclusion of the intervention identified further beneficial work for R, namely to address his confidence issues regarding initiating relationships. This was important for R, given the identified needs the offending was meeting. This was discussed with R at the follow-up meeting, but R had not actioned any of the suggestions for addressing his confidence and fear of rejection. It was suggested to R that additional further work might involve regular checks with the 'Stop it

Now!' Helpline regarding helping R maintain the management of his inappropriate fantasies.

5.6 Discussion

This case study focussed on the assessment and intervention of a crossover Internet to contact sexual offender. Research has been unable to illustrate consistency regarding the risk factors for an offender to crossover from accessing IIOC, to contact sexually offending against a child. Research has shown low re-conviction rates of IIOC offenders, but high self-report rates for undetected contact offences (Seto et al., 2011). This case study examined the process in which that transition may occur through assessment and formulation, and then implementation of a psycho-educational intervention to address the identified factors. The assessment and formulation highlighted a number of factors for R. Some factors transcended both offence types, whereas others were more related to one offending than the other.

Common factors centred on intimacy issues and R not initiating relationships due to fear of rejection and low self-confidence. These were validated in his psychometric scores for self-esteem and emotional loneliness. His lack of intimate relationships fed into using the Internet for a sexual purpose, and also to offending against the victim as a way to meet intimacy needs. These needs have been found in previous research for both contact offenders (Ward & Siegert, 2002) and those with Internet only offences (Marshall et al., 2012), indicating a common antecedent for both these types of offending. R appeared, for both offending types, to relate to the Intimacy Deficits pathway (Ward & Siegert, 2002). Psychological vulnerabilities (low self-esteem and fear of

rejection) blocked R from initiating relationships and meeting intimacy needs, resulting in R using the Internet to meet these needs in inappropriate ways, which included the reinforcement of sexual contact with children.

R continued to reinforce sexual contact with children by masturbation. This was done by sexual stories, fantasies and IIOC, reflecting a potential conditioning process of his sexual arousal over a number of years (McGuire et al., 1964). For R, this could relate to the 'escalation hypothesis' put forward by Taylor and Quayle (2003). This suggested ongoing exposure to IIOC (and in this case stories and fantasy) could create maladaptive schema regarding the appropriateness of sexual activity with children, making contact offending appear more acceptable. This would not have been validated by R's assessment psychometric results, which indicated no global distortions about children and sex, or IIOC, but only distortions concerning the victim of the contact offence. However, during the offence analysis and victim empathy sessions, it was clear that R found it difficult to appreciate that children would be harmed by certain types of sexual contact. This could indicate that cognitive distortions, when more than one offence type is present, might be more complicated regarding their presentation throughout the offence process and the type of offending to which they relate. The contact offending for R, and his view that the victim seemed unharmed could have created a sexual-abuse level distortion (Elliott & Beech, 2009) which was perhaps not present previously. This distortion was also likely reinforced by R to protect his view of himself (Schneider & Wright, 2004).

A separate factor for the contact offending was R's desire to meet the needs of others, perhaps resulting from his fear of rejection. This resulted in R babysitting

the victim to meet the needs of his friends, and continuing to do so knowing his behaviour was inappropriate. This formed a separate path in the functional analysis, but still appeared to relate to intimacy deficits by meeting the needs of others to maintain relationships with them. R had not considered this, and within the intervention he recognised that focussing on the needs of others and neglecting his own resulted in meeting the unmet needs in inappropriate ways.

R's post psychometric score changes reached significance using RCI for the Victim Distortions scale, and other measures suggested a trend to change. This reduction in empathy distortions was noticeable during the intervention as R's distortions about the lack of harm to the victim were challenged, with R seeming to process the information and re-evaluate his beliefs. Given that R underwent a short psycho-educational intervention, significant score changes were not expected, especially considering the short duration between intervention and follow-up. A longer follow-up period might have resulted in more significant psychometric change. Additionally, most of R's scores pre-intervention were within the normal range, so significant change would have been difficult to achieve. R's change in attachment style on the Relationship Questionnaire appeared to result from R's increased awareness of his attachment style from the intervention. When asked about this change, R stated the intervention helped increase his awareness of the way he responded to others and his perceptions about relationships as affected by his low self-esteem and lack of confidence.

The case study had a number of limitations. First was the reliance on R's self-report. Collateral information was requested but never materialised, so the

author was unable to validate any of R's self-report against CJS documentation. It is possible R's account was affected by socially desirable responding. This is a difficulty within voluntary services such as TLFF. As clients self-refer, often before a conviction, little collateral information exists and difficulty can be experienced when retrieving information embedded within the CJS.

The voluntary nature of the service means client circumstances may change and scheduled interventions are often affected. R changed jobs twice during the intervention, meaning he was unable to make daytime appointments (aside from the last three sessions where R took the day off work). This resulted in sessions having to be done in the evening. This impacted on the work including sessions needing to be reduced in length and re-planned. On occasion R needed to cancel and reschedule the session due to work commitments. This affected time and resources. For a charity these difficulties are more impacting than for a statutory agency.

The case study illustrated that for a crossover offender, factors were present that have been identified in other IIOC offender samples as well as contact offending samples. Elliott et al. (2013) found mixed offenders more closely resembled IIOC offenders within their research, however, all but one of the mixed offenders were incorrectly categorised. This was similar for R, with factors seen to relate to contact offending being present i.e. victim empathy distortions (Elliott et al., 2013), but also those related to IIOC offenders such as a more internal locus of control (Elliott et al., 2009). This indicates those who have committed Internet and contact offences may not be easily assigned to an existing category, making the examination of individual pathways paramount.

Additionally, without comparing genuine crossover offenders, not 'mixed' or 'dual' offenders, to IIOC offenders only, it is difficult to ascertain what the important factors might be that could indicate risk of contact offending. For R, with factors present that related to both offending types, a SOTP or an Internet SOTP alone might not have dealt with all of the important factors. For crossover offenders, the issue of problematic Internet use could be important to address. This was the case for R, and the author's concern about future offending related to further Internet offending due to R not addressing his intimacy difficulties. For R, the contact offence may not have occurred if he had not accessed inappropriate content online. His access to inappropriate sexual stories, and his reinforcement of those appeared to shape his sexual fantasies about children. This meant R's offending could relate to the situational approach (Wortley & Smallbone, 2006), as R reported no sexual interest in children prior to accessing stories. However, equally, his existing psychological vulnerabilities regarding his intimacy difficulties contributed to his use of the Internet for a sexual purpose in the first place (Ward & Beech, 2006).

Regardless, both of these theories highlight the importance of situational prevention measures regarding the Internet, as well as intervening quickly with those accessing IIOC to address the risk of crossover. The access of sexual stories involving children is not illegal, but given R's recognition of consequences being a protective factor, if these stories were an offence this might have reduced the risk of R accessing IIOC and contact offending.

Further research should focus on identifying offenders that are truly crossover, so more can be learnt about the factors that contributed to risk and their

decision to contact offend. This information would help for preventing crossover and determining how these offenders are best managed by the CJS and beyond.

Chapter Six: Discussion

This thesis examined established risk factors for contact sexual offending, namely deviant sexual interest and offence-supportive cognitions (Beech & Ward, 2004), in relation to the offence of accessing IIOC.

When considering the risk factor of offence-supportive cognitions and sexual offence-related behaviour, the systematic review indicated that pornography exposure may well impact some individuals, particularly those seen as being already high risk of sexual aggression (D'Abreu & Krahe, 2014; Kingston et al, 2008) i.e. have existing hostile attitudes (Vega & Malamuth, 2007), high psychopathy (Williams et al., 2008), and high sensation seeking (Ray et al., 2013). The review gave further validity to models such as the Confluence model (Malamuth et al., 2000). The greatest number of relationships found within the review were with sexual offence-related behaviour, rather than offence-supportive cognitions. This could have suggested that a behavioural response to pornography was more likely take place for individuals, reflective of a behavioural modelling process (Bandura, 1977) rather than an attitudinal shift. However, there were no statistically significant differences between the number of relationship and no relationship studies in the review, for any outcome or pornography type. Therefore, the review could not conclude that pornography has an overall impact on the considered outcomes, only that this might be the case for some individuals. The review also highlighted the complexity of these relationships, and that the nature of the subject being studied makes it hard to conduct research that is ecologically valid and able to demonstrate a causal relationship. For IIOC offenders, there was indication within the review that

illegal pornography had less of an impact than adult pornography. However, this appeared based on the lack of research comparing IIOC offenders to community controls, rather than a true effect. When discussing with offenders themselves, they will often report offence-supportive attitudes (Taylor & Quayle, 2003), however the lack of research comparing IIOC offenders to controls makes it difficult to know if as a group, these offenders will hold more of these attitudes. Further research is required to know more. There is also a question around the function of these beliefs, and the context to which they relate, given the difference between distortions that are related to global beliefs about sex with children compared to those that are offence-specific (Elliott & Beech, 2009). It might be that this difference relates to exposure to the images, in that IIOC offenders might hold distortions about the viewing of images but not about the general appropriateness of children and sex. Some IIOC offenders cite a separation between their perceptions of their online behaviours, and their views about children in the 'real' world (Allen, Dervley & Bailey, 2015). This could be an important distinction when considering the likelihood of crossover offending.

For the case study, any offence-supportive thinking that was measured psychometrically appeared to be victim specific, and not related the global beliefs, nor related to the IIOC. However, during the intervention it was clear that R had some distortions that were offence-specific for the IIOC, such as not harming the child and that he was not like others who engaged in that behaviour. R also had beliefs that justified his behaviour with the victim in regard to presenting her as older than she was, and not harmed being by what happened. It appeared that these served a function of protecting his self-esteem rather than being previously held beliefs about children and sex.

This effect could give some indication as to why in the systematic review more studies cited a relationship with behaviour than attitudes; attitudes could be an evaluation of a specific situation, rather than global beliefs. However, what could be argued for R is that these beliefs about his victim could have been facilitated by his previous use of sexual imagery and narratives about children; they would not have been present had R not already been exposed to the concept of sexual activity with children online. R did have additional pathways to offending, such as intimacy deficits (Ward & Siegert, 2002), so how much of a facilitation aspect the cognitive distortions presented is unclear. Additional vulnerabilities could be seen as making R at risk of offending prior to his access to IIOC and the development of his distortions; this reflected some of the individual differences cited in the systematic review research. What the systematic review also highlighted was that more longitudinal research is needed in regard to the impact of pornography and IIOC, including more research focusing on IIOC offenders in comparison to community controls.

However, when considering the case study, one issue that was particularly important was that of DSI. With DSI being cited as one of the strongest predictors of recidivism with contact offenders (Hanson & Morton-Bourgon, 2005), it was important to consider this for IIOC offenders regarding risk of further online offending, and risk of cross over to contact offending. The research project indicated that DSI was an issue for this type of offender, with different measures of sexual interest, i.e. VT, IAT and self-report, showing group differences between IIOC offenders and controls. However, not all the measures

were able to predict group membership at a reasonable level during the ROC analysis, with only the self-report measure doing so at a comfortable above chance level. As the sample of offenders were mostly treatment seeking offenders, this result could be explainable. However, completing the measures with offenders that deny their offending could have resulted in more emphasis on the effect of indirect measures. It could also be that DSI is relevant for certain offenders, whereas for others it is not, just as can be the case for contact offenders (O'Donohue & Letourneau, 1992), and as it appears to be for the negative impact of pornography in some persons. For the case study, DSI was important, with the reinforcement of sexual gratification to sexual stories and images of children resulting in R's ongoing sexual fantasies about children. A conditioning effect (Laws & Marshall, 1990; McGuire, Carlisle, & Young, 1964) appeared of relevance in regard to R's level of interaction with IIOC; a finding also highlighted within some of the studies in the systematic review (Briere & Runtz; 1989; McCarthy, 2010). DSI appeared to facilitate R's subsequent contact offending, with him reporting fantasies about the child in question. Therefore, when considering the issue of cross over to contact offending with IIOC offenders, the issue of conditioning and the development of DSI seemed pertinent. This highlighted the fluid nature of sexual interest, in that R reported no sexual attraction to children prior to accessing sexual stories and IIOC. This indicates a potential risk of viewing IIOC for those with no pre-existing sexual interest in children, and that the reinforcement of IIOC via sexual gratification, as opposed to the act of viewing, could result in the development of a sexual interest that was not previously present. This is not to say that this outcome is inevitable for all individuals, as other important vulnerability factors have been highlighted with those who have accessed IIOC, which were also relevant for R,

such as intimacy deficits (Ward & Siegert, 2002). It would be important to consider these other factors and their role within the offence maintenance process, which could also contribute to the potential development of DSI. For example, an offender with intimacy deficits and anxiety regarding initiating adult relationships, might view IIOC and experience fantasies about children as this behaviour feels 'safer', and less anxiety provoking than sexual thoughts about adults (Middleton, Elliott, Mandeville-Norden & Beech, 2006). This offender's sexual gratification to the above stimuli could make them more at risk of developing DSI than an offender who engages in intimate and sexual relationships with adults. Both these offenders are receiving sexual gratification from IIOC, however for the former offender there is a lack of healthy sexual behaviour, which could increase the likelihood of developing DSI in children.

Given that DSI is relevant to some IIOC offenders, this would make the appropriate measurement of DSI imperative for risk assessment with IIOC offenders. As the critique highlighted, PPG and self-report have both been ways of doing this, but both have inherent problems including socially desirable responding (Cooper, 2005) and lack of standardisation (Kalmus & Beech, 2005). The indirect measures examined indicated some promise as DSI measures, with IAT and VT showing abilities to discriminate between sexual offenders and controls (Banse, Schmidt & Clabour, 2010; Brown et al., 2009; Gray et al., 2005; Harris et al., 1996); this was further validated in the research project using the EISIP. However, it was also highlighted that this measure is best used on a clinical basis, rather than for group discrimination. The research and critique indicated that the EISIP could be a useful measure of DSI in IIOC offenders, and could form part of a comprehensive risk assessment. However

there should be caution about using the EISIP as a the sole means of determining DSI, and it should be used more as a discussion tool with the offender in order to help them discuss this difficult subject matter.

Thesis limitations have been discussed within each chapter, however some issues are important to reiterate. One is the sizeable literature pool regarding the impact of pornography, and that the documented systematic review is unlikely to have captured every relevant study on this issue. Equally, with the studies that were included, the vast variation of definition, methodology and participants, made it difficult to draw firm conclusions. The EISIP is a new measure that has had limited use within peer reviewed research; therefore the critique was focussed on the methods underpinning the EISIP. The EISIP should be further utilised within research to replicate and consolidate the findings so far. This was done within the research project, but on a very specific sample, treatment seeking IIOC offenders. The use of the EISIP should be widened to include homosexual participants, and those that deny their offending, so further validation of the EISIP measure against objective outcomes could take place. For the case study, the main limitation focussed on the majority of information being R's self-report. The nature of R's described offending appeared inconsistent with the custodial sentence he received, so it was quite possible that R minimised the extent of his contact offending. This is important to consider when evaluating the validity of R's accounts during the assessment, or indeed self-reports from any offenders, sexual or not.

In regard to clinical applications, given that the thesis indicated that DSI was present for some IIOC offenders, managing this behaviour should be represented in intervention programmes. This might include educating IIOC offenders on fantasy management and the reinforcing nature of sexual arousal. To break down myths about the harmlessness of viewing IIOC, and related fantasies, would be important for IIOC offenders. The same applies for offence-supportive thinking, although perhaps with a focus on offence-specific distortions, as research indicates that IIOC hold less global distortions about children and sex than contact offenders (Elliott, Beech, & Mandeville-Norden, 2013; Elliott, Beech, Mandeville-Norden, & Hayes, 2009). This view was validated within the case study, even though R would be considered a 'mixed' offender.

Given the prominence of IIOC offending, and the possibility of individuals' reinforcing both their arousal and fantasies whilst accessing IIOC, the issue of prevention needs to be high on the agenda. Given that the internet is a 'place', there is an important role for situational prevention (Wortley & Smallbone, 2012). Certain measures are in place in the UK such as the introduction of 'Splash Pages' (warning pages that appear when an individual has attempted to access a removed IIOC hosting website) and the blocking of search terms on search engines such as Google. However, what this does not give is the ability for individuals to consider the impact of their offending behaviour, the consequences, and the motivations behind it. For those where the consistent viewing of IIOC may result in distorted thinking or DSI, methods such as splash pages and search blocking are not challenging these, or helping offenders to manage their sexual arousal. One attempt to address this is the launch of an

online self-help website aimed at those who are accessing IIOC. The need to report child protection-related offences, or even risk, in the UK makes those who have offended less likely seek help. An anonymous website could provide an avenue for those wishing to address their offending behaviour. The 'Get Help' website was launched by The Lucy Faithfull Foundation on 13th October 2015, and contains self-help modules around addressing IIOC offending. This site was previously the CROGA site (Quayle, 2005) set up by the DAPHNE project. Resources such as this could help in the prevention of IIOC offending, by making individuals more aware of the abusive nature of their behaviour, helping them to consider the root causes, and the problems which may occur as a result of their offending.

This however would not be the complete answer, as the Internet offers secrecy and a lack of accountability, which an online self-help website would not change. Giving offenders or potential offenders a way to come forward and seek help in a way that does not result in reporting to authorities might encourage more people to address their behaviour. This is what has been done in Dunkelfeld (Beier et al., 2009), and might be a potential consideration for in the UK. A pilot study examining a Dunkelfeld treatment programme reported positive post-treatment changes in a number of dynamic risk factors, such as emotional deficits and offence-supportive cognitions (Beier et al., 2015). This type of intervention is never going to be popular, due to the offer of anonymity and confidentiality to those who have offended, but could allow offenders a way of addressing their offending without the fear of prosecution; it encourages the individual to be accountable to someone other than themselves, and removes the secrecy of their offending behaviour. For IIOC offenders, given that their offending could

well facilitate the development of sexual offence risk factors, such as offence-supportive cognitions and DSI, this type of intervention access could help prevent potential recidivism. What we have been doing so far to tackle child abuse imagery, as well as child sexual abuse in general, is mostly intervention after the fact, but this has not helped us to protect children to the largest extent. Bringing the issues out into the open, and offering offenders the chance to change their behaviour or prevent their behaviour for happening in the first place, could help us to tackle child protection at the front end and prevent further victims.

Chapter Seven: References

Abel, G. G., Gore, D. K., Holland, C. L., & Camp, N. (1989). The measure of the cognitive distortions of child molesters. *Annals of Sex Research, 2*(2), 135-152. doi:10.1007/bf00851319

Abel, G. G., Lawry, S. S., Karlstom, E. M., Osborn, C. A., & Gillespie, C. F. (1994). Screening tests for Pedophilia. *Criminal Justice and Behavior, 21*(1), 115-131. doi:10.1177/0093854894021001008

Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology, 52*(1), 27-58. doi:10.1146/annurev.psych.52.1.27

Alexy, E. M., Burgess, A. W., & Baker, T. (2005). Internet offenders: traders, travelers, and combination trader-travelers. *Journal of Interpersonal Violence, 20*(7), 804-812. doi:10.1177/0886260505276091

Allen, L., Dervley, R., & Bailey, A. (2015). *Indecent Images of Children (IIOC): Understanding online offenders behaviour and identifying intervention oppportunities.* Report commissioned by RICU's Serious and Organised Crime Team, Home Office.

Allen, M., Emmers, T., Gebhardt, L., & Giery, M. A. (1995). Exposure to Pornography and Acceptance of Rape Myths. *Journal of Communication, 45*(1), 5-26. doi:10.1111/j.1460-2466.1995.tb00711.x

Aslan, D., & Edelmann, R. (2014). Demographic and offence characteristics: a comparison of sex offenders convicted of possessing indecent images of children, committing contact sex offences or both offences. *The Journal of Forensic Psychiatry & Psychology, 25*(2), 121-134. doi:10.1080/14789949.2014.884618

Attorney General's Commission on Pornography: Final Report (1986, July). Washington, DC: U.S. Department of Justice.

Babchishin, K. M., Hanson, K., & Hermann, C. (2011). The Characteristics of Online Sex Offenders: A Meta-Analysis. *Sexual Abuse: A Journal of Research and Treatment, 23*(1), 92-123. doi:10.1177/1079063210370708

Babchishin, K. M., Hanson, R. K., & VanZuylen, H. (2015). Online child pornography offenders are different: a meta-analysis of the characteristics of online and offline sex offenders against children. *Archives of Sexual Behavior, 44*(1), 45-66. doi:10.1007/s10508-014-0270-x

Babchishin, K. M., Nunes, K., & Hermann, C. (2013). The Validity of Implicit Association Test (IAT) Measures of Sexual Attraction to Children: A Meta-Analysis. *Archives of Sexual Behavior, 42*(2), 487-499. doi: 10.1007/s10508-012-0022-8

Baer, J. L., Kohut, T., & Fisher, W. A. (2015). Is pornography use associated with anti-woman sexual aggression? Re-examining the Confluence Model with third variable considerations. *The Canadian Journal of Human Sexuality, 24*(2), 160-173. doi:10.3138/cjhs.242-A6

Bagby, R., Parker, J., & Taylor, G. (1994). The twenty item Toronto Alexithymia Scale-I: Item selection and cross-validation of the factor structure. *Journal of Psychosomatic Research, 38*(1), 23-32. doi:10.1016/0022-3999(94)90005-1

Bancroft, J. H. J., Jones, H. C., & Pullan, B. P. (1966). A simple transducers for measuring penile erections with comments on its use in the treatment of sexual disorders. *Behavior Research and Therapy, 4*(3), 239-241. doi:10.1016/0005-7967(66)90015-5

Bandura, A. (1977). *Social Learning Theory*. Englewood, NJ: Prentice Hall.

Bandura, A. (2002). Selective moral disengagement in the exercise of moral agency. *Journal of Moral Education, 31*(2), 101-119. doi:10.1080/0305724022014322

Banse, R., Schmidt, A., & Clarbour, J. (2010). Indirect Measures of Sexual Interest in Child Sex Offenders: A Multimethod Approach. *Criminal Justice & Behavior, 37*(3), 319-335. doi:10.1177/0093854809357598

Barak, A., & Fisher, W. A. (1997). Effects of interactive computer erotica on men's attitudes and behavior toward women: an experimental study. *Computers in Human Behavior, 13*(3), 353-369. doi:10.1016/s0747-5632(97)00014-9

Barak, A., Fisher, W. A., Belfry, S., & Lashambe, D. R. (1999). Sex, Guys, and Cyberspace. *Journal of Psychology & Human Sexuality, 11*(1), 63-91. doi:10.1300/j056v11n01_04

Barnett, G., Wakeling, H., Mandeville-Norden, R., & Rakestrow, J. (2012). How useful are psychometric scores in predicting recidivism for treated sex offenders? *International Journal of Offender Therapy and Comparative Criminology, 56*(3), 420-446. doi: 10.1177/0306624X11403125

Barratt, E. (1994). Impulsivity and aggression. In J. Monahan and H. J. Steadman (Eds.), *Violence and Mental Disorder: Developments in risk assessment* (pp. 61-79). Chicago: University of Chicago Press.

Bartholomew, K., & Horowitz, L. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of Personality and Social Psychology, 61*(2), 226-244. doi:10.1037//0022-3514.61.2.226

Bates, A., & Metcalf, C. (2007). A psychometric comparison of internet and non-internet sex offenders from a community treatment sample. *Journal of Sexual Aggression, 13*(1), 11-20. doi:10.1080/13552600701365654

Bauserman, R. (1996). Sexual Aggression and Pornography: A Review of Correlational Research. *Basic and Applied Social Psychology, 18*(4), 405-427. doi:10.1207/s15324834basp1804_4

Bauserman, R. (1998). Egalitarian, sexist, and aggressive sexual materials: Attitude effects and viewer responses. *Journal of Sex Research, 35*(3), 244-253. doi:10.1080/00224499809551940

Beauregard, E., Lussier, P., & Proulx, J. (2005). The role of sexual interests and situational factors on rapists' modus operandi: Implications for offender profiling. *Legal and Criminological Psychology, 10*(2), 265-278. doi:10.1348/135532505x36110

Beckett, R. (1987). *The Children and Sex Questionnaire*. Unpublished manuscript.

Beckett, R., Beech, A., Fisher, D., & Fordham, A. (1994). *Community-based treatment for sex offenders: An evaluation of seven treatment programmes.* Home Office occasional report. Available from: Home Office Publications Unit, 50 Queen Anne's Gate, London, SW1 9AT, England.

Beckett, R., & Fisher, D. (1994). *Assessing victim empathy: A new measure*. Paper presented at the 13th Annual Conference of the Association for the Treatment of Sexual Abusers, San Francisco.

Beech, A. R. (1998). A psychometric typology of child abuser. *International Journal of Offender Therapy, 42*(4), 319-339. doi: 10.1177/0306624x9804200405

Beech, A. R., Elliott, I. A., Birgden, A., & Findlater, D. (2008). The Internet and child sexual offending: A criminological review. *Aggression and Violent Behavior, 13*(3), 216-228. doi: 10.1016/j.avb.2008.03.007

Beech, A. R., Fisher, D., & Beckett, R. (1998). *Step 3: An Evaluation of the Prison Sex Offender Treatment Programme*. London: Home Office.

Beech, A. R., Kalmus, E., Tipper, S. P., Baudouin, J. -Y., Humphreys, G. W., & Flak, V. E. (2008). Children induce an enhanced attentional blink in child molesters. *Psychological Assessment, 20*(4), 397-402. doi:10.1037/a0013587

Beech, A. R., & Ward, T. (2004). The integration of etiology and risk in sexual offenders: A theoretical framework. *Aggression and Violent Behavior, 10*(1), 31-63. doi:10.1016/j.avb.2003.08.002

Beier, K. M., Grundmann, D., Kuhle, L. F., Scherner, G., Konrad, A., & Amelung, T. (2015). The German Dunkelfeld Project: A pilot study to prevent child sexual abuse and the use of child abusive images. *Journal of Sexual Medicine, 12*(2), 529-542. doi:10.1111/jsm.12785

Beier, K. M., Neutze, J., Mundt, I. A., Ahlers, C. J., Goecker, D., Konrad, A., & Schaefer, G. A. (2009). Encouraging self-identified pedophiles and hebephiles to seek professional help: First results of the Prevention Project Dunkelfeld. *Child Abuse & Neglect, 33*(8), 545-549. doi:10.1016/j.chiabu.2009.04.002

Blanchard, R., Kuban, M., Blak, T., Cantor, J., Klassen, P., & Dickey, R. (2009). Absolute Versus Relative Ascertainment of Pedophilia in Men. *Sexual Abuse: A Journal of Research and Treatment, 21*(4), 431-441. doi: 10.1177/1079063209347906

Bleecker, T. E., & Murnen, S. K. (2005). Fraternity Membership, the Display of Degrading Sexual Images of Women, and Rape Myth Acceptance. *Sex Roles, 53*(7-8), 487-493. doi:10.1007/s11199-005-7136-6

Bogaert, A. F., Woodard, U., & Hafer, C. L. (1999). Intellectual ability and reactions to pornography. *Journal of Sex Research, 36*(3), 283-291. doi:10.1080/00224499909551998

Böhm, M., Franz, P., Dekker, A., & Matthiesen, S. (2014). Desire and dilemma – gender differences in German students' consumption of pornography. *Porn Studies, 2*(1), 76-92. doi:10.1080/23268743.2014.984923

Bouffard, J., & Miller, H. (2014). The role of sexual arousal and overperception of sexual intent witin the decision to engage in sexual coercion. *Journal of Interpersonal Violence, 29*(11), 1967-1986. doi:10.177/0886260513515950

Bouffard, L. A. (2010). Exploring the utility of entitlement in understanding sexual aggression. *Journal of Criminal Justice, 38*(5), 870-879. doi:10.1016/j.jcrimjus.2010.06.002

Bourke, M., & Hernandez, A. (2009). The 'Butner Study' Redux: A report of the incidence of hands-on child victimisation by child pornography offenders. *Journal of Family Violence, 24*(3), 183-191. doi:10.1007/510896-008-9219-y

Bridges, A. J., Wosnitzer, R., Scharrer, E., Sun, C., & Liberman, R. (2010). Aggression and Sexual Behavior in Best-Selling Pornography Videos: A Content Analysis Update. *Violence Against Women, 16*(10), 1065-1085. doi:10.1177/1077801210382866

Briere, J., Malamuth, N. M., & Check, J. (1985). Sexuality and rape-supportive beliefs. *International Journal of Women's Studies, 8*(4), 398-403.

Briere, J., & Runtz, M. (1989). University males' sexual interest in children: Predicting potential indices of “pedophilia” in a nonforensic sample. *Child Abuse & Neglect, 13*(1), 65-75. doi:10.1016/0145-2134(89)90030-6

Briggs, P., Simon, W. T., & Simonsen, S. (2011). An Exploratory Study of Internet-Initiated Sexual Offenses and the Chat Room Sex Offender: Has the Internet Enabled a New Typology of Sex Offender? *Sexual Abuse: A Journal of Research and Treatment, 23*(1), 72-91. doi:10.1177/1079063210384275

Brown, A. S. (2006). Developing an Implicit Association Test for Forensic Use: Discriminating paedophiles from other offenders. Wales, UK.

