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Investigative aspects of crossover offending from a sample of FBI online child sexual exploitation cases

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ABSTRACT

The prevalence and availability of child pornography on the Internet has increased the number of cases investigated by law enforcement and public concern regarding the extent to which individuals who collect child pornography also commit contact sexual offenses against children. The Federal Bureau of Investigation (FBI) Behavioral Analysis Unit (BAU) III – Crimes Against Children conducted an archival review of 251 online Sexual Exploitation of Children (SEOC) cases to assess the range of offending behavior and the relationship between child pornography possession and other sexual offenses against children. Analysis revealed 38% of the cases ($n = 95/251$) involved crossover offending, in which offenders who possessed child pornography also attempted or committed other SEOC crimes. Although 62% of the investigations uncovered possession-only offenses, the frequency of crossover offending observed in this sample indicates that the act of viewing child pornography does not always exist in isolation, and that a child sex offender's sexual interest in children may be part of a larger pattern of offending behavior. Awareness and understanding of potential crossover offending behavior offers additional investigative, prosecutive, supervisory, and assessment/treatment considerations when working with this population of offenders.

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1. Introduction

In recent years, the increased use of the Internet[1] has been accompanied by an exponential rise in cyber-criminality, including individuals engaged in Internet-facilitated sexual exploitation of children (SEOC).[2,3] Although child pornography existed long before the Internet, the ease with which offenders can access copious amounts of illegal material has brought an increased awareness and concern regarding child pornography. This issue, once thought to be small and specialized, has challenged law enforcement efforts to identify and apprehend sex offenders who exploit the Internet to facilitate sexual offenses against children (Robilotta, Calkins Mercado, & DeGue, 2008). In contrast to previous methods used to obtain child pornography, which often required specific knowledge and contacts to obtain the material (in the physical exchange of magazines, books, or photos and videos), the Internet has facilitated the wide prevalence of child pornography due to its ease of accessibility. The Internet also provides an environment of perceived anonymity, free of social norms and boundaries, and limited controls. Individuals can now access and distribute child pornography without leaving the privacy and comfort of their homes, with relatively little risk of detection (Jung, Ennis, Stein, Choy, & Hook, 2012; McCarthy, 2010).

The prevalence and scope of this crime problem is difficult to ascertain. While it is not possible to quantify the exact number of abusive and exploitative images of children available through the Internet or the number of child victims involved in their production, the nature of the Internet creates an ever-increasing accumulation of traded images (Taylor & Quayle, 2003). In recent years, the number of still images and videos memorializing the sexual assault and other sexual exploitation of children, many very young in age, has grown exponentially as the result of changes in technology (United States Sentencing Commission, 2012). Statistics from the National Center for Missing and Exploited Children (NCMEC), a congressionally authorized clearinghouse for child pornography that assists criminal investigators, indicates that as of 2014, analysts have reviewed more than 147 million

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[1] For the purposes of this paper, the term **Internet** is broadly defined to include any type of online activity.

[2] For the purposes of this paper, **sexual exploitation of children** is an overarching term that broadly refers to forms of sexual victimization perpetrated against a child. It includes child pornography offenses (receipt, possession, distribution, and production), as well as any offender who employs, persuades, induces, entices, or coerces any minor to engage in any sexually explicit conduct (18 U.S. Code § 2251).

[3] In this article, the terms child, children, and minor are used interchangeably to refer to a male or female under the age of 18 years.

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images and videos to assist law enforcement in their efforts to identify children depicted in the sexually abusive images (NCMEC, 2016).

The production of child pornography[4] material is often indicative of active sexual abuse perpetrated against the child depicted at the time the image or video was created. Further, the distribution of child pornography images and videos create a permanent record of the exploitation and may cause ongoing victimization to the child (Kim, 2004; Lanning, 2010; Seto, 2013). Advances in technology and the Internet have also increased the ease of connecting with others who share an interest in such deviant material (Carr, 2012). Online child exploitation networks foster the continued demand for new child pornography and provide members with encouragement, validation, and reinforcement for their offending behavior, thereby ensuring the continued exploitation of children and production of such images (Motivans & Kyckelhan, 2007).

While child pornography and child sexual abuse are not new violations, offenders who target and exploit children online have created new challenges for law enforcement, legal, corrections, and mental health professionals. Because of the widespread impact of the Internet on child pornography use and sexual behavior, and the increasing public and professional concern about Internet-related child sexual exploitation, there has been a rapid increase in the number of child pornography cases faced by law enforcement and other criminal justice professionals (Motivans & Kyckelhan, 2007). A variety of local, state, and federal agencies, as well as international police organizations, have contributed significant resources to child exploitation investigations, often establishing multi-agency task forces to combat this crime problem. From 1994 to 2006, child pornography offenses were among the fastest growing crimes handled by the Federal justice system (Motivans & Kyckelhan, 2007). In 1994 and 1995 combined, only 90 offenders were sentenced federally for child pornography offenses (possession, receipt, trafficking, or distribution). By fiscal year 2011, the number had increased to 1,649 - a 1,732% increase (United States Sentencing Commission, 2012).

2. Literature review

There is much debate as to whether online offenders are a distinct group or if the underlying behavior and motivations of child sex offenders remain consistent, and they are just using a new technology to facilitate their crimes. According to Lanning (2010), the Internet has not created a new type of criminal but rather is "simply a matter of modern technology catching up with long-known, well-documented behavioral needs" (p. 127). Therefore, previous assumptions that have characterized Internet offenders as those who restrict their behavior to online criminality may be incomplete. Child sex offenders use computers to view, store, produce, send, receive, and/or distribute child pornography. They communicate with, groom, and entice children into sexual victimization as well as use this mechanism to validate their views and communicate with other offenders (Buschman, Wilcox, Krapohl, Oelrich, & Hackett, 2010). Although these offenders may be diverse in their online activities related to their sexual interest in children, data suggests the underlying motivations are similar (Bourke & Hernandez, 2009). Such data also supports and raises concern that an interest in child sexual abuse images is a good indicator of pedophilic interest (Seto, Cantor, & Blanchard, 2006).

The basic question regarding the extent to which individuals who collect child pornography also engage in contact sexual exploitation of children is at the core of social policy in dealing with Internet pornography (Sheldon & Howitt, 2007). Although researchers have greatly increased our understanding of the criminal behavior and demographics of child sex offenders, understanding the relationship between looking at child pornography and sexually assaulting children is central to developing effective "best practice" models of how to investigate this type of offender, manage them in the criminal justice system, and determine the risk they pose to society. According to Taylor and Quayle (2003), "there appears to be little support for the allegation of a direct causal link between viewing pornography and subsequent offending behavior" (p. 72). However, anecdotal experiences from law enforcement investigations suggest that "an offender's pornography and erotica collection is the single best indicator of what he wants to do" (Lanning, 2010, p. 107). This debate has called into question the current federal sentencing guidelines, with many federal judges across the country lobbying for more consistent, and often reduced, sentences for child pornography possession cases. A particular focus for the courts often involves evaluating an offender's level of risk to reoffend and/or future risk to children. Some within the legal system disagree with handing down lengthy sentences for possession-only offenders who appear to be at low risk due to the absence of a criminal history or current charges involving contact offending (Hoffer & Isom, 2015; Sulzberger, 2010). Despite such opposition, other authors (Eke, Seto, & Williams, 2011; Long, Alison, & McManus, 2013; McCarthy, 2010; Seto et al., 2006; Wolak, Finkelhor, & Mitchell, 2011) argue that possession of child pornography among those who have a predisposition towards sexual offending behavior could be at risk for future sexual offenses, though they caution that possession itself often does not have a causal effect on sexual offending (Marshall, 2000).

