



Child pornography possession/receipt offenders: developing a forensic profile

Michael J. Elbert^a, Alan J. Drury^a and Matt DeLisi^b 

^aUnited States Probation, Southern District of Iowa, Des Moines, IA, USA; ^bDepartment of Sociology and Criminal Justice, Iowa State University, Ames, IA, USA

Child pornography possession/receipt offenders are a controversial offender group due to mixed and occasionally divergent evidence about their risk profile, offending history and psychopathology. Using a population of male offenders who ever perpetrated a sexual offense from a federal jurisdiction in the central United States, the current study developed an exploratory post hoc empirical profile of these offenders. The profile has some success in the validation component of our study and showed significant associations with self-reported sexual abuse of child victims ages 3–12 years, but non-significant associations to adolescent and adult victims. It significantly linked to the conceptually expected victim group and the significant statistical effect withstood controls for generally robust indicators of antisocial conduct including antisocial personality disorder, arrest onset, total adverse childhood experiences, age and race. We view the findings as exploratory and encourage additional empirical study of this important offender group.

Key words: child pornography; forensic science; paraphilic disorder; sex offender; violence.

Introduction

Child pornography possession/receipt offenders present tremendous difficulties in terms of their behavioral risk and forensic profile. On one hand, possessing/receiving child pornographic material is a behavior that is often rationalized as more voyeuristic in nature and seemingly less dangerous than crimes involving sexual exploitation, production of child pornography, attempts to physically contact potential victims or sexual assault (Clevenger et al., 2016; T. H. Cohen &

Spidell, 2016; Magaletta et al., 2014; Seto & Eke, 2005; Seto et al., 2012). The notion that child pornography possession/receipt cases are lower risk is solidified further by some if the offender has no official criminal history.¹ On the other hand, the apparent low-risk profile of child pornography/receipt offenders can also be a façade that obscures severe offending behaviors and exceptional risk, including murder, as seen in the case of David Renz. In 2013, Renz was on federal pretrial supervision pending his trial for child pornography

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

Correspondence: Matt DeLisi, Iowa State University, 510 Farm House Lane, 203A East Hall, Ames, Iowa 50011, USA. Email: delisi@iastate.edu

¹The substitution hypothesis asserts that some offenders substitute the use of pornography to satisfy their sexual interests, but do not engage in actual offending. Although a plausible hypothesis, prior research indicates it is rare. A study of a police sample and clinical sample of sexual offenders reported that just 6% of offenders in both samples reported that they consumed child pornography as a substitute for contact offending (Seto et al., 2010).

possession when he removed his electronic monitoring device and perpetrated the crimes of murder of an adult female and predatory sexual assault against the murder victim's child. Although incidents such as the Renz case are extremely rare, they vividly illustrate the complexities and challenges of child pornography possession/receipt offenders.

Several studies employing diverse data sources and analytical techniques similarly reveal the complexities of child pornography possession/receipt offenders (Henshaw et al., 2017; Magaletta et al., 2014; Seto et al., 2012; Wolak & Finkelhor, 2013). Clevenger et al. (2016) analyzed data from the National Juvenile Online Victimization Study and compared offenders charged with sexual exploitation of a minor, child pornography possession, or child pornography production or distribution on a variety of demographic and offending outcomes. At the bivariate level, child pornography possession offenders were older and had the most severe risk profile. Specifically, Clevenger et al. found that child pornography possession clients were significantly older (77.2% were age 50 years or older compared to 16.7% for sexual exploitation of a minor and 6.1% for child pornography production or distribution) and were more likely to have prior arrests for sexual offenses (61.1% compared to 29% for sexual exploitation of a minor and 9.9% for child pornography production or distribution). They were more likely to have previous use of violence (59.8% compared to 24% for sexual exploitation of a minor and 16.1% for child pornography production or distribution), and were more likely to have substance abuse problems at the time of their current offense (51.9% compared to 34.4% for sexual exploitation of a minor and 13.8% for child pornography production or distribution). In multivariate models, older age and previous use of violence were significantly associated with child pornography possession cases, whereas older age, previous use of violence, substance abuse problems and lived with minor child were

significantly associated with child pornography production or distribution cases.

Seto et al. (2011) performed a meta-analysis of 21 studies involving 4464 online sexual offenders and found that one in eight had a known contact sexual offense at the time of their most recent conviction. Moreover, among studies that also had self-reported sexual history data, 55% of online sexual offenders admitted to perpetrating a prior contact sexual offense. In another quantitative review, Babchishin et al. (2015) compared online child pornography-only offenders to offenders with evidence of both online and contact sexual offenses against children. Online-only offenders had greater likelihood of any paraphilic disorder, pedophilia and pedohebephilia (attraction to pre- and post-pubescent children), had greater internet preoccupation, were more callous and were less likely to live with a partner. These offenders also had more problems with their sex life, had lower sexual regulation, had higher sexual preoccupation, had lower self-esteem, were less assertive, had more social deficits and had more negative social influences.

T. H. Cohen and Spidell (2016) examined 7416 male federal sex offenders from all 94 federal districts released from federal prison between 2007 and 2013. Nearly one in four child pornography offenders had official evidence of prior contact sexual behavior, and 12% had a prior arrest for sexual assault or sexual exploitation. Relative to other sexual offenders, child pornography offenders had less criminal history, higher socioeconomic functioning, fewer substance problems and greater social support, and 97% of child pornography offenders were rated as low or low/moderate risk on the Post-Conviction Risk Assessment (PCRA). Recently, Smith (2020) analyzed data from federal child pornography possession cases in the northeastern United States and found that nearly 55% divulged a contact sexual offense against a minor, and nearly 40% admitted having two or more victims. Nearly one in 10 child pornography

possession clients divulged 10 or more child victims. Moreover, Smith found that nearly 59% of clients viewed pornography before their first hands-on victimization, and nearly one in four viewed child pornography before their first sexual assault of a child. These findings were substantively similar to other research on sexual offenders showing that a majority of them had prior contact victims and/or that child pornography possession/receipt cases commonly also had contact sexual abuse victims (cf. Bourke & Hernandez, 2009; DeLisi et al., 2016; Drury et al., 2020; McCarthy, 2010; Scurich & John, 2019; Seto & Eke, 2005; Wolak et al., 2011).