Brown, A. S., Gray, N., & Snowden, R. (2009). Implicit Measurement of Sexual Associations in Child Sex Abusers: Role of Victim Type and Denial. *Sexual Abuse: A Journal of Research and Treatment, 21*(2), 166-180. doi: 10.1177/1079063209332234

Busch, N. B., Bell, H., Hotaling, N., & Monto, M. A. (2002). Male Customers of Prostituted Women: Exploring Perceptions of Entitlement to Power and Control and Implications for Violent Behavior Toward Women. *Violence Against Women, 8*(9), 1093-1112. doi:10.1177/107780102401101755

Buschman, J., Bogaerts, S., Foulger, S., Wilcox, D., Sosnowski, D., & Cushman, B. (2010). Sexual History Disclosure Polygraph Examinations With Cybercrime Offences: A First Dutch Explorative Study. *International Journal of Offender Therapy and Comparative Criminology, 54*(3), 395-411. doi:10.1177/0306624x09334942

Buschman, J., Wilcox, D., Krapohl, D., Oelrich, M., & Hackett, S. (2010). Cybersex offender risk assessment. An explorative study. *Journal of Sexual Aggression, 16*(2), 197-209. doi:10.1080/13552601003690518

Carnes, P., Delmonico, D., & Griffin, E. (2007). *In the Shadows of the Net: Breaking Free from Compulsive Online Sexual Behavior* (2nd ed.). Minnesota: Hazelden.

Carr, J. L., & VanDeusen, K. M. (2004). Risk Factors for Male Sexual Aggression on College Campuses. *Journal of Family Violence, 19*(5), 279-289. doi:10.1023/b:jofv.0000042078.55308.4d

Carroll, J. S., Padilla-Walker, L. M., Nelson, L. J., Olson, C. D., McNamara Barry, C., & Madsen, S. D. (2008). Generation XXX: Pornography Acceptance and Use Among Emerging Adults. *Journal of Adolescent Research, 23*(1), 6-30. doi:10.1177/0743558407306348

Check, J. V. P., & Guloien, T. H. (1989). Reported proclivity for coercive sex following repeated exposure to sexually violent pornography, nonviolent dehumanizing pornography, and erotica. In D. Zillman & J. Bryant (Ed.), *Pornography: Research advances and policy considerations* (pp. 159–184). Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Cooper, A. (1998). Sexuality and the Internet: Surfing its way into a new millenium. *Cyberpsychology and Behavior, 1*(2), 24-28. doi:10.1089/cpb1998.1.187

Cooper, S. (2005). Understanding, treating, and managing sex offenders who deny their offence. *Journal of Sexual Aggression, 11*(1), 85-94. doi:10.1080/13552600412331272337

Cowburn, M., & Pringle, K. (2000). Pornography and Men's Practice. *The Journal of Sexual Aggression, 6*(1/2), 52-66. doi:10.1080/13552600008413309

Craissati, J., & Beech, A. (2003). A review of dynamic variables and their relationship to risk prediction in sex offenders. *Journal of Sexual Aggression, 9*(1), 41-55. doi:10.1080/355260031000137968

Crossman, L. L. (1995). *Date rape and sexual aggression by college males: Incidence and the involvement of impulsivity, anger, hostility,*

psychopathology, peer influence and pornography use. (Doctoral Dissertation), Texas A&M University.

Cvencek, D., Greenwald, A. G., Brown, A., Snowden, R., & Gray, N. (2010). Faking of the Implicit Association Test is statistically detectable and partly correctable. *Basic and Applied Social Psychology, 32*(4), 302-314. doi:10.1177/1079063209332234

D'Abreu, L. (2013). Pornography, gender inequality and sexual aggression against women. *Psicologia e Sociedade, 25*(3), 592-601. doi:10.1590/S0102-71822013000300013

D'Abreu, L., & Krahe, B. (2014). Predicting sexual aggression in male college students in Brazil. *Psychology of Men & Masculinity, 15*(2), 152-162. doi:10.1037/a0032789

Davidson, J., Quayle, E., Morgenbesser, L., & Brown, S. (2010). Editorial. *Journal of Sexual Aggression, 16*(1), 1-4. doi:10.1080/13552600903513952

Davies, K. A. (1997). Voluntary exposure to pornography and men's attitudes toward feminism and rape. *The Journal of Sex Research, 34*(2), 131-137. doi:10.1080/00224499709551877

Demare, D., Lips, H. M., & Briere, J. (1988). Violent pornography and self-reported likelihood of sexual aggression. *Journal of Research in Personality, 22*(2), 140-153. doi:10.1016/0092-6566(88)90011-6

Demare, D., Lips, H. M., & Briere, J. (1993). Sexually Violent Pornography, Anti-Women Attitudes, and Sexual Aggression: A Structural Equation Model. *Journal of Research in Personality, 27*(3), 285-300. doi:10.1006/jrpe.1993.1020

Diamond, M., Jozifkova, E., & Weiss, P. (2011). Pornography and Sex Crimes in the Czech Republic. *Archives of Sexual Behavior, 40*(5), 1037-1043. doi:10.1007/s10508-010-9696-y

Diamond, M., & Uchiyama, A. (1999). Pornography, Rape, and Sex Crimes in Japan. *International Journal of Law and Psychiatry, 22*(1), 1-22. doi:10.1016/s0160-2527(98)00035-1

Donnerstein, E., & Linz, D. (1986). Mass Media Sexual Violence and Male Viewers: Current Theory and Research. *American Behavioral Scientist, 29*(5), 601-618. doi:10.1177/000276486029005007

Dworkin, A., & MacKinnon, C. A. (1988). *Pornography and Civil Rights: A new day for women's equality*. Minneapolis, MN: Organizing Against Pornography.

Egan, V., & Parmar, R. (2013). Dirty Habits? Online Pornography Use, Personality, Obsessionality, and Compulsivity. *Journal of Sex and Marital Therapy, 39*(5), 394-409. doi:10.1080/0092623X.2012.710182

Eke, A., Seto, M. C., & Williams, J. (2011). Examining the criminal history and future offending of child pornography offenders: An extended prospective follow-up study. *Law and Human Behavior, 35*(6), 466-478. doi:10.1007/s10979-010-9252-2

Eldridge, H. (1998). *Therapist guide for maintaining change: Relapse prevention for adult male perpetrators of child sexual abuse*. London: Sage.

Elliott, I., & Beech, A. (2009). Understanding online child pornography use: Applying sexual offense theory to Internet offenders. *Aggression and Violent Behavior, 14*(3), 180-193. doi:10.1016/j.avb.2009.03.002

Elliott, I., Beech, A., & Mandeville-Norden, R. (2013). The Psychological Profiles of Internet, Contact and Mixed Internet/Contact Sex Offenders. *Sexual*

Abuse: A Journal of Research and Treatment, 25(1), 3-20. doi:10.1177/1079063212439426

Elliott, I., Beech, A., Mandeville-Norden, R., & Hayes, E. (2009). Psychological Profiles of Internet Sexual Offenders: Comparisons with contact sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 21*(1), 76-92. doi:10.1177/1079063208326929

Endrass, J., Urbaniok, F., Hammermeister, L. C., Benz, C., Elbert, T., Laubacher, A., & Rossegger, A. (2009). The consumption of Internet child pornography and violent and sex offending. *BMC Psychiatry, 9*(1), 43-49. doi:10.1186/1471-244x-9-43

Farren, L., & Barnett, G. (2014). *Measuring offence-related sexual interests in convicted sexual offenders: An inital test of the reliability and validity of a self-report scale*. Retrieved from http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/307575/sexual-offenders-analytical-summary.pdf.

Festinger, L. (1962). Cognitive dissonance. *Scientific American, 207*(4), 93-107. doi:10.1038/scientificamerican1062-93

Fiedler, R. H., & Bluemke, M. (2005). Faking the IAT: Aided and unaided response control on the Implicit Association Test. *Basic and Applied Social Psychology, 27*(4), 307-316. doi:10.1207/s1534834basp2407_3

Finkelhor, D. (1984). *Sexual Abuse: New theory and research*. New York: Free Press.

Fischer, L., & Smith, G. (1999). Statistical Adequacy of the Abel Assessment for Interest in Paraphilias. *Sexual Abuse: A Journal of Research and Treatment, 11*(3), 195-205. doi:10.1177/107906329901100303

Fisher, W. A., & Barak, A. (1991). Pornography, erotica, and behavior: More questions than answers. *International Journal of Law and Psychiatry, 14*(1-2), 65-83. doi:10.1016/0160-2527(91)90025-i

Fisher, W. A., & Grenier, G. (1994). Violent pornography, antiwoman thoughts, and antiwoman acts: In search of reliable effects. *Journal of Sex Research, 31*(1), 23-38. doi:10.1080/00224499409551727

Flak, V. E., Beech, A. R., & Humphreys, G. W. (2009). The Rapid Serial Visual Presentation Test of Sexual Interest in Child Molesters. In D. Thornton & D. R. Laws (Eds.), *Cognitive Approaches to the Assessment of Sexual Interest in Sexual Offenders*. Chichester: John Wiley & Sons Ltd.

Foubert, J., Brosi, M. W., & Bannon, S. R. (2011). Pornography Viewing among Fraternity Men: Effects on Bystander Intervention, Rape Myth Acceptance and Behavioral Intent to Commit Sexual Assault. *Sexual Addiction & Compulsivity, 18*(4), 212-231. doi:10.1080/10720162.2011.625552

Gagnon, J. H., & Simon, W. (1973). *Sexual Conduct*. Chicago: Aldine.

Garcia, L. T. (1986). Exposure to pornography and attitudes about women and rape: A correlational study. *Journal of Sex Research, 22*(3), 378-385. doi:10.1080/00224498609551316

Geer, J. H., & Bellard, H. S. (1996). Sexual content induced delays in unprimed lexical decisions: Gender and context effects. *Archives of Sexual Behavior, 25*(4), 379-396. doi:10.1007/bf02437581

Glasgow, D. (2009). Affinity: The Development of a Self-Report Assessment of Paedophile Sexual Interest Incorporating a Viewing Time Validity Measure. In D. Thornton & D. R. Laws (Eds.), *Cognitive Approaches to the Assessment of Sexual Interest in Sexual Offenders* (pp. 59-84). Chichester: John Wiley & Sons.

Glasgow, D., Osborne, A., & Croxen, J. (2003). An assessment tool for investigating paedophile sexual interest using viewing time: An application of single case methodology. *British Journal of Learning Disability, 31*(2), 96-102. doi:10.1046/j.1468-3156.2003.00180.x

Gonslaves, V. (2010). *Exploring Online Sexually Explicit Material: What is the Relationship to Sexual Coercion?* (Doctoral Dissertation), University of Nebraska, Lincoln.

Gray, N. S., Brown, A. S., MacCulloch, M. J., Smith, J., & Snowden, R. J. (2005). An implicit association test of the association between children and sex in pedophiles. *Journal of Abnormal Psychology, 114*(2), 304-308. doi:10.1037/0021-843x.114.2.304

Greenwald, A. G., Nosek, B. A., & Banaji, M. R. (2003). Understanding and using the Implicit Association Test: I. An improved scoring algorithm. *Journal of Personality and Social Psychology, 85*(3), 197-216. doi:10.1037/h0087889

Gress, C., Anderson, J., & Laws, R. (2013). Delays in attentional processing when viewing sexual imagery: The development and comparison of two measures. *Legal and Criminological Psychology, 18*(1), 66-82. doi:10.1111/j.2044-8333.2011.02032.x

Gwee, K. P., Lim, L. E. C., & Woo, M. (2002). The Sexual Profile of Rapists in Singapore. *Medicine, Science and the Law, 42*(1), 51-57. doi:10.1177/002580240204200109

Hald, G. M. (2006). Gender Differences in Pornography Consumption among Young Heterosexual Danish Adults. *Archives of Sexual Behavior, 35*(5), 577-585. doi:10.1007/s10508-006-9064-0

Hald, G. M., & Malamuth, N. N. (2015). Experimental Effects of Exposure to Pornography: The moderating effect of personality and mediating effect of sexual arousal. *Archives of Sexual Behavior, 44*(1), 99-109. doi:10.1007/s10508-014-0291-5

Hald, G. M., Malamuth, N. N., & Yuen, C. (2010). Pornography and attitudes supporting violence against women: Revisting the relationship in nonexperimental studies. *Aggressive Behavior, 36*(1), 14-20. doi:10.1002/ab.20328

Hanson, K., & Bussière, M. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology, 66*(2), 348-362. doi: 10.1037/0022-006x.66.2.348

Hanson, R., & Morton-Bourgon, K. (2005). The characteristics of persistent sexual offenders. A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology, 73*(6), 1154-1163. doi:10.1037/0022-006X.73.6.1154

Harris, G. T., Rice, M. E., Quinsey, V. L., & Chaplin, T. C. (1996). Viewing time as a measure of sexual interest among child molesters and normal heterosexual men. *Behavior Research and Therapy, 34*(4), 389-394. doi:10.1016/0005-7967(95)00070-4

Harris, J. D. (1943). Habituatory response decrement in the intact organism. *Psychological Bulletin, 40*(6), 385-422. doi: 10.1037/h0053918

Haywood, T., Grossman, L., & Cavanaugh, J., James. (1990). Subjective Versus Objective Measurements of Deviant Sexual Arousal in Clinical Evaluations of Alleged Child Molesters. *A Journal of Consulting and Clinical Psychology, 2*(3), 269-275. doi: 10.1037//1040-3590.2.3.269

Hegna, K., Mossige, S., & Wichstrom, L. (2004). Older adolescents' positive attitudes toward younger adolescents as sex partners. *Adolescence, 39*(156), 627-651.

Helmus, L., Hanson, R. K., Babchishin, K. M., & Mann, R. E. (2013). Attitudes supportive of sexual offending predict recidivism: A meta-analysis. *Trauma, Violence, & Abuse,* 14(1), 34-53. doi:10.1177/1524838012462244

Hempel, I. S., Buck, N. M. L., Goethals, K. R., & van Marle, H. J. C. (2013). Unraveling Sexual Associations in Contact and Noncontact Child Sex Offenders Using the Single Category - Implicit Association Test. *Sexual Abuse: A Journal of Research and Treatment, 25*(5), 444-460. doi:10.1177/1079063212464660

Henry, O., Mandeville-Norden, R., Hayes, E., & Egan, V. (2010). Do internet-based sexual offenders reduce to normal, inadequate and deviant groups? *Journal of Sexual Aggression, 16*(1), 33-46. doi:10.1080/13552600903454132

Howitt, D., & Sheldon, K. (2007). The role of cognitive distortions in paedophilic offending: Internet and contact offenders compared. *Psychology, Crime & Law, 13*(5), 469-486. doi:10.1080/10683160601060564

Imhoff, R., Schmidt, A., Weiß, S., Young, A., & Banse, R. (2012). Vicarious Viewing Time: Prolonged Response Latencies for Sexually Attractive Targets as a Function of Task- or Stimulus-Specific Processing. *Archives of Sexual Behavior, 41*(6), 1389-1401. doi:10.1007/s10508-011-9879-1

Jacobson, N., & Truax, P. (1991). Clinical Significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of*

Consulting and Clinical Psychology, 59(1), 12-19. doi:10.1037//0022-006x.59.1.12

Johansson, T., & Hammaren, N. (2007). Hegemonic masculinity and pornography: Young people's attitudes toward relations to pornography. *Journal of Men's Studies, 15*(1), 57-70. doi:10.3149/jms.1501.57

Jung, S., Ennis, L., Stein, S., Choy, A., & Hook, T. (2013). Child pornography possessors: Comparisons and contrasts with contact- and non-contact sex offender. *Journal of Sexual Aggression, 19*(3), 295-310. doi:10.1080/13552600.2012.741267

Kalmus, E., & Beech, A. (2005). Forensic assessment of sexual interest: A review. *Aggression & Violent Behavior, 10*(2), 193-217. doi:10.1016/j.avb.2003.12.002

Kearns Condron, M., & Nutter, D. (1988). A preliminary examination of the pornography experience of sex offenders, paraphiliacs, sexual dysfunction patients, and controls based on meese commission recommendations. *Journal of Sex & Marital Therapy, 14*(4), 285-298. doi:10.1080/00926238808403811

Keltner, A., Marshall, P., & Marshall, W. (1981). Measurement and correlation of assertiveness and social fear in a prison population. *Corrective and Social Psychiatry, 27*(1), 41-47.

Kingston, D. A., Fedoroff, P., Firestone, P., Curry, S., & Bradford, J. M. (2008). Pornography use and sexual aggression: the impact of frequency and type of pornography use on recidivism among sexual offenders. *Aggressive Behavior, 34*(4), 341-351. doi:10.1002/ab.20250

Klein, C., Kennedy, M. A., & Gorzalka, B. B. (2008). Rape Myth Acceptance in Men Who Completed the Prostitution Offender Program of British

Columbia. *International Journal of Offender Therapy and Comparative Criminology, 53*(3), 305-315. doi:10.1177/0306624x08316969

Kornblum, S., & Lee, J. (1995). Stimulus-response compatability with relevant and irrelevant stimulus dimensions that do and do not overlap with the response. *Journal of Experimental Psychology: Human Perception and Performance, 21*(4), 855-875. doi:10.1037//0096-1523.21.4.855

Krone, T. (2004). A typology of online child pornography offending. *Trends and Issues in Crime and Criminal Justice, 279*, 1-6. Retrieved from http://www.aic.gov.au/publications/current%20series/tandi/261-280/tandi279.html

Lam, C. B., & Chan, D. K.-S. (2006). The Use of Cyberpornography by Young Men in Hong Kong: Some Psychosocial Correlates. *Archives of Sexual Behavior, 36*(4), 588-598. doi:10.1007/s10508-006-9124-5

Langevin, R., Lang, R. A., Wright, P., Handy, L., Frenzel, R. R., & Black, E. L. (1988). Pornography and sexual offences. *Annals of Sex Research, 1*(3), 335-362. doi:10.1007/bf00878103

Lanning, K. (2010). Child Molesters: A Behavioral Analysis (5th ed.). Vancouver: National Centre for Missing and Exploited Children.

Laws, D. R. (2009). Penile Plethysmography: Stengths, Limitations, Innovations. In D. Thornton & D. R. Laws (Eds.), *Cognitive Approaches to the Assessment of Sexual Interest in Sexual Offenders* (pp. 7-29). Chichester: John Wiley & Sons.

Laws, D. R., Hanson, R. K., Osborn, C. A., & Greenbaum, P. E. (2000). Classification of child molesters by Plethymographic assessment of sexual arousal and a self-report measure of sexual preference. *Journal of*

Interpersonal Violence, 15(12), 1297-1312. doi:10.1177/088626000015012004

Laws, D. R., & Marshall, W. L. (1990). A conditioning theory of the etiology and maintenance of deviant sexual preferences and behavior. In W. L. Marshall, D. R. Laws, & H. E. Barbaree (Ed.), *Handbook of sexual assault: Issues, theories, and treatment of the offender* (pp. 209-229). New York: Plenum Press.

Letourneau, E. (2002). A Comparison of Objective Measures of Sexual Arousal and Interest: Visual Reaction Time and Penile Plethysmography. *Sexual Abuse: A Journal of Research and Treatment, 14*(3), 207-223. doi:10.1177/107906320201400302

Linsley, W. A. (1989). The case against censorship of pornography. In D. Zillman & J. Bryant (Eds.), *Pornography: Research advances and policy considerations.* Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Linz, D. G. (1989). Exposure to sexually explicit materials and attitudes toward rape: A comparison of study results. *The Journal of Sex Research, 26*(1), 50-84. doi:10.1080/00224498909551492

Linz, D. G., Donnerstein, E., & Penrod, S. (1988). Effects of long-term exposure to violent and sexually degrading depictions of women. *Journal of Personality and Social Psychology, 55*(5), 758-768. doi:10.1037//0022-3514.55.5.758

Long, M., Alison, L., & McManus, M. (2012). Child Pornography and Likelihood of Contact Abuse: A Comparison Between Contact Child Sexual Offenders and Noncontact Offenders. *Sexual Abuse: A Journal of Research and Treatment, 25*(4), 370-395. doi:10.1177/1079063212464398

Longino, H. E. (1980). Pornography, Oppression, & Freedom: A closer look. In L. Lederer (Ed.), *Take Back the Night: Women on Pornography*. New York: William Morrow & Company.

Lyons, J., Anderson, R., & Larson, D. (1994). A systematic review of the effects of aggressive and nonaggressive pornography. In D. Zillman, J. Bryant, & A. Huston (Eds.), *Media, Children, and the Family: Social scientific, psychodynamic and clinical perspectives* (pp. 271-310). Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

Mac Conaill, S., (2012). The attentional blink as an indicator of sexual interest. *Journal of European Psychology Students, 3*(1), 54–67. doi: 10.5334/jeps.ar

Malamuth, N. M., Addison, T., & Koss, M. (2000). Pornography and sexual aggression: are there reliable effects and can we understand them? *Annual Review of Sex Research, 11*(1), 26-91. doi:10.1080/10532528.2000.10559784

Malamuth, N. M., & Ceniti, J. (1986). Repeated exposure to violent and nonviolent pornography: Likelihood of raping ratings and laboratory aggression against women. *Aggressive Behavior, 12*(2), 129-137. doi:10.1002/1098-2337(1986)

Malamuth, N. M., Hald, G. M., & Koss, M. (2012). Pornography, individual differences in risk and men's acceptance of violence against women in a representative sample. *Sex Roles, 66*(7-8), 427-439. doi:10.1007/s11199-011-0082-6

Mancini, C., Reckdenwald, A., & Beauregard, E. (2012). Pornographic exposure over the life course and the severity of sexual offenses: Imitiation and

cathartic effects. *Journal of Criminal Justice, 40*(1), 21-30. doi:10.1016/j.jcrimjus.2011.11.004

Mancini, C., Reckdenwald, A., Beauregard, E., & Levenson, J. S. (2014). Sex industry exposure over the life course on the onset and frequency of sex offending. *Journal of Criminal Justice, 42*(6), 507-516. doi:10.1016/j.jcrimjus.2014.09.002

Mann, R., Webster, S., Wakeling, H., & Marshall, W. (2007). The measurement and influence of child abuse supportive beliefs. *Psychology, Crime and Law, 13*(5), 443-458. doi:10.1080/10683160601061141

Marshall, W. L. (1988). The use of sexually explicit stimuli by rapists, child molesters and nonoffenders. *The Journal of Sex Research, 25*(2), 267-288. doi:10.1080/00224498809551459

Marshall, L., O'Brien, M., & Marshall, W. (2012). Obsessive-compulsive disorder, social phobia, and loneliness in incarcerated Internet child pornography offenders. *Sexual Addiction and Compulsivity, 19*(1-2), 41-52. doi:10.1080/10720162.2012.665291

McCarthy, J. (2010). Internet sexual activity: A comparison between contact and non-contact child pornography offenders. *Journal of Sexual Aggression, 16*(2), 181-195. doi:10.1080/13552601003760006

McGuire, J., Carlisle, J., & Young, B. (1964). Sexual deviations as conditioned behaviour: A hypothesis. *Behaviour Research and Therapy, 2*(2-4), 185-190. doi:10.1016/0005-7967(64)90014-2

McGuire, M. & Dowling, S. (2013). *Cyber crime: A review of the evidence. Research Report 75. Chapter 3: Cyber-enabled crimes - sexual offending against children.* Retrieved from

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/246754/horr75-chap3.pdf

Merdian, H., Curtis, C., Thakker, J., Wilson, N., & Boer, D. (2014). The endorsement of cognitive distortions: Comparing child pornography offenders and contact sex offenders. *Psychology, Crime and Law, 20*(10), 971-993. doi:10.1080/1068316X.2014.902454

Middleton, D., Elliott, I., Mandeville-Norden, R., & Beech, A. (2006). An investigation into the application of the Ward and Siegert pathways model of child sexual abuse with Internet offenders. *Psychology, Crime and Law, 12*(6), 589-603. doi:10.1080/10683160600558352

Mieczkowski, T., & Beauregard, E. (2012). Interactions between disinhibitors in sexual crimes: additive or counteracting effects? *Journal of Crime and Justice, 35*(3), 395-411. doi:10.1080/0735648x.2012.666408

Mokros, A., Dombert, B., Osterheider, M., Zappala, A., & Santtila, P. (2010). Assessment of Pedophilic Sexual Interest with an Attentional Choice Reaction Time Task. *Archives of Sexual Behavior, 39*(5), 1081-1090. doi:10.1007/s10508-009-9530-6

Mokros, A., Gebhard, M., Heinz, V., Marschall, R., Nitschke, J., Glasgow, D., . . . Laws, R. (2013). Cumputerized Assessment of Pedophilic Sexual Interest Through Self-Report and Viewing Time: Reliability, Validity, and Classification Accuracy of the Affinity Program. *Sexual Abuse: A Journal of Research and Treatment, 25*(3), 230-258. doi:10.1177/1079063212454550

Monto, M. A., & Hotaling, N. (2001). Predictors of Rape Myth Acceptance Among Male Clients of Female Street Prostitutes. *Violence Against Women, 7*(3), 275-293. doi:10.1177/10778010122182442

Neutze, J., Grundmann, D., Scherner, G., & Beier, K. (2012). Undetected and detected child sexual abuse and child pornography offenders. *International Journal of Law and Psychiatry, 35*(3), 168-175. doi:10.1016/j.ijlp.2012.02.004

Neutze, J., Seto, M. C., Schaefer, G. A., Mundt, I. A., & Beier, K. M. (2011). Predictors of Child Pornography Offenses and Child Sexual Abuse in a Community Sample of Pedophiles and Hebephiles. *Sexual Abuse: A Journal of Research and Treatment, 23*(2), 212-242. doi:10.1177/1079063210382043

Nichols, H. R., & Molinder, I. (2000). *Multiphasic Sex Inventory II.* Tacoma, WA: Nichols and Molinder Assessments

Nowicki, S., & Duke, M. (1974). A Locus of Control scale for non-college as well as college adults. *Journal of Personality Assessment, 38*(2), 136-137. doi:10.1080/00223891.1974.10119950

Nunes, K. L., Firestone, P., & Baldwin, M. (2007). Indirect Assessment of Cognitions of Child Sexual Abusers with the Implicit Association Test. *Criminal Justice and Behavior, 34*(4), 454-475. doi:10.1177/0093854806291703

Nunes, K. L., Hermann, C. A., Maimone, S., & Woods, M. (2015). Thinking Clearly About Violent Cognitions: Attitudes may be distinct from other cognitions. *Journal of Interpersonal Violence, 30*(8), 1322-1347. doi:10.1177/0886260514540329

Nutter, D. E., & Kearns, M. E. (1993). Patterns of exposure to sexually explicit material among sex offenders, child molesters, and controls. *Journal of Sex & Marital Therapy, 19*(1), 77-85. doi:10.1080/00926239308404890

O Ciardha, C., & Ward, T. (2013). Theories of Cognitive Distortions in Sexual Offending: What the Current Research Tells Us. *Trauma, Violence and Abuse, 14*(1), 5-21. doi:10.1177/1524838012467856

O'Brien, M., & Webster, S. (2007). The construction and preliminary validation of the Internet Behaviors and Attitudes Questionnaire (IBAQ). *Sexual Abuse: A Journal of Research and Treatment, 19*(3), 237-256. doi:10.1177/107906320701900305

O'Donohue, W. T., & Geer, J. H. (1985). The habituation of sexual arousal. *Archives of Sexual Behavior, 14*(3), 233-246. doi:10.1007/bf01542106

O'Donohue, W., & Letourneau, E. (1992). The psychometric properties of the penile tumescence assessment of child molesters. *Journal of Psychopathology and Behavioral Assessment, 14*(2), 123-174. doi:10.1007/bf00965172

Oddone Paolucci, E., Genuis, M., & Violato, C. (2001). A meta-analysis of the published research on the effects of pornography. *The Journal of Psychology, 135*(1), 17-36. doi:10.1080/00223980109603677

Paulhus, D. (1998). *Manual for the Balanced Inventory of Desirable Responding: Version 7*. Buffalo, NY: Multi-Health Systems.

Pawlak, A. E. (1996). *Factors associated with sexual aggression among rapists and non-offenders.* (Doctoral dissertation), Carleton University, Ottawa.

Pollard, P. (1995). Pornography and Sexual Aggression. *Current Psychology, 14*(3), 200-221. doi:10.1007/bf02686908

Pornography. (n.d.). In *English Oxford Living Dictionaries* online. Retrieved from https://en.oxforddictionaries.com/definition/pornography

Proulx, J., Blais, È., & Beauregard, E. (2007). Sadistic Sexual Offenders. In J. Proulx, E. Beauregard, M. Cusson, & A. Nicole (Eds.), *Sexual Murderers. A*

Comparative Analysis and New Perspectives (pp. 107-122). Chichester: Wiley.