2.1. Crossover offending

In academic literature, the term "crossover" is often used to describe sexual offenses in which victims are from multiple age, gender, and relationship categories (Bourke & Hernandez, 2009; Heil, Ahlmeyer, & Simons, 2003); however, crossover can also be used to describe offenders who engage in the possession/distribution of child pornography as well as other sexual crimes against children, including travel with intent, contact sexual abuse, and the production of child pornography. Reliable estimates vary about the percentage of child pornography offenders who also engage in other sexual crimes against children, ranging from 3 to 5% to 85% (Bourke & Hernandez, 2009; Hall & Hall, 2007; Kim, 2004; Lanning, 2010; Seto, Hanson, & Babchishin, 2011; Sher & Carey, 2007; Wolak, Finkelhor, & Mitchell, 2005). Such discrepancies can be attributed to the varied data sources used to report crossover offending. For example, a meta-analysis conducted by Seto et al. (2011) found that approximately one in eight online offenders (12%) had a documented contact sexual offense history at the time of their index offense, based on official records of arrests, charges, or convictions. In comparison, the studies that used clinical self-report data found that approximately one in two online offenders (55%) admitted to a contact sexual offense. When the estimates were based on official reports, the proportion of prior contact offenses was significantly lower than on self-report data (Seto et al., 2011).

According to the National Juvenile Online Victimization (N-JOV) Study of child sexual exploitation-related crimes, 67% of offenders who committed an Internet sex crime(s) against children possessed child pornography (Wolak, Mitchell, & Finkelhor, 2003). This research also reported that of an estimated 1,713 arrests within a 12-month period for Internet-related crimes involving possession of child pornography, 40% were *dual offenders* who sexually victimized children and possessed child pornography (Wolak et al., 2005). Further, one out of every six cases that began with an investigation of child pornography possession led to the discovery of hands-on molestation offenses against a child (Wolak et al., 2005).

From the existent literature, results indicate that crimes related to child pornography are considered to have a frequent although somewhat unclear association with contact child sexual offenses (Marshall, 2000; Wolak et al., 2005). Determining prior contact sexual offenses

[4] For the purposes of the paper and the study, **child pornography** is defined as a visual depiction portraying any child (younger than 18 years of age) engaging in sexually explicit conduct (i.e., lascivious exhibition of genitals) (18 U.S.C. §2256).

can be challenging in that typically very little is known about Internet offenders' actual criminal past. Wolak et al. (2005) reported very few offenders in their sample had known prior arrests for either non-sexual offenses or sexual offenses against a child (only 22% and 11%, respectively). These results are not surprising given that sex crimes are often never reported to law enforcement, allowing offenders to keep their abusive pasts hidden. Complicating the situation further is the fact that certain types of sexual assault victims, particularly younger victims and victims who know the perpetrator, are especially unlikely to report offenses to law enforcement (Smith et al., 2000). Ascertaining a complete and accurate history of offending is especially important because offense history is one of the single strongest predictors of recidivism (Hanson & Bussière, 1998; Seto & Eke, 2005). It is clear that additional information, beyond criminal justice records, is needed to obtain a more complete and accurate account of prior offenses and risk of re-offending.

2.1.1. Polygraph

The polygraph has been used in the context of sex offender evaluation since the late 1990s (Heil & English, 2009). Although copious debate exists within the professional community about its clinical efficacy, as well as its scientific validity and reliability outside controlled laboratory settings (Cross & Saxe, 2001; Iacono & Lykken, 1997), the polygraph has been shown in several studies to be an effective and preferred means of information gathering among probation and parole agencies responsible for sex offender management and treatment programs (Heil & English, 2009). Recently, the polygraph has gained attention as an effective investigative tool in eliciting additional disclosures beyond those reported from official record and self-report methods (Ahlmeyer, Heil, McKee, & English, 2000; Bourke et al., 2014; Bourke & Hernandez, 2009; Gannon et al., 2013; Heil & English, 2009). This includes disclosures pertaining to prior contact offenses, age at first offense, number of victims, and prevalence of other high-risk behaviors. For example, Grubin (2010) reported that the odds of polygraphed offenders making at least one disclosure relevant to their subsequent treatment, supervision, or risk assessment was 14 times greater than for comparison offenders. Buschman et al. (2010) found that, with the utilization of the polygraph among a sample of 38 sex offenders, over half disclosed other contact (hands-on) behavior towards children involving penetration, masturbation, and fondling. Further, those who disclosed contact sexual behavior were all initially reported as offenders convicted for possession of child pornography only (Buschman et al., 2010). Similar results were reported by Bourke and Hernandez (2009), from a study of 155 child pornography offenders incarcerated at the Federal Correctional Institution in Butner, North Carolina. The "Butner Study Redux" found that 74% (115 of the 155 offenders) entered treatment with no known prior contact offenses against children. Twenty-six percent of the offenders had a prior contact sexual offense against children. By the end of treatment, 85% (131 of the 155 offenders) admitted to at least one contact offense against a child, with an average of 13.56 victims per offender. Over half (52%) of these post-treatment admissions to contact offenses were obtained in conjunction with a polygraph examination (Bourke & Hernandez, 2009).

These studies exemplify the utility of the polygraph in discerning whether child pornography possession offenders have actually committed a contact sexual offense against a child. However, a central criticism to this line of research has surrounded the question of generalizabilty outside a clinical treatment setting. In much of the literature on the use of polygraph with child sex offenders, researchers afford the voluntary offender participants complete immunity regarding any disclosures to sexual offending as long as no specific details or identifying information is provided. This leads to speculation as to the polygraph's effectiveness in more real world settings, where any disclosure to sexual offending would be subject to law enforcement investigation, arrest, and prosecution. To address this issue, a recent study by Bourke et al. (2014) examined secondary data on the use of a tactical polygraph[5] from investigations conducted by three federal agencies: the Federal Bureau of Investigation, the United States Secret Service, and the United States Postal Inspection Service. Data were collected on a total of 127 offenders under investigation for child pornography offenses (i.e., possession, receipt, or distribution) who had no prior history of contact offenses or sexual crimes. Results indicated that the administration of a tactical polygraph was highly successful in those investigations, facilitating admissions to at least one contact offense against a child from over half of the offenders (57.5%, n = 73). From the 73 offenders who admitted to undetected contact sexual offenses, a total of 282 victims were disclosed, and 97 of those identified were still minors at the time of the polygraph examination (Bourke et al., 2014).