Current aim

There is mixed evidence about the offending history and risk of child pornography possession/receipt offenders, and a basic forensic profile of these offenders is lacking.² Here, we develop multivariate models to explore the association of paraphilic disorders, prior sexual offending, arrest onset, sexual abuse experiences and age to child pornography possession/receipt offending. Based on these exploratory results, we develop a post hoc child pornography possession/receipt profile and validate it by measuring its association to three forms of self-reported sexual offending involving children, adolescents or adult victims.

Method

Participants and procedures

The current data are a population of 216 male federal offenders who ever perpetrated a sexual offense selected from a federal jurisdiction in the central United States between 2016 and 2020. The descriptive profile of sexual offenders in this jurisdiction is 46.6 years old, 82.6% white, 17.4% African American and 4.2% Hispanic. Nearly 70% of the offenders

were low risk (40%) or low–moderate risk (29.76%) on the federal Post-Conviction Risk Assessment (PCRA), with 22.9% moderate and 7.3% high risk. The PCRA has demonstrated predictive validity with a variety of federal offenders (T. H. Cohen et al., 2016; DeLisi et al., 2018; Luallen et al., 2016), including those who have perpetrated sexual offenses (T. H. Cohen, 2018; T. H. Cohen & Spidell, 2016), although results are more equivocal with sexual offenders with child pornography charges (T. H. Cohen, 2018). These offenders are comparable to the current population profile in this jurisdiction by sex (population is 88% male and 12% female) but disproportionately white (population is 44% white, 21% black, 33% Hispanic). The most common instant or current commitment offenses were in descending order: possession or receipt of child pornography (47.2%), Sex Offender Registration and Notification Act (SORNA; 17.6%), distribution of child pornography (11.1%), various firearms offenses (10.6%), various drug trafficking offenses (6.9%), attempt to induce or entice minor for sexual activity (4.2%), sexual trafficking (0.9%) and sexual abuse (0.9%).

Data collection involved two procedures. First, all data in the client's Probation/Pretrial Services Automated Case Tracking System (PACTS), which is the case management platform used in all 94 federal districts, were electronically extracted and converted to an Excel spreadsheet. The electronic extraction contained information on a variety of variables including demographics, commitment offense, case information, conditions, PCRA and assorted biographical information. Second, the senior author manually extracted information on dozens of variables from the client's presentence investigation report (PSR), offender dossiers from the Bureau of Prisons, psychological and psychiatric reports, treatment reports, criminal career indicators and self-reported sexual history reports. We used Excel for data entry and Stata 12.1 for data analysis. The study

²This is in contrast to research on sexual recidivism where Seto and Eke (2015) developed the Child Pornography Offender Risk Tool (CPORT).

employs archival data (none of the current authors rendered any diagnoses), and the Chief District Judge in the federal jurisdiction provided institutional review board (IRB) approval for the study.

Measures

Paraphilic disorders

All paraphilic disorders were scored on an ordinal scale (0 = no evidence, 1 = some evidence, 2 = definite evidence) based on archival psychological documents based on *Diagnostic and Statistical Manual of Mental Disorders—Fourth Edition—Text Revision* (DSM-IV-TR) or *Diagnostic and Statistical Manual of Mental Disorders—Fifth Edition* (DSM-5) criteria (American Psychiatric Association, 2010, 2013) and a psychosexual history questionnaire in the client's PACTS. This includes comprehensive information about the client's paraphilic disorders, sexual history and a complete accounting of their prior contact victims.³ Bestiality is interspecies sexual activity between a person and an animal. Frotteurism is recurrent and intense sexual arousal that involves touching against a non-consenting person. Pedophilia is recurrent and intense sexually arousing fantasies, sexual urges or behaviors involving children ages 13 years or younger. Sexual masochism is sexual arousal to the act of being humiliated, beaten, bound or made to suffer. Voyeurism is viewing non-consenting others who are engaged in sexual activity, nude or in the process of undressing. Exhibitionism is recurrent and intense sexually arousing fantasies that involve exposing one's genitals to others without their consent. Paraphilia NOS (not otherwise specified) is a residual category of sexual

³Numerous studies indicate that paraphilic disorders are positively associated with not only sexual offending but also non-sexual forms of crime (e.g. Abel et al., 1988; Babchishin et al., 2015; DeLisi et al., 2017; Smallbone & Wortley, 2004; Woodworth et al., 2013) and/or that paraphilic disorders are a significant developmental step in the etiology of sexual offending (Abel et al., 1988; Cale et al., 2014; Lee et al., 2002).

behavior that involves intense and recurrent sexually arousing fantasies that cause distress or impairments in behavioral functioning.

Sexual sadism is sexual excitement derived from the physical or psychological suffering of another person. Transvestic fetishism is sexual arousal by a heterosexual male who engages in cross-dressing or thinks of himself as female. Pornography addiction is the compulsive, recurrent and intense preoccupation with and consumption of pornographic material.⁴ Prevalence estimates for all paraphilic disorders appear in Table 1.

Arrest onset

Arrest onset is the age of first police contact or arrest ($M = 25.21$ years, $SD = 13.35$, range = 7–78). Arrest onset is an important control variable because it is an indicator of criminal propensity, and a large research base has shown it to be associated with offending seriousness and severity (DeLisi et al., 2015; DeLisi & Piquero, 2011; Moffitt, 1993; Pardini et al., 2018) including among sexual offenders (Drury et al., 2017; Harris, 2013; Lussier & Cale, 2013; Lussier & Mathesius, 2012).

Prior sexual offenses

A summary measure of prior arrest charges for contact sexual offenses ($M = 1.96$, $SD = 3.01$, range = 0–19) is included because prior offending is the most robust predictor of subsequent offending (Alink & Egeland, 2013; Barnes & Boutwell, 2012; Lussier et al.,

⁴Pornography addiction is not a paraphilic disorder per se, but was included in the offender's psychiatric and psychological documents and thus used in the present study. Moreover, we included it because it is consistent with the DSM-5 advisement on paraphilic disorders, namely that it 'causes stress or impairment to the individual or a paraphilia whose satisfaction has entailed personal harm, or risk of harm, to others' (American Psychiatric Association, 2013, pp. 685–686). Nevertheless, there are competing scholarly views about pornography addiction as a paraphilic disorder (see, Duffy et al., 2016; Grubbs et al., 2015; Kafka, 1997; Kafka & Hennen, 2003; Seto et al., 2006).