Proulx, J., Perreault, C., & Ouimet, M. (1999). Pathways in the offending process of extrafamilial sexual child molesters. *Sexual Abuse: A Journal of Research and Treatment, 11*(2), 117-129. doi:10.1007/bf02658842

Quayle, E. (2005). 'The Internet as a Therapeutic Medium', in E. Quayle and M. Taylor (eds.). *Viewing Child Pornography on the Internet. Understanding the Offence, Managing the Offender, Helping the Victims*. Lyme Regis: Russell House Publishing.

Quayle, E., & Taylor, M. (2002). Child pornography and the Internet: Perpetuating a cycle of abuse. *Deviant Behavior, 23*(4), 331-362. doi:10.1080/01639620290086413

Quayle, E., & Taylor, M. (2003). Model of Problematic Internet Use in People with a Sexual Interest in Children. *Cyberpsychology and Behavior, 6*(1), 93-106. doi:10.1089/109493103321168009

Ray, J., Kimonis, E., & Seto, M. (2013). Correlates and Moderators of Child Pornography Consumption in a Community Sample. *Sexual Abuse: A Journal of Research and Treatment, 26*(6), 523-545. doi:10.1177/1079063213502678

Raymond, J. E., Shapiro, K. L., & Arnell, K. M. (1992). Temporary supprision of visual processing in an RSVP task: An attentional blink? *Journal of Experimental Psychology: Human Perception and Performance, 18*(3), 849-860. doi:10.1037/0096-1523.18.3.849

Riegel, D. L. (2004). Effects on boy-attracted pedosexual males of viewing boy erotica. *Archives of Sexual Behavior, 33*(4), 321-323. doi:10.1023/b:aseb.0000029071.89455.53

Russell, D., Peplau, L., & Cutrona, C. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology, 39*(3), 472-480. doi:10.1037//0022-3514.39.3.472

Schmidt, A., Gykiere, K., Vanhoeck, K., Mann, R., & Banse, R. (2013). Direct and Indirect Measures of Sexual Maturity Preferences Differentiate Subtypes of Child Sexual Abusers. *Sexual Abuse: A Journal of Research and Treatment, 26*(2), 107-128. doi:10.1177/1079063213480817

Schmidt, A., Mokros, A., & Banse, R. (2013). Is Pedophilic Sexual Preference Continuous? A Taxometric Analysis Based on Direct and Indirect Measures. *Psychological Assessment, 25*(4), 1146-1153. doi:10.1037/a0033326

Schneider, S., & Wright, R. (2004). Understanding Denial in Sexual Offenders: A review of cognitive and motivational processes to avoid responsibility. *Trauma, Violence and Abuse, 5*(1), 3-20. doi:10.1177/1524838003259320

Seigfried-Spellar, K. C., & Rogers, M. K. (2013). Does deviant pornography use follow a Guttman-like progression? *Computers in Human Behavior, 29*(5), 1997-2003. doi:10.1016/j.chb.2013.04.018

Selwyn, N. (2008). A Safe Haven for Misbehaving? An investigation of online misbehaviour among University students. *Social Science Computer Review, 26*(4), 446-465. doi:10.1177/0894439307313515

Seto, M. C. (2013). *Internet Sex Offenders*. Washington, DC: American Psychological Association.

Seto, M. C., Cantor, J., & Blanchard, R. (2006). Child pornography offenses are a valid diagnostic indicator of pedophilia. *Journal of Abnormal Psychology, 115*(3), 610-615. doi:10.1037/0021-843X.115.3.610

Seto, M. C., & Eke, A. W. (2005). The Criminal Histories and Later Offending of Child Pornography Offenders. *Sexual Abuse: A Journal of Research and Treatment, 17*(2), 201-210. doi:10.1177/107906320501700209

Seto, M. C., & Eke, A. W. (2015). Predicting recidivism among adult male child pornography offenders: Development of the Child Pornography Offender Risk Tool (CPORT). *Law and Human Behavior, 39*(4), 416-429. doi:10.1037/lhb0000128

Seto, M. C., Hanson, K., & Babchishin, K. (2011). Contact sexual offending by men with online sexual offenses. *Sexual Abuse: A Journal of Research and Treatment, 23*(1), 124-145. doi:10.1177/1079063210369013

Seto, M. C., Hermann, C. A., Kjellgren, C., Priebe, G., Svedin, C. G., & Långström, N. (2014). Viewing Child Pornography: Prevalence and Correlates in a Representative Community Sample of Young Swedish Men. *Archives of Sexual Behavior, 44*(1), 67-79. doi:10.1007/s10508-013-0244-4

Seto, M. C., & Lalumiere, M. L. (2001). A brief screening scale to identify pedophilic interests among child molesters. *Sexual Abuse: A Journal of Research and Treatment, 13*(1), 15-25. doi:10.1177/107906320101300103

Seto, M. C., Maric, A., & Barbaree, H. (2001). The role of pornography in the etiology of sexual agression. *Aggression and Violent Behavior, 6*(1), 35-53. doi:10.1016/s1359-1789(99)00007-5

Sheldon, K., & Howitt, D. (2008). Sexual fantasy in paedophile offenders: Can any model explain satisfactorily new findings from a study of Internet and contact sexual offenders? *Legal and Criminological Psychology, 13*(1), 137-158. doi:10.1348/135532506x173045

Simons, D., Wurtele, S. K., & Heil, P. (2002). Childhood Victimization and Lack of Empathy as Predictors of Sexual Offending Against Women and Children. *Journal of Interpersonal Violence, 17*(12), 1291-1307. doi:10.1177/088626002237857

Simons, L. G., Simons, R. L., Lei, M.-K., & Sutton, T. E. (2012). Exposure to Harsh Parenting and Pornography as Explanations for Males' Sexual Coercion and Females' Sexual Victimization. *Violence and Victims, 27*(3), 378-395. doi:10.1891/0886-6708.27.3.378

Skinner, B. F. (1953). *Science and Human Behavior*. New York: The Macmillan Company.

Smid, W., Schepers, K., Kamphuis, J. H., van Linden, S., & Bartling, S. (2014). Prioritizing Child Pornography Notifications: Predicting Direct Victimization. *Sexual Abuse: A Journal of Research and Treatment, 27*(4), 398-413. doi:10.1177/1079063213514453

Smith, P., & Waterman, M. (2004). Processing Bias for Sexual Material: The Emotional Stroop and Sexual Offenders. *Sexual Abuse: A Journal of Research and Treatment, 16*(2), 163-171. doi:10.1177/107906320401600206

Snowden, R., Craig, R., & Gray, N. (2011). Indirect Behavioral Measures of Cognition among Sexual Offenders. *Journal of Sex Research, 48*(2-3), 192-217. doi:10.1080/00224499.2011.557750

Spokes, T., Hine, D., Marks, A., Quain, P., & Lykins, A. (2014). Arousal, working memory capacity and sexual decision-making in men. *Archives of Sexual Behavior, 43*(6), 1137-1148. doi:10.1007/s10508-014-0277-3

Stulhofer, A., Busko, V., & Landripet, I. (2010). Pornography, Sexual Socialization, and Satisfaction Among Young Men. *Archives of Sexual Behavior, 39*(1), 168-178. doi:10.1007/s10508-008-9387-0

Sullivan, J., & Beech, A. (2004). Assessing Internet Sex Offenders. In M. C. Calder (Ed.), *Child Sexual Abuse and the Internet: Tackling the new frontier* (pp. 69-83). Lyme Regis: Russell House.

Tanner, J. (1978). *Foetus into man: Physical growth from conception to maturity*. Cambridge, MA: Havard University Press.

Taylor, L. D. (2006). College Men, Their Magazines, and Sex. *Sex Roles, 55*(9-10), 693-702. doi:10.1007/s11199-006-9124-x

Taylor, M., & Quayle, E. (2003). *Child Pornography: An Internet crime*. Hove, UK: Brunner-Routledge.

Thompson, M., & Morrison, D. (2013). Prospective predictors of technology-based sexual coercion by college males. *Psychology of Violence, 3*(3), 233-246. doi:10.1037/a0030904

Thornton, D. (1989). *Self-Esteem Scale*. Unpublished manuscript.

Thornton, D. (2007). *Guide for the Risk Matrix 2000.9/SVC: February 2007 version*. Unpublished manuscript.

Vega, V., & Malamuth, N. M. (2007). Predicting sexual aggression: the role of pornography in the context of general and specific risk factors. *Aggressive Behavior, 33*(2), 104-117. doi:10.1002/ab.20172

Wakeling, H. C., Howard, P., & Barnett, G. (2011). Comparing the validity of the RM2000 scales and OGRS3 for predicting recidivism by Internet sexual offenders. *Sexual Abuse: A Journal of Research and Treatment, 23*(1), 146-168. doi:10.1177/1079063210375974

Ward, T. (2002). Good lives and the rehabilitation of offenders: Promises and problems. *Aggression and Violent Behavior, 7*(5), 513-528. doi:10.1016/s1359-1789(01)00076-3

Ward, T., & Beech, A. (2006). An integrated theory of sexual offending. *Aggression and Violent Behavior, 11*(1), 44-63. doi:10.1016/j.avb.2005.05.002

Ward, T., & Hudson, S. (1998a). The construction and development of theory in the sexual offending area: A meta-theoretical framework. *Sexual Abuse: A Journal of Research and Treatment, 10*(1), 47-63. doi:10.1177/107906329801000106

Ward, T., & Hudson, S. (1998b). A model of relapse process in sexual offenders. *Journal of Interpersonal Violence, 13*(6), 700-725. doi:10.1177/088626098013006003

Ward, T., Polaschek, D., & Beech, A. (2006). *Theories of Sexual Offending*. Chichester: John Wiley & Sons Ltd.

Ward, T., & Siegert, R. (2002). Toward a comprehensive theory of child sexual abuse: A theory-knitting perspective. *Psychology, Crime and Law, 8*(4), 319-351. doi:10.1080/10683160208401823

Webb, L., Craissati, J., & Keen, S. (2007). Characteristics of Internet child pornography offenders: A comparison with child molesters. *Sexual Abuse: A Journal of Research and Treatment, 19*(4), 449-465. doi:10.1177/107906320701900408

Webster, S., Mann, R., Thornton, D., & Wakeling, H. (2006). Further validation of the short Self-Esteem Scale with sex offenders. *Legal and Criminological Psychology, 12*(2), 207-216. doi:10.1348/135532506x114347

Williams, K. M., Cooper, B. S., Howell, T. M., Yuille, J. C., & Paulhus, D. L. (2008). Inferring Sexually Deviant Behavior From Corresponding Fantasies: The Role of Personality and Pornography Consumption. *Criminal Justice and Behavior, 36*(2), 198-222. doi:10.1177/0093854808327277

Wingwood, G., DiClemente, R., Harrington, K., Davies, S., Hook, E., & Oh, M. (2001). Exposure to X-rated movies and adolescents' sexual and contraceptive-related attitudes and behaviours. *Pediatrics, 107*(5), 1116-1110. doi:10.1542/peds.107.5.1116

Wolf, S. (1984). *A Multifactor Model of Deviant Sexuality*. Paper presented at the Third International Conference on Victimology, Lisbon.

Wortley, R., & Smallbone, S. (2006). Applying situational principles of sexual offenses against children. In R. Wortley & S. Smallbone (Eds.), *Situational prevention of child sexual abuse* (pp. 7-36). Morsey, NY: Criminal Justice Press.

Wortley, R. & Smallbone, S. (2012). *Internet Child Pornography: Causes, investigation, and Prevention*. Santa Barbara, CA: ABC-CLIO, LLC

Wright, P. J., Sun, C., Steffen, N. J., & Tokunaga, R. S. (2015). Pornography, Alcohol, and Male Sexual Dominance. *Communication Monographs, 82*(2), 252-270. doi:10.1080/03637751.2014.981558

Wurtele, S., Simons, D., & Moreno, T. (2014). Sexual interest in children among an online sample of men and women: Prevelance and correlates. *Sexual abuse: A Journal of Research and Treatment, 26*(6), 546-568. doi:10.1177/1079063213503688

Zillman, D., & Bryant, J. (1986). Shifting preferences in pornography consumption. *Communication Research, 13*(4), 560-578. doi:10.1177/009365086013004003

Chapter Eight: Appendices

Appendix 1 – Systematic review database searches

PsychInfo Syntax

# ▲	Searches	Results	Type
1	exp Pornography/	1697	Advanced
2	porn*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	2811	Advanced
3	sex* mat*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	5792	Advanced
4	sex* imag*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	280	Advanced
5	exp Eroticism/	1287	Advanced
6	erotic*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	5170	Advanced
7	1 or 2 or 3 or 4 or 5 or 6	13568	Advanced
8	legal*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	58841	Advanced
9	illegal*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	6224	Advanced
10	exp Child Abuse/	25258	Advanced
11	child*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	645800	Advanced
12	indecen*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	241	Advanced
13	extrem*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	51106	Advanced
14	exp Paraphilias/	7316	Advanced
15	abus*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	151800	Advanced
16	exp Exposure to Violence/ or exp Violence/	63916	Advanced
17	violen*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	76922	Advanced
18	exp Aggressive Behavior/	133221	Advanced
19	aggressi*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	76066	Advanced
20	softcore.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	6	Advanced
21	hardcore.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	155	Advanced

☐	22	Attitudes/ or exp Sex Role Attitudes/ or exp Adult Attitudes/ or exp Sexual Attitudes/	50127	Advanced
☐	23	attitud*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	372704	Advanced
☐	24	Cognition/	25525	Advanced
☐	25	cognit*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	469592	Advanced
☐	26	exp Psychosexual Behavior/	97436	Advanced
☐	27	sex* behav*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	24668	Advanced
☐	28	exp Sex Offenses/ or exp Sexual Abuse/	31046	Advanced
☐	29	offen*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	42899	Advanced
☐	30	exp Criminal Conviction/	1043	Advanced
☐	31	convict*.mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures]	11404	Advanced
☐	32	8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21	958001	Advanced
☐	33	22 or 23 or 24 or 25 or 26 or 27 or 28 or 29 or 30 or 31	943280	Advanced
☐	34	7 and 32 and 33	2602	Advanced

*This number differs from that within the review due to this search containing studies that were prior to 1985.

Syntax for NCJRS

- **Name:**

Searched for:

(porn* OR sex* mat* OR sex* imag* OR erotic*) AND (legal* OR illegal* OR child* OR abus* OR indecen* OR extrem* OR softcore OR hardcore OR violen* OR aggressi*) AND (attitud* OR cognit* OR sex* behav* OR offen* OR convict*) AND pd(1985-2015)

Limited by:

Date: From 1985 to 2015

Language:

30 languages searched Hide list

Afrikaans, Arabic, Bulgarian, Catalan, Chinese, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Romanian, Russian, Slavic language, Slovenian, Spanish, Swedish, Thai , Ukrainian, Vietnamese

Databases:

- National Criminal Justice Reference Service (NCJRS) Abstracts Database

Notes:

Add notes

Saved:

16 July 2015

1,907 Results

Search within

Syntax for PubMed

US National Library of Medicine National Institutes of Health

Search database PubMed

Search term

((((((((((((((((((porn*) OR sex* mat) OR sex* imag*) OR erotic*)) AND legal*) OR illegal*) OR child*) OR abus*) OR indecen*) OR extrem*) OR softcore) OR hardcore) OR violen*) OR aggressi*)) AND attitud*) OR cognit*) OR sex* behav*) OR offen*) AND convict*)

Search

Search results

Items: 1 to 20 of 1596

Syntax for Web of Science

# 24	**5,288**	#22 AND #16 AND #5 Refined by: **[excluding]: RESEARCH AREAS:** (RADIOLOGY NUCLEAR MEDICINE MEDICAL IMAGING OR CARDIOVASCULAR SYSTEM CARDIOLOGY OR AGRICULTURE OR GERIATRICS GERONTOLOGY OR ZOOLOGY OR OTORHINOLARYNGOLOGY OR SURGERY OR BIOTECHNOLOGY APPLIED MICROBIOLOGY OR UROLOGY NEPHROLOGY OR PEDIATRICS OR DERMATOLOGY OR ONCOLOGY OR BIODIVERSITY CONSERVATION OR ENVIRONMENTAL SCIENCES ECOLOGY OR DEMOGRAPHY OR AUDIOLOGY SPEECH LANGUAGE PATHOLOGY OR ENDOCRINOLOGY METABOLISM OR INFECTIOUS DISEASES OR MATHEMATICAL COMPUTATIONAL BIOLOGY OR DEVELOPMENTAL BIOLOGY OR ANESTHESIOLOGY OR PHYSIOLOGY OR BUSINESS ECONOMICS OR PUBLIC ADMINISTRATION OR EVOLUTIONARY BIOLOGY OR MATHEMATICS OR REPRODUCTIVE BIOLOGY OR ARTS HUMANITIES OTHER TOPICS OR GENETICS HEREDITY OR IMMUNOLOGY OR GENERAL INTERNAL MEDICINE OR OCEANOGRAPHY OR PHARMACOLOGY PHARMACY OR FISHERIES OR INTERNATIONAL RELATIONS OR BIOMEDICAL SOCIAL SCIENCES OR SPORT SCIENCES OR MEDICAL ETHICS OR DENTISTRY ORAL SURGERY MEDICINE OR ANATOMY MORPHOLOGY OR PLANT SCIENCES OR RESPIRATORY SYSTEM OR PARASITOLOGY OR OBSTETRICS GYNECOLOGY OR EMERGENCY MEDICINE OR NUTRITION DIETETICS OR LINGUISTICS OR RHEUMATOLOGY OR GASTROENTEROLOGY HEPATOLOGY OR MICROBIOLOGY OR CELL BIOLOGY OR CHEMISTRY OR ENTOMOLOGY OR TROPICAL MEDICINE OR OPHTHALMOLOGY OR ANTHROPOLOGY OR VIROLOGY OR MUSIC OR ORTHOPEDICS OR ACOUSTICS OR TOXICOLOGY OR HEMATOLOGY OR MATHEMATICAL METHODS IN SOCIAL SCIENCES OR MARINE FRESHWATER BIOLOGY OR BIOCHEMISTRY MOLECULAR BIOLOGY OR ENGINEERING OR BIOPHYSICS OR VETERINARY SCIENCES) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*		Select to combine sets. ☐ Select to delete this set. ☐
# 23	**10,462**	#22 AND #16 AND #5 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐ Select to delete this set. ☐
# 22	**756,068**	#21 OR #20 OR #19 OR #18 OR #17 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐ Select to delete this set. ☐
# 21	**10,264**	ts=(convict*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐ Select to delete this set. ☐

# 20	**34,405**	ts=(offen*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 19	**116,295**	ts=(sex* behav*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 18	**417,615**	ts=(cognit*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 17	**214,785**	ts=(attitud*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 16	**2,042,954**	#15 OR #14 OR #13 OR #12 OR #11 OR #10 OR #9 OR #8 OR #7 OR #6 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 15	**168,220**	ts=(aggressi*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 14	**95,687**	ts=(violen*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 13	**475**	ts=(hardcore) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 12	**125**	ts=(softcore) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete

					this set. ☐
# 11	**494,984**	ts=(extrem*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 10	**355**	ts=(indecen*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 9	**140,364**	ts=(abus*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 8	**1,154,899**	ts=(child*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 7	**17,062**	ts=(illegal*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 6	**113,575**	ts=(legal*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 5	**168,633**	#4 OR #3 OR #2 OR #1 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 4	**5,612**	ts=(erotic*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐

# 3	**21,385**	ts=(sex* imag*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 2	**146,144**	ts=(sex* mat*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐
# 1	**3,814**	ts=(porn*) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, CCR-EXPANDED, IC Timespan=1985-2015*	Edit	Select to combine sets. ☐	Select to delete this set. ☐

Appendix 2 – Systematic review study eligibility form

STUDY ELIGIBILITY FORM

Author, Year –

Article Title –

Source –

Study Reference ID –

Factors	Assessment	Comments
Population		
1. Were participants males over the age of 18? NB. Please answer 'Yes' if participants are of mixed age and gender by can be separated by gender and age.	YES UNCLEAR NO Exclude	
Exposure		
2. Had participants been exposed to pornography (legal or illegal)?	YES UNCLEAR NO Exclude	
Outcomes		
3. Did the study report either of the pre-specified outcomes?	YES UNCLEAR NO Exclude	
Final Decision INCLUDE UNCLEAR EXCLUDE		

Appendix 3 – Systematic review data extraction form

DATA EXTRACTION SHEET

Study Reference ID -

General Information	
Date of data extraction	
Author, Year	
Article Title	
Source	
Reviewer	
Study Characteristics	
Population	
Target population	
Inclusion criteria	
Exclusion criteria	
Recruitment	
Characteristics of participants	Age - Geographical region – Number of participants (in each group) 1. 2. 3.
Participants convicted of a sexual offence	YES NO SOME

Exposure	
Type of pornography exposure	Online – Offline – Both ☐
Duration/frequency of exposure	
Type of pornography exposed to	Legal – Illegal – Both ☐
Number of conditions	
Contents of each condition	1. 2. 3. 4.
Exposure setting i.e. research lab, at home	
How was the exposure measured?	
Was there a control group?	
Was the exposure measurement done retrospectively? i.e. sexual offenders self-reporting pornography use prior to their offending	
Other mediating variables investigated	
Outcome measures	
Was there a baseline measure?	

What outcome did the study examine?	Offence-supportive attitudes – Offence-related behaviours – Both ☐
How was the outcome measured?	Self-report – Behavioural measure –
Who carried out the measurement?	
Were tools used validated?	
Dropout rates and reasons for dropout	
Analysis	
Statistics used	
How was missing data dealt with?	
Confounding variables accounted for?	
Results of the analysis	
Additional notes	

Appendix 4 – Systematic review quality assessment form

QUALITY ASSESSMENT FORM

Study Reference ID –

Y = Yes P = Partial N = No U = Unclear

	Y	P	N	U	Comments
Screening or threshold questions					
Did the study address a clearly focussed issue?					
Sampling and selection bias					
Was the sample generalizable to the population of interest?					
Was the selection of participants objective?					
Risk of selection bias? Low Unclear High					
Measurement bias for exposure					
Was the type of pornography exposed to clearly defined?					
Was the measure of exposure consistent?					
Were standardised measures of exposure used?					
Was an explicit time frame of exposure given?					
Did the study control for confounders?					
Was a control group used?					
Were objective measures of exposure used?					
Risk of exposure measurement bias? Low Unclear High					
Measurement bias for outcome					
Were objective measures of outcome used?					
Measures have good reliability?					
Measures have good validity?					

Did the study control for confounders?					
Risk of outcome measurement bias? Low Unclear High					
Attrition Bias					
Was there any attrition?					
Are missing values dealt with appropriately?					
Risk of Attrition Bias? Low Unclear High					
Statistical Bias					
Were the appropriate statistics used?					
Were assumptions of the data tested?					
Was there acceptable power?					
Risk of statistical bias? Low Unclear High					
Other issues					
Did the study answer the proposed question?					
Overall Quality					

Appendix 5 - Table of included studies for systematic review

Authors	Sample	Country	No. of participants	Type of pornography	Exposure measurement	Outcome studied	Results	Relationship Presence
Aslan & Edelmann (2014)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 74, CSOs = 118, MOs = 38	Illegal	By conviction and file review	Offence-related behaviour - unconvicted sexual allegations, deviant sexual fantasies , levels of images, contact offending	Only 7% of IIOC offenders accused of a contact offence, compared to 15% of CSOs and 24% of MOs (significant). Significant difference between IIOC offenders and MOs for deviant fantasies (50% vs 89%), 60% for contact. 62% of MOs had level 5 images, whereas 52% of IIOC offenders did (significant difference).	No relationship
Barak & Fisher (1997)	Students	Canada	100	Legal	By interaction condition and number of key strokes (Neutral passive viewing, erotic passive, erotic moderately interactive, erotic highly interactive)	Offence-supportive attitudes - rape myth acceptance	No differences in rape myths from exposure condition	No relationship
Barak, Fisher, Belfry & Lashambe (1999)	Students	Not stated	24	Legal	By condition i.e. the amount of bookmarks, and amount of time spent on pornography sites	Offence-supportive attitudes - Rape myth acceptance, likelihood of sexual harassment	No significant results found regarding pornography group or time spent viewing pornography, and the outcome variables.	No relationship
Barak, Fisher, Belfry & Lashambe (1999)	Students	Not stated	31	Legal	Self-report questionnaire, and via lab condition (time spent on pornography)	Offence-supportive attitudes - Rape myth acceptance, likelihood of sexual harassment	Time spent on pornography was not correlated with the outcomes. Sex media exposure (from self-report questionnaire) correlated with likelihood of sexual harassment. In regression, hyermasculinity, sensation seeking, and sex media exposure significantly predicted rape myths	Relationship
Bates & Metcalf (2007)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 39, CSOs = 39	Illegal	By conviction	Offence-supportive attitudes - victim empathy distortions, cognitive distortions, emotional congruence	Less IIOC offenders scored above the cut off in comparison to CSOs on Emotional congruence (9.1% vs 21.2%), cognitive distortions (5.9% vs 26.5%) and Victim empathy distortions (22.7% vs 52.6%)	No relationship
Bauserman (1998)	Students	US	115	Legal	By length of video (egalitarian, sexist, aggressive, control)	Offence-supportive attitudes - rape myth acceptance, attraction to sexual aggression	No significant relationship with any attitude measure from any exposure	No relationship
Beauregard, Lussier & Proulx (2005)	Sexual offenders (contact)	Canada	118	Legal	Self-report questionnaire and semi-structured interview	Offence-related behaviours - organisation of offence, force level and injury level	Use of pornography negatively correlated with force and injury scale i.e. use pornography, less force and injury. In regression, pornography was significantly negatively related to organisation, force and injury	No relationship

Bleecker & Murnen (2005)	Fraternity males	US	Fraternity males = 30, Non-fraternity males = 30	Legal	By photographs of images and ratings of these	Offence-supportive attitudes - rape supportive attitudes	Fraternity males had significantly more images and more degrading images than non-fraternity males. Fraternity males had significantly higher rape myths. Significant relationship between the average degradation rating of images and rape myths	Relationship
Bogaert, Woodard & Hafer (1999)	Students	Canada	174	Legal	By length and type of video (female insatiable, sexually violent, erotic and neutral)	Offence-supportive attitudes - rape myth acceptance	No significant relationship regarding video condition and rape myth acceptance	No relationship
Bouffard & Miller (2014)	Students	US	354	Legal	Time of video in experimental condition (6 mins)	Offence-supportive attitudes - sexual coercion and perception of victim	Participants in exposure conditions had significantly higher likelihood scores for trying to get female drunk to have sex. However, self-reported arousal significantly correlated with the likelihood of three coercive behaviours and over perceptions of the victim's sexual interest.	Relationship
Bouffard (2010)	Students	US	325	Legal	Self-report Questionnaire	Offence-related behaviour - sexually coercive behaviour	Coercive males viewed more pornography than non-coercive men.	Relationship
Bourke & Hernandez (2009)	Sexual offenders (IIOC)	US	155	Illegal	By conviction - offence records	Offence-related behaviour - contact offending	85% of IIOC offenders admitted to contact offences, compared to the 26% that had known contact offences	Relationship
Briere & Runtz (1989)	Students	US	193	Legal	Self-report questionnaire	Offence-supportive attitudes - attraction to children, sexual fantasies about children and likelihood of sex with a child	Attraction, fantasies and likelihood of sex with children significantly related to masturbation to pornography, but not pornography use	Relationship
Briere, Malamuth & Check (1985)	Students	Not stated	452	Legal	Self-report questionnaire	Offence-supportive attitudes - rape myths and acceptance of interpersonal violence	Pornography use not significantly associated with any sexual offence related attitudes	No relationship
Briggs, Simon & Simonsen (2011)	Sexual offenders (online solicitation)	US	51	Illegal	From file information	Offence-related behaviour - online solicitation	Only 2 offenders (3.9%) possessed online IIOC.	No relationship
Busch, Bell, Hotaling & Monto (2002)	Males who attempted to solicit a prostitute	US	1342	Legal	Self-report questionnaire	Offence-supportive attitudes - justification of violence, attraction to violent sex. Offence-related behaviour - use of violence to get sex	Look at pornography magazines significantly correlated to 'attraction to violent sex', but negative correlated to 'justification of violence'. Watching pornography videos significantly correlated to 'attraction to violent sex' and 'acted violently to get sex'	Relationship
Buschman et al. (2010)	Sexual offenders (IIOC)	Netherlands	25	Illegal	Self-report and police records	Offence-related behaviour - masturbating to fantasies of sex with children, making plans for having sex with children, seeking contact with children	In self-report - The number of IIOC reporting masturbating to fantasies about children was 4 out of 25, making plans to have sex with children was 3 out of 25, and seeking contact with children was 1 out of 25. In polygraph, this changed to: masturbating to fantasies being 19 out of 25, making plans to have sex with children being 8 out of 25, seeking contact with children being 15 out of 25	Relationship