In another recent study exploring a mandatory polygraph testing pilot program in the UK,[6] Gannon et al. (2013) found that sex offenders who were given a polygraph within the first three months after being released from prison made significantly more overall clinically relevant disclosures[7] than comparison offenders who were not given a polygraph as part of their supervision (Ms = 2.6 vs. 1.25, respectively). The admissions were most often related to increased access to children, probation agreement breaches, and associating with other known offenders. It is important to note that the offenders in this pilot study were not provided immunity, as they were informed that any disclosures indicating a violation of their probation agreement could result in the offender's recall into custody. In fact, offenders who took the polygraph received more recalls to prison based on their disclosures than the comparison offender group who did not take the polygraph (N = 70 vs. 42). These recent studies indicate that even in situations involving real-world investigations, where any disclosure to previously unknown sexual offending could be reported to law enforcement, the polygraph still elicited disclosures from offenders despite the possible adverse consequences.

2.1.2. Role of images in offending behavior

While we cannot know for certain whether images serve as a blueprint for contact offenses, research can conclude with some degree of confidence that sexual offending is a dynamic, rather than static, process with individuals moving along a continuum of potential behaviors. For individuals with a sexual interest in children, the Internet may serve to lower inhibitions as well as validate and reinforce offending behavior, where child pornography images of previously unthought-of offending behavior can be incorporated into fantasies and then committed against an actual child (Wilson & Jones, 2008). McCarthy (2010) found that contact offenders were more likely to have larger child pornography collections, including more child erotica images, and were more likely to possess collections containing more child than adult pornography than their non-contact offending counterparts. These findings suggest that child pornography offenders may be aroused by the voyeuristic nature of viewing pornography, encouraged by the false sense of security while viewing, fantasizing, and masturbating at home, and comforted by their distorted perception that because they are not physically hurting a child their behavior is minimized (Howitt & Sheldon, 2007; Jung et al., 2012). For example, Langevin and Curone (2004) reported 17%

[5] **Tactical polygraph** – defined as a polygraph examination administered as soon as possible after the point of first contact with the suspect used as an investigative tool for gathering immediately actionable information, and is intended to assist with producing a more complete and truthful interview regarding the facts of the offense under investigation and individual's history of offending against children (Bourke et al., 2014).

[6] Mandatory polygraph testing for sexual offenders in England began in April 2009 following new legislation introduced under the Offender Management Act, 2007. Within this legislation, polygraph testing became mandatory as an additional provision to supervision requirements for individuals serving one year or more for a sexual offense and released into one of eight designated geographic probation areas (Gannon et al., 2013).

[7] **Clinically relevant disclosures** – defined as disclosures relevant (made a difference to) the risk, management, supervision, or treatment of offenders (Gannon et al., 2013)

of their sex offender sample admitted using pornography for self-stimulation either immediately prior to or during the sexual crimes. In addition, Kingston, Fedoroff, Firestone, Curry, and Bradford (2008) found evidence that paraphilic interest and the frequency of looking at child abuse images were positively associated with recidivism. This suggests that child pornography images may likely serve a disinhibiting role; heightening self-serving sexual arousal, fueling motivation, and utilized in the grooming process (Buschman et al., 2010).

Child pornography images are often used by offenders in their grooming[8] process to desensitize a child to sexual material and/or entice a child to engage in sexual activity. McCarthy (2010) found that offenders who committed contact offenses against children were more likely to send both adult and child pornography to minors online than non-contact offenders. This is consistent with a recent examination of data from FBI investigations that notes the frequency with which offenders use child pornography to lower a child's inhibitions (Hoffer, Muirhead, Owens, & Shelton, 2015). Children may come to believe what they are shown by trusted adults, and many child sex offenders have used child pornography material as visual examples to show children such sexual behavior is "acceptable" (Lanning, 2010).

However, much less is known about the content of the images themselves. The few published studies that have analyzed child pornography images from law enforcement investigations have yielded some general information about the victimization depicted, as well as the demographics of the children being exploited (Carr, 2004; Quayle & Jones, 2011). Wolak et al. (2005) conducted 429 telephone interviews with law enforcement officers regarding child pornography investigations and found that 83% of offenders were reported to have had images of prepubescent children, with 80% of the images depicting acts of penetration. Other studies indicate that the images predominantly portray white, prepubescent female children (Carr, 2004; Quayle & Jones, 2011).

Given the fact that viewing child pornography is illegal, direct image analysis outside of a law enforcement setting poses a definite legal challenge making information related to image content difficult to attain. However, such digital evidence can be instrumental in the identification of both victims and offenders, and can also be used to understand how children are victimized, offender motivation, the offending process, and the preferential interests of offenders (Buschman et al., 2010; Seto et al., 2006). In addition to demographic information, law enforcement investigators may benefit from an analysis of whether similarities exist between the sexual acts depicted in the child pornography material and the actual molestation acts requested and/or performed with a victim.

2.2. The present study

Much of what we know empirically about child sex offenders has come from previous literature examining them as a homogenous group with a primary focus on clinical, treatment-based outcomes. Research reporting higher rates of contact child sexual offending among child pornography offenders (Bourke & Hernandez, 2009; Seto et al., 2011) tends to be limited by their reliance on clinical and correctional samples. These samples generally include only a small minority of Internet child pornography offenders identified by law enforcement. Given specific entry requirements associated with many clinical programs (e.g., admission of guilt, commitment to change) and the impact that contact offense history may have on correctional outcomes, it is unlikely that clinical and correctional samples are representative of law enforcement samples or the wider child pornography offender population (Carr, 2012). The present literature suggests that the underlying motivation of child sex offenders' child pornography collections may extend far beyond simply viewing the material, and that a significant number of child pornography possession offenders are, were, or may have been active contact offenders (Bourke & Hernandez, 2009; Kim, 2004; Seto et al., 2011; Wolak et al., 2011). However, there are limited results from purely a law enforcement perspective. Professionals within the field stress the importance of continuing to expand on the existing knowledge of this type of offender, specifically to address public and professional concern about the likelihood that online offenders also commit contact sexual offenses against children (Lam, Mitchell, & Seto, 2010). The goal of the current study is to expand upon current literature regarding crossover offending, as well as provide an analysis of the specific content of the child pornography collection from a law enforcement sample. The FBI has direct access to data about offenders and their criminal activity. The ability to analyze and report on offender behavior from this law enforcement sample will provide valuable information to investigators, as well as contribute an additional perspective to the field of study. Much of the existing literature on offenders' child pornography collections and crossover offending behavior relies on self-report data from offenders in treatment settings. More research is needed from law enforcement samples, which may be more representative of SEOC offenders generally and not just those who participate in sex offender treatment programs. An examination of the collection's themes and victim demographics from a purely objective and evidentiary standpoint is also notably absent from the current literature. This is not surprising given the illegal nature of such material, and consequently, detailed knowledge of the content of the images is not accessible within academic and clinical circles. The present study will examine whether similar findings will emerge from an analysis of the actual collection content, as well as comparatively examine victim demographics and sexual acts between offenders' child pornography collections and their contact sexual offenses against a child(ren).

3. Method

Inclusion criteria requirements for the study were: 1) The offender was under investigation for an online child sexual exploitation offense by the FBI's Innocent Images National Initiative (IINI), comprising investigations by FBI, state, and local law enforcement; and 2) The investigations were all resolved through conviction in either state or federal court. Declined prosecutions, dismissals, and acquittals were not included in the sample; 3) All cases involved the use of the Internet in some capacity to facilitate the sexual exploitation of a child; and 4) All cases involved offenses against a child under the age of 18 years.