Table 1. Prevalence of paraphilic disorders.

Paraphilic disorder	No evidence(%)	Some evidence(%)	Definite evidence(%)
Bestiality	84.7	3.7	11.6
Frotteurism	94	0.5	5.5
Pedophilia	80	5	15
Sexual masochism	95	1	4
Voyeurism	81	1.4	17.6
Exhibitionism	85.2	1.4	13.4
Paraphilia NOS	89	1	10
Sexual sadism	90.3	3.7	6
Transvestic fetishism	90.7	1	8.3
Pornography addiction	91.7	0.9	7.4

Note: NOS = not otherwise specified.

2019; Walters, 2015, 2018; Walters & DeLisi, 2013).⁵ These offenses included rape, sexual abuse, sexual assault, sodomy, oral copulation, gross sexual imposition and aggravated sexual assault.

Total sexual abuse

Total sexual abuse is a composite measure of childhood sexual abuse frequency, chronicity and severity ($M = 0.83, SD = 1.81, range = 0-6$). Prior research has shown that childhood sexual abuse is significantly associated with sexual violence (Drury et al., 2019; Papalia et al., 2018; Fox & DeLisi, 2018) including sexual offenses against children (Arbanas et al., 2020; Papalia et al., 2018)

Age

Current age ($M = 46.59, SD = 13.16, range = 22-83$) is included because age is a significant correlate of sexual offending (Lussier & Cale, 2013; Lussier & Mathesius, 2012; Lussier et al., 2010).

⁵We included this covariate on population heterogeneity grounds to account for propensity to engage in sexual offending. It is important to recognize that despite the axiom of prior offending being among the best predictors of future offending, a variety of studies have shown that discontinuity best describes sexual offending from adolescence through adulthood (e.g. Beaudry-Cyr et al., 2017; Lussier & Blokland, 2014; Lussier et al., 2016; Zimring et al., 2009) except among a small subset of repeat offenders.

Antisocial personality disorder

Lifetime history of antisocial personality disorder (ASPD) diagnosis (0 = no, 83.4%, 1 = yes, 16.6%) is based on documented psychiatric or psychological assessment in the client's PACTS. Prior research indicates that ASPD is a significant predictor of sexual violence (Beauregard & DeLisi, 2021; Berger et al., 1999; Black, 2013; Boccaccini et al., 2017) including sexual offenses against children (Arbanas et al., 2020)

Total score Adverse Childhood Experiences (ACE) questionnaire

The Adverse Childhood Experiences (ACE) Questionnaire contains 10 areas, three of which encompass abuse (psychological, physical and sexual), two of which encompass neglect (emotional and physical), and five of which encompass household dysfunction (battered mother, parental separation/divorce, mental illness in home, household substance use and incarcerated household member).⁶ Each content area is measured dichotomously

⁶The seminal Felitti et al. (1998) ACE Questionnaire contained seven ACE indicators based on data collected at Wave I of the ACE Study, and emotional neglect, physical neglect and parental separation/divorce were added at the second wave of data collection. The 10 content areas used in the current study are the conventional indicators of adverse childhood experiences.

indicating 0 = not present and 1 = present to produce a total score ($M = 2.27$, $SD = 2.80$, range = 0–10). Greater adverse childhood exposure is linked to more severe offending patterns and serious violence (Baglivio et al., 2015; DeLisi & Beauregard, 2018; Duke et al., 2010; Fox et al., 2015).

Race

Race (0 = white, 82.6%, and 1 = black, 17.4%) is included as a control variable given its association with child pornography offending (Babchishin et al., 2015; Faust et al., 2015; Wolak et al., 2011).

Child pornography possession/receipt profile

Child pornography possession/receipt profile is an additive measure of total sexual abuse + pornography addiction + transvestic fetishism + pedophilia ($M = 1.51$, $SD = 2.25$, range = 0–10). This profile is a post hoc measure based on significant findings from the initial logistic regression models. Caveats about the two omitted significant effects are important. First, prior official sexual offenses was not included in the post hoc profile because it was significant in both models and thus was not specific to child pornography possession/receipt offenders. Second, arrest onset was not included because many child pornography possession/receipt clients have no official arrest history, and thus their arrest onset for this instant offense is effectively their current age. For these reasons, we consider prior record of sexual offenses and arrest onset as control variables in multivariate models.

Dependent variables

Child pornography possession/receipt commitment offense (0 = no, 52.8%; 1 = yes, 47.2%) and distribution of child pornography commitment offense (0 = no, 89%; 1 = yes, 11%) are the client's conviction for their current supervision and are used in the developmental analyses. Self-reported sexual abuse of children ages 3–12 years ($M = 1.10$, $SD = 3.34$, range = 0–38), self-reported sexual abuse of

adolescents ages 13–17 years ($M = 1.08$, $SD = 2.32$, range = 0–16) and self-reported sexual abuse of adults ($M = 0.34$, $SD = 1.13$, range = 0–11) are used in the validation analyses. Approximately 32.2% of the sample self-reported sexual abuse of children, 35.5% reported sexual abuse of adolescents, and 15.4% reported sexual abuse of adult victims.

Analytical approach

First, we specified logistic regression models for child pornography possession/receipt commitment offense with paraphilic disorders, prior sexual offenses, arrest onset, total sexual abuse and current age as predictors. Sensitivity analyses were executed with child pornography distribution commitment offense to see whether the results from the possession/receipt model were unique. Second, the post hoc child pornography profile from these models was validated along with covariates in negative binomial regression models with three self-reported sexual abuse victim types. Negative binomial regression is used for count variables where there is evidence of overdispersion, and this estimation technique was confirmed with the likelihood ratio (LR) test of α for Model 1 (349.81, $p < .001$), Model 2 (263.23, $p < .001$) and Model 3 (79.06, $p < .001$). In the logistic regression models, we also produced effect sizes for the odds ratios expressed in Cohen's d using the common metric ($d = 0.2$ is small effect size, $d = 0.5$ is medium effect size, and $d = 0.8$ is large effect size; J. Cohen, 1988).