Buschman, Wilcox, Krapohol, Oelrich, Hackett (2010)	Sexual offenders (IIOC)	Netherlands	38	Illegal	Self-report questionnaire and polygraph	Offence-related behaviour - contact sexual offences, online grooming, photographing children, masturbating whilst peeking at children, public masturbation, exhibitionism, stealing children's clothing for masturbation	All IIOC offenders denied any additional offending on self-report. From polygraph, 55% had contact offended, 18% online grooming, 34% photographed a child for a sexual purpose, 42% peeping at children and masturbating, 31% public masturbation, 24% exhibitionism, 29% stealing children's clothing for masturbating.	Relationship
Carr & VanDeusen (2004)	Students	US	99	Legal	Self-report questionnaire	Offence-supportive attitudes - rape myth acceptance, acceptance of interpersonal violence. Offence-related behaviour - Sexual coercion	No significant correlations between pornography and rape myths or acceptance of interpersonal violence. Pornography use significantly correlated with sexual coercion. Pornography use significantly contributed to the prediction of sexual violence	Relationship
Check & Guloien (1989)	Community adults	Canada	436	Legal and unclear i.e. violent	By length of videos (sexually violent, dehumanising, erotic, control) and self-report questionnaire	Offence-supportive attitudes - rape myths, acceptance of interpersonal violence, likelihood of rape/forced sex, sex callousness. Offence-related behaviours - sexual aggression	Participants exposed to sexually violent pornography reported significantly higher likelihood of rape than controls. For dehumanising condition, participants reported significantly higher likelihood of rape and forced sex than controls. No significant effects with erotica. High Psychoticism scorers were more likely to be affected by exposure to violent and dehumanising than low psychoticism scorers regarding self-reported likelihood of rape and forced sex. Significant differences between high pornography users and low on rape myths, AIV, likelihood of rape and forced sex, and sexual callousness. Significant interaction between pornography use and exposure for likelihood of rape and sexually aggressive behaviours	Relationship
Crossman (1995)	Students	US	480	Legal	Self-report questionnaire	Offence-supportive attitudes - hostility towards women, likelihood of rape. Offence-related behaviour - sexual coercion and aggression	Pornography use significantly contributed to predicting sexual aggression and likelihood of rape. Pornography use significantly correlated with sexual aggression and hostile attitudes towards women	Relationship
D'Abreu & Krahe (2014)	Students	Brazil	286	Legal	Self-report Questionnaire	Offence-related behaviour - sexual aggression	Pornography use significantly related to sexual aggression at T1 and T2. Pornography use significantly associated with risk factors in sexual scripts and normative acceptable, and directly linked to sexual aggression. Pornography use at T1 was significantly linked to T2 sexual aggression indirectly via sexual scripts and sexual behaviour.	Relationship
D'Abreu (2013)	Students	Brazil	304	Legal and unclear i.e. violent	Self-report questionnaire	Offence-related behaviour - sexual coercion and aggression	Perpetrators of sexual assault had significantly greater pornography consumption in general and on TV, internet and magazines. Perpetrators of sexual assault had higher level of violent pornography exposure than perpetrators of	Relationship

							sexual coercion (serious vs moderate perpetration). In regression, general pornography consumption was responsible for 8% of variance regarding severity of assault (significant)	
Davies (1997)	Community adults	US	202	Legal	By number of videos rented (1, 2, 3+)	Offence-supportive attitudes - in favour of law punishment for marital rape, in favour of punishment for date rape	No significant differences between the number of videos rented, and participants' views on marital and date rape	No relationship
Demare, Briere & Lips (1988)	Students	Not stated	205	Legal and unclear i.e. violent	Self-report questionnaire	Offence-supportive attitudes - rape myth acceptance, acceptance interpersonal violence, likelihood of sexual force/rape	No correlation between AIV and rape myths and any pornography type exposure. Only interpersonal violence and sexually violent pornography were significant discriminators for likelihood of sexual force/rape.	Relationship
Demare, Lips & Briere (1993)	Students	Not stated	383	Legal and unclear i.e. violent	Self-report questionnaire	Offence-supportive attitudes - likelihood of sexual aggression. Offence-related behaviour - sexual aggression	Violent pornography was predictive of likelihood and actual sexual aggression, non-violent pornography was not.	Relationship
Eke, Seto & Williams (2011)	Sexual offenders (IIOC)	Canada	541	Illegal	By convictions/charges	Offence-related behaviours - contact offending	3.9% of sample recidivated for a contact offence. Offenders with prior criminal history recidivated significantly more frequently in relation to contact offending. Negative relationship between solely IIOC offences and recidivism outcomes. In regression, contact recidivism related to age at first offence, and criminal history of all types	No relationship
Elliott, Beech & Mandeville-Norden (2013)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 459, CSOs = 526, MOs = 143	Illegal	By conviction	Offence-supportive attitudes - victim empathy distortions, cognitive distortions, emotional congruence	IIOC offenders had significantly less victim empathy distortions than MOs and CSOs. MOs had significantly less victim empathy distortions than CSO. For cognitive distortions, IIOC offenders had significantly less than CSOs. MOs had significantly less than CSOs. There was no difference between MOs and IIOC offenders. Emotional congruence, IIOC offenders had significantly less than CSOs, but no difference with MOs.	No relationship
Elliott, Beech, Mandeville-Norden & Hayes (2009)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 505, CSOs = 526	Illegal	By conviction	Offence-supportive attitudes - victim empathy distortions, cognitive distortions, emotional congruence	CSOs had significantly higher victim empathy distortions, cognitive distortions and emotional congruence compared to IIOC offenders.	No relationship
Endrass et al. (2009)	Sexual offenders (IIOC)	Switzerland	231	Illegal	By police record	Offence-related behaviour - contact offending	Under strict recidivism definition, none of the offenders were convicted of a follow-up contact offence. Under the broader definition which included investigations, 0.8% recidivated for a contact offence.	No relationship

Fisher & Grenier (1994)	Students	Canada	63	Legal and unclear i.e. violent	By length of video and condition (neutral, erotic, violent positive outcome, violent negative outcome)	Offence-supportive attitudes - acceptance of interpersonal violence, rape myth acceptance. Offence-related behaviour - violent fantasy	No significant relationship between condition and any of the outcome variables	No relationship
Foubert, Brosi & Bannon (2011)	Fraternity males	US	489	Legal and unclear i.e. rape	Self-report Questionnaire	Offence-supportive attitudes - Rape myths, likelihood of rape and sexual assault	For mainstream pornography, participants self-reported significantly higher likelihood of rape and assault than those who had not seen mainstream pornography. For S&M and Rape pornography, there was a significant relationship with all outcome variables compared to those who had not been exposed. Rape myth acceptance was significant for S&M and Rape pornography but not for mainstream pornography.	Relationship
Garcia (1986)	Students	US	115	Legal	Self-report questionnaire	Offence-supportive attitudes - attitudes toward rape	Significant correlation between overall pornography exposure and that women should not attempt to resist rape. Violent themed pornography significantly correlated with views that women are responsible for rape, the rapist shouldn't be severely punished and that rapists are normal, and that women should not resist. Small correlations	Relationship
Gonslaves (2010)	Students	US	237	Legal	Self-report questionnaire	Offence-supportive attitudes - Rape myths, acceptance of interpersonal violence. Offence-related behaviour - sexual coercion	No significant differences between pornography groups (coercive, aggressive, neither) and sexual coercion/aggression. No significant difference between the type of pornography, and rape myths and acceptance of interpersonal violence.	No relationship
Gwee, Lim & Woo (2002)	Sexual offenders (contact)	Singapore	Sexual offenders = 80, Violent Controls = 32, Non-violent Controls = 31	Legal	By interview	Offence-related behaviours - Sexual offending	Rapists significantly more likely than Non-violent controls to have been exposed to pornography within 6 months prior to the offence. No difference between rapists and Non-violent controls on frequency of pornography exposure. Rapist did not significantly different from violent controls on any pornography area	Relationship
Hald & Malamuth (2015)	Young adults	Denmark	100	Legal	Timings of pornography videos in experimental condition	Offence-supportive attitudes - rape myths and attitudes supporting violence (combined z score)	No differences found between control and experimental on attitudes supporting violence (ASV). Males in the experimental group, with low agreeableness had significantly more ASV compared to control group. Low agreeableness and exposure group was significantly predictive.	No relationship
Hegna, Mossige & Wichstrom (2004)	Older adolescents	Oslo	307	Legal and illegal - broken down	Self-report questionnaire	Offence-supportive attitudes - likelihood of having sex with a child/younger adolescent	Significant difference in the frequency of pornography use between males who reported some likelihood of having sex with a 13/14 year old, compared to those that did not. No significant difference with IIOC.	Relationship

Howitt & Sheldon (2007)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 16, CSOs = 25, MOs = 10	Illegal	By conviction	Offence-supportive attitudes - cognitive distortions about children and sex	Few differences found between groups. IIOC offenders significantly higher than CSOs on the 'children as sexual objects' scale	Relationship
Jung, Ennis, Stein, Choy & Hook (2013)	Sexual offenders (IIOC and contact)	Canada	IIOC offenders = 50, Non-contact = 45, CSOs = 101	Illegal	By conviction	Offence-related behaviours - recidivism and contact offence	IIOC offenders lowest recidivism compared to non-contact and CSOs (11%, 18%, 14%). No IIOC offender convicted of a contact offence. All recidivism for all offenders matched their index.	No relationship
Kearns Condron & Nutter (1988)	Sexual offenders, paraphiliacs and sexual dysfunction	US	Sexual offenders = 16, Sexual dysfunctions = 15, Paraphiliacs = 13, Controls = 18	Legal	Self-report questionnaire	Offence-related behaviour - Sexual offending	No significant differences between the groups on how often they read pornography magazines, average age of first exposure, or using pornography for first masturbation	No relationship
Kingston, Fedoroff, Firestone, Curry & Bradford (2008)	Sexual offenders (contact)	Canada	341	Legal and illegal	Self-report questionnaire	Offence-related behaviour - sexual recidivism	Pornography did not make a significant contribution to the prediction of sexual recidivism when controlling for Static 99. There was an interaction between pornography and risk i.e. lower risk offenders had a smaller association with pornography. The regression showed that those who viewed illegal pornography were more likely to sexually recidivate than those who did not access deviant pornography by 233%.	Relationship
Klein, Kennedy & Gorzalka (2009)	Males who visit prostitutes	Canada	530	Legal	Self-report questionnaire	Offence-supportive attitudes - rape myth acceptance	Pornography significantly negatively correlated with rape myths	No relationship
Lam & Chan (2007)	Young adults	Hong Kong	229	Legal	Self-report questionnaire	Offence-supportive attitudes - perception of sexual harassment, sexual harassment proclivity	Significant correlation between online pornography and sexual harassment proclivity, but not for perception of sexual harassment. For the sexual harassment proclivity regression, offline and online pornography exposure were significant. Online pornography exposure remained significant when controlling for offline.	Relationship
Langevin et al. (1988)	Sexual offenders (contact)	Canada	Sexual offenders = 228, Controls = 52	Legal and illegal	Self-report questionnaire	Offence-related behaviour - Sexual offending	Controls significantly more than sexual offender on; ever buy a pornography magazine, regularly buy pornography magazine, ever attend pornography movie, regularly attend pornography movie, ever rent pornography video, regularly rent pornography video. Significantly more sexual offenders had seen or bought child erotica.	Relationship

Linz, Donnerstein & Penrod (1998)	Students	US	156	Legal	Number of videos and number of times (R-rated slasher, X-rated pornography, R-rated teen sex, control)	Offence-supportive attitudes - victim sympathy, victim injury, victim resistance, victim responsibility	No significant effect for X-rated film and victim sympathy, injury etc. Pre RMA was significant for all	No relationship
Long, Alison & McManus (2012)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 30, MOs = 30	Illegal	Number of images during investigation and length of offending	Offence-related behaviour - contact offending	MOs had significantly less IIOC than IIOC only offenders. MOs had significantly higher proportion of level 3 and 4 still images and significantly less proportion of level 1 movies. IIOC only offenders had been downloading images for longer. Sadistic contact offenders has significantly more level 4's	Relationship
Malamuth & Ceniti (1986)	Students	Not stated	42	Legal and unclear i.e. violent	By film and stories in exposure conditions (sexually violent, non-violent and control)	Offence-supportive attitudes - likelihood to rape	No significant difference between likelihood to rape at pre and post pornography exposure.	No relationship
Malamuth, Addison & Koss (2000)	Students	US	1713 - 1760	Legal	Self-report questionnaire	Offence-related behaviour - sexual aggression	Pornography use was significantly linked to coercion in a direct pathway, but when indirect pathways were added this became non-significant. Pornography also had a significant pathway as a symptom of sexual coercion. Pornography use significantly contributed to regression regarding sexual aggression. Confluence model risk levels - at high risk, the sexual aggression score for males with very frequent pornography use were higher than any other pornography category. ANOVAs - large effect regarding frequency of pornography use and sexual aggression in the high risk group	Relationship
Malamuth, Hald & Koss (2012)	Students	US	2,972	Legal	Self-report Questionnaire	Offence-supportive attitudes - Attitudes supportive of violence against women (ASV): combined z score of rape myths, acceptance of interpersonal violence and adversarial sexual beliefs	Significant correlation between pornography consumption and ASV. Males with higher risk scores had higher ASV. Pornography use predicted ASV depending on risk level.	Relationship
Mancini, Reckdenwald & Beauregard (2012)	Sexual offenders (contact)	Canada	616	Legal	Semi-structured interview	Offence-related behaviour - increased sexual violence (victim injury) and humiliation	Significant relationship between pornography in adolescence and increase in victim injury, but this disappeared with control variables. Cathartic effect regarding victim injury for pornography prior to the offence which remained. No relationship found during adulthood. Only pornography in adolescents was significant for increased humiliation and remained after control variables.	Relationship

Mancini, Reckdenwald, Beauregard & Levenson (2014)	Sexual offenders (contact)	Canada	616	Legal	Self-report questionnaire	Offence-related behaviours - onset of offending, frequency of sexual offending	Pornography movies and magazine exposure in adolescence significantly related to earlier onset of offending. In adulthood, pornography magazine exposure related to frequency of sex offending, but movies did not.	Relationship
Marshall (1988)	Sex offenders (contact)	Canada	Sexual offenders = 89, Control = 24	Legal (included illegal but not broken down)	Interview	Offence-related behaviour - sexual offending	No group differences regarding pornography in puberty. Non-offenders used significant less pornography currently than sexual offenders.	Relationship
McCarthy (2010)	Sexual offenders (IIOC and contact)	US	Non-contact = 56, Contact = 51	Legal and illegal	File information	Offence-related behaviours - masturbate to IIOC, contact offence, online grooming, sending porn to a minor, talking to adults about child sex, attempting to meet a child	CSOs engaged in significantly more masturbation to IIOC, chat with minors, sending pornography to minors, attempting to meet a minor, communicating with adults about children - than non-contact offenders. No significant difference for size of adult pornography collection. Significantly larger collection of IIOC for CSOs, and larger ratio of IIOC to adult pornography.	Relationship
Merdian, Curtis, Thakker, Wilson & Boer (2014)	Sexual offenders (IIOC and contact)	New Zealand	IIOC offenders = 22, CSOs = 29, MOs = 17	Illegal	Conviction of accessing IIOC	Offence-supportive attitudes - cognitive distortions about children and sex	IIOC offenders endorsed less overall distortions than CSOs and MOs.	No relationship
Middleton, Elliott, Mandeville-Norden & Beech (2006)	Sexual offenders (IIOC)	UK	72	Illegal	By conviction	Offence-supportive attitudes - cognitive distortions, emotional congruence	Only 9 IIOC offenders were high on either outcome (1 for cognitive distortions, and 7 for emotional congruence, and 1 for both)	No relationship
Mieczkowski & Beauregard (2012)	Sexual offenders (contact)	Canada	624	Legal	Semi-structured interview	Offence-related behaviours - level of violence (penetration, additional violence, lethal force)	For penetration - the most frequent disinhibitor was pornography (56.4%). Highest frequency of all disinhibitor combinations was pornography alone (18%). For violence beyond the assault, pornography was the most frequent disinhibitor (61.0%). Highest frequency for all disinhibitor combinations was pornography alone. For fatal violence - alcohol most the most prominent disinhibitor and pornography was the least.	Relationship
Monto & Hotaling (2001)	Males who visit prostitutes	US	1286	Legal	Self-report questionnaire	Offence-supportive attitudes - rape myth acceptance	Use of pornography was not significantly correlated with rape myths and not a significant predictor in regression	No relationship
Neutze, Seto, Schaefer, Mundt & Beier (2011)	Paedophiles and Hebephiles	Germany	IIOC offenders = 42, CSOs = 45, MOs = 50	Illegal	Self-report Questionnaire	Offence-supportive attitudes - Offence-supportive cognitions about children and sex, and victim empathy	No significant differences between the sexual offender groups	No relationship

Nutter & Kearns (1993)	Sexual offenders (contact)	US	Sexual offenders = 51, Controls = 51	Legal	Self-report questionnaire	Offence-related behaviours - Sexual offending	No significant difference between sex offenders and controls on frequency of pornography use. Significantly more sex offenders used pornography during their first masturbation experience. No significant difference for age of first exposure. No significant difference between child molesters and controls on frequency of pornography magazine use, or pornography use during first masturbation. Controls were exposed to pornography at a significantly younger age than child molesters. 84% of sex offenders did not think porn influenced their offending	No relationship
Pawlak (1996)	Sexual offenders (contact)	Canada	Sexual offenders = 52, Controls = 41	Legal and unclear i.e. violent	Self-report questionnaire	Offence-related behaviour - sexual offending	No significant differences between rapists and non-offenders on pornography video exposure, or type of content	No relationship
Proulx, Blais & Beauregard (2007)	Sexual offenders (contact)	Canada	Sadists = 30, Non- sadists = 70	Legal	Not stated	Offence-related behaviour - Sadistic offending behaviour	Sadists consumed more pornography videos (35.7% vs 14.7%) and magazines (35.7% vs 18.1%) than non-sadists prior to age 18. No difference in pornography 48 hours prior to offence	Relationship
Proulx, Perreault & Ouimet (1999)	Sexual offenders (contact)	Canada	44	Legal	Police records and interview	Offence-related behaviour - aspects of the offence i.e. coercion	Cluster analysis - pornography use related to non-coercive, non-coital activities, but longer duration of offence, male victim and unfamiliar. Use of pornography less frequent overall than deviant sexual fantasies and cognitive distortions (25%)	No relationship
Ray, Kimonis & Seto (2014)	Community adults	Online	175	Legal and illegal	Self-report Questionnaire	Offence-supportive attitudes - whether would have sex with a child. Offence-related behaviours - IIOC consumption	IIOC consumers spent more time viewing pornography than non-consumers but not significantly. For high sensation seeking, the risk of viewing IIOC increased with the time spend viewing pornography. IIOC consumers significantly more likely to report they would engage in sex with a minor (6 times odds).	Relationship
Riegel (2004)	Boy-attracted males	US, Europe, Australia/New Zealand	290	Illegal	Self-report questionnaire	Offence-supportive attitudes - increased tendency to want to find a boy victim	60.5% of participants stated that boy-erotica material never increased their tendency to want to find a boy victim, with 24% saying this was rarely true. Majority (83.8%) stated it was at least frequently true that boy-erotica redirected their urges.	No relationship
Seto & Eke (2005)	Sexual offenders (IIOC)	Canada	201	Illegal	By conviction	Offence-related behaviour - contact offending	IIOC offenders with no prior criminal history offending were significantly less likely to commit a contact offence at follow-up, compared to those with criminal history of any sort. Only 1 out 76 did (1.3%).	No relationship
Seto & Eke (2015)	Sexual offenders (IIOC)	Canada	286	Illegal	By conviction	Offence-related behaviour - contact offending, online solicitation	IIOC only offenders engaged in significantly less online solicitation than IIOC offenders with a criminal history. No significant difference was found regarding follow-up contact offences (all low, 3-8%). The 8%	No relationship

							percent was for those participants with a contact offence history	
Sheldon & Howitt (2008)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 16, CSOs = 25, MOs = 10	Illegal	By conviction	Offence-related behaviour - fantasies about children	IIOC offenders and MOs had significantly more girl fantasies than CSOs.	Relationship
Simons, Simons, Lei & Sutton (2012)	Students	US	308	Legal	Self-report questionnaire	Offence-related behaviour - sexual coercion	Pornography significantly correlated with sexual coercion, and was a main effect in the regression	Relationship
Simons, Wurtele & Heil (2002)	Sexual offenders (contact)	US	188	Legal	Self-report questionnaire	Offence-supportive attitudes - empathy for children. Offence-related behaviour - number of child victims	Pornography exposure significantly correlated with less empathy for children (for child sexual offenders). Indirect relationship to number of child victims through empathy for children	Relationship
Smid, Schepers, Henk Kamphuis, van Linden & Bartling (2014)	Sexual offenders (IIOC)	Amsterdam	IIOC offenders = 83, MOs = 67	Illegal	By file review and investigation	Offence-related behaviour - direct victimisation	IIOC only offenders had significantly more images than MOs (more than 1000), were significantly more likely to have higher level images and extreme IIOC material. IIOC only offenders were significantly less likely to have directly victimised.	No relationship
Spokes, Hine, Marks, Quain & Lykins (2014)	Community adults	Australia	59	Legal	Pre-set viewing time, and optional viewing time	Offence-supportive attitudes - date rape vignette stopping point	Skin conductance and viewing time for non-consenting images predicted later stopping in date rape scenario. Viewing time of consenting images was not predictive.	Relationship
Taylor (2006)	Students	US	68	Legal	Self-report questionnaire	Offence-supportive attitudes - rape myths	No significant correlation between pornography and rape myths. Correlation was in a negative direction.	No relationship
Thompson & Morrison (2013)	Students	US	571	Legal	Self-report Questionnaire	Offence-related behaviour - Technology-based coercion	Correlation between pornography and TBC five years later was significant. Regression - five variables continued to predict TBC; rape supportive beliefs, peer approval for forced sex, number of sexual partners, pornography, and participation in student government. These explained 14% of the variance.	Relationship
Vega & Malamuth (2007)	Students	US	102	Legal	Self-report questionnaire	Offence-supportive attitudes - hostile masculinity (which included rape myths, acceptance of interpersonal violence, adversarial attitudes, sexual dominance). Offence-related behaviour - sexual aggression	Correlations between pornography, and sexual aggression, rape myths and acceptance of interpersonal violence. Hostile masculinity and porn were significant main predictors of sexual aggression. Pornography was a main effect and interacted with other variables, including hostile masculinity	Relationship
Webb, Craissati, & Keen (2007)	Sexual offenders (IIOC and contact)	UK	IIOC offenders = 90, CSOs = 120	Illegal	By conviction and file information	Offence-supportive attitudes - attitudes toward sexual assault. Offence-related behaviours - recidivism and contact offending	CSOs had significantly more problems with attitudes toward sexual assault. Low level sexual recidivism for both groups but IIOC offenders had no contact recidivism	No relationship

Williams, Cooper, Howell, Yuille & Paulhus (2008)	Students	US	191 (two studies)	Legal	Self-report questionnaire	Offence-related behaviour - deviant sexual behaviour and fantasies	Study 1: Mean fantasy and behaviour score higher for pornography users. Study 2: Pornography use relationship to deviant behaviour was mediated by psychopathy, so pornography use was only associated with deviant behaviour for high psychopathy	Relationship
Wright, Sun & Steffen (2015)	Community adults	Germany	384	Legal	Self-report questionnaire	Offence-related behaviour - interest and engagement in sexually dominant acts	Gonzo pornography interest correlated with: spanking hard, pulling hair, force sex, choke, tie up, penile gagging, name calling. Frequency of pornography use correlated with: force sex, slap face, choke, penile gagging, name calling. Multiple regression - pornography consumption was a significant predictor but also interacted with alcohol to predict the number of behaviours actually tried.	Relationship
Wurtele, Simons & Moreno (2014)	Students and community adults	US	173	Legal	Self-report Questionnaire	Offence-supportive attitudes - sexual interest in children	Males with a sexual interest in children were significantly more likely to view sexually explicit websites and have early exposure to pornography.	Relationship
Zillman & Bryant (1986)	Community adults	US	80	Legal	By length and number of sessions (massive exposure and no exposure)	Offence-related behaviours - Viewing extreme pornography i.e. S&M, XXX bondage, bestiality	Males in the massive exposure group viewed significantly more (in average minutes) extreme pornography at the selective exposure than those in the control group	Relationship

Appendix 6 - Chi-square analyses for the number of studies in the systematic review outcomes

Actual			
	Relationship	No relationship	Total
Attitudes	20	23	43
Behaviour	30	18	48
	50	41	91

Expected		
	Relationship	No relationship
Attitudes	23.62637363	19.37362637
Behaviour	26.37362637	21.62637363

P value	0.266360551	Attitudes
P value	0.292798826	Behaviour
Chi square value	1.24	Attitudes
Chi square value	1.11	Behaviour

ATTITUDES		
	Relationship	No relationship
Observed	20	23
Expected	23.63	19.37
Deviation	-3.63	3.63
Deviation squared	13.1769	13.1769
(O-E) squared/E	0.557634363	0.680273619
Chi square value	1.237907982	

BEHAVIOUR		
	Relationship	No relationship
Observed	30	18
Expected	26.37	21.62
Deviation	3.63	-3.62
Deviation squared	13.1769	13.1044
(O-E) squared/E	0.499692833	0.606123959
Chi square value	1.105816792	

Actual Legal			
	Relationship	No relationship	Total
Attitudes	14	13	27
Behaviour	19	10	29
	33	23	56

Expected Legal		
	Relationship	No relationship
Attitudes	15.91071429	11.08928571
Behaviour	17.08928571	11.91071429

P value	0.454793156	Attitudes
P value	0.470778123	Behaviour
Chi square value	0.56	Attitudes
Chi square value	0.52	Behaviour

ATTITUDES		
	Relationship	No relationship
Observed	14	13
Expected	15.91	11.09
Deviation	-1.91	1.91
Deviation squared	3.6481	3.6481
(O-E) squared/E	0.22929604	0.328954013
Chi square value	0.558250053	

BEHAVIOUR		
	Relationship	No relationship
Observed	19	10
Expected	17.09	11.91
Deviation	1.91	-1.91
Deviation squared	3.6481	3.6481
(O-E) squared/E	0.213464014	0.306305626
Chi square value	0.51976964	

Actual Illegal			
	Relationship	No relationship	Total
Attitudes	2	9	11
Behaviour	8	9	17
	10	18	28

Expected Illegal		
	Relationship	No relationship
Attitudes	3.928571429	7.071428571
Behaviour	6.071428571	10.92857143

P value	0.224915884	Attitudes
P value	0.328971774	Behaviour
Chi square value	1.47	Attitudes
Chi square value	0.95	Behaviour

ATTITUDES		
	Relationship	No relationship
Observed	2	9
Expected	3.93	7.07
Deviation	-1.93	1.93
Deviation squared	3.7249	3.7249
(O-E) squared/E	0.947811705	0.526859972
Chi square value	1.474671677	

BEHAVIOUR		
	Relationship	No relationship
Observed	8	9
Expected	6.07	10.93
Deviation	1.93	-1.93
Deviation squared	3.7249	3.7249
(O-E) squared/E	0.613657331	0.340795974
Chi square value	0.954453306	

Appendix 7 - Examples of images used within the EISIP (from the Pacific Psychological Assessment Corporation)

Tanner stage 1 – Prepubescent children



Tanner stage 2 – Prepubescent children



Tanner stage 3 – Prepubescent children



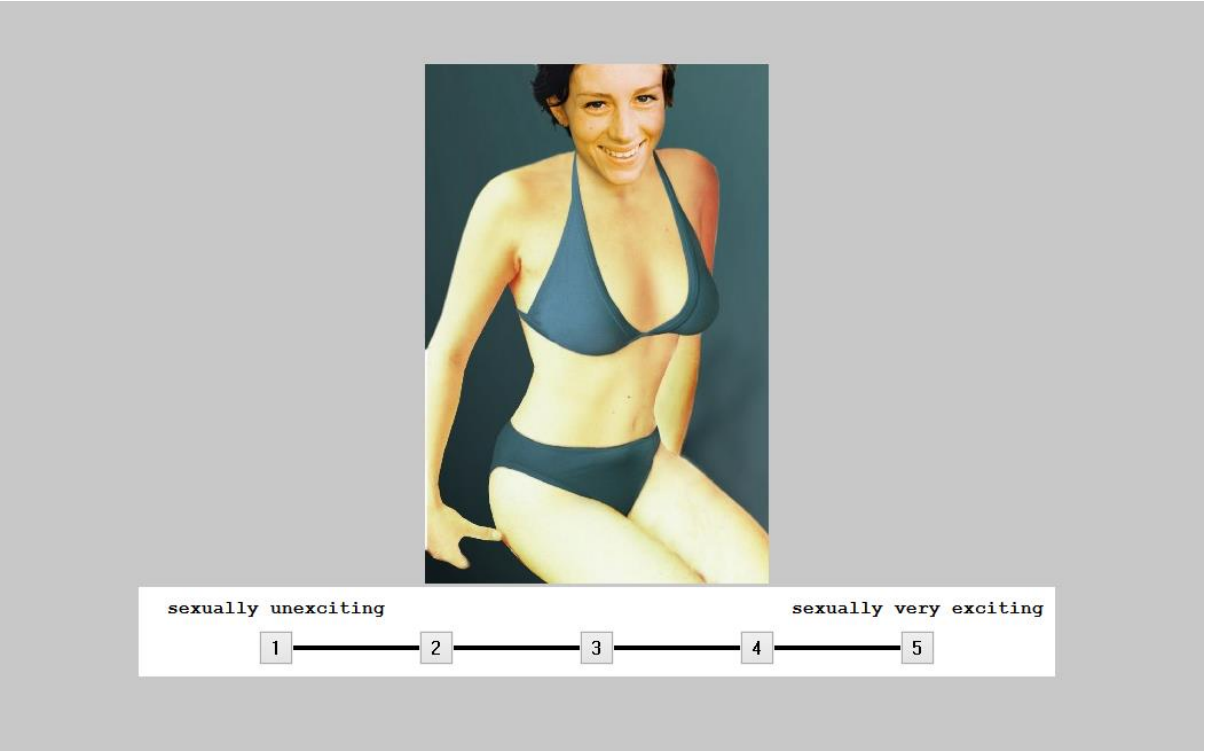
Tanner stage 4 – Adolescents



Tanner stage 5 – Adults

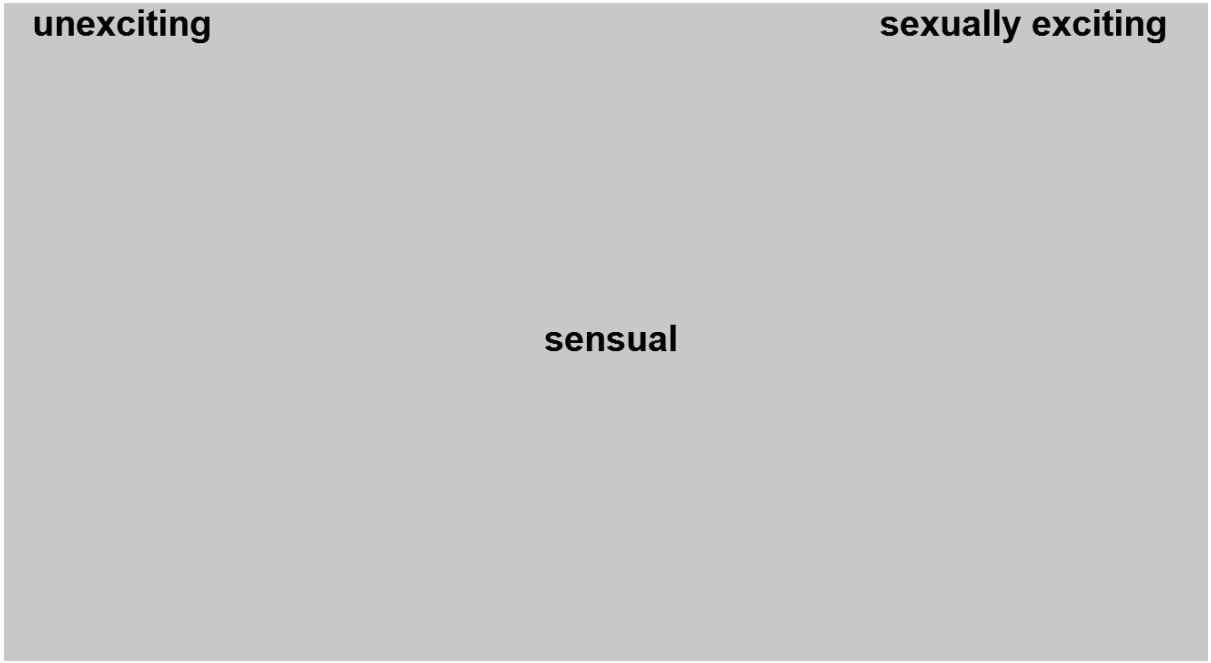


Appendix 8 - Screen shot from the VT measure



Participant chooses a rating from one to five, and presses the enter key.