Initially, researchers requested a list from the FBI's internal Automated Case Support (ACS) database of adjudicated cases with classifications commensurate with an Internet child sex crime violation. In a given year, the FBI investigates thousands of cases under the IINI. Because it was not possible to include all IINI investigations worked by the FBI, a convenience sampling process was used, primarily based on availability of information within the case and investigator response. A total of 251 cases resolved through conviction were identified and analyzed in the study. The sample was selected within two distinct time frames with 198 cases from 1996 to 2002 and 53 cases from 2010. Researchers also attempted to randomly select cases across FBI field offices to ensure a representative sample of cases worked across the United States by the FBI's IINI. Cases in this study represent IINI investigations from 45 FBI field offices and 37 states.

3.1. Materials and procedures

Upon identifying cases that met inclusion criteria, trained researchers assigned to the FBI's Behavioral Analysis Unit (BAU) III – Crimes Against Children reviewed case materials including investigative reports, criminal history records, search warrant affidavits, physical

[8] The FBI's Behavioral Analysis Unit (BAU) defines **grooming** as a dynamic process utilizing a constellation of behaviors aimed at gaining the cooperation of the child to achieve sexual gratification for the offender and/or others.

evidence, adjudication and sentencing information. The results of the forensic examination of the computer were also reviewed for an analysis of the child pornography content including the non-actionable materials such as adult pornography and child erotica.[9]

Data collected from case records were extracted and recorded onto a 60-question protocol developed by the BAU III. The protocol was reviewed by the FBI's Behavioral Research Working Group which is comprised of 15 nationally and internationally recognized researchers, scholars, and practitioners who assist the BAU in producing high-quality, academically sound research. The protocol encompassed the following general areas: offender background and demographics and investigation details (i.e., offense characteristics and legal outcome information). Offender background information included demographics, as well as educational, marital, employment, medical, mental health, abuse/maltreatment, and criminal histories. The investigation section included type of sex crime, dates, location of the offense, contact offense victim demographics (age, gender, relationship to offender, access), child pornography collection descriptions, computer activities, and how the offender became aware of the investigation. An addendum was also completed for the 2010 sample of cases to account for advances in technology.

Inter-rater reliability was established and conflicting questions were reviewed by the primary coder. For the original sample of 198 cases, trained personnel from the BAU III reviewed materials and completed the protocol. For the 2010 sample the protocol and addendum were completed by the lead case agent of the investigation. Accuracy was verified by the BAU III research staff.

The completed protocols and addendums were then entered into the Statistical Program for the Social Sciences (SPSS 17.0) for analysis. Descriptive and inferential statistics were generated. Chi square and *t*-test statistics were conducted to determine whether any significant differences existed between the two data samples. Results yielded no relevant significant differences, allowing the researchers to combine the two samples for analysis. To compare child pornography-only offenders with contact offenders, descriptive and inferential statistics were conducted on several variables including demographics, historical information, criminal history, collection and offense details, and investigative aspects, using an alpha of 0.05. The present study is part of a larger dataset in which over 60 variables were coded from the case files on each offender. Because information was not available for all variables in the files for all offenders, samples sizes varied depending on the analysis.

4. Results

4.1. Offending characteristics

4.1.1. Categories of offending

From review of investigative and criminal history records, each offender was classified into offending categories based on the type of child sex crime(s) he committed. These categories were not mutually exclusive, and offenders could be placed into more than one category. The four sexual exploitation of children (SEOC) offending categories were (1) Possession – having or acquiring child pornography, often through the use of a computer. For the purpose of this analysis, possession may also include receipt and distribution (trading) of child pornography; (2) Travel with Intent – traveling interstate for the purpose of engaging in sexual conduct with a child under the age of 18, facilitated through the use of a computer. This also includes offenders who initiated, arranged, or attempted to meet a child (either real or perceived, i.e., undercover operation) for a sexual purpose, but had not yet physically traveled or were apprehended by law enforcement in the process; (3) Production – creating child pornography, through images or videos documenting the sexual exploitation or sexual abuse of a child; and (4) Contact Offending – engaging in a hands-on offense against a minor(s) for sexual gratification. Hands-on offenses include penetrative sexual acts, as well as the touching of a child's genitals or breasts above or below clothing. Contact offending included both prior arrests contained in criminal records and those discovered during the instant offense.

Overall, 97% ($n = 244$) of the offenders possessed child pornography, followed by 32% ($n = 81$) who engaged in contact offending, 13% ($n = 33$) who traveled to meet a child for sexual purposes, and 10% ($n = 26$) who produced images and/or videos of child pornography.

4.1.2. Crossover offending

For purposes of this study, crossover offending was defined as committing offenses in two or more SEOC offending categories. Thirty-eight percent of the cases ($n = 95$) involved crossover or co-occurring offenses. A total of six offenders engaged in all four SEOC offending categories.

4.1.3. Offender demographics

Of the 95 cases involving crossover, the gender of the offenders was entirely male, and the majority were Caucasian (97%). The average age was 39 years old (SD = 11.94, range 18–77 years). Marital status at the time of the instant offense was known for 73 of the 95 crossover offenders (77%). Forty-seven percent ($n = 34$) of offenders had never been married, while 26% ($n = 19$) were married at the time of the instant offense. Another 26% were either divorced, separated, or widowed ($n = 19$). Living arrangements were documented in 80 of the 95 crossover cases. Thirty-nine percent ($n = 31$) of offenders were living alone, whereas 61% ($n = 49$) were living with someone at the time of the instant offense. Of the 49 offenders living with someone else, 37% ($n = 18$) were living with a child under the age of 18. Employment status at the time of offense was known for 82 of the 95 crossover offenders. The majority of offenders were employed at the time of the instant offense (98%, $n = 80$), including 18% in a computer-related field, 17% manual labor, and 20% business industries as the most frequent categories of employment. Additionally, 21% ($n = 17$) of offenders held a position of trust[10] through their employment, including law enforcement, teaching/coaching, medical, and clergy positions.

4.1.4. Criminal history

The FBI's Criminal Justice Information System (CJIS) performed a criminal history records check on all 95 crossover offenders. Of the 95 crossover offenders, the majority (62%, $n = 59$) had no prior criminal arrest history. Thirty-eight percent ($n = 36$) of offenders had a criminal record. Of those, 53% ($n = 19$) had a prior felony charge for Crime(s) Against Children – Sexual, and 11% ($n = 4$) had a prior child pornography charge(s). Eleven percent ($n = 4$) had been previously charged with a nuisance sex crime, to include indecent exposure, peeping, trespassing, and/or contributing to the delinquency of a minor; 6% ($n = 2$) had a prior DUI; and 47% ($n = 17$) had prior criminal offenses that fell into the Other category. Crimes coded as Other included arrests for such offenses as fraud, weapons charges, failure to appear, traffic/driving violations (other than DUI), resisting arrest, and various other misdemeanors.

[9] **Child erotica** has been defined as any material related to children which serves a sexual purpose for a given individual (Hazelwood & Lanning, 2009) but does not meet legal requirements of child pornography (e.g., clothed images of minors in catalogues, or magazines).

[10] **Position of Trust** is defined as possessing a job or title that creates an automatic societal expectation of credibility resulting in the willingness of caregivers to allow individuals in these positions to access and care for children. A position of trust was coded based on one of the following employment categories: Education, Public Safety, Mental Health, Clergy, Medical, and one job in the Other category (child care provider).