Results

Logistic regression model for child pornography possession/receipt commitment offense

Table 2 provides output for child pornography possession/receipt commitment offense. Six significant findings emerged. Pedophilia was positively associated with child pornography possession/receipt commitment offense (odds ratio, $OR = 2.20$, $z = 2.87$, $p < .01$), and the effect size was small ($d = 0.44$). Transvestic

Table 2. Logistic regression model for child pornography possession/receipt commitment offense.

Variable	Odds ratio	SE	z	95% CI
Bestiality	1.07	0.34	0.21	[0.57, 1.99]
Frotteurism	0.75	0.33	-0.64	[0.32, 1.79]
Pedophilia	2.20**	0.61	2.87	[1.28, 3.77]
Sexual masochism	1.17	0.59	0.30	[0.43, 3.16]
Voyeurism	1.03	0.29	0.11	[0.59, 1.79]
Exhibitionism	1.02	0.32	0.06	[0.55, 1.89]
Paraphilia NOS	0.93	0.27	-0.26	[0.53, 1.62]
Sexual sadism	0.82	0.39	-0.42	[0.32, 2.09]
Transvestic fetishism	2.75*	1.17	2.38	[1.19, 6.32]
Pornography addiction	2.79*	1.18	2.42	[1.21, 6.41]
Prior sexual offenses	0.67***	0.07	-4.14	[0.55, 0.81]
Arrest onset	1.07***	0.02	3.55	[1.03, 1.11]
Total sexual abuse	1.25*	0.13	2.16	[1.02, 1.54]
Current age	0.99	0.01	-0.90	[0.95, 1.02]
Model χ^2	98.4***			
Pseudo R^2	.329			

Note: NOS = not otherwise specified; CI = confidence interval.
 * $p < .05$; ** $p < .01$; *** $p < .001$.

fetishism ($OR = 2.75, z = 2.38, p < .05$) was positively associated with child pornography possession/receipt commitment offense, and the effect size was medium ($d = 0.56$). Pornography addiction ($OR = 2.79, z = 2.42, p < .05$) was also positively associated with child pornography possession/receipt commitment offense, and the effect size was medium ($d = 0.57$). Prior arrest charges for sexual offenses ($OR = 0.67, z = -4.14, p < .001$) was negatively associated with child pornography possession/receipt commitment offense, and the effect size was small ($d = -0.22$). Arrest onset ($OR = 1.07, z = 3.55, p < .001$) was positively associated with child pornography possession/receipt commitment offense, and the effect size was small ($d = 0.04$). Total sexual abuse exposure ($OR = 1.25, z = 2.16, p < .05$) was positively associated with child pornography possession/receipt commitment offense, and the effect size was small ($d = 0.12$).

Logistic regression model for child pornography distribution commitment offense

As a sensitivity check shown in Table 3, we executed a logistic regression model for child

pornography distribution commitment offense, and although the overall model was stable (model $\chi^2 = 33.88, p < .001$), none of the covariates were significant with the exception of prior arrest charges for sexual offenses ($OR = 0.13, z = -2.08, p < .05$), which had a large effect size ($d = -1.13$). We conducted additional models for sexual trafficking commitment offense, inducement/enticement of minor for sexual activities commitment offense and sexual exploitation of a child commitment offense. In part due to low power, none of these models would execute.

Negative binomial regression models for self-reported sexual offending by victim age

Table 4 provides output for negative binomial regression models for three victimization groups – children ages 3–12 years, adolescents ages 13–17 years and adults – with the child pornography profile, ASPD diagnosis, arrest onset, total ACE score, current age and race as covariates. The child pornography was exclusively associated with self-reported sexual abuse against children ages 3 to 12 years

Table 3. Logistic regression model for child pornography distribution commitment offense.

Variable	Odds ratio	SE	z	95% CI
Bestiality	1.21	0.43	0.53	[0.60, 2.42]
Frotteurism	0.67	0.44	-0.61	[0.18, 2.43]
Pedophilia	1.47	0.48	1.16	[0.77, 2.80]
Sexual masochism	0.87	0.57	-0.21	[0.24, 3.15]
Voyeurism	1.12	0.35	0.38	[0.61, 2.07]
Exhibitionism	1.07	0.41	0.17	[0.51, 2.25]
Paraphilia NOS	1.13	0.40	0.35	[0.56, 2.28]
Sexual sadism ^a				
Transvestic fetishism	0.56	0.36	-0.90	[0.16, 1.95]
Pornography addiction	0.80	0.33	-0.54	[0.35, 1.81]
Prior sexual offenses	0.13*	0.13	-2.08	[0.02, 0.89]
Arrest onset	1.01	0.03	0.44	[0.96, 1.06]
Total sexual abuse	0.83	0.16	-0.98	[0.56, 1.21]
Current age	0.98	0.03	-0.92	[0.92, 1.03]
Model χ^2	33.88***			
Pseudo R^2	.233			

Note: NOS = not otherwise specified; CI = confidence interval.

^aDropped from model because it predicted failure perfectly.

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

Table 4. Negative binomial regression models for sexual abuse victim types.

Variable	Children 3–12		Adolescents 13–17		Adults	
	IRR (SE)	z	IRR (SE)	z	IRR (SE)	z
CP profile	1.23 (0.10)*	2.48	1.07 (0.08)	0.96	0.98 (0.10)	-0.20
ASPD diagnosis	1.30 (0.72)	0.49	0.92 (0.47)	-0.17	4.61 (3.02)*	2.33
Arrest onset	1.00 (0.02)	0.15	1.01 (0.01)	0.44	1.01 (0.02)	0.43
Total ACE	0.99 (0.08)	-0.08	0.92 (0.08)	-1.01	0.97 (0.11)	-0.32
Current age	0.97 (0.01)	-1.78	0.99 (0.01)	-0.14	1.00 (0.02)	0.03
Race	0.09 (0.06)***	-3.56	0.77 (0.36)	-0.55	1.34 (0.83)	0.47
Model χ^2	28.85***		4.43		7.46	
Pseudo R^2	.054		.008		.028	
LR test of α	349.81***		263.23***		79.06***	

Note: LR = likelihood ratio; IRR = incidence rate ratio; CP = child pornography; ASPD = antisocial personality disorder; ACE = Adverse Childhood Experiences.