Appendix 9 – Screen shot from IAT measure word discrimination



The word in the middle is categorised into one of the categories at the top of the screen. The category key assignment corresponds to the location at the top screen i.e. left key = unexciting, right key = sexually exciting

Appendix 10 – Items included in the ESIQ

Each item is answered in regard to a man, a woman, a young boy, and a young girl. Instructions specify that young boy or girl refers to a prepubescent child, and the items are to be answered by the individual in reference to their adult life.

Behaviour items

- I have enjoyed orally stimulating a …
- I have tongue kissed a …
- I have enjoyed getting my private parts touched by a …
- I have sexually caressed a …
- I have had sexual intercourse with a …

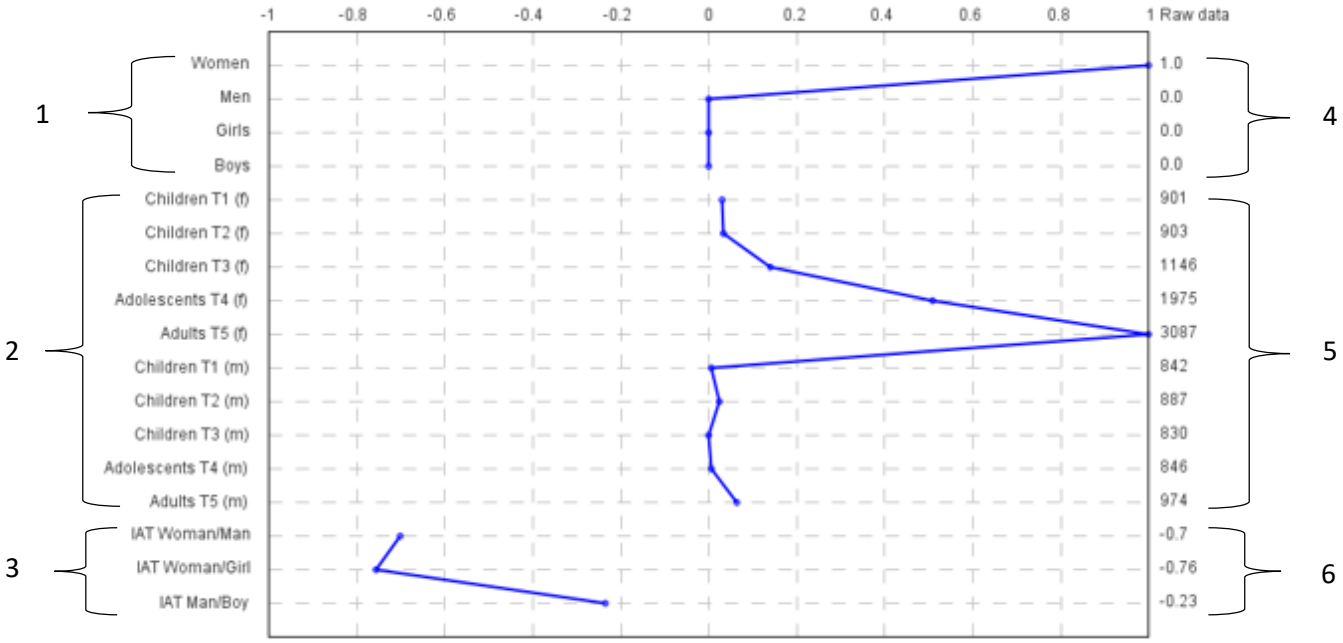
Fantasy items

- I find it erotic if I see a …'s beautiful chest
- I have daydreamed of having sex with a …
- I find it erotic if I see a …'s beautiful body through the clothes
- I find it erotic to see a …'s beautiful bottom
- I get excited when I imagine that a … stimulates me

Items are scored on a dichotomous 'agree/don't agree'

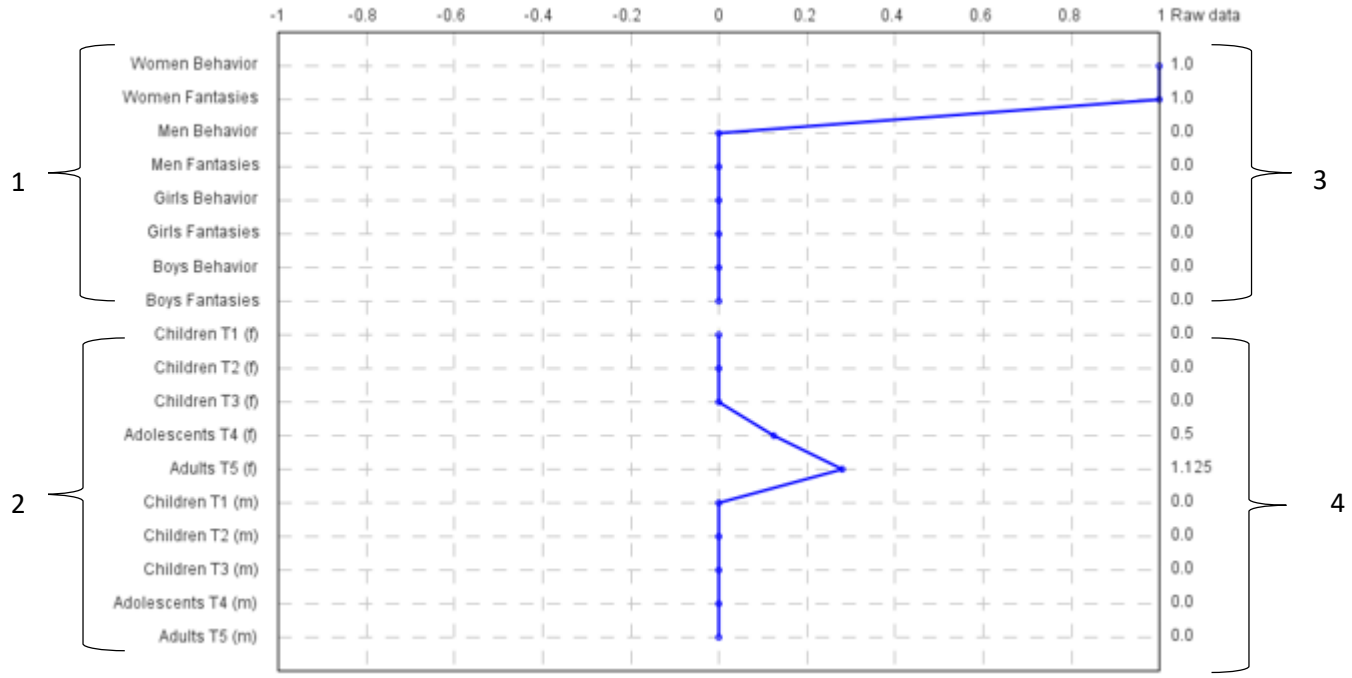
Appendix 11 – Example of EISIP graph profiles (heterosexual control participant)

ESIQ person type frequencies and Objective measures



1. ESIQ items divided by person type
2. VT (Tanner stages by sex)
3. IATs
4. ESIQ frequencies
5. VT in milliseconds (averaged by Tanner stage and sex)
6. IAT effect score

Self-report



1. ESIQ items divided by person type and subscale
2. VT (Tanner stages by sex)
3. ESIQ frequencies
4. VT image ratings (averaged by Tanner stage and sex)

Appendix 12 – Ethical approval letter

Direct line/e-mail
+44 (0) 115 8232561
Louise.Sabir@nottingham.ac.uk

The University of Nottingham

Faculty of Medicine and Health Sciences

Research Ethics Committee
Division of Respiratory Medicine
D Floor, South Block
Queen's Medical Centre
Nottingham University Hospitals
Nottingham
NG7 2UH

14th March 2014

Alexandra Bailey
Trainee Forensic Psychologist/PhD student
c/o Dr Vince Egan
Associate Professor of Forensic Psychology Practice
Centre for Family and Forensic Psychology
Psychiatry and Applied Psychology
School of Medicine
Room B23, YANG Fujia Building
Jubilee Campus
Nottingham
NG8 1BB

Dear Alexandra

Ethics Reference No: CFPJ13022014 SoM PAPsych
Study Title: Measures of Sexual Interest with Internet Sexual Offenders against Children.
Chief Investigator/Supervisor: Dr Vince Egan, Associate Professor, Forensic Psychology Practice, Psychiatry and Applied Psychology, School of Medicine
Other Key researchers/collaborators: Dr Derek Perkins, Head of Psychological Services, Broadmoor Hospital, Berkshire
Lead Investigator/Student: Alexandra Bailey, Trainee Forensic Psychologist, The Lucy Faithful Foundation, Doctorate student in Forensic Psychology, Psychiatry and Applied Psychology, School of Medicine.
Duration of Study: 03/14-05/15 14mths **No of Subjects:** 100

Thank you for your recent application which was considered by the Committee at its meeting on 25th February 2014 and the following documents were received:

Sexual Interest Research:

- FHMS REC Application Form, Version 1.1, Date: 21/12/2013
- Ve1309 Ethics Form (ex-IWHO) 2013 dated 24/01/2014
- Research Protocol, Final Version 1.0, Date 21.12.2013
- Letter of Permission and Support, Donald Findlater, Director of Research & Development, The Lucy Faithful Foundation dated 22nd January 2014
- Participant Demographic Information, 21.12.2014
- Participant Information Sheet, Final version 1.0, Date:21.12.13
- Participant Debrief Sheet, Final version 1.0, Date 21.12.2013

These have been reviewed and are satisfactory and the study is approved.

Approval is given on the understanding that the Conditions of Approval set out below are followed.

1. You must follow the protocol agreed and inform the Committee of any changes using a notification of amendment form (please request a form).

2. You must notify the Chair of any serious or unexpected event.

3. This study is approved for the period of active recruitment requested. The Committee also provides a further 5 year approval for any necessary work to be performed on the study which may arise in the process of publication and peer review.

4. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

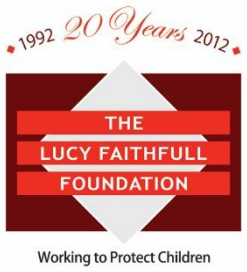
Yours sincerely



Dr Clodagh Dugdale
Chair, Nottingham University Medical School Research Ethics Committee

Appendix 13 – Research information and invitation sheet





INFORMATION AND INVITATION TO PARTICIPATE IN RESEARCH

We are interested in researching a number of computer based assessments used to examine individual's sexual interest and attraction, including attention related tasks involving computerised images of people and words.

It is important for you to be aware that the images used in this research are pictures of computer generated people (not real people) in swimming costumes, both male and female at various stages of maturity. These images are not explicit or indecent in any way.

The purpose of this research is to understand how certain images may affect performance on several tasks.

If you choose to take part in this research, the information you provide will be confidential and only reported in ways in which you will be anonymous. You will be given a participant code to ensure that you (or any other individual taking part in the research) cannot be identified. The only exception to confidentiality is that if you disclose any criminal offences that the Police are not aware of, or the researcher believes there are any risk issues, to anyone else or to yourself, the researcher will discuss with you the need to disclose this information to the authorities. This is required under Child Protection Policies and the researcher's duty of care towards you as a participant.

All information from the research will be kept securely in accordance with the Data Protection Act. Any material or data published from the research will be in a form that ensures that you will not be individually identifiable.

Participation in this research is entirely voluntary. There will be no negative consequences if you decide not to consent. If you currently, or in the future, are a client with The Lucy Faithfull Foundation, participation or non-participation in this research will have no effect on your status as a client of The Lucy Faithfull Foundation. If you wish to withdraw from the research you

may do so at any point and without having to give a reason. If you wish, your data can be withdrawn and destroyed if requested up until the point that your participation in the research has been completed.

The research will form part of the researcher's Doctoral Thesis for the DForenPsy at The University of Nottingham. The research will also form part of a wider national research project on Internet Sexual Offending managed through the Universities of Lincoln and Surrey, and the data you provide will also be included in this wider research on the same basis of ensuring your confidentiality and anonymity.

What you will be asked to do

You will be asked to complete four tasks.

One will require you to state if you 'Agree' or 'Don't Agree' with a number of statements regarding whether you have experienced certain sexual behaviours or thoughts.

One will require you to rate on a scale of 1 to 5 how sexually exciting you find a presented image. The images presented will be of men, women, boys and girls.

In another task you will be given a list of words and you will be presented with the same images you saw in the above mentioned task. You will be asked to assign the words and the pictures to a corresponding target category using certain keys on the keyboard.

For the final task you will be asked to specify the location of a superimposed dot that appears on an image by using certain keys on the keyboard.

If you are interested in volunteering for this research then please contact the researcher, Alex Bailey, on the number below. The researcher will answer any questions or concerns that you have. Alternatively, you may express your interest to the person who has issued you with this information, and with your permission, the research will contact you about participation.

Lead Research: Alexandra Bailey
Contact number: 01372 84182
Email address: lwxajba@nottingham.ac.uk
If participation in the research causes you any concerns then you can contact the Stop it Now! Helpline on 0808 1000 900 or email help@stopitnow.org.uk

Appendix 14 - Consent form





CONSENT TO PARTICIPATE IN THE RESEARCH

If you are happy to volunteer to take part in the research then please read and tick the boxes below, and sign and date the form. Signing the form means that you understand that you have voluntarily agreed to take part in the research.

I have read and understood the information and invitation to participate in research sheet Final Version 1.0 Dated: 21.12.13, that has been given to me ☐

I understand that my participation in this research is voluntary ☐

I have been given the opportunity to ask question and discuss the research, and have understood and am happy with the information I have been given ☐

I understand that I can ask for further instructions or explanations at any time ☐

I understand that I may withdraw from the research at any time without giving any reason ☐

I understand that all data will be anonymous and confidential, with the exception of disclosed criminal offences that are not known about or by the disclosure of potential risk to another person or to myself. ☐

I understand that the research may be published in an academic journal but that no information will be published that could identify me as an individual. Data will be kept for 7 years after the research has been published. ☐

Participant

I wish to take part in this research

Name (printed)……

Signed …….. Date ……

Researcher

Name (printed) ……..

Signed …… Date ……..

Appendix 15 – Demographic forms

Participant Demographic information **Participant code:**

Current Age: ……

Ethnicity (please tick)

White: British ☐ Irish ☐ Any other White background (please specify) ……

Black or Black British: Caribbean ☐ African ☐

Any other Black background (please specify) …….

Mixed: White and Black Caribbean ☐ White and Black African ☐ White and Asian ☐

Any other mixed background (please specify) ……....

Asian or Asian British: Indian ☐ Pakistani ☐ Bangladeshi ☐

Any other Asian background (please specify) ……..

Chinese or other ethnic group: Chinese ☐ Any other (please specify) ……

Offending History

Number of previous convictions: ……. Number of previous cautions: ……..

Nature of previous convictions or cautions e.g. theft, drink driving
……
……

Current relationship status: Please tick (note: If you have been divorced but remarried please mark yourself as 'Married')

Single ☐ Married ☐ Co-habiting ☐ Divorced ☐ Separated ☐ Widowed ☐

How many children do you have? …..... How many children currently under 18? …….

How would you describe your sexual orientation? Please tick

Heterosexual ☐ Homosexual ☐ Bisexual ☐ Other ……

Completed Education level: Please tick

Below secondary ☐ O Level/GCE/GCSE ☐ A level/NVQ/BTec ☐
Undergraduate degree ☐ Post graduate degree☐

How many hours per week do you currently spend viewing material you find sexually arousing?

…….. hours per week

Participant Demographic information **Participant code:**

Current Age: ……

Ethnicity (please tick)

White: British ☐ Irish ☐ Any other White background (please specify) ……

Black or Black British: Caribbean ☐ African ☐

Any other Black background (please specify) …….

Mixed: White and Black Caribbean ☐ White and Black African ☐ White and Asian ☐

Any other mixed background (please specify) ……....

Asian or Asian British: Indian ☐ Pakistani ☐ Bangladeshi ☐

Any other Asian background (please specify) ……..

Chinese or other ethnic group: Chinese ☐ Any other (please specify) ……

Offending History (not including any offences you are currently being investigated for)

Number of previous convictions: ……. Number of previous cautions: ……..

Nature of previous convictions or cautions e.g. theft, downloading indecent images
……
……

Current offence or the offences for which you were/are a client of The Lucy Faithfull Foundation: ……

Age at start of current offending: ……

Approximate age range of the children in the images viewed: …….

Have you ever communicated with a child online for a sexual purpose?

Yes ☐ No ☐

Current relationship status: Please tick (note: If you have been divorced but remarried please mark yourself as 'Married')

Single ☐ Married ☐ Co-habiting ☐ Divorced ☐ Separated ☐ Widowed ☐

How many children do you have? …..... How many children currently under U18? …….

How would you describe your sexual orientation? Please tick

Heterosexual ☐ Homosexual ☐ Bisexual ☐ Other ……

Completed Education level: Please tick

Below secondary ☐ O Level/GCE/GCSE ☐ A level/NVQ/BTec ☐
Undergraduate degree ☐ Post graduate degree☐

How many hours per week do you currently spend viewing material you find sexually arousing?

…….. hours per week

How long has it been since you last viewed indecent images of children?

…….. years …… months

In regard to your pornography viewing, approximately what percentage of the images/videos were adult images/videos and what percentage were child images/videos?

Adult:.…….% Child:……%

Of the child images/videos you viewed, approximately what percentage of the images/videos were of boys and what percentage were of girls?

Boys:…….% Girls:……%

Of the child images/videos you viewed, approximately what percentage of the images/videos were in each categories (C to A)? Please let the researcher know if you are unaware of the category levels.

C:…….% B:…….% A:…….%

Appendix 16 – Debrief sheet





De-briefing for Participants

This research was examining self-report and cognitive measures of sexual interest. These sorts of measures have been used widely in research to examine a large number of issues, not only those related to sexual interest i.e. racism. These measures have been widely used with people who have committed contact sexual offences, however their use has not be examined with those who have committed sexual offences on the internet. Presently, we do not know if these measures have the validity to be used with those who have committed sexual offences on the internet. This is something the research wants to examine.

The research aims to examine if differences do exist on these measures between individuals who have committed sexual offences on the internet, and a non-offending male community sample. There are two groups involved in this research; adult males who have committed a sexual offence on the internet, namely related to the access of indecent images of children, and an adult male community control sample who have not committed any sexual offences.

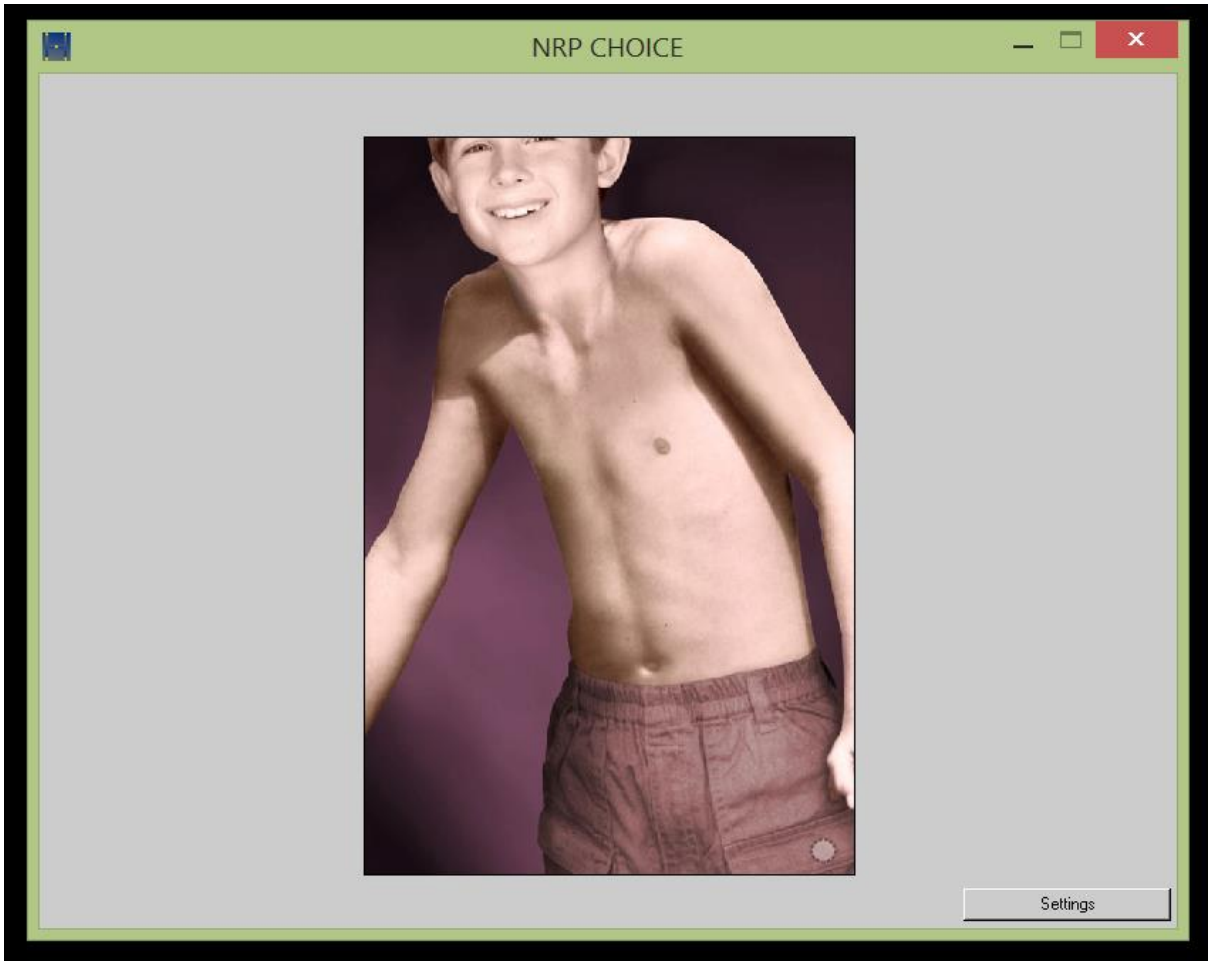
The identity of individuals who have participated in this research will not be revealed under any circumstances, it is completely confidential. If you have further questions please do not hesitate to ask.

Thank you very much for participating in this research. Your time and effort is appreciated.

Sincerely,

Alexandra Bailey

Appendix 17 – Screen shot from NRP-Choice



Appendix 18 – SPSS output for Mann-Whitney U tests for age and amount of time spent viewing sexually arousing material

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Age is the same across categories of Group.	Independent-Samples Mann-Whitney U Test	.010	Reject the null hypothesis.
2	The distribution of HrsSexMaterial is the same across categories of Group.	Independent-Samples Mann-Whitney U Test	.225	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Appendix 19 – SPSS output for Chi-square analysis for previous convictions

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Group * AnyPrevious	105	100.0%	0	0.0%	105	100.0%

Group * AnyPrevious Crosstabulation

			AnyPrevious		
			Yes	No	Total
Group	Internet Offender	Count	9	45	54
		Expected Count	9.8	44.2	54.0
	Control	Count	10	41	51
		Expected Count	9.2	41.8	51.0
Total		Count	19	86	105
		Expected Count	19.0	86.0	105.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.153[a]	1	.696		
Continuity Correction[b]	.019	1	.891		
Likelihood Ratio	.153	1	.696		
Fisher's Exact Test				.802	.445
Linear-by-Linear Association	.152	1	.697		
N of Valid Cases	105				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.23.

b. Computed only for a 2x2 table

Appendix 20 – SPSS output for Chi-square analysis for completed education level

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Group * EducationLevel	105	100.0%	0	0.0%	105	100.0%

Group * EducationLevel Crosstabulation

			EducationLevel					
			Below secondary	O level/GCE/GCSE	A level/NVQ/Btec	Undergraduate degree	Post graduate degree	Total
Group	Internet Offender	Count	2	14	11	14	13	54
		Expected Count	1.5	14.9	15.4	13.9	8.2	54.0
	Control	Count	1	15	19	13	3	51
		Expected Count	1.5	14.1	14.6	13.1	7.8	51.0
Total		Count	3	29	30	27	16	105
		Expected Count	3.0	29.0	30.0	27.0	16.0	105.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.710[a]	4	.069
Likelihood Ratio	9.223	4	.056
Linear-by-Linear Association	2.923	1	.087
N of Valid Cases	105		

a. 2 cells (20.0%) have expected count less than 5. The minimum expected count is 1.46.