Table 1
Child pornography victim demographics, by offender type.

Child pornography victim demographics	Overall ($n = 212/251$)		Child pornography possessors only ($n = 137/152$)		Crossover offenders ($n = 75/95$)	
	n[a]	%	n[a]	%	n[a]	%
Gender						
Male	110	52%	72	53%	38	51%
Female	151	71%	101	74%	50	67%
Age						
0–5 years	32	15%	19	14%	13	17%
6–12 years	188	89%	123	90%	65	87%
13–17 years	99	47%	60	44%	39	52%

[a] n represents the number of known responses. Due to multiple response variables, percentages may total a sum >100.

4.2. Child pornography offending

Child pornography was located in 95% of the cases ($n = 238/251$), through execution of a search warrant and/or determined through online communication with an undercover officer (UCO).

4.2.1. Child pornography victim demographics

Of the 95 cases in which crossover offending was present, the gender and ages of the children depicted in the offenders' child pornography collections[11] were known in 79% of cases ($n = 75$). Within the crossover sample, 67% of the known collections depicted female children ($n = 50$), and 51% depicted male children ($n = 38$). Chi-square analysis revealed no statistically significant difference between child pornography possession-only and crossover offenders regarding the gender of victims depicted in their child pornography collection: Images depicting female children, (χ^2 (1) = 1.177, $p > 0.05$, *ns*); Images depicting male children, (χ^2 (1) = 0.069, $p > 0.05$, *ns*). Both groups of offenders appeared to prefer images of female children slightly over images of male children. Within the crossover sample, the majority of collections contained images of pre-pubescent children between 6–12 years old (87%, $n = 65$), followed in frequency by images of children between the ages of 13–17 years old (52%, $n = 39$) and 0–5 years old (17%, $n = 13$). Chi-square analyses revealed no statistically significant difference between child pornography possession-only and crossover offenders regarding the age of victims depicted in their child pornography collection across all three age range categories: 0–5 years, (χ^2 (1) = 0.454, $p > 0.05$, *ns*); 6–12 years, (χ^2 (1) = 0.468, $p > 0.05$, *ns*); 13–17 years, (χ^2 (1) = 1.311, $p > 0.05$, *ns*). Both groups of offenders appear to prefer images of pre-pubescent children between the ages of 6–12 (see Table 1).

Race was documented in 77% of the known collections among crossover offenders ($n = 67$). Of the collections where race was known ($n = 67$), all offenders had images depicting Caucasian children. In addition, 13% ($n = 9$) also had images of Asian children; 2% ($n = 1$) possessed images of African-American children; and 2% ($n = 1$) had images of Hispanic children.

4.2.2. Child erotica and other sexual themes present in collection

The presence of child erotica was known in 65 of the 95 crossover cases. Of those, 62% ($n = 40$) of crossover offenders possessed child erotica as part of their collection. The child erotica content often included images of clothed children (20%, $n = 15$) and innocent nudes (32%, $n = 24$). Several pornographic themes were also documented within the offenders' child pornography collections. These themes were coded in 80% of the crossover cases ($n = 76$). The most common pornographic theme present within offenders' collections was children depicted in various sexual poses (86%, $n = 65$). Themes depicting paraphilic interests such as spanking, bondage, rape, S&M, bestiality, incest, and other fetishes, were also common (26%, $n = 20$).

4.2.3. Sexual acts depicted in child pornography

The sexual acts observed within the known collections among crossover offenders was documented in 87% of cases ($n = 76/87$). The most common sexual acts depicted were oral sex (68%, $n = 52$), anal and/or vaginal intercourse (66%, $n = 50$), and masturbation (59%, n = 45). Less frequent sexual acts included foreign object insertion (25%, $n = 19$) and digital penetration (20%, $n = 15$).

4.3. Contact offending

Of cases in which crossover was present, 85% (81 of 95) had at least one contact offense victim. A total of 212 victims were identified across all offense category combinations (see Table 2). Of the 81 contact offenders, 58% ($n = 47$) offended against one identified victim and 42% ($n = 34$) offended against multiple victims, with the most common having two victims per offender ($n = 12$). The range of total victims per offender was 1–20 victims.

4.3.1. Contact victim demographics

Of the 81 offenders with contact offenses, the victim demographic information was known in 72 cases. Of those, 67% ($n = 48$) offended against female children and 40% ($n = 29$) offended against male children. The majority (96%) of the victims were Caucasian ($n = 69$). Over half (62%) of the victims were between the ages of 6–12 years

Table 2
SEOC offense categories: Frequency and number of victims.

SEOC offense category combination	Number of offenders ($n = 95$)	Number of victims ($n = 212$)
Possession & Contact Offending	47	92 (M = 1.96)
Possession & Traveling	13	–
Possession, Contact Offending, Production	19	83 (M = 4.37)
Possession, Contact Offending, Traveling	6	11 (M = 1.83)
Possession, Traveling, Production	1	–
Traveling & Contact Offending	3	5 (M = 1.67)
Possession, Traveling, Contact Offending, Production	6	21 (M = 3.50)

Note. Table illustrates the number of victims identified for each offender category combination. The table does not display the 156 cases from this study that were not classified into multiple offense categories (Possession only and Traveling only).

[11] For the purposes of this study, the term **collection** was defined as child pornography image(s) in an individual's possession at the time of the investigation, regardless of the number or types of images found. Note: Frequencies for the collection demographics are based on multiple response categorical variables, and therefore percentages may exceed a total of 100%.

Table 3
Contact victim demographics: Gender and age.

Victim Demographics	n[a]	%
Gender ($n = 72$)		
Male	29	40%
Female	48	67%
Age ($n = 73$)		
0–5 years	10	14%
6–12 years	45	62%
13–17 years	34	47%

[a] n represents the number of known responses. Due to multiple response variables, percentages may total a sum >100.

old ($n = 45$), 47% ($n = 34$) were between 13 – 17 years old, and 14% ($n = 10$) were between 0 – 5 years old (see Table 3).

4.3.2. Victim-offender relationship

The relationship between the victim(s) and the offender was captured using four categories: family, acquaintance, stranger, and online. Family relationships included parents, caregivers, or other related individuals by either blood, marriage, or custody arrangements. Acquaintances included relationships such as neighbors, family friends, or other individuals involved in some type of prior contact with the victim. In contrast, a stranger relationship was coded for individuals with no known prior contact with the victim. An online relationship was coded when the only prior contact with the victim occurred online. Because victim-offender relationship was captured as a multiple response variable, percentages may total a sum greater than 100, as some offenders in the sample had more than one victim. The victim-offender relationship was known in 70 of the 81 contact offending cases (86%). Forty-five percent ($n = 32$) were categorized as family, followed by 42% ($n = 30$) acquaintances, 19% ($n = 15$) online, and 3% ($n = 2$) strangers.

4.3.3. Access to victim(s)

How an offender gained access to or located his victim(s) was known in 70 of the 81 contact offending cases (86%). Most offenders gained access to contact victims through proximal sources: Family, Neighborhood, and Community (74%, $n = 52$). Twenty-one percent of offenders ($n = 15$) located their victims online (see Table 4).