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

(incidence rate ratio, IRR = 1.23, $z = 2.48$, $p < .05$) and had null associations with adolescent and adult victims. Whites (IRR = 0.09, $z = -3.56$, $p < .001$) were more likely than blacks to sexually abuse children, and clients with an ASPD diagnosis were more likely to sexually victimize adults (IRR = 4.61, $z = 2.33$, $p < .05$). Arrest onset, total ACE

score and current age had null associations in all three models.

Discussion

Child pornography possession/receipt offenders are a controversial offender group due to mixed and occasionally divergent

evidence about their risk profile, offending history and psychopathology (Clevenger et al., 2016; T. H. Cohen & Spidell, 2016; Drury et al., 2020; Henshaw et al., 2017; Seto et al., 2012; Smith, 2020; Wolak & Finkelhor, 2013). Using a population of male offenders who have perpetrated a sexual offense from a federal jurisdiction in the central United States, the current study developed an exploratory empirical profile of these offenders. The post hoc child pornography profile has some success in the validation component of our study and showed significant associations with self-reported sexual abuse of child victims ages 3–12 years, but non-significant associations to adolescent and adult victims. In other words, the profile was significantly linked to the conceptually expected victim group, and the significant statistical effect withstood controls for generally robust indicators of antisocial conduct including antisocial personality disorder, arrest onset, total adverse childhood experiences, age and race. We view the findings as exploratory and encourage additional empirical study of this important offender group.

Meta-analytic research (Babchishin et al., 2015) reported that child pornography offenders have significantly higher paraphilic disorders than other sexual offenders, and the preponderance of this relates to pedophilia. Our profile confirmed the salience of pedophilia, but also shows that the paraphilic repertoire is more complex and also involves transvestic fetishism and pornography addiction. This suggests that the paraphilic drivers of child pornography consumption are not simply driven by sexual attraction to children, but are also related to arousal to cross-dressing that likely reflects uncertainty about the individual's sexual orientation. For instance, epidemiological research on transvestic fetishism found that same-sex sexual experiences and high pornography use were significant correlates (Långström & Zucker, 2005). Based on interactions with these clients, we suspect that prior sexual abuse experiences – most of them

male-perpetrated – engendered ambivalence about one's own sexual preferences, and that uncertainty likely manifests in the paraphilic profile we produced.

Total sexual abuse experiences were significantly associated with child pornography possession/receipt conviction offense, and for each one-unit increase of sexual abuse the odds of this conviction type increased 25%. The range of sexual abuse experiences in these data is considerable. Some clients were never sexually abused, some incurred one victimization, and some were exposed to frequent, chronic and severe sexual abuse. Thus, clients with the most frequent, chronic and severe sexual abuse history exhibited 150% higher odds of conviction for child pornography/receipt. By using a more nuanced measure of sexual abuse experiences (as opposed to a lifetime binary exposure that is most common), we were able to contribute specificity to these trauma experiences to assist in understanding how those experiences potentially translate into sexual deviance. Overall, the significance of total sexual abuse among child pornography offenders is inconsistent with some recent research on sexual offenders (Babchishin et al., 2011, 2015), but consistent with other criminological studies (Baglivio et al., 2015; DeLisi & Beauregard, 2018; Drury et al., 2019; Drury et al., 2017; Fox et al., 2015). Overall, the current study was consistent with prior research on child pornography offenders regarding pedophilia (Babchishin et al., 2015), but also showed that their paraphilic profile is more expansive and was congruent with criminological studies about the salience of sexual abuse to subsequent offending (Baglivio et al., 2015; Drury et al., 2020; Drury et al., 2017; Fox et al., 2015) but discordant from other studies (Babchishin et al., 2011, 2015).

Our study has several strengths, including a population of sexual offenders from a federal jurisdiction, use of multiple data sources to minimize shared methods variance and multivariate models that included several important

controls to guard against confounding effects. Nevertheless, there are also limitations. The retrospective, archival data prevented the establishment of causal relationship between the variables. Longitudinal designs are needed to confirm our cyclical notion that sexual abuse suffered by defendants and offenders during their childhood years, who are later convicted of child pornography/receipt and other federal sexual offenses, contributes to paraphilic interests and disorders as adults that then lend themselves to their own personal child pornography consumption and use. Also, unlike prior studies (e.g. T. H. Cohen & Spidell, 2016), the study was underpowered to assess the association between the post hoc profile and more contact-oriented crimes including sexual trafficking, inducement or enticement of minor for sexual activities, and sexual exploitation of a child.

The current data were limited to male offenders. Recent study of female federal sexual offenders similarly reported evidence of sexual abuse along with mental health problems and history of outpatient and in-patient treatment (Bickart et al., 2019). In most cases with female federal sexual offenders, the victim involved their own child for use in the pornography, usually involving a male codefendant. Thus, there are important commonalities and gender-specific pathways to explore to refine models among child pornography correctional clients.

Conclusion

In closing, the current study shows the potential of using local federal data, which permits collection of information on abuse history, paraphilic disorders, psychopathology and refined criminal career information, in addition to the defendant, sentencing and supervision-based data that are routinely collected. Whereas nationally representative studies of federal sexual offenders (e.g. T. H. Cohen & Spidell, 2016) are unrivaled in scope, they are limited

in these psychiatric and psychological characteristics. We encourage other federal districts to collect local data to replicate the current model toward research development and replication to inform supervision practices.

Acknowledgements

The views reflected in this study do not necessarily represent those of the Administrative Office of the U.S. Courts, Probation and Pretrial Services Office or the Federal Judiciary.

Disclosure statement

No potential conflict of interest was reported by the author(s)

Ethical standards

Declaration of conflicts of interest

Michael J. Elbert has declared no conflicts of interest

Alan J. Drury has declared no conflicts of interest

Matt DeLisi has declared no conflicts of interest

Ethical approval

The article does not contain any studies with human participants or animals performed by any of the authors.

ORCID

Matt DeLisi  <http://orcid.org/0000-0001-5964-5848>

References

- Abel, G. G., Becker, J. V., Cunningham-Rathner, J., Mittelman, M., & Rouleau, J. L. (1988). Multiple paraphilic diagnoses among sex offenders. *Journal of the American Academy of Psychiatry and the Law*, 16(2), 153–168.