Appendix 21 – SPSS output for Chi-square analysis of whether participants had children

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Group * HaveChildren	105	100.0%	0	0.0%	105	100.0%

Group * HaveChildren Crosstabulation

			HaveChildren		
			Yes	No	Total
Group	Internet Offender	Count	23	31	54
		Expected Count	20.1	33.9	54.0
	Control	Count	16	35	51
		Expected Count	18.9	32.1	51.0
Total		Count	39	66	105
		Expected Count	39.0	66.0	105.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.414[a]	1	.234		
Continuity Correction[b]	.975	1	.324		
Likelihood Ratio	1.420	1	.233		
Fisher's Exact Test				.313	.162
Linear-by-Linear Association	1.401	1	.237		
N of Valid Cases	105				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 18.94.

b. Computed only for a 2x2 table

Appendix 22 – SPSS output MANCOVA analysis for NRP-Choice

General Linear Model

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

	Group	Mean	Std. Deviation	N
LogNRPT1M	Internet Offender	3.0535	.09198	54
	Control	3.0462	.09845	51
	Total	3.0500	.09479	105
LogNRPT3M	Internet Offender	3.0566	.08046	54
	Control	3.0558	.09246	51
	Total	3.0562	.08608	105
LogNRPT5M	Internet Offender	3.0384	.08929	54
	Control	3.0339	.08813	51
	Total	3.0363	.08833	105

Box's Test of Equality of Covariance Matrices[a]

Box's M	9.008
F	1.454
df1	6
df2	76171.704
Sig.	.190

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Age + Group

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.991	3762.968[b]	3.000	100.000	.000	.991
	Wilks' Lambda	.009	3762.968[b]	3.000	100.000	.000	.991
	Hotelling's Trace	112.889	3762.968[b]	3.000	100.000	.000	.991
	Roy's Largest Root	112.889	3762.968[b]	3.000	100.000	.000	.991
Age	Pillai's Trace	.284	13.203[b]	3.000	100.000	.000	.284
	Wilks' Lambda	.716	13.203[b]	3.000	100.000	.000	.284
	Hotelling's Trace	.396	13.203[b]	3.000	100.000	.000	.284
	Roy's Largest Root	.396	13.203[b]	3.000	100.000	.000	.284
Group	Pillai's Trace	.023	.768[b]	3.000	100.000	.515	.023
	Wilks' Lambda	.977	.768[b]	3.000	100.000	.515	.023
	Hotelling's Trace	.023	.768[b]	3.000	100.000	.515	.023
	Roy's Largest Root	.023	.768[b]	3.000	100.000	.515	.023

a. Design: Intercept + Age + Group

b. Exact statistic

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
LogNRPT1M	.010	1	103	.921
LogNRPT3M	.194	1	103	.661
LogNRPT5M	.784	1	103	.378

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	LogNRPT1M	.248[a]	2	.124	18.420	.000	.265
	LogNRPT3M	.213[b]	2	.107	19.484	.000	.276
	LogNRPT5M	.199[c]	2	.099	16.536	.000	.245
Intercept	LogNRPT1M	61.470	1	61.470	9133.083	.000	.989
	LogNRPT3M	62.273	1	62.273	11391.198	.000	.991
	LogNRPT5M	61.662	1	61.662	10264.418	.000	.990
Age	LogNRPT1M	.247	1	.247	36.630	.000	.264
	LogNRPT3M	.213	1	.213	38.965	.000	.276
	LogNRPT5M	.198	1	.198	32.984	.000	.244
Group	LogNRPT1M	.006	1	.006	.913	.341	.009
	LogNRPT3M	.011	1	.011	1.930	.168	.019
	LogNRPT5M	.006	1	.006	1.082	.301	.010
Error	LogNRPT1M	.687	102	.007			

	LogNRPT3M	.558	102	.005			
	LogNRPT5M	.613	102	.006			
Total	LogNRPT1M	977.671	105				
	LogNRPT3M	981.530	105				
	LogNRPT5M	968.788	105				
Corrected Total	LogNRPT1M	.934	104				
	LogNRPT3M	.771	104				
	LogNRPT5M	.811	104				

a. R Squared = .265 (Adjusted R Squared = .251)

b. R Squared = .276 (Adjusted R Squared = .262)

c. R Squared = .245 (Adjusted R Squared = .230)

Estimated Marginal Means

Group

				95% Confidence Interval	
Dependent Variable	Group	Mean	Std. Error	Lower Bound	Upper Bound
LogNRPT1M	Internet Offender	3.042[a]	.011	3.020	3.065
	Control	3.058[a]	.012	3.035	3.081
LogNRPT3M	Internet Offender	3.046[a]	.010	3.026	3.066
	Control	3.067[a]	.011	3.046	3.088
LogNRPT5M	Internet Offender	3.028[a]	.011	3.007	3.050
	Control	3.045[a]	.011	3.023	3.066

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

General Linear Model

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

	Group	Mean	Std. Deviation	N
LogNRPT1F	Internet Offender	3.0349	.09659	54
	Control	3.0351	.08719	51
	Total	3.0350	.09170	105
LogNRPT3F	Internet Offender	3.0347	.09973	54
	Control	3.0328	.09903	51
	Total	3.0338	.09892	105
LogNRPT5F	Internet Offender	3.0559	.10294	54
	Control	3.0601	.09619	51
	Total	3.0579	.09926	105

Box's Test of Equality of Covariance Matrices[a]

Box's M	10.593
F	1.710
df1	6
df2	76171.704
Sig.	.114

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Age + Group

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	.990	3265.669[b]	3.000	100.000	.000	.990
	Wilks' Lambda	.010	3265.669[b]	3.000	100.000	.000	.990
	Hotelling's Trace	97.970	3265.669[b]	3.000	100.000	.000	.990
	Roy's Largest Root	97.970	3265.669[b]	3.000	100.000	.000	.990
Age	Pillai's Trace	.290	13.601[b]	3.000	100.000	.000	.290
	Wilks' Lambda	.710	13.601[b]	3.000	100.000	.000	.290
	Hotelling's Trace	.408	13.601[b]	3.000	100.000	.000	.290
	Roy's Largest Root	.408	13.601[b]	3.000	100.000	.000	.290
Group	Pillai's Trace	.022	.734[b]	3.000	100.000	.534	.022
	Wilks' Lambda	.978	.734[b]	3.000	100.000	.534	.022
	Hotelling's Trace	.022	.734[b]	3.000	100.000	.534	.022
	Roy's Largest Root	.022	.734[b]	3.000	100.000	.534	.022

a. Design: Intercept + Age + Group

b. Exact statistic

Levene's Test of Equality of Error Variances[a]

	F	df1	df2	Sig.
LogNRPT1F	1.961	1	103	.164
LogNRPT3F	.021	1	103	.885
LogNRPT5F	1.540	1	103	.217

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	LogNRPT1F	.235[a]	2	.118	18.775	.000	.269
	LogNRPT3F	.283[b]	2	.141	19.634	.000	.278
	LogNRPT5F	.214[c]	2	.107	13.493	.000	.209
Intercept	LogNRPT1F	61.008	1	61.008	9735.317	.000	.990
	LogNRPT3F	60.254	1	60.254	8364.854	.000	.988
	LogNRPT5F	62.334	1	62.334	7846.163	.000	.987
Age	LogNRPT1F	.235	1	.235	37.550	.000	.269
	LogNRPT3F	.283	1	.283	39.254	.000	.278
	LogNRPT5F	.214	1	.214	26.929	.000	.209
Group	LogNRPT1F	.013	1	.013	2.041	.156	.020
	LogNRPT3F	.013	1	.013	1.786	.184	.017
	LogNRPT5F	.016	1	.016	2.051	.155	.020

Error	LogNRPT1F	.639	102	.006			
	LogNRPT3F	.735	102	.007			
	LogNRPT5F	.810	102	.008			
Total	LogNRPT1F	968.053	105				
	LogNRPT3F	967.402	105				
	LogNRPT5F	982.875	105				
Corrected Total	LogNRPT1F	.875	104				
	LogNRPT3F	1.018	104				
	LogNRPT5F	1.025	104				

a. R Squared = .269 (Adjusted R Squared = .255)

b. R Squared = .278 (Adjusted R Squared = .264)

c. R Squared = .209 (Adjusted R Squared = .194)

Estimated Marginal Means

Group

				95% Confidence Interval	
Dependent Variable	Group	Mean	Std. Error	Lower Bound	Upper Bound
LogNRPT1F	Internet Offender	3.024[a]	.011	3.002	3.046
	Control	3.047[a]	.011	3.024	3.069
LogNRPT3F	Internet Offender	3.023[a]	.012	2.999	3.046
	Control	3.045[a]	.012	3.022	3.069
LogNRPT5F	Internet Offender	3.045[a]	.012	3.021	3.070
	Control	3.071[a]	.013	3.046	3.096

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

Appendix 23 – SPSS output Kruskal-Wallis-H test for NRP-Choice deviance index

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
NRPDevIndexRecode	105	-8.155948	188.4241362	-719.5625	892.0000
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
NRPDevIndexRecode	Internet Offender	54	53.75
	Control	51	52.21
	Total	105	

Test Statistics[a,b]

	NRPDevIndexRecode
Chi-Square	.067
df	1
Asymp. Sig.	.795

a. Kruskal Wallis Test

b. Grouping Variable: Group

Appendix 24 – SPSS output ANOVA and ANCOVA analyses for VT latencies

Oneway

Descriptives

			N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
							Lower Bound	Upper Bound			
COMPUTE LogVTT1F=LG10(VTTanner1F)	Internet Offender		54	3.2619	.23489	.03196	3.1978	3.3260	2.92	3.85	
	Control		51	3.0829	.17826	.02496	3.0327	3.1330	2.71	3.58	
	Total		105	3.1749	.22689	.02214	3.1310	3.2188	2.71	3.85	
	Model	Fixed Effects			.20932	.02043	3.1344	3.2154			
		Random Effects				.08955	2.0371	4.3127			.01519
COMPUTE LogVTT2F=LG10(VTTanner2F)	Internet Offender		54	3.3722	.24540	.03339	3.3053	3.4392	3.01	3.84	
	Control		51	3.1962	.16902	.02367	3.1487	3.2438	2.82	3.62	
	Total		105	3.2867	.22856	.02230	3.2425	3.3310	2.82	3.84	
	Model	Fixed Effects			.21179	.02067	3.2457	3.3277			
		Random Effects				.08804	2.1680	4.4054			.01464
COMPUTE LogVTT3F=LG10(VTTanner3F)	Internet Offender		54	3.3468	.22930	.03120	3.2842	3.4094	2.95	3.82	
	Control		51	3.1475	.19179	.02686	3.0936	3.2015	2.71	3.62	
	Total		105	3.2500	.23343	.02278	3.2048	3.2952	2.71	3.82	
	Model	Fixed Effects			.21192	.02068	3.2090	3.2910			
		Random Effects				.09966	1.9837	4.5163			.01899
COMPUTE LogVTT4F=LG10(VTTanner4F)	Internet Offender		54	3.5090	.24686	.03359	3.4416	3.5763	2.97	3.97	
	Control		51	3.4785	.20967	.02936	3.4195	3.5375	3.04	4.03	
	Total		105	3.4942	.22897	.02235	3.4499	3.5385	2.97	4.03	

	Model	Fixed Effects			.22956	.02240	3.4497	3.5386			
		Random Effects				.02240[a]	3.2095[a]	3.7788[a]			-.00054
COMPUTE LogVTT5F=LG10(VTTanner5F)	Internet Offender		54	3.4550	.23032	.03134	3.3921	3.5178	2.98	3.92	
	Control		51	3.5252	.20392	.02855	3.4679	3.5826	2.93	4.07	
	Total		105	3.4891	.21971	.02144	3.4466	3.5316	2.93	4.07	
	Model	Fixed Effects			.21790	.02127	3.4469	3.5313			
		Random Effects				.03513	3.0427	3.9355			.00156

a. Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
COMPUTE LogVTT1F=LG10(VTTanner1F)	2.161	1	103	.145
COMPUTE LogVTT2F=LG10(VTTanner2F)	10.661	1	103	.001
COMPUTE LogVTT3F=LG10(VTTanner3F)	3.636	1	103	.059
COMPUTE LogVTT4F=LG10(VTTanner4F)	1.742	1	103	.190
COMPUTE LogVTT5F=LG10(VTTanner5F)	1.970	1	103	.163

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
COMPUTE LogVTT1F=LG10(VTTanner1F)	Between Groups	.841	1	.841	19.186	.000
	Within Groups	4.513	103	.044		
	Total	5.354	104			
COMPUTE LogVTT2F=LG10(VTTanner2F)	Between Groups	.813	1	.813	18.118	.000
	Within Groups	4.620	103	.045		
	Total	5.433	104			

COMPUTE LogVTT3F=LG10(VTTanner3F)	Between Groups	1.041	1	1.041	23.185	.000
	Within Groups	4.626	103	.045		
	Total	5.667	104			
COMPUTE LogVTT4F=LG10(VTTanner4F)	Between Groups	.024	1	.024	.462	.498
	Within Groups	5.428	103	.053		
	Total	5.452	104			
COMPUTE LogVTT5F=LG10(VTTanner5F)	Between Groups	.129	1	.129	2.726	.102
	Within Groups	4.891	103	.047		
	Total	5.020	104			

Robust Tests of Equality of Means

		Statistic[a]	df1	df2	Sig.
COMPUTE LogVTT1F=LG10(VTTanner1F)	Welch	19.486	1	98.518	.000
	Brown-Forsythe	19.486	1	98.518	.000
COMPUTE LogVTT2F=LG10(VTTanner2F)	Welch	18.494	1	94.377	.000
	Brown-Forsythe	18.494	1	94.377	.000
COMPUTE LogVTT3F=LG10(VTTanner3F)	Welch	23.422	1	101.542	.000
	Brown-Forsythe	23.422	1	101.542	.000
COMPUTE LogVTT4F=LG10(VTTanner4F)	Welch	.466	1	101.881	.496
	Brown-Forsythe	.466	1	101.881	.496
COMPUTE LogVTT5F=LG10(VTTanner5F)	Welch	2.745	1	102.583	.101
	Brown-Forsythe	2.745	1	102.583	.101

a. Asymptotically F distributed.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT4F=LG10(VTTanner4F)

Group	Mean	Std. Deviation	N
Internet Offender	3.5090	.24686	54
Control	3.4785	.20967	51
Total	3.4942	.22897	105

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT4F=LG10(VTTanner4F)

F	df1	df2	Sig.
2.297	1	103	.133

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT4F=LG10(VTTanner4F)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.044[a]	2	.022	.411	.664	.008
Intercept	88.283	1	88.283	1664.831	.000	.942
Age	.019	1	.019	.363	.548	.004
Group	.014	1	.014	.270	.605	.003
Error	5.409	102	.053			
Total	1287.416	105				
Corrected Total	5.452	104				

a. R Squared = .008 (Adjusted R Squared = -.011)

Estimated Marginal Means

Group

Dependent Variable: COMPUTE LogVTT4F=LG10(VTTanner4F)

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.506[a]	.032	3.443	3.569
Control	3.482[a]	.033	3.417	3.547

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT5F=LG10(VTTanner5F)

Group	Mean	Std. Deviation	N
Internet Offender	3.4550	.23032	54
Control	3.5252	.20392	51
Total	3.4891	.21971	105

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT5F=LG10(VTTanner5F)

F	df1	df2	Sig.
1.666	1	103	.200

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT5F=LG10(VTTanner5F)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.143[a]	2	.072	1.498	.228	.029
Intercept	92.796	1	92.796	1940.846	.000	.950
Age	.014	1	.014	.289	.592	.003
Group	.104	1	.104	2.179	.143	.021
Error	4.877	102	.048			
Total	1283.271	105				
Corrected Total	5.020	104				

a. R Squared = .029 (Adjusted R Squared = .009)

Estimated Marginal Means

Group

Dependent Variable: COMPUTE LogVTT5F=LG10(VTTanner5F)

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.458[a]	.030	3.398	3.517
Control	3.522[a]	.031	3.461	3.584

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

Oneway

Descriptives

			N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum	Between-Component Variance
							Lower Bound	Upper Bound			
COMPUTE LogVTT1M=LG10(VTTanner1M)	Internet Offender		52	3.2192	.20559	.02851	3.1620	3.2765	2.88	3.73	
	Control		50	3.0996	.17837	.02523	3.0489	3.1503	2.73	3.65	
	Total		102	3.1606	.20097	.01990	3.1211	3.2001	2.73	3.73	
	Model	Fixed Effects			.19273	.01908	3.1227	3.1985			
		Random Effects				.05983	2.4004	3.9208			.00643
COMPUTE LogVTT2M=LG10(VTTanner2M)	Internet Offender		52	3.1936	.18795	.02606	3.1412	3.2459	2.89	3.62	
	Control		50	3.1103	.15887	.02247	3.0652	3.1555	2.75	3.51	
	Total		102	3.1528	.17841	.01767	3.1177	3.1878	2.75	3.62	
	Model	Fixed Effects			.17431	.01726	3.1185	3.1870			
		Random Effects				.04162	2.6240	3.6816			.00287
COMPUTE LogVTT3M=LG10(VTTanner3M)	Internet Offender		52	3.2132	.21299	.02954	3.1539	3.2725	2.88	3.62	
	Control		50	3.1108	.17083	.02416	3.0622	3.1593	2.78	3.68	
	Total		102	3.1630	.19928	.01973	3.1239	3.2021	2.78	3.68	
	Model	Fixed Effects			.19348	.01916	3.1250	3.2010			
		Random Effects				.05122	2.5122	3.8138			.00451
COMPUTE LogVTT4M=LG10(VTTanner4M)	Internet Offender		52	3.1917	.20328	.02819	3.1351	3.2483	2.87	3.70	
	Control		50	3.1266	.17265	.02442	3.0776	3.1757	2.77	3.53	
	Total		102	3.1598	.19077	.01889	3.1223	3.1973	2.77	3.70	
	Model	Fixed Effects			.18889	.01870	3.1227	3.1969			
		Random Effects				.03252	2.7466	3.5730			.00141

COMPUTE LogVTT5M=LG10(VTTanner5M)	Internet Offender		52	3.1999	.19974	.02770	3.1443	3.2555	2.86	3.72	
	Control		50	3.1485	.19939	.02820	3.0918	3.2051	2.80	3.67	
	Total		102	3.1747	.20025	.01983	3.1353	3.2140	2.80	3.72	
	Model	Fixed Effects			.19957	.01976	3.1355	3.2139			
		Random Effects				.02570	2.8481	3.5012			.00054

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
COMPUTE LogVTT1M=LG10(VTTanner1M)	1.501	1	100	.223
COMPUTE LogVTT2M=LG10(VTTanner2M)	2.324	1	100	.131
COMPUTE LogVTT3M=LG10(VTTanner3M)	4.710	1	100	.032
COMPUTE LogVTT4M=LG10(VTTanner4M)	1.154	1	100	.285
COMPUTE LogVTT5M=LG10(VTTanner5M)	.000	1	100	.999

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
COMPUTE LogVTT1M=LG10(VTTanner1M)	Between Groups	.365	1	.365	9.822	.002
	Within Groups	3.715	100	.037		
	Total	4.079	101			
COMPUTE LogVTT2M=LG10(VTTanner2M)	Between Groups	.177	1	.177	5.811	.018
	Within Groups	3.038	100	.030		
	Total	3.215	101			
COMPUTE LogVTT3M=LG10(VTTanner3M)	Between Groups	.267	1	.267	7.142	.009
	Within Groups	3.743	100	.037		
	Total	4.011	101			

COMPUTE LogVTT4M=LG10(VTTanner4M)	Between Groups	.108	1	.108	3.022	.085
	Within Groups	3.568	100	.036		
	Total	3.676	101			
COMPUTE LogVTT5M=LG10(VTTanner5M)	Between Groups	.067	1	.067	1.691	.196
	Within Groups	3.983	100	.040		
	Total	4.050	101			

Robust Tests of Equality of Means

		Statistic[a]	df1	df2	Sig.
COMPUTE LogVTT1M=LG10(VTTanner1M)	Welch	9.877	1	98.974	.002
	Brown-Forsythe	9.877	1	98.974	.002
COMPUTE LogVTT2M=LG10(VTTanner2M)	Welch	5.849	1	98.403	.017
	Brown-Forsythe	5.849	1	98.403	.017
COMPUTE LogVTT3M=LG10(VTTanner3M)	Welch	7.204	1	96.918	.009
	Brown-Forsythe	7.204	1	96.918	.009
COMPUTE LogVTT4M=LG10(VTTanner4M)	Welch	3.041	1	98.516	.084
	Brown-Forsythe	3.041	1	98.516	.084
COMPUTE LogVTT5M=LG10(VTTanner5M)	Welch	1.691	1	99.857	.196
	Brown-Forsythe	1.691	1	99.857	.196

a. Asymptotically F distributed.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Group	Mean	Std. Deviation	N
Internet Offender	3.2192	.20559	52
Control	3.0996	.17837	50
Total	3.1606	.20097	102

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

F	df1	df2	Sig.
3.973	1	100	.049

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.582[a]	2	.291	8.242	.000	.143
Intercept	64.169	1	64.169	1816.571	.000	.948
Age	.217	1	.217	6.156	.015	.059
Group	.231	1	.231	6.553	.012	.062
Error	3.497	99	.035			
Total	1023.000	102				
Corrected Total	4.079	101				

a. R Squared = .143 (Adjusted R Squared = .125)

Estimated Marginal Means

Group

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.209[a]	.026	3.156	3.261
Control	3.111[a]	.027	3.057	3.164

a. Covariates appearing in the model are evaluated at the following values: Age = 42.7157.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Group	Mean	Std. Deviation	N
Internet Offender	3.2132	.21299	52
Control	3.1108	.17083	50
Total	3.1630	.19928	102

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

F	df1	df2	Sig.
10.607	1	100	.002

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.569[a]	2	.284	8.176	.001	.142
Intercept	63.010	1	63.010	1812.141	.000	.948
Age	.301	1	.301	8.662	.004	.080
Group	.143	1	.143	4.101	.046	.040
Error	3.442	99	.035			
Total	1024.472	102				
Corrected Total	4.011	101				

a. R Squared = .142 (Adjusted R Squared = .124)

Estimated Marginal Means

Group

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.201[a]	.026	3.149	3.253
Control	3.124[a]	.027	3.071	3.177

a. Covariates appearing in the model are evaluated at the following values: Age = 42.7157.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT5M=LG10(VTTanner5M)

Group	Mean	Std. Deviation	N
Internet Offender	3.1999	.19974	52
Control	3.1485	.19939	50
Total	3.1747	.20025	102

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT5M=LG10(VTTanner5M)

F	df1	df2	Sig.
1.114	1	100	.294

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT5M=LG10(VTTanner5M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.284[a]	2	.142	3.739	.027	.070
Intercept	64.809	1	64.809	1703.846	.000	.945
Age	.217	1	.217	5.707	.019	.055
Group	.021	1	.021	.559	.456	.006
Error	3.766	99	.038			
Total	1032.067	102				
Corrected Total	4.050	101				

a. R Squared = .070 (Adjusted R Squared = .051)

Estimated Marginal Means

Group

Dependent Variable: COMPUTE LogVTT5M=LG10(VTTanner5M)

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.189[a]	.027	3.135	3.244
Control	3.160[a]	.028	3.104	3.215

a. Covariates appearing in the model are evaluated at the following values: Age = 42.7157.

Appendix 25 – SPSS output of age and group interaction for male tanner 1 and 3 images, and scatterplots

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.720[a]	3	.240	7.006	.000
Intercept	63.793	1	63.793	1861.192	.000
Group	.238	1	.238	6.939	.010
Age	.191	1	.191	5.558	.020
Group * Age	.138	1	.138	4.029	.047
Error	3.359	98	.034		
Total	1023.000	102			
Corrected Total	4.079	101			

a. R Squared = .177 (Adjusted R Squared = .151)

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.712[a]	3	.237	7.055	.000
Intercept	62.664	1	62.664	1861.805	.000
Group	.218	1	.218	6.483	.012
Age	.268	1	.268	7.976	.006
Group * Age	.144	1	.144	4.274	.041
Error	3.298	98	.034		
Total	1024.472	102			

Corrected Total		4.011	101			

a. R Squared = .178 (Adjusted R Squared = .152)

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Group	Mean	Std. Deviation	N
Internet Offender	3.2132	.21299	52
Control	3.1108	.17083	50
Total	3.1630	.19928	102

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

F	df1	df2	Sig.
12.007	1	100	.001

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Group + Age + Group * Age

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.712[a]	3	.237	7.055	.000	.178
Intercept	62.664	1	62.664	1861.805	.000	.950
Group	.218	1	.218	6.483	.012	.062
Age	.268	1	.268	7.976	.006	.075
Group * Age	.144	1	.144	4.274	.041	.042
Error	3.298	98	.034			
Total	1024.472	102				
Corrected Total	4.011	101				

a. R Squared = .178 (Adjusted R Squared = .152)

Parameter Estimates

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval		Partial Eta Squared
					Lower Bound	Upper Bound	
Intercept	2.808	.088	31.864	.000	2.633	2.983	.912
[Group=1.00]	.352	.138	2.546	.012	.078	.627	.062
[Group=2.00]	0[a]	.	.	.	.	.	.
Age	.008	.002	3.599	.001	.003	.012	.117
[Group=1.00] * Age	-.006	.003	-2.067	.041	-.013	.000	.042
[Group=2.00] * Age	0[a]	.	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

Estimated Marginal Means

Group

Dependent Variable: COMPUTE LogVTT3M=LG10(VTTanner3M)

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.210[a]	.026	3.158	3.262
Control	3.132[a]	.027	3.079	3.185

a. Covariates appearing in the model are evaluated at the following values: Age = 42.7157.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	52
	2.00	Control	50

Descriptive Statistics

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Group	Mean	Std. Deviation	N
Internet Offender	3.2192	.20559	52
Control	3.0996	.17837	50
Total	3.1606	.20097	102

Levene's Test of Equality of Error Variances[a]

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

F	df1	df2	Sig.
4.850	1	100	.030

Tests the null hypothesis that the error variance of the dependent variable

is equal across groups.

a. Design: Intercept + Group + Age + Group * Age

Tests of Between-Subjects Effects

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.720[a]	3	.240	7.006	.000	.177
Intercept	63.793	1	63.793	1861.192	.000	.950
Group	.238	1	.238	6.939	.010	.066
Age	.191	1	.191	5.558	.020	.054
Group * Age	.138	1	.138	4.029	.047	.039
Error	3.359	98	.034			
Total	1023.000	102				
Corrected Total	4.079	101				

a. R Squared = .177 (Adjusted R Squared = .151)

Parameter Estimates

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval		Partial Eta Squared
					Lower Bound	Upper Bound	
Intercept	2.827	.089	31.789	.000	2.650	3.003	.912
[Group=1.00]	.368	.140	2.634	.010	.091	.645	.066
[Group=2.00]	0[a]	.	.	.	.	.	.
Age	.007	.002	3.212	.002	.003	.011	.095
[Group=1.00] * Age	-.006	.003	-2.007	.047	-.013	-7.157E-5	.039
[Group=2.00] * Age	0[a]	.	.	.	.	.	.

a. This parameter is set to zero because it is redundant.