Table 4
Contact offenders' access to victims.

Access to victim	n[a]	%
Neighborhood	17	24
Marriage	11	16
Other family relationships	16	23
Dating/Befriending child's parent	11	16
Vocational/Community activities	15	21
Online	15	21
Stranger	2	3
Other	4	6

[a] n represents the number of known responses. Due to multiple response variables, percentages may total a sum >100.

4.3.4. Contact offense acts

Many of the contact offenses included in this sample were discovered through the course of the investigation. Due to the multiple response option, a total of 158 sexual acts[12] were reported for the known cases (80%, $n = 65$). The most frequently reported contact offense acts included fondling (75%, $n = 49$) and oral sex (51%, $n = 33$). Other sexual acts included masturbation (37%, $n = 24$), vaginal penetration (20%, $n = 13$), anal penetration (20%, $n = 13$), digital penetration (19%, $n = 12$), foreign object insertion (11%, $n = 7$), and an "other" category (11%, $n = 7$), which included acts such as attempted vaginal penetration and surreptitiously videotaping the victim.

4.4. Comparative analysis of child pornography possession and contact offending

A series of analyses were conducted to examine whether the demographics of known child victims had any statistical relationship to the children depicted in the offender's child pornography collection. Data was available for 59 of the 81 contact offenders.

4.4.1. Victim gender

A chi-square analysis was attempted to compare the gender(s) of the children depicted in the images of a contact offender's child pornography collection and the gender(s) of his actual contact victim(s). Due to a small sample size, one or more cells did not meet the expected frequency assumption, therefore a Fisher's exact test was used. Overall results indicated that victim gender was statistically significant between an offender's child pornography collection and his contact offense victim(s), ($p < 0.0001$, Fisher's exact test). Offenders who maintained child pornography collections depicting exclusively male victims ($n = 18$) were significantly more likely to have committed contact offenses against male children (100%) than female children or a combination of both genders. Similarly, offenders who maintained child pornography collections depicting exclusively female children ($n = 30$) were significantly more likely to have committed contact offenses against female children (93%) than male children (0%) or a combination of both genders (6%). Offenders who maintained child pornography collections depicting both genders ($n = 11$) were slightly more likely to have committed contact offenses against female victims (64%) than either male victims or victims of both genders (each 18%, respectively) (see Table 5).

Table 5
Victim gender consistency between contact offenders' child pornography images and contact offense victims ($n = 59$).

	Contact victim			
Child pornography image	Male	Female	Both	Total
Male	18 (100%)	0	0	18
Female	0	28 (93%)	2 (6%)	30
Both	2 (18%)	7 (64%)	2 (18%)	11
Total	20	35	4	59

4.4.2. Victim age

A chi-square analysis was attempted to compare age groups of the victim(s) depicted in the images of a contact offender's child pornography collection and the age group[13] of his contact victim(s). Due to a small sample size, one or more cells did not meet the expected frequency assumption, therefore a Fisher's exact test was used. Overall results indicated that the victim age group was statistically significant between an offender's child pornography collection and his contact offense victim(s), ($p < 0.0005$, Fisher's exact test). Offenders who maintained child pornography collections depicting exclusively prepubescent children ($n = 29$) were significantly more likely to have committed

[12] Sexual acts were coded based on database records regarding criminal history and evidence obtained from the instant offense, including offender interviews, collateral interviews (victim, family, others), and documentation from the forensic examination of digital evidence.

[13] For the purpose of this analysis, victim age was coded into two groups: **prepubescent**, or children 12 years or younger; and **post-pubescent**, or children between the ages of 13–17.

contact offenses against prepubescent children (72%) than post-pubescent children or a combination of both age categories (each 14%, respectively). Similarly, offenders who maintained child pornography collections depicting exclusively post-pubescent children ($n = 6$) were significantly more likely to have committed contact offenses against post-pubescent children (100%). Offenders who maintained child pornography collections depicting both pre- and post-pubescent children ($n = 24$) were equally as likely to have committed contact offenses against prepubescent (38%), post-pubescent (42%), or victims of both age categories (21%) (see Table 6).

Table 6
Victim age consistency between contact offenders' child pornography images and contact offense victims ($n = 59$).

	Contact victim			
Child pornography image	Prepubescent	Post-pubescent	Both	Total
Prepubescent	21 (72%)	4 (14%)	4 (14%)	29
Post-pubescent	0	6 (100%)	0	6
Both	9 (38%)	10 (42%)	5 (21%)	24
Total	30	20	9	59

4.4.3. Collection themes

Analysis of the various themes present within the images of an offender's collection was compared across two offender groups: contact offenders ($n = 81$) and child pornography possession-only offenders ($n = 152$). Due to the multiple response variables, a chi-square was not appropriate for this analysis; however the frequencies of themes across both groups were similar, suggesting that there does not seem to be any distinguishing themes in the collections of offenders who commit contact offenses against a child versus those who are possession-only offenders (see Table 7).

Table 7
Frequency of child-related themes within offender's collection, by offender group.

Theme	Contact offenders ($n = 64/81$)		Child pornography possessors only ($n = 133/152$)	
	n[a]	%	n[a]	%
Clothed	14	22%	12	9%
"Innocent nudes"	22	34%	33	25%
Sexual poses	56	88%	112	84%
Paraphilic interests	17	27%	36	27%
Sexual acts (overall)	59	92%	122	92%
Masturbation	38	59%	85	64%
Oral sex	44	69%	92	69%
Vaginal/Anal penetration	41	64%	88	66%
Foreign object insertion	18	28%	37	28%
Digital penetration	11	17%	22	17%
Sexual acts (unspecified)	2	3%	3	2%

[a] n represents the number of known responses. Due to multiple response variables, percentages may total a sum >100. For coding purposes, paraphilic interests included themes such as spanking, bondage, rape, S&M, bestiality, incest, and other fetishes.

Further analysis was conducted on the subsample of contact offenders ($n = 81$) to compare the themes contained within the offender's child pornography collection and the offender's reported contact sexual offending behavior against a child victim. Results indicate that the themes present within an offender's child pornography collection aligned closely with offenders' contact sexual offenses, with oral sex being the most frequent theme among both their collections and their contact sexual acts committed against a child(ren) (see Table 8). Although significance level could not be analyzed due to multiple response variables, similarities in the resulting frequencies seem to indicate that the themes present in an offender's collection are a reflection of his sexual interests and possible offending behavior.

Table 8
Frequency of sexual act themes among contact offenders' child pornography images and contact offense acts.

Theme	Within child pornography collection ($n = 56/81$)		Contact sexual act ($n = 52/81$)	
	n[a]	%	n[a]	%
Masturbation	38	68%	24	46%
Oral sex	44	79%	33	64%
Vaginal/Anal penetration	41	73%	24	46%
Foreign object insertion	18	32%	7	14%
Digital penetration	11	20%	12	23%

[a] n represents the number of known responses. Due to multiple response variables, percentages may total a sum >100.