- Alink, L. R., & Egeland, B. (2013). The roles of antisocial history and emerging adulthood developmental adaptation in predicting adult antisocial behavior. *Aggressive Behavior, 39*(2), 131–140. <https://doi.org/10.1002/ab.21464>
- American Psychiatric Association. (2010). *Diagnostic and statistical manual of mental disorders, text revision (DSM-IV-TR®)*. American Psychiatric Publishing.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5®)*. American Psychiatric Publishing.
- Arbanas, G., Marinovic, P., & Buzina, N. (2020). Psychiatric and forensic characteristics of sex offenders with child and with adult victims. *International Journal of Offender Therapy and Comparative Criminology*. <https://doi.org/10.1177/0306624X20944673>
- Babchishin, K. M., Hanson, R. K., & Hermann, C. A. (2011). The characteristics of online sex offenders: A meta-analysis. *Sexual Abuse: A Journal of Research and Treatment, 23*(1), 92–123. <https://doi.org/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. <https://doi.org/10.1007/s10508-014-0270-x>
- Baglivio, M. T., Wolff, K. T., Piquero, A. R., & Epps, N. (2015). The relationship between adverse childhood experiences (ACE) and juvenile offending trajectories in a juvenile offender sample. *Journal of Criminal Justice, 43*(3), 229–241. <https://doi.org/10.1016/j.jcrimjus.2015.04.012>
- Barnes, J. C., & Boutwell, B. B. (2012). On the relationship of past to future involvement in crime and delinquency: A behavior genetic analysis. *Journal of Criminal Justice, 40*(1), 94–102. <https://doi.org/10.1016/j.jcrimjus.2011.12.003>
- Beaudry-Cyr, M., Jennings, W. G., Zgoba, K. M., & Tewksbury, R. (2017). Examining the continuity of juvenile sex offending into adulthood and subsequent patterns of sex and general recidivism. *International Journal of Offender Therapy and Comparative Criminology, 61*(3), 251–268. <https://doi.org/10.1177/0306624X15594442>
- Beauregard, E., & DeLisi, M. (2021). Unraveling the personality profile of the sexual murderer. *Journal of Interpersonal Violence, 36*(7–8), 3536–3556. <https://doi.org/10.1177/0886260518777012>
- Berger, P., Berner, W., Bolterauer, J., Gutierrez, K., & Berger, K. (1999). Sadistic personality disorder in sex offenders: Relationship to antisocial personality disorder and sexual sadism. *Journal of Personality Disorders, 13*(2), 175–186. <https://doi.org/10.1521/pepi.1999.13.2.175>
- Bickart, W., McLearn, A. M., Grady, M. D., & Stoler, K. (2019). A descriptive study of psychosocial characteristics and offense patterns in females with online child pornography offenses. *Psychology and Law, 26*(2), 295–311. <https://doi.org/10.1080/13218719.2018.1506714>
- Black, D. W. (2013). *Bad boys, bad men: Confronting antisocial personality disorder*. Oxford University Press.
- Boccaccini, M. T., Harris, P. B., Schrantz, K., & Varela, J. G. (2017). Personality Assessment Inventory scores as predictors of evaluation referrals, evaluator opinions, and commitment decisions in sexually violent predator cases. *Journal of Personality Assessment, 99*(5), 472–480. <https://doi.org/10.1080/00223891.2016.1269775>
- Bourke, M. L., & Hernandez, A. E. (2009). The ‘Butner Study’ redux: A report of the incidence of hands-on child victimization by child pornography offenders. *Journal of Family Violence, 24*(3), 183–191. <https://doi.org/10.1007/s10896-008-9219-y>
- Cale, J., Leclerc, B., & Smallbone, S. (2014). The sexual lives of sexual offenders: The link between childhood sexual victimization and non-criminal sexual lifestyles between types of offenders. *Psychology, Crime & Law, 20*(1), 37–60. <https://doi.org/10.1080/1068316X.2012.736510>
- Clevenger, S. L., Navarro, J. N., & Jasinski, J. L. (2016). A matter of low self-control? Exploring differences between child pornography possessors and child pornography producers/distributors using self-control theory. *Sexual Abuse: A Journal of Research and Treatment, 28*(6), 555–571. <https://doi.org/10.1177/1079063214557173>
- Cohen, J. (1988). *Statistical power analysis for the social sciences* (2nd ed.). Erlbaum.
- Cohen, T. H. (2018). Predicting sex offender recidivism: Using the federal Post Conviction Risk Assessment instrument to assess the likelihood of recidivism among federal sex offenders. *Journal of Empirical*