Estimated Marginal Means

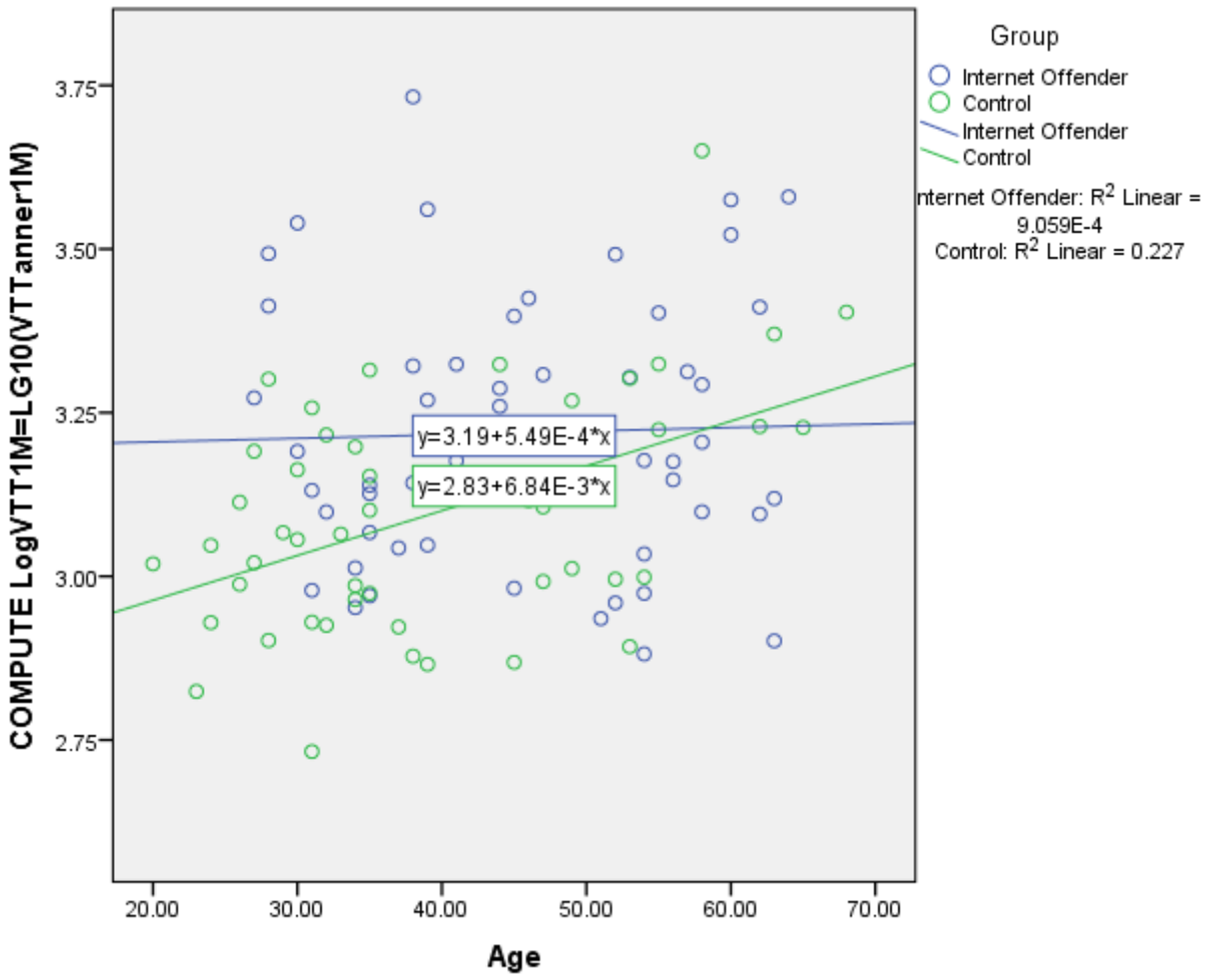
Group

Dependent Variable: COMPUTE LogVTT1M=LG10(VTTanner1M)

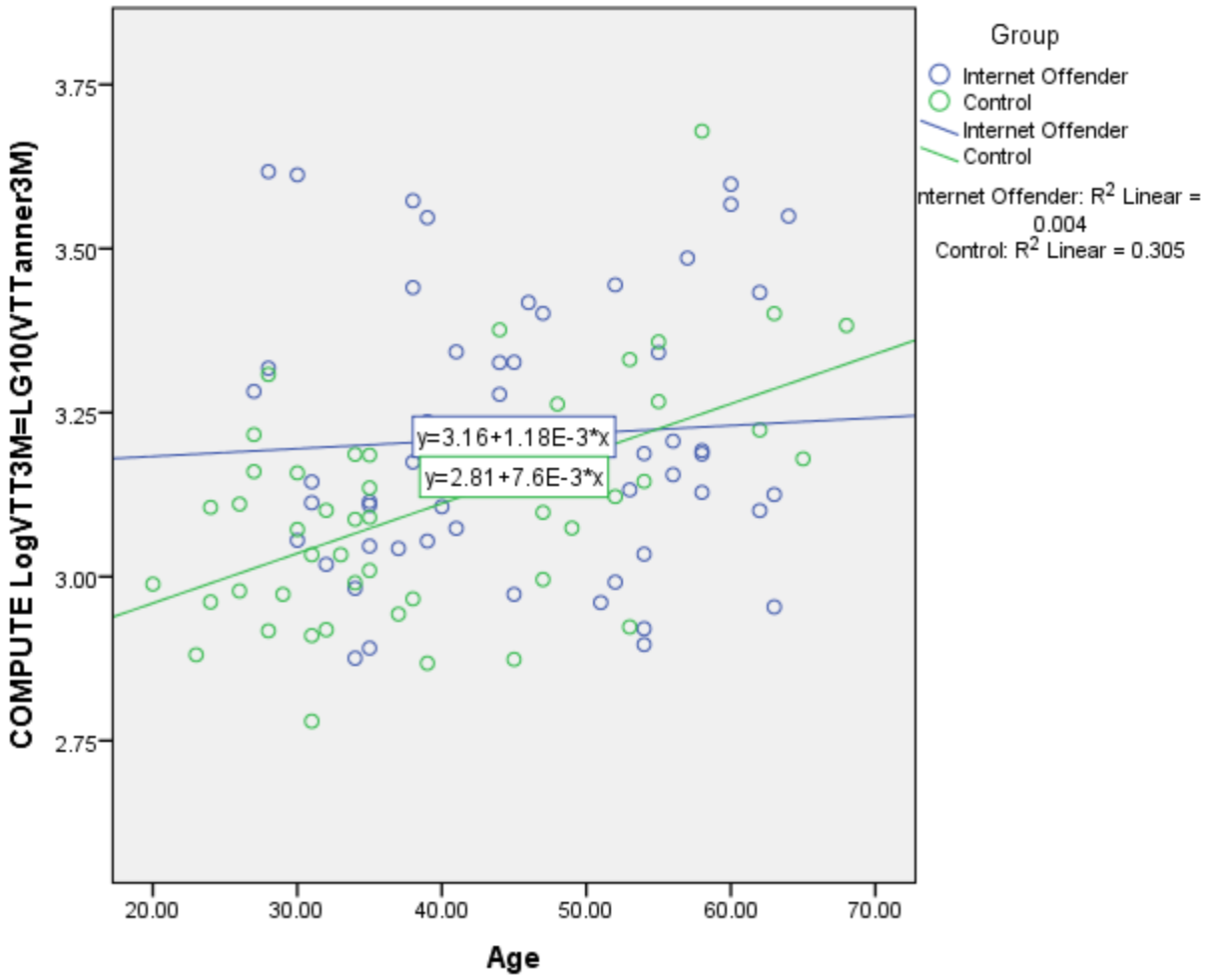
Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	3.218[a]	.026	3.165	3.270
Control	3.119[a]	.027	3.066	3.172

a. Covariates appearing in the model are evaluated at the following values: Age = 42.7157.

Graph


Group
Internet Offender
Control
Internet Offender
Control
nternet Offender: R2 Linear = 9.059E-4
Control: R2 Linear = 0.227
y=3.19+5.49E-4*x
y=2.83+6.84E-3*x
COMPUTE LogVTT1M=LG10(VTTanner1M)
3.75
3.50
3.25
3.00
2.75
20.00
30.00
40.00
50.00
60.00
70.00
Age

Graph


COMPUTE LogVTT3M=LG10(VTTanner3M)
3.75
3.50
3.25
3.00
2.75
20.00
30.00
40.00
50.00
60.00
70.00
Age
y=3.16+1.18E-3*x
y=2.81+7.6E-3*x
Group
Internet Offender
Control
Internet Offender
Control
nternet Offender: R2 Linear = 0.004
Control: R2 Linear = 0.305

Appendix 26 – SPSS output ANCOVA and Kruskal-Wallis-H tests for IATs

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

Dependent Variable: IATWomanGirl

Group	Mean	Std. Deviation	N
Internet Offender	-.3709	.43794	54
Control	-.6157	.39586	51
Total	-.4898	.43381	105

Levene's Test of Equality of Error Variances[a]

Dependent Variable: IATWomanGirl

F	df1	df2	Sig.
.013	1	103	.911

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: IATWomanGirl

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.654[a]	2	.827	4.708	.011	.085
Intercept	2.634	1	2.634	14.993	.000	.128
Age	.083	1	.083	.471	.494	.005
Group	1.329	1	1.329	7.566	.007	.069
Error	17.918	102	.176			
Total	44.762	105				
Corrected Total	19.572	104				

a. R Squared = .085 (Adjusted R Squared = .067)

Estimated Marginal Means

Group

Dependent Variable: IATWomanGirl

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	-.377[a]	.058	-.492	-.263
Control	-.609[a]	.060	-.727	-.491

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

Dependent Variable: IATManBoy

Group	Mean	Std. Deviation	N
Internet Offender	-.1659	.35892	54
Control	-.3145	.33459	51
Total	-.2381	.35361	105

Levene's Test of Equality of Error Variances[a]

Dependent Variable: IATManBoy

F	df1	df2	Sig.
.001	1	103	.973

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: IATManBoy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.642[a]	2	.321	2.648	.076	.049
Intercept	.804	1	.804	6.637	.011	.061
Age	.063	1	.063	.519	.473	.005
Group	.465	1	.465	3.841	.053	.036
Error	12.362	102	.121			
Total	18.957	105				
Corrected Total	13.004	104				

a. R Squared = .049 (Adjusted R Squared = .031)

Estimated Marginal Means

Group

Dependent Variable: IATManBoy

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	-.172[a]	.048	-.267	-.076
Control	-.309[a]	.049	-.407	-.210

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
IATWomanMan	105	-.6045	.46688	-1.36	.73
IATWomanGirl	105	-.4898	.43381	-1.34	.83
IATManBoy	105	-.2381	.35361	-1.31	1.00
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
IATWomanMan	Internet Offender	54	58.36
	Control	51	47.32
	Total	105	
IATWomanGirl	Internet Offender	54	60.74
	Control	51	44.80
	Total	105	
IATManBoy	Internet Offender	54	58.53
	Control	51	47.15
	Total	105	

Test Statistics[a,b]

	IATWomanMan	IATWomanGirl	IATManBoy
Chi-Square	3.446	7.184	3.664
df	1	1	1
Asymp. Sig.	.063	.007	.056

a. Kruskal Wallis Test

b. Grouping Variable: Group

Appendix 27 – SPSS output Kruskal-Wallis-H tests for VT ratings

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
VTRatingT1M	105	.12976	.464459	.000	3.125
VTRatingT2M	105	.16310	.538796	.000	2.875
VTRatingT3M	105	.18095	.587065	.000	3.125
VTRatingT4M	105	.21667	.654879	.000	3.750
VTRatingT5M	105	.15714	.535974	.000	3.500
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
VTRatingT1M	Internet Offender	54	58.67
	Control	51	47.00
	Total	105	
VTRatingT2M	Internet Offender	54	58.67
	Control	51	47.00
	Total	105	
VTRatingT3M	Internet Offender	54	59.17
	Control	51	46.47
	Total	105	
VTRatingT4M	Internet Offender	54	58.69
	Control	51	46.98
	Total	105	
VTRatingT5M	Internet Offender	54	56.35
	Control	51	49.45
	Total	105	

Test Statistics[a,b]

	VTRatingT1M	VTRatingT2M	VTRatingT3M	VTRatingT4M	VTRatingT5M
Chi-Square	12.614	12.613	12.311	9.908	3.637
df	1	1	1	1	1
Asymp. Sig.	.000	.000	.000	.002	.056

a. Kruskal Wallis Test

b. Grouping Variable: Group

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
VTRatingT1F	105	.15952	.466902	.000	3.125
VTRatingT2F	105	.25119	.521040	.000	2.500
VTRatingT3F	105	.30357	.621833	.000	3.250
VTRatingT4F	105	.93690	.809745	.000	3.250
VTRatingT5F	105	1.59762	1.011797	.000	3.625
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
VTRatingT1F	Internet Offender	54	61.97
	Control	51	43.50
	Total	105	
VTRatingT2F	Internet Offender	54	65.75
	Control	51	39.50
	Total	105	
VTRatingT3F	Internet Offender	54	67.20
	Control	51	37.96
	Total	105	
VTRatingT4F	Internet Offender	54	61.84
	Control	51	43.64
	Total	105	
VTRatingT5F	Internet Offender	54	51.36
	Control	51	54.74
	Total	105	

Test Statistics[a,b]

	VTRatingT1F	VTRatingT2F	VTRatingT3F	VTRatingT4F	VTRatingT5F
Chi-Square	21.421	33.028	34.394	9.421	.323
df	1	1	1	1	1
Asymp. Sig.	.000	.000	.000	.002	.570

a. Kruskal Wallis Test

b. Grouping Variable: Group

Appendix 28 – SPSS output Kruskal-Wallis-H tests for ESIQ

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
ESIQMen	105	.1381	.28836	.00	1.00
ESIQWomen	105	.9067	.23050	.00	1.00
ESIQGirlsCleaned	105	.0924	.16967	.00	.50
ESIQBoys	105	.0495	.14286	.00	.80
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
ESIQMen	Internet Offender	54	60.21
	Control	51	45.36
	Total	105	
ESIQWomen	Internet Offender	54	47.06
	Control	51	59.29
	Total	105	
ESIQGirlsCleaned	Internet Offender	54	65.75
	Control	51	39.50
	Total	105	
ESIQBoys	Internet Offender	54	59.69
	Control	51	45.92
	Total	105	

Test Statistics[a,b]

	ESIQMen	ESIQWomen	ESIQGirlsCleaned	ESIQBoys
Chi-Square	10.574	7.016	33.083	13.708
df	1	1	1	1
Asymp. Sig.	.001	.008	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: Group

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
ESIQWomanBeh	105	.9276	.21326	.00	1.00
ESIQManBeh	105	.1486	.33170	.00	1.00
ESIQGirlBehCleaned	105	.0000	.00000	.00	.00
ESIQBoyBeh	105	.0133	.07974	.00	.60
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
ESIQWomanBeh	Internet Offender	54	48.78
	Control	51	57.47
	Total	105	
ESIQManBeh	Internet Offender	54	59.89
	Control	51	45.71
	Total	105	
ESIQGirlBehCleaned	Internet Offender	54	53.00
	Control	51	53.00
	Total	105	
ESIQBoyBeh	Internet Offender	54	54.42
	Control	51	51.50
	Total	105	

Test Statistics[a,b]

	ESIQWomanBeh	ESIQManBeh	ESIQGirlBehCleaned	ESIQBoyBeh
Chi-Square	5.775	11.682	.000	2.888
df	1	1	1	1
Asymp. Sig.	.016	.001	1.000	.089

a. Kruskal Wallis Test

b. Grouping Variable: Group

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
ESIQWomanFant	105	.8876	.27585	.00	1.00
ESIQManFant	105	.1257	.28724	.00	1.00
ESIQGirlFant	105	.1829	.33640	.00	1.00
ESIQBoyFant	105	.0857	.24315	.00	1.00
Group	105	1.4857	.50219	1.00	2.00

Kruskal-Wallis Test

Ranks

	Group	N	Mean Rank
ESIQWomanFant	Internet Offender	54	49.07
	Control	51	57.16
	Total	105	
ESIQManFant	Internet Offender	54	58.29
	Control	51	47.40
	Total	105	
ESIQGirlFant	Internet Offender	54	65.75
	Control	51	39.50
	Total	105	
ESIQBoyFant	Internet Offender	54	59.22
	Control	51	46.41
	Total	105	

Test Statistics[a,b]

	ESIQWomanFant	ESIQManFant	ESIQGirlFant	ESIQBoyFant
Chi-Square	3.661	6.871	33.078	12.541
df	1	1	1	1
Asymp. Sig.	.056	.009	.000	.000

a. Kruskal Wallis Test

b. Grouping Variable: Group

Appendix 29 – SPSS output Kruskal-Wallis-H tests, ANOVA and ANCOVA analyses for deviance indexes

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
ESIQChildVAdultNew	105	-.8305	.24617	-1.00	.20
Group	105	1.4857	.50219	1.00	2.00

Ranks

	Group	N	Mean Rank
ESIQChildVAdultNew	Internet Offender	54	70.40
	Control	51	34.58
	Total	105	

Test Statistics[a,b]

	ESIQChildVAdultNew
Chi-Square	42.564
df	1
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: Group

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
VTDevIndexRecode	105	-1016.6571	2086.79525	-7631.00	12407.00
Group	105	1.4857	.50219	1.00	2.00

Ranks

	Group	N	Mean Rank
VTDevIndexRecode	Internet Offender	54	61.44
	Control	51	44.06
	Total	105	

Test Statistics[a,b]

	VTDevIndexRecode
Chi-Square	8.548
df	1
Asymp. Sig.	.003

a. Kruskal Wallis Test

b. Grouping Variable: Group

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
Group	1.00	Internet Offender	54
	2.00	Control	51

Descriptive Statistics

Dependent Variable: IATRelevant

Group	Mean	Std. Deviation	N
Internet Offender	-.3056	.50641	54
Control	-.6075	.40925	51
Total	-.4522	.48394	105

Levene's Test of Equality of Error Variances[a]

Dependent Variable: IATRelevant

F	df1	df2	Sig.
.698	1	103	.405

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Group

Tests of Between-Subjects Effects

Dependent Variable: IATRelevant

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2.701[a]	2	1.350	6.360	.002	.111
Intercept	3.175	1	3.175	14.955	.000	.128
Age	.310	1	.310	1.461	.230	.014
Group	1.891	1	1.891	8.908	.004	.080
Error	21.656	102	.212			
Total	45.827	105				
Corrected Total	24.357	104				

a. R Squared = .111 (Adjusted R Squared = .093)

Estimated Marginal Means

Group

Dependent Variable: IATRelevant

Group	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Internet Offender	-.318[a]	.064	-.444	-.192
Control	-.594[a]	.065	-.724	-.464

a. Covariates appearing in the model are evaluated at the following values: Age = 42.4952.

Descriptive Statistics

Dependent Variable: VTRatingDevianceIndexRecode

Group	Mean	Std. Deviation	N
Internet Offender	-.78935	1.330835	54
Control	-1.64951	.893735	51
Total	-1.20714	1.213757	105

Tests of Between-Subjects Effects

Dependent Variable: VTRatingDevianceIndexRecode

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	19.406[a]	1	19.406	14.938	.000
Intercept	156.009	1	156.009	120.090	.000
Group	19.406	1	19.406	14.938	.000
Error	133.808	103	1.299		
Total	306.219	105			
Corrected Total	153.213	104			

a. R Squared = .127 (Adjusted R Squared = .118)

Appendix 30 – SPSS output for Binary Logistic Regression

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	105	100.0
	Missing Cases	0	.0
	Total	105	100.0
Unselected Cases		0	.0
Total		105	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Control	0
Internet Offender	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 0	RecodeGroup	Control	0	51	.0
		Internet Offender	0	54	100.0
	Overall Percentage				51.4

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.057	.195	.086	1	.770	1.059

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	VTDevIndexRecode	4.239	1	.039
		IATRelevant	10.305	1	.001
	Overall Statistics		12.294	2	.002

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	13.789	2	.001
	Block	13.789	2	.001
	Model	13.789	2	.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	131.686[a]	.123	.164

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	3.652	8	.887

Contingency Table for Hosmer and Lemeshow Test

		RecodeGroup = Control		RecodeGroup = Internet Offender		
		Observed	Expected	Observed	Expected	Total
Step 1	1	8	8.233	3	2.767	11
	2	9	7.502	2	3.498	11
	3	5	6.617	6	4.383	11
	4	5	6.060	6	4.940	11
	5	7	5.640	4	5.360	11
	6	5	5.234	6	5.766	11
	7	5	4.547	6	6.453	11
	8	4	3.780	7	7.220	11
	9	2	2.744	9	8.256	11
	10	1	.643	5	5.357	6

Classification Table[a]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 1	RecodeGroup	Control	32	19	62.7

	Internet Offender	21	33	61.1
	Overall Percentage			61.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	VTDevIndexRecode	.000	.000	2.534	1	.111	1.000	1.000	1.000
	IATRelevant	1.382	.497	7.750	1	.005	3.985	1.506	10.546
	Constant	.930	.349	7.101	1	.008	2.534		

a. Variable(s) entered on step 1: VTDevIndexRecode, IATRelevant.

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	105	100.0
	Missing Cases	0	.0
	Total	105	100.0
Unselected Cases		0	.0
Total		105	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Control	0
Internet Offender	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 0	RecodeGroup	Control	0	51	.0
		Internet Offender	0	54	100.0
	Overall Percentage				51.4

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.057	.195	.086	1	.770	1.059

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	ESIQChildVAdultNew	34.275	1	.000
		VTRatingDevianceIndexRecode	13.299	1	.000
	Overall Statistics		34.456	2	.000

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	52.952	2	.000
	Block	52.952	2	.000
	Model	52.952	2	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	92.523[a]	.396	.528

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	6.147	7	.523

Contingency Table for Hosmer and Lemeshow Test

		RecodeGroup = Control		RecodeGroup = Internet Offender		
		Observed	Expected	Observed	Expected	Total
Step 1	1	9	9.443	3	2.557	12
	2	10	9.291	2	2.709	12
	3	9	9.924	4	3.076	13
	4	10	9.033	2	2.967	12
	5	7	7.004	4	3.996	11

	6	5	4.369	6	6.631	11
	7	0	1.669	11	9.331	11
	8	1	.218	11	11.782	12
	9	0	.049	11	10.951	11

Classification Table[a]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 1	RecodeGroup	Control	44	7	86.3
		Internet Offender	14	40	74.1
	Overall Percentage				80.0

a. The cut value is .500

Variables in the Equation

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	ESIQChildVAdultNew	11.420	2.824	16.352	1	.000	91107.093	359.541	23086363.493
	VTRatingDevianceIndexRecode	.099	.280	.124	1	.725	1.104	.637	1.912
	Constant	10.405	2.570	16.393	1	.000	33029.729		

a. Variable(s) entered on step 1: ESIQChildVAdultNew, VTRatingDevianceIndexRecode.

Logistic Regression

Case Processing Summary

Unweighted Cases[a]		N	Percent
Selected Cases	Included in Analysis	105	100.0
	Missing Cases	0	.0
	Total	105	100.0
Unselected Cases		0	.0
Total		105	100.0

a. If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
Control	0
Internet Offender	1

Block 0: Beginning Block

Classification Table[a,b]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 0	RecodeGroup	Control	0	51	.0
		Internet Offender	0	54	100.0
	Overall Percentage				51.4

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	.057	.195	.086	1	.770	1.059

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	IATRelevant	10.305	1	.001
	Overall Statistics		10.305	1	.001

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	10.949	1	.001
	Block	10.949	1	.001
	Model	10.949	1	.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	134.526[a]	.099	.132

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 1	RecodeGroup	Control	30	21	58.8
		Internet Offender	21	33	61.1
	Overall Percentage				60.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	IATRelevant	1.469	.483	9.264	1	.002	4.345
	Constant	.741	.311	5.685	1	.017	2.097

a. Variable(s) entered on step 1: IATRelevant.

Block 2: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	2.840	1	.092
	Block	2.840	1	.092
	Model	13.789	2	.001

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	131.686[a]	.123	.164

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 1	RecodeGroup	Control	32	19	62.7
		Internet Offender	21	33	61.1
	Overall Percentage				61.9

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	IATRelevant	1.382	.497	7.750	1	.005	3.985
	VTDevIndexRecode	.000	.000	2.534	1	.111	1.000
	Constant	.930	.349	7.101	1	.008	2.534

a. Variable(s) entered on step 1: VTDevIndexRecode.

Block 3: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	7.086	1	.008
	Block	7.086	1	.008
	Model	20.875	3	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	124.600[a]	.180	.240

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table[a]

			Predicted		
			RecodeGroup		
	Observed		Control	Internet Offender	Percentage Correct
Step 1	RecodeGroup	Control	29	22	56.9
		Internet Offender	19	35	64.8
	Overall Percentage				61.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	IATRelevant	1.027	.534	3.704	1	.054	2.794
	VTDevIndexRecode	.000	.000	2.052	1	.152	1.000
	VTRatingDevianceIndexRecode	.558	.219	6.478	1	.011	1.747
	Constant	1.476	.450	10.740	1	.001	4.375

a. Variable(s) entered on step 1: VTRatingDevianceIndexRecode.

Block 4: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	32.735	1	.000
	Block	32.735	1	.000
	Model	53.609	4	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	91.866[a]	.400	.533

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Classification Table[a]

Observed			Predicted		
			RecodeGroup		
			Control	Internet Offender	Percentage Correct
Step 1	RecodeGroup	Control	45	6	88.2
		Internet Offender	15	39	72.2
	Overall Percentage				80.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	IATRelevant	.413	.619	.445	1	.504	1.512
	VTDevIndexRecode	.000	.000	.114	1	.736	1.000
	VTRatingDevianceIndexRecode	.064	.289	.049	1	.824	1.066
	ESIQChildVAdultNew	10.986	2.840	14.964	1	.000	59063.231
	Constant	10.237	2.548	16.147	1	.000	27913.665

a. Variable(s) entered on step 1: ESIQChildVAdultNew.

Appendix 31 – SPSS output correlations between deviance indexes and the amount of time since viewing IIOC

Nonparametric Correlations

Correlations

			IOsLastViewedCP	VTDevIndexRecode
Spearman's rho	IOsLastViewedCP	Correlation Coefficient	1.000	-.179
		Sig. (2-tailed)	.	.210
		N	51	51
	VTDevIndexRecode	Correlation Coefficient	-.179	1.000
		Sig. (2-tailed)	.210	.
		N	51	105

Nonparametric Correlations

Correlations

			IOsLastViewedCP	ESIQChildVAdultNew
Spearman's rho	IOsLastViewedCP	Correlation Coefficient	1.000	-.141
		Sig. (2-tailed)	.	.324
		N	51	51
	ESIQChildVAdultNew	Correlation Coefficient	-.141	1.000
		Sig. (2-tailed)	.324	.
		N	51	105

Nonparametric Correlations

Correlations

			IOsLastViewedCP	IATRelevant
Spearman's rho	IOsLastViewedCP	Correlation Coefficient	1.000	-.171
		Sig. (2-tailed)	.	.229
		N	51	51
	IATRelevant	Correlation Coefficient	-.171	1.000
		Sig. (2-tailed)	.229	.
		N	51	105

Nonparametric Correlations

Correlations

			IOsLastViewedCP	VTRatingDevianceIndexRecode
Spearman's rho	IOsLastViewedCP	Correlation Coefficient	1.000	-.141
		Sig. (2-tailed)	.	.325
		N	51	51
	VTRatingDevianceIndexRecode	Correlation Coefficient	-.141	1.000
		Sig. (2-tailed)	.325	.
		N	51	105

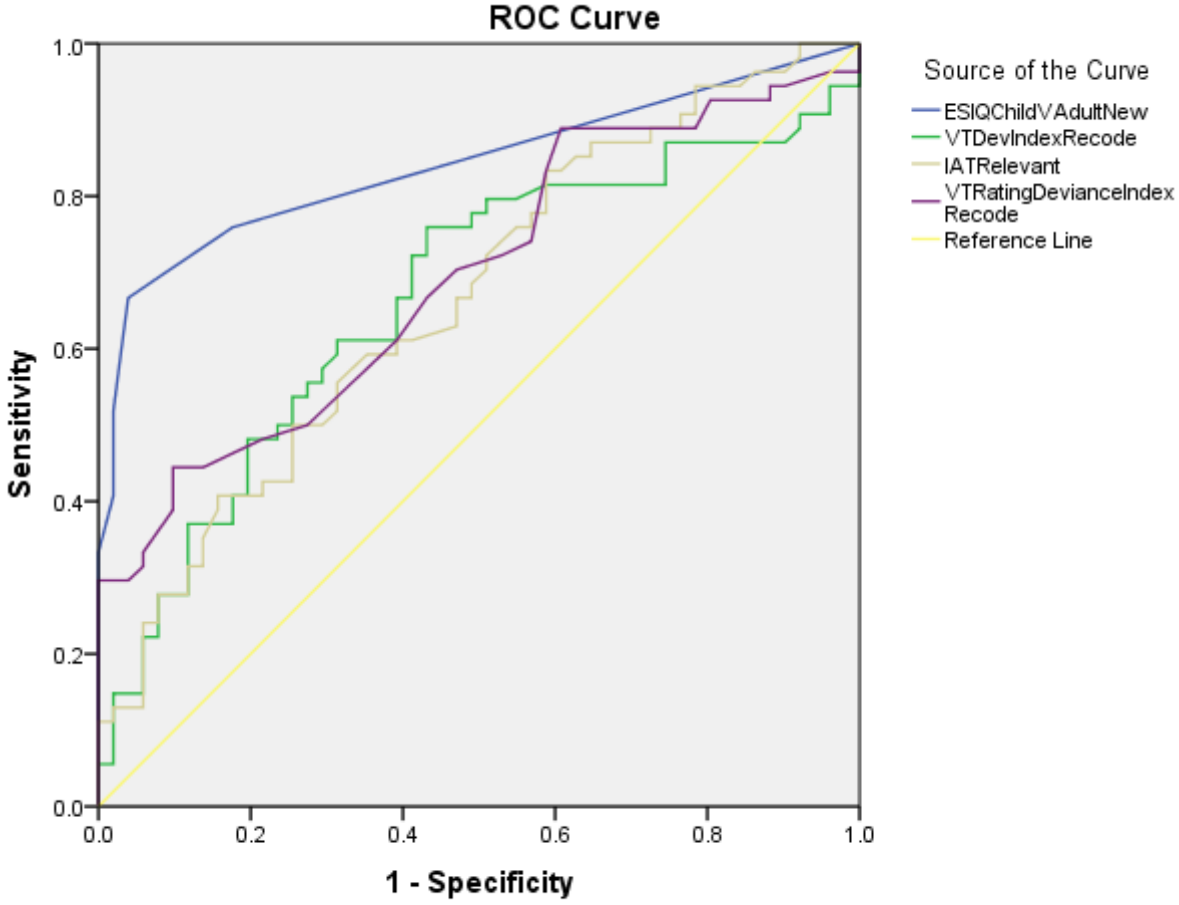
Appendix 32 – SPSS output ROC analyses for deviance indexes

Case Processing Summary

RecodeGroup	Valid N (listwise)
Positive[a]	54
Negative	51

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is Internet Offender.