4.5. Aspects of the investigation

4.5.1. Access to children and grooming behavior

Regardless of whether the offender was determined to have committed a contact offense against a child, 68% of the overall sample of 251 offenders were known to have possible access to children. For coding purposes, grooming included any behavior aimed at gaining the cooperation of a child to achieve sexual gratification for the offender and/or others. Of the 81 offenders who had sexually abused a child, 62% ($n = 31$) used some type of grooming behavior to gain and maintain access to the child victim(s), such as giving the victim attention, toys, money, or showing the victim child pornography.

4.5.2. Original allegations

Over half (51%) of the contact offense cases began with allegations of child pornography possession and/or distribution only. It was through further investigation of the instant child pornography offense that contact offenses against a child(ren) were discovered.

4.5.3. Efforts made to investigate contact offending

Law enforcement used various investigative techniques to determine if an offender had any contact offense victims. Investigative techniques were compared between child pornography possession cases and contact offending cases. Of the known responses for cases involving only the possession of child pornography ($n = 135$), the most common investigative efforts to determine whether the offender had committed a contact sexual offense against a child was an interview with the offender (82%, $n = 110$) and criminal record checks (64%, $n = 86$). In known responses for cases determined to involve a contact offense against a child ($n = 79$), the most common investigative techniques were still the offender interview (65%, $n = 51$) and criminal record checks (58%, $n = 46$), but a higher frequency of additional techniques were also utilized (see Table 9).

Table 9
Techniques employed by law enforcement to investigate contact offending, by offender group

Type of investigative technique	Child pornography possession only cases ($n = 135$)		Contact offending cases ($n = 79$)	
	n[a]	%	n[a]	%
Offender interview	110	82%	51	65%
Criminal record check	86	64%	46	58%
Family/friend interviews	40	30%	44	56%
Employment check	12	9%	11	14%
Inquiry of outside interests/volunteer work	6	4%	15	19%
Online communication - buddy list check	3	2%	10	13%
Polygraph	5	4%	6	8%
Neighborhood canvass	3	2%	8	10%
Other	4	3%	11	14%

[a] n represents the number of known responses. Due to multiple response variables, percentages may total a sum >100.

4.5.4. Polygraph

Whether a polygraph exam was utilized during the course of the investigation was known in 215 of the 251 cases in the sample. In 92% of the cases, the offender was never asked to take the polygraph regarding contact offending. In six cases, a polygraph was offered but the offender declined. Of the offenders who were administered a polygraph exam (6%, $n = 13$), nine offenders failed the test and another four offenders were inconclusive. None of the offenders who took the polygraph passed. Further, of the 13 offenders who took the polygraph, only three had a prior criminal history. In 7 of the 13 cases in which the polygraph was administered, a total of 23 contact offense victims were identified who were unknown to law enforcement prior to the instant investigation.

5. Discussion

The current study is intended to expand upon existing literature regarding crossover offending, as well as provide an analysis of the specific content of an offender's child pornography collection from a law enforcement sample. The characteristics of the offenders in this sample were somewhat diverse, perhaps more than other criminal populations, suggesting that there does not appear to be a set demographic profile for Internet child sex offenders. Although the offenders were overwhelmingly Caucasian males, their age, occupation, and family dynamics represent a heterogeneous cross section of society. Many were educated beyond high school and were gainfully employed at the time of the investigation. These findings are consistent with previous research that indicates the majority of child sex offenders are males, predominantly white, and older than 25 years of age, but vary in other demographics such as age, education, income, occupation, marital, or community status (McCarthy, 2010; Greenfeld, 1996; Seto & Eke, 2005; Wolak et al., 2005).

A common public misconception about child sex offenders is that a person who appears to look and act within the general standards of society cannot be a child sex offender. However, child sex offenders are knowledgeable about the importance of their public image, and most can compartmentalize their deviant behaviors in order to conceal them from others. They may use grooming strategies and often engage in impression management to gain access to children while hiding their true motivations and actions. Some offenders appear to be charming, sincere, compassionate, morally sound, and socially responsible. Within this sample, 21% of offenders occupied positions of trust as coaches, counselors, educators, clergymen, and law enforcement. It is not uncommon for child sex offenders to seek out volunteer or employment positions that place them in close proximity to children (Hoffer et al., 2015; Sullivan & Beech, 2004). Parents and other responsible adults come to trust these individuals, which can lead to continued access to child victims and assist in preventing their victims from disclosing the abuse.

Another notable feature of this sample was that the majority of offenders had no criminal history. This is in contrast to the national statistics regarding criminal history for sex offenders in general. According to the Bureau of Justice Statistics, 79% of the overall sex offender population (to include sex offenses against adults) had a criminal record (Langan, Schmitt, & Durose, 2003). The findings from this study are consistent with other literature indicating that overall, the rate of prior criminal involvement is low among online child sex offenders (Babchishin, Hanson, & Hermann, 2011; Seto et al., 2011). Specifically, Greenfeld (1996) reported that inmates who victimized children were less likely than other inmates to have a prior criminal record – nearly a third of child-victimizers had never been arrested prior to the current offense, compared to less than 20% of those who victimized adults.

Although offenders in this sample were less likely to have a prior criminal history, of those that did, over half (53%, $n = 19/36$) had been charged with a felony sex crime against a child. This is a considerably higher rate compared to national statistics reports of prior arrests for sex offenses against a child among both child sex offenders and the general sex offender population, (18% and 10%, respectively) (Langan et al., 2003). Similarly, in their meta-analysis of 24 studies, Seto et al. (2011) found that approximately one in eight online offenders (12%) had an official history of contact sexual offenses. It is important to note that despite these findings, many of the offenders in this study who were found to have the most contact offense victims were those offenders who had managed to remain undetected by law enforcement, as most lacked a criminal history. This reflects that official records are a conservative estimate of actual offending, and often only when investigated for an Internet-related child exploitation crime are additional contact offenses discovered.

5.1. Crossover offending

The majority of the offenders in the sample (97%) possessed child pornography. And for 62% of these cases, the investigation revealed the offender was only known to have engaged in child pornography offenses. Therefore, a definitive link between child pornography and contact sexual offending cannot be assumed in every SEOC case. However, a certain frequency of individuals with a sexual interest in children demonstrate co-occurring behaviors, such as accessing child pornography and contact offending, which suggests motivational similarities. In the current study, 38% of offenders who possessed child pornography also engaged in other contact sexual exploitation crimes against children. A total of six offenders engaged in all four SEOC offending categories. Crossover offending observed in this sample of FBI SEOC investigations indicates that the act of viewing child pornography does not necessarily exist in isolation, and the behaviors associated with viewing and possessing child pornography often extend beyond "just looking at pictures." Data from this study and others regarding child pornography offenders generally suggests that Internet-related child sex crimes are often part of a predatory pattern of behavior and individuals who act on their sexual interest in children may be influenced by their engagement in child pornography-related activities (Buschman et al., 2010; Long et al., 2013; McCarthy, 2010; Wolak et al., 2005). Among the cases of crossover offending in this sample, a total of 212 victims were identified, either through criminal history or during the course of the investigation. Further, of the 244 child pornography offenders, 25% ($n = 60$) were discovered to have at least one contact offense victim.