- Legal Studies*, 15(3), 456–481. <https://doi.org/10.1111/jels.12184>
- Cohen, T. H., Lowenkamp, C. T., & VanBenschoten, S. W. (2016). Does change in risk matter? Examining whether changes in offender risk characteristics influence recidivism outcomes. *Criminology & Public Policy*, 15(2), 263–296. <https://doi.org/10.1111/1745-9133.12190>
- Cohen, T. H., & Spidell, M. C. (2016). How dangerous are they? An analysis of sex offenders under federal post-conviction supervision. *Federal Probation*, 80(2), 21–32.
- DeLisi, M., Angton, A., Behnken, M. P., & Kusow, A. M. (2015). Do adolescent drug users fare the worst? Onset type, juvenile delinquency, and criminal careers. *International Journal of Offender Therapy and Comparative Criminology*, 59(2), 180–195. <https://doi.org/10.1177/0306624X13505426>
- DeLisi, M., & Beauregard, E. (2018). Adverse childhood experiences and criminal extremity: New evidence for sexual homicide. *Journal of Forensic Sciences*, 63(2), 484–489. <https://doi.org/10.1111/1556-4029.13584>
- DeLisi, M., Caropreso, D. E., Drury, A. J., Elbert, M. J., Evans, J. L., Heinrichs, T., & Tahja, K. M. (2016). The dark figure of sexual offending: New evidence from federal sex offenders. *Journal of Criminal Psychology*, 6(1), 3–15. <https://doi.org/10.1108/JCP-12-2015-0030>
- DeLisi, M., Drury, A., Elbert, M., Tahja, K., Caropreso, D., & Heinrichs, T. (2017). Sexual sadism and criminal versatility: Does sexual sadism spillover into nonsexual crimes? *Journal of Aggression, Conflict and Peace Research*, 9(1), 2–12. <https://doi.org/10.1108/JACPR-05-2016-0229>
- DeLisi, M., Elbert, M. J., & Drury, A. J. (2018). Federal criminal careers: An empirical examination of the Post-Conviction Risk Assessment (PCRA). *American Journal of Criminal Justice*, 43(4), 792–809. <https://doi.org/10.1007/s12103-018-9436-8>
- DeLisi, M., & Piquero, A. R. (2011). New frontiers in criminal careers research, 2000–2011. *Journal of Criminal Justice*, 39(4), 289–301. <https://doi.org/10.1016/j.jcrimjus.2011.05.001>
- Drury, A. J., Elbert, M. J., & DeLisi, M. (2019). Childhood sexual abuse is significantly associated with subsequent sexual offending: New evidence among federal correctional clients. *Child Abuse & Neglect*, 95, 104035. <https://doi.org/10.1016/j.chiabu.2019.104035>
- Drury, A. J., Elbert, M. J., & DeLisi, M. (2020). The dark figure of sexual offending: A replication and extension. *Behavioral Sciences & the Law*, 38(6), 559–570. <https://doi.org/10.1002/bsl.2488>
- Drury, A., Heinrichs, T., Elbert, M., Tahja, K., DeLisi, M., & Caropreso, D. (2017). Adverse childhood experiences, paraphilias, and serious criminal violence among federal sex offenders. *Journal of Criminal Psychology*, 7(2), 105–119. <https://doi.org/10.1108/JCP-11-2016-0039>
- Duffy, A., Dawson, D. L., & Das Nair, R. (2016). Pornography addiction in adults: A systematic review of definitions and reported impact. *The Journal of Sexual Medicine*, 13(5), 760–777. <https://doi.org/10.1016/j.jsxm.2016.03.002>
- Duke, N. N., Pettingell, S. L., McMorris, B. J., & Borowsky, I. W. (2010). Adolescent violence perpetration: Associations with multiple types of adverse childhood experiences. *Pediatrics*, 125(4), e778–e786. <https://doi.org/10.1542/peds.2009-0597>
- Faust, E., Bickart, W., Renaud, C., & Camp, S. (2015). Child pornography possessors and child contact sex offenders: A multilevel comparison of demographic characteristics and rates of recidivism. *Sexual Abuse: A Journal of Research and Treatment*, 27(5), 460–478. <https://doi.org/10.1177/1079063214521469>
- Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, 14(4), 245–258. [https://doi.org/10.1016/S0749-3797\(98\)00017-8](https://doi.org/10.1016/S0749-3797(98)00017-8)
- Fox, B., & DeLisi, M. (2018). From criminological heterogeneity to coherent classes: Developing a typology of juvenile sex offenders. *Youth Violence and Juvenile Justice*, 16(3), 299–318. <https://doi.org/10.1177/1541204017699257>
- Fox, B. H., Perez, N., Cass, E., Baglivio, M. T., & Epps, N. (2015). Trauma changes everything: Examining the relationship between adverse childhood experiences and serious, violent and chronic juvenile offenders. *Child Abuse & Neglect*, 46, 163–173. <https://doi.org/10.1016/j.chiabu.2015.01.011>

- Grubbs, J. B., Volk, F., Exline, J. J., & Pargament, K. I. (2015). Internet pornography use: Perceived addiction, psychological distress, and the validation of a brief measure. *Journal of Sex & Marital Therapy, 41*(1), 83–106. <https://doi.org/10.1080/0092623X.2013.842192>
- Harris, D. A. (2013). Age and type of onset of offending: Results from a sample of male sexual offenders referred for civil commitment. *International Journal of Offender Therapy and Comparative Criminology, 57*(10), 1226–1247. <https://doi.org/10.1177/0306624X12448649>
- Henshaw, M., Ogloff, J. R., & Clough, J. A. (2017). Looking beyond the screen: A critical review of the literature on the online child pornography offender. *Sexual Abuse: A Journal of Research and Treatment, 29*(5), 416–445. <https://doi.org/10.1177/1079063215603690>
- Kafka, M. P. (1997). Hypersexual desire in males: An operational definition and clinical implications for males with paraphilias and paraphilia-related disorders. *Archives of Sexual Behavior, 26*(5), 505–526.
- Kafka, M. P., & Hennen, J. (2003). Hypersexual desire in males: Are males with paraphilias different from males with paraphilia-related disorders? *Sexual Abuse: A Journal of Research and Treatment, 15*(4), 307–321. <https://doi.org/10.1177/107906320301500407>
- Långström, N., & Zucker, K. J. (2005). Transvestic fetishism in the general population: Prevalence and correlates. *Journal of Sex & Marital Therapy, 31*(2), 87–95. <https://doi.org/10.1080/00926230590477934>
- Lee, J. K., Jackson, H. J., Pattison, P., & Ward, T. (2002). Developmental risk factors for sexual offending. *Child Abuse & Neglect, 26*(1), 73–92. [https://doi.org/10.1016/S0145-2134\(01\)00304-0](https://doi.org/10.1016/S0145-2134(01)00304-0)
- Luallen, J., Radakrishnan, S., & Rhodes, W. (2016). The predictive validity of the Post-Conviction Risk Assessment among federal offenders. *Criminal Justice and Behavior, 43*(9), 1173–1189. <https://doi.org/10.1177/0093854816650481>
- Lussier, P., & Blokland, A. (2014). The adolescence-adulthood transition and Robins's continuity paradox: Criminal career patterns of juvenile and adult sex offenders in a prospective longitudinal birth cohort study. *Journal of Criminal Justice, 42*(2), 153–163. <https://doi.org/10.1016/j.jcrimjus.2013.07.004>
- Lussier, P., & Cale, J. (2013). Beyond sexual recidivism: A review of the sexual criminal career parameters of adult sex offenders. *Aggression and Violent Behavior, 18*(5), 445–457. <https://doi.org/10.1016/j.avb.2013.06.005>
- Lussier, P., Corrado, R. R., & McCuish, E. (2016). A criminal career study of the continuity and discontinuity of sex offending during the adolescence-adulthood transition: A prospective longitudinal study of incarcerated youth. *Justice Quarterly, 33*(7), 1123–1153. <https://doi.org/10.1080/07418825.2015.1028966>
- Lussier, P., Deslauriers-Varin, N., Collin-Santerre, J., & Bélanger, R. (2019). Using decision tree algorithms to screen individuals at risk of entry into sexual recidivism. *Journal of Criminal Justice, 63*, 12–24. <https://doi.org/10.1016/j.jcrimjus.2019.05.003>
- Lussier, P., & Mathesius, J. (2012). Criminal achievement, criminal career initiation, and detection avoidance: The onset of successful sex offending. *Journal of Crime and Justice, 35*(3), 376–394. <https://doi.org/10.1080/0735648X.2012.666842>
- Lussier, P., Tzoumakis, S., Cale, J., & Amirault, J. (2010). Criminal trajectories of adult sex offenders and the age effect: Examining the dynamic aspect of offending in adulthood. *International Criminal Justice Review, 20*(2), 147–168. <https://doi.org/10.1177/1057567710368360>
- Magaletta, P. R., Faust, E., Bickart, W., & McLearn, A. M. (2014). Exploring clinical and personality characteristics of adult male internet-only child pornography offenders. *International Journal of Offender Therapy and Comparative Criminology, 58*(2), 137–153. <https://doi.org/10.1177/0306624X12465271>
- McCarthy, J. A. (2010). Internet sexual activity: A comparison between contact and non-contact child pornography offenders. *Journal of Sexual Aggression, 16*(2), 181–195. <https://doi.org/10.1080/13552601003760006>
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*(4), 674–701. <https://doi.org/10.1037/0033-295X.100.4.674>
- Papalia, N., Ogloff, J. R., Cutajar, M., & Mullen, P. E. (2018). Child sexual abuse and criminal offending: Gender-specific effects and the role of abuse characteristics and other adverse outcomes. *Child Maltreatment, 23*(4), 399–416. <https://doi.org/10.1177/1077559518785779>