Diagonal segments are produced by ties.

Area Under the Curve

Test Result Variable(s)	Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
				Lower Bound	Upper Bound
ESIQChildVAdultNew	.841	.040	.000	.762	.920
VTDevIndexRecode	.666	.054	.003	.560	.771
IATRelevant	.667	.052	.003	.564	.769
VTRatingDevianceIndexRecode	.694	.051	.001	.594	.794

The test result variable(s): ESIQChildVAdultNew, VTDevIndexRecode, IATRelevant, VTRatingDevianceIndexRecode has at least one tie between the positive actual state group and the negative actual state group. Statistics may be biased.

a. Under the nonparametric assumption

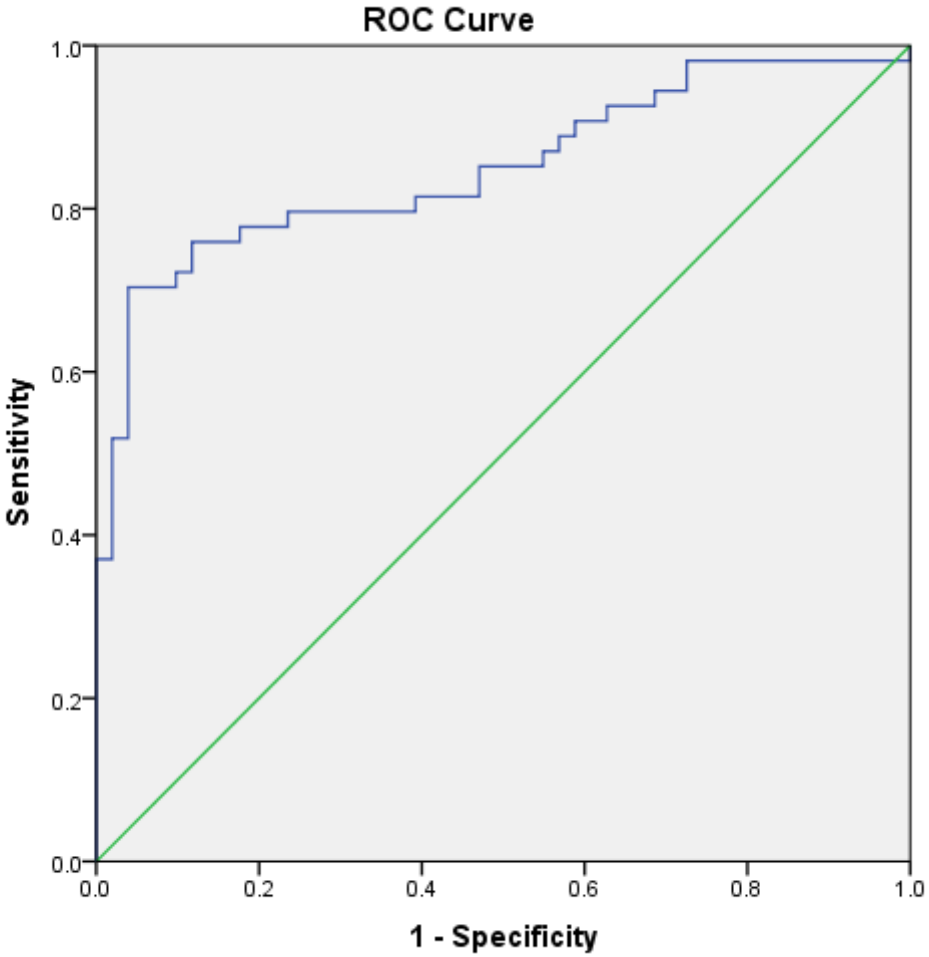
b. Null hypothesis: true area = 0.5

Case Processing Summary

RecodeGroup	Valid N (listwise)
Positive[a]	54
Negative	51

Larger values of the test result variable(s) indicate stronger evidence for a positive actual state.

a. The positive actual state is Internet Offender.



Area Under the Curve

Test Result Variable(s): Predicted probability

Area	Std. Error[a]	Asymptotic Sig.[b]	Asymptotic 95% Confidence Interval	
			Lower Bound	Upper Bound
.850	.039	.000	.774	.926

a. Under the nonparametric assumption

b. Null hypothesis: true area = 0.5

Appendix 33 – Information from the Sentencing Guidelines Council (2007) Sexual Offences Act (2003) Definitive Guidelines. Part 6A.2

6A.2 The levels for sentencing of offences involving pornographic images were established in the case of R v Oliver, Hartrey and Baldwin.[7] These Levels have been reviewed in terms of the nature of the images falling into each level:

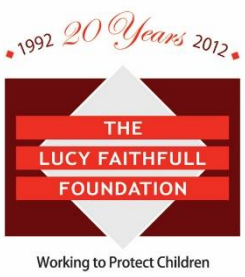
- Images depicting non-penetrative activity are less serious than images depicting penetrative activity.
- Images of non-penetrative activity between children are generally less serious than images depicting non-penetrative activity between adults and children.
- All acts falling within the definitions of rape and assault by penetration, which carry the maximum life penalty, should be classified as level 4.

The levels of seriousness (in ascending order) for sentencing for offences involving pornographic images are:	
Level 1	Images depicting erotic posing with no sexual activity
Level 2	Non-penetrative sexual activity between children, or solo masturbation by a child
Level 3	Non-penetrative sexual activity between adults and children
Level 4	Penetrative sexual activity involving a child or children, or both children and adults
Level 5	Sadism or penetration of, or by, an animal
Offences involving any form of sexual penetration of the vagina or anus, or penile penetration of the mouth (except where they involve sadism or intercourse with an animal, which fall within level 5), should be classified as activity at level 4	

[7] [2003] 2 Cr App R(S) 15

Appendix 34 – Case study consent form





CONSENT TO PARTICIPATE IN CASE STUDY

If you are happy to volunteer to take part in the case study then please read and tick the boxes below, and sign and date the form. In signing the form it means you understand that you have voluntarily agreed to take part in the research.

I have read and understood the information sheet and been given the opportunity to ask questions ☐

I understand that my participation in this case study is voluntary ☐

I understand that I may withdraw from the case study at any time ☐

I understand that all data will be anonymous and my identity will be kept confidential, with the exception of disclosed criminal offences that are not know about and the disclosure of potential risk to another person or to myself. ☐

I understand that the case study may be published in an academic journal but that no information will be published that could identify me as an individual. Data will be kept for 7 years after the case study has been published. ☐

I understand that relevant data collected in the case study may be looked at by authorised individuals from the University of Nottingham and the researcher's supervisor. ☐

I understand that the interview may be recorded and that anonymous direct quotes from the interview may be used in the write-up of the case study ☐

Participant

I wish to take part in this case study

Name (printed)……

Signed …….. Date ……

Researcher

Name (printed) ……..

Signed …… Date ……..

Appendix 35 – Table of the length of the assessment and intervention sessions with R

Type of session	Date of session	Length of session	Session focus
Assessment session 1	6th January 2014	2.75 hours	Clinical interview – personal history
Assessment session 2	22nd January 2014	2.75 hours	Offence interview Psychometric tests
Intervention session 1	4th February 2014	2.00 hours	Formulation review Offence analysis
Intervention session 2	17th February 2014	1.50 hours	Offence analysis
Intervention session 3	24th February 2014	1.75 hours	Fantasy in offending
Intervention session 4	4th March 2014	1.75 hours	Fantasy management Problematic Internet use
Intervention session 5	11th March 2014	2.00 hours	Disclosure Attachment and relationships
Intervention session 6	25th March 2014	1.50 hours	Victim Empathy
Intervention session 7	25th March 2014	1.50 hours	Relapse Prevention
Intervention session 8	25th March 2014	1.50 hours	Relapse Prevention
Follow-up session	14th April 2014	1.50 hours	Follow-up – including psychometrics

Appendix 36 – RM2000/S

20. RISK MATRIX 2000 SCORING FORM

Offender Identification Information	Scorer Identification Information
Family Name	Family Name
Forenames	Forenames
Date of Birth	Date RM2000 Completed
Identification Number	

RM2000/S Scale – Risk for Sexual Recidivism

Step One: Scoring Risk Factors

Circle the number of points that apply for each risk factor

Age	18-24 = 2 points; 25-34 = 1 point; Older = 0 points
Sexual Appearances	1 = 0 points; 2 = 1 point; 3,4 = 2 points; 5+ = 3 points
Criminal Appearances	4 or less = 0 points; 5 or more = 1 point

Step One: Categorization

Circle the total number of points from the previous table, and the corresponding Category and Label.

Points	Category	Label
0	I	Low
1-2	II	Medium
3-4	III	High
5-6	IV	Very High

Step Two: Aggravating Factors

Circle the number of points that apply for each aggravating factor.

Male Victim of Sex Offense	No = 0 points; Yes = 1 point
Stranger Victim of Sex Offense	No = 0 points; Yes = 1 point
Single (Never in Marital Type Relationship)	No = 0 points; Yes = 1 point
Non- Contact Sex Offence	No = 0 points; Yes = 1 point

Step Two: Revised Risk Category

Put the risk category up one (e.g. from I to II or from II to III, or from III to IV) if two or three aggravating factors apply, and up two categories (e.g. from I to III, or from II to IV) if four aggravating factors apply. Circle the Revised Risk Category and Label.

Revised Risk Category	I	II	III	IV
Label	Low	Medium	High	Very High

Appendix 37 - Descriptions of Psychometric Measures

1. Paulhus Deception Scale (Paulhus, 1997)

The Paulhus Deception Scale is a measure of validity and examines if the validity of the respondent's answers are questionable. The measure contains two subscales: Impression Management and Self-Deceptive Enhancement. Impression management refers to the respondent's tendency to answer questions in a way that illustrates them in a more favourable light. Self-Deceptive Enhancement refers to whether the respondent is able to be honest with themselves and high scores may indicate rigid overconfidence. The measure contains 40 items scored on a 5-point scale of 1 (not true) to 5 (very true). The author reported high internal validity (alpha = .85).

2. Self-Esteem (Thornton, 1989; Webster, Mann, Thornton & Wakeling, 2006)

This is an eight item questionnaire measuring how the respondent feels about themselves. The questions are answered on a yes/no basis. Webster et al. (2006) report high internal reliability (alpha = 0.84) and test-retest reliability of .90 in a sample of 30 sexual offenders. These questions were incorporated into the Locus of Control measure.

3. Social Response Inventory (Keltner, Marshall & Marshall, 1980)

This questionnaire measures assertiveness in a number of different situations. It holds two scales, under-assertiveness and over-assertiveness. Respondents are given a short scenario and five responses. Respondents are asked to indicate which response they would be likely to display in the given situation. 22

situations are presented with a response range from very unassertive (-2) to very over-assertive (+2). The measure gives scores for both under and over-assertiveness, as well as a total score. Marshall reports a concordance rate of 100 per cent when judges were asked to rank to responses in relation to level of assertiveness. A test-retest reliability of .80 has been reported for the under-assertiveness scale.

4. UCLA Loneliness scale (Russell, Peplau & Cutrona, 1980)

The measure looks at the respondent's level of social loneliness in everyday life and ability to be appropriately intimate with other adults. It holds 20 items and the authors report high internal consistency (alpha = .94) and test-retest reliability of .70. Items are scored on a 4-point scale from 1 (Never) to 4 (Often).

5. Nowicki-Strickland Locus of Control (Nowicki & Duke, 1974)

This measures looks at the extent to which the respondent feels that events in life are caused by external factors and therefore cannot be controlled. The measure consists of 40 items, scored on a yes/no basis i.e. 'some people are just born lucky'. Nowicki reported internal consistency of .69. This measure also included the eight Self-Esteem items, giving the measure a total of 48 items.

6. Barratt Impulsivity Scale (Barrett, 1994)

This measures a respondent's general level of impulsivity. It hold three subscales; motor impulsivity, cognitive impulsivity and non-planning impulsivity. Motor impulsivity refers to the respondent's tendency to act without thinking. Cognitive impulsivity refers to the respondent's tendency to be able to think

before decision making. Non-planning impulsivity refers to the respondent's ability to plan their actions. The scale contains 30 items, scored on a 4-point scale from 1 (rarely or never applies to me) to 4 (almost always or always applies to me). High internal consistency (.79 to .83) has been reported.

7. Victim Distortions Scale (Beckett & Fisher, 1994)

The measures looks at whether the respondent understands the impact of their offending behaviour from the victim's view point. The measure has 28 items, scored on a 4-point scale, relating to whether the victim enjoyed what happened, encouraged it, the victim's ability to stop the offence and whether the victim was harmed by the offence. The authors report high internal reliability (alpha = .90). The measure is filled out by the respondent in relation to their own victim.

8. Children and Sex (Beckett, 1987)

This scale measures the extent that the respondent hold beliefs that children are able to consent to sexually contact with adults and are sexually sophisticated (Cognitive Distortions subscale) and the extent to which the respondent is 'emotionally fixated' on children or feel they have an emotional connection to children (Emotional Congruence subscale). The measure contains 87 items, but with 30 items relating to the subscales (15 for each subscale). Items are scored on a 4-point scale from 1 (very untrue) to 4 (very true). High internal consistency (alpha = .90) and test-retest reliability of .77 in untreated child molesters for the Cognitive Distortions subscales, and .63 for the Emotional Congruence subscale, have been reported.

9. Internet Behaviours and Attitudes Questionnaire (O'Brien & Webster, 2007)

The measure was developed for the IIOC offender population. Only the attitude items were used for the case study. The attitudes section of the measure contains two subscale; self-management and distorted thinking. The attitudes section contains 34 items, scored on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree).

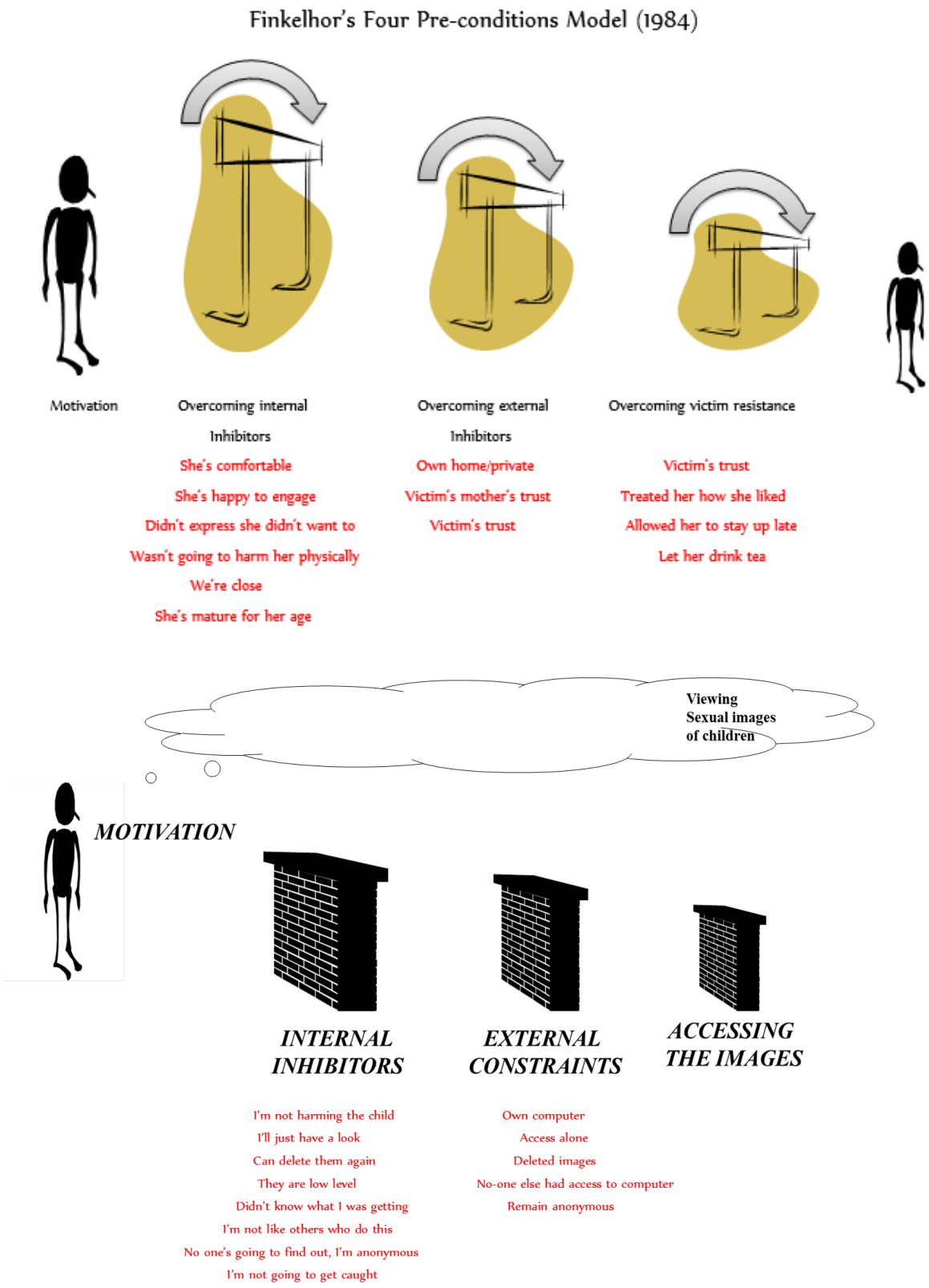
10. Relationship Questionnaire (Bartholomew & Horowitz, 1991)

This questionnaire asks respondents to endorse one of four statements related to differing attachment styles.

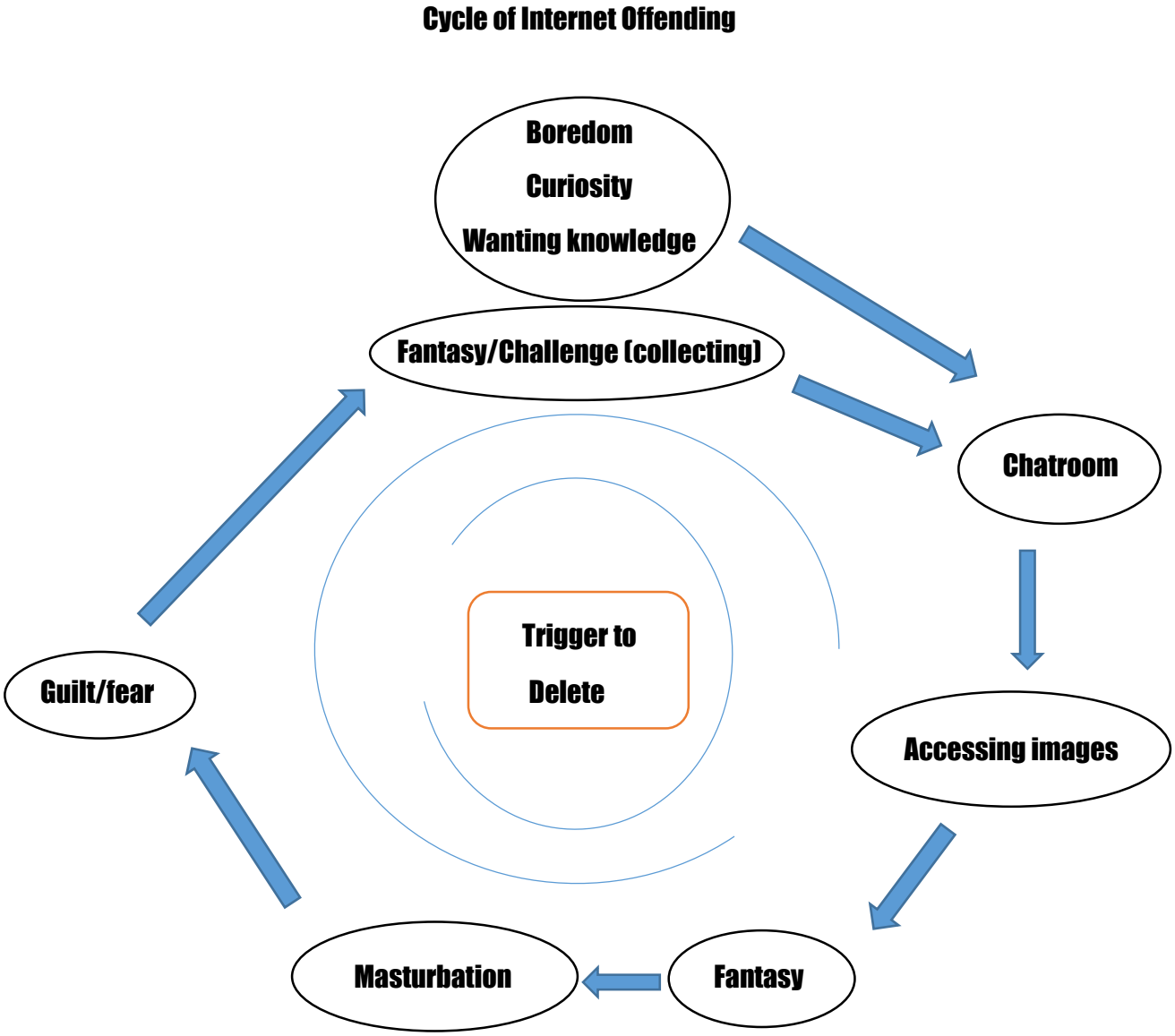
11. Toronto Alexithymia Scale (Taylor, Bagby & Parker, 1992)

The TAS-20 is a 20 item measure examining the extent to which the respondent can recognise and label their emotions, as well as how important they feel their emotions are. Items are scored on a 5-point scale of 1 (strongly disagree) to 5 (strongly agree). Respondents are categorised as 'high alexithymia' or 'low alexithymia'. The authors report reliability of .77.

Appendix 38 – R's completed Finkelhor (1984) in reference to his own offences



Appendix 39 – R's cycle of offending for his own Internet offences



Appendix 40 – R's completed Pathway Model exercise and Self-Regulation Model exercise

Pathways to Offending (Ward and Siegert, 2002)

Chosen cards and their associated pathway

Intimacy Deficits → Lack of intimate/close relationships with adults, low self-esteem, social isolation, rejection

Distorted sexual scripts → Sexual arousal to thoughts/fantasies about children, inappropriate sexual behaviour (including on the Internet) early in sexual development

Emotional dysregulation → Difficulty talking about emotions, trying to avoid getting emotional, when I offended I acted without thinking

Anti-social cognitions → Beliefs that children are not harmed by sexual contact

Most prominent pathway = Intimacy deficits

Emotional dysregulation impacted Intimacy deficits, rather than the offending directly.

Self-Regulation Model (Ward and Hudson, 1998)

Avoidant-passive

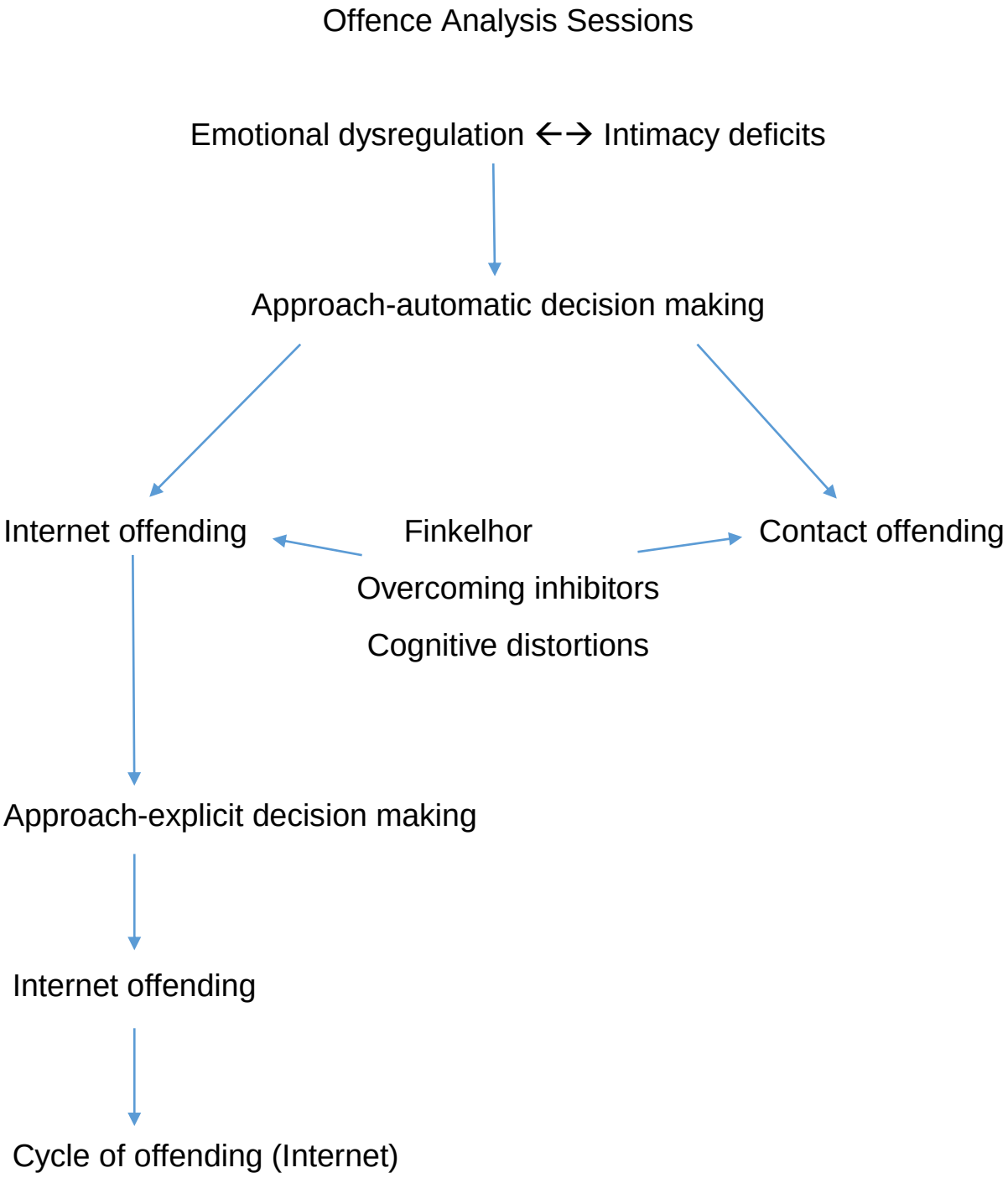
Avoidant-active

Approach-automatic → contact offending as wanted to offend but did not plan to do so or set up situation, took opportunity when it arose. Internet offending started as this.

Approach-explicit → Started the cycle of Internet offending, offending became this decision as would go onto the Internet to look at images and wanted to do that.

Would now be avoidant…

Appendix 41 – R's completed offence process model



Appendix 42 - R's completed footsteps personal work

Key footsteps	Situation	Actions	Thoughts	Feelings	Behaviour
Step 1	Looking for pornography online	Browsing the Internet to occupy myself	Was bored and thought this may be interesting	Inquisitive, curious, bored, interested	Looked at legal pornography, masturbated
Step 2	Found story website while looking for porn	Explored story sites and found child related stories	Mixed feelings, disgust etc., but lead to curiosity and continued to look	As per thoughts, but found them exciting and interesting	Fantasy/ masturbation. Spent many hours looking through the site
Step 3	Finding picture trading chat rooms in chat program	Started to trade pictures in the chat rooms	Feelings from the stories came back but were enhanced with the extra content of the image rather than just text	Same as thoughts	As above, but trading pictures
Step 4	Deleting pictures	Realised that the collection and the behaviour was wrong. Deleted them all	Knew it was illegal, decided to put a stop to it	Guilt, fear of being caught, disgust with self	Deleted all content from computer
Step 5	Babysitting (victim)	Made her feel comfortable, played massage games	Wanted to make her feel comfortable, wanted massages in return	Not necessarily aroused, but felt good and comfortable	Pushed boundaries to offence
Step 6	Stumbled upon low level images on social photo website	Looked through the users entire collection of his children	Didn't think it was illegal, as they were clothed, and no harm involved	Liked looking through them, check daily for new ones	Masturbated, looked on site daily

Appendix 43 – R's completed disclosure exercise

Disclosure

Who? → Need to know i.e. partners, people where you have contact with their children
Want to know i.e. other family, friends

Why? → Not keeping something important hidden
Hearing it from me – I have control over the information given
So they can make their own decision as to whether they wish to remain in contact
For support

How? → Call them and tell them you have something important you want to talk to them about and it's not good news

Where? → Somewhere neutral, comfortable and quiet

When? → When they have enough time
Not when they are stressed

What? → Rehearsal
State the charges – be to the point, not too much detail but don't fudge the issue
Taking responsibility for my actions – remorse
Have addressed the behaviour – have not re-offended
Don't minimise
No expectations of them

Need to be prepared to go with the flow, for whatever reaction they may have.

Appendix 44 – Defining empathy exercise