- Pardini, D. A., Byrd, A. L., Hawes, S. W., & Docherty, M. (2018). Unique dispositional precursors to early-onset conduct problems and criminal offending in adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry*, 57(8), 583–592. <https://doi.org/10.1016/j.jaac.2018.04.013>
- Scurich, N., & John, R. S. (2019). The dark figure of sexual recidivism. *Behavioral Sciences & the Law*, 37(2), 158–175. <https://doi.org/10.1002/bsl.2400>
- Seto, M. C., Cantor, J. M., & Blanchard, R. (2006). Child pornography offenses are a valid diagnostic indicator of pedophilia. *Journal of Abnormal Psychology*, 115(3), 610–615. <https://doi.org/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. <https://doi.org/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. <https://doi.org/10.1037/lhb0000128>
- Seto, M. C., Hanson, R. K., & Babchishin, K. M. (2011). Contact sexual offending by men with online sexual offenses. *Sexual Abuse: A Journal of Research and Treatment*, 23(1), 124–145. <https://doi.org/10.1177/1079063210369013>
- Seto, M. C., Reeves, L., & Jung, S. (2010). Explanations given by child pornography offenders for their crimes. *Journal of Sexual Aggression*, 16(2), 169–180. <https://doi.org/10.1080/13552600903572396>
- Seto, M. C., Wood, J. M., Babchishin, K. M., & Flynn, S. (2012). Online solicitation offenders are different from child pornography offenders and lower risk contact sexual offenders. *Law and Human Behavior*, 36(4), 320–330. <https://doi.org/10.1037/h0093925>
- Smallbone, S. W., & Wortley, R. K. (2004). Criminal diversity and paraphilic interests among adult males convicted of sexual offenses against children. *International Journal of Offender Therapy and Comparative Criminology*, 48(2), 175–188. <https://doi.org/10.1177/0306624X03258477>
- Smith, T. R. (2020). *Federal probation clients convicted of possessing child pornography: A follow-up analysis* [Paper presentation]. United States Probation and Pretrial Services Chief's Research Group.
- Walters, G. D. (2015). Cognitive mediation of crime continuity: A causal mediation analysis of the past crime–future crime relationship. *Crime & Delinquency*, 61(9), 1234–1256. <https://doi.org/10.1177/0011128712470987>
- Walters, G. D. (2018). Getting specific about psychological inertia: Mediating the past crime–future crime relationship with self-efficacy for a conventional lifestyle. *Criminal Justice Review*, 43(2), 186–201. <https://doi.org/10.1177/0734016817704697>
- Walters, G. D., & DeLisi, M. (2013). Antisocial cognition and crime continuity: Cognitive mediation of the past crime–future crime relationship. *Journal of Criminal Justice*, 41(2), 135–140. <https://doi.org/10.1016/j.jcrimjus.2012.12.004>
- Wolak, J., & Finkelhor, D. (2013). Are crimes by online predators different from crimes by sex offenders who know youth in-person? *The Journal of Adolescent Health: Official Publication of the Society for Adolescent Medicine*, 53(6), 736–741. <https://doi.org/10.1016/j.jadohealth.2013.06.010>
- Wolak, J., Finkelhor, D., & Mitchell, K. (2011). Child pornography possessors: Trends in offender and case characteristics. *Sexual Abuse: A Journal of Research and Treatment*, 23(1), 22–42. <https://doi.org/10.1177/1079063210372143>
- Woodworth, M., Freimuth, T., Hutton, E. L., Carpenter, T., Agar, A. D., & Logan, M. (2013). High-risk sexual offenders: An examination of sexual fantasy, sexual paraphilia, psychopathy, and offence characteristics. *International Journal of Law and Psychiatry*, 36(2), 144–156. <https://doi.org/10.1016/j.ijlp.2013.01.007>
- Zimring, F. E., Jennings, W. G., Piquero, A. R., & Hays, S. (2009). Investigating the continuity of sex offending: Evidence from the second Philadelphia birth cohort. *Justice Quarterly*, 26(1), 58–76. <https://doi.org/10.1080/07418820801989734>