Although early research questioned whether the Internet had created a "new" type of child sex offender, results from this study continue to support a current belief (see Lanning 2010) that the Internet is merely the instrument used by these offenders to better facilitate their crimes. As technology advances, the tools offenders use may change as they adapt to a dynamic environment, but their motivations and deviant sexual interest in children remains relatively constant. With the continued prevalence and availability of the Internet, investigators are likely to encounter increasing numbers of child sexual exploitation cases involving advances in technology and digital devices. Heightened awareness regarding the possibility of crossover offending can enhance law enforcement's ability to disrupt and combat individuals who engage in a variety of child sexual exploitation crimes, as well as increase their ability to identify additional victims.

5.2. Image analysis: Findings and implications

Little has been written explaining why offenders may select certain images (Seto et al., 2006; Seto, Reeves, & Jung, 2010). However, previous research on adult pornography suggests that individuals seek out material that is most arousing to them and reflects their sexual fantasies (Glasgow, 2010; Seto, 2013). It can also be inferred that the possession of child pornography may indicate the sexual preference of the offender in terms of victim gender, age, and the sexual acts depicted (Seto et al., 2006).

A unique aspect of the current study was the ability to examine forensic documentation of the actual content of a crossover offender's pornography collection - providing objective evidence and specific details about the children depicted and other pornography content. An examination of victim demographics and sexual themes contained within crossover offenders' collections revealed strong similarities between their child pornography images and their contact sexual offenses against a child(ren). In addition, offenders generally committed contact sexual offenses against children that resembled the demographic characteristics of their child pornography collection. While previous research has found a significant number of offenders engaged in the abuse of children of both genders and in more than one age category (Bourke & Hernandez, 2009; Heil et al., 2003), the current study indicates a more preferential pattern of offending behavior. Taken together, research suggests that child sex offenders may have a preference for a specific age, gender, physical, and/or psychological characteristic of a child as their ideal target victim, however they may choose to offend against a child that is disparate to their collection and preference due to their access to that victim (Hoffer et al., 2015).

Understanding the offender's sexual interests can be helpful in evaluating the breadth of the offender's collection and provides additional information about past and potential offending behavior in the future (Hoffer & Isom, 2015). More research is needed in the area of image analysis, including the relationship between the age and gender of the children in the images offenders collect and any children they have directly victimized (Seto, 2013). Although offenders cannot be charged for offenses they plan on committing, analysis of the child pornography collection may give investigators a starting point in determining whether the suspect committed contact sexual offenses against a child. In addition, analysis of commonalities between offenders' collections and contact sexual acts could assist in obtaining admissions from offenders to a greater number of victims, acts, and/or the egregiousness/severity of those acts. It could also enhance additional behavioral and motivational aspects of the role of child pornography in the "grooming" process, in which offenders show prospective victims the sexual activity they wish to engage in (Buschman et al., 2010; Hoffer et al., 2015; Seto, 2013). Finally, knowledge of the similarities between images depicted and sexual acts committed could provide "best practice" recommendations and strategies for interviews with victims, (i.e., corroboration of sexual acts and/or grooming behaviors).

5.3. Investigative considerations and recommendations

5.3.1. Victim-offender relationship and access to children

One of the greatest misconceptions about child sex offenders is that they are predatory strangers lurking in public places, stalking their young victims. The concept of "stranger danger" leads parents (and the community) to believe that unknown individuals pose the greatest risk to their children when, in actuality, the overwhelming majority of children are abused by individuals they know and trust (Finkelhor, Ormrod, Turner, & Hamby, 2005; Greenfeld, 1996; Heil et al., 2003; Lam et al., 2010; Long et al., 2013). The current study found that the offender's relationship with the victim was most often categorized as family (45%) or acquaintances (42%). These rates are consistent with national statistics that report the vast majority of child sex offenders in state prison knew their victim before the crime: a third committed their crime against their own child; about half had a relationship with the victim as a friend, acquaintance, or relative; only one in seven reported to have been a stranger with no prior relationship to the victim (BJS Survey of State Prison Inmates, 1991, as cited in Greenfeld, 1996). Although vigilance against strangers who interact with children remains, law enforcement is more likely to identify the perpetrator of child sexual abuse by examining the relationship dynamics of individuals within a child's environment. From an investigative standpoint, information about the offender's relationship to a victim is helpful in understanding and identifying victim selection techniques, behaviors the offender utilized to make contact with a victim, and gain a victim's trust (Hoffer et al., 2015).

Individuals most likely to abuse a child are those with opportunity and access (Heil et al., 2003; Lanning, 2010; Long et al., 2013; Sullivan & Beech, 2004). Although many offenders in this sample were child pornography possession-only offenders with no evidence of contact offending, over half (67%) of the overall sample were still known to have possible access to children. Many of the offenders had volunteer or employment positions that placed them in close proximity to children. In fact, nearly one-fourth of the offenders in the current sample held a position of trust and/or engaged in hobbies or other activities within the community that provided access to children. Even in cases where there is no initial indication of contact offending, determining an offender's level of access to children should be incorporated into every SEOC investigation.

5.3.2. Efforts made to investigate contact offending

Although law enforcement uses various investigative techniques to identify if an offender had any contact offense victims, the most common investigative efforts from this study were found to be the offender interview and criminal record checks. While these are both important components of any investigation, SEOC cases should incorporate additional inquires that extend beyond the offender. Relying primarily on an offender's statements and criminal record is problematic because child sex offenders are not always truthful when discussing their crimes and often do not have a documented criminal history. The majority of offenders in this study had no criminal history prior to their instant offense, however this finding was based on official records from the FBI's Criminal Justice Information System (CJIS) database. Previous research has noted that the proportion of prior contact offenses is often significantly lower when estimates are based on official report records compared to offenders' self-report (Seto et al., 2011). In addition, Wolak et al. (2011) note when investigating crossover offenders, cases that began with child pornography possession-only investigations are more ambiguous than those that begin with allegations of contact child sexual abuse and then find child pornography concurrent to the investigation. Yet even with the often ambiguous nature of these cases, results of the current study found that just over half of cases that began as investigations of child pornography possession or distribution led to the detection of contact sexual offending, and the identification of 92 victims who were unknown to law enforcement prior to the instant investigation. Further, in cases involving a contact offense against a child, a higher frequency of investigative techniques, such as family/friend interviews, employment checks, and neighborhood canvass were utilized. Law enforcement is encouraged to aggressively and objectively investigate the possibility that an offender under investigation for child pornography possession has or is molesting children or that an individual suspected of contact sexual abuse of a child is also viewing child pornography.

5.3.3. Polygraph

It can be stated that the traditional methods of interviewing sex offenders, when used in the context of child pornography investigations, have resulted in significant gaps in uncovering the full range and understanding of these offenders' criminal behaviors. Commonly, once confronted by initial contact from law enforcement during the execution of a search warrant and presented with forensic evidence from their computer, offenders often admit to the possession of child pornography. A similar dynamic may occur when offenders are asked to take a polygraph test related to contact offending (Buschman et al., 2010). The polygraph has been shown to assist in increasing the disclosure of sex offenders in a clinical setting, however its utility has greater application in the field where disclosures made by offenders can lead to the discovery of previous and current sexual abuse of a child.

Although the current study found evidence of crossover offending in 38% of the cases, the majority of offenders (92%) were never asked to

take a polygraph during the course of the investigation. It may be assumed that the polygraph is not needed because an offender under investigation for child pornography confessed to the crime. This assumption is supported by results from this study indicating that the majority of the offenders "confessed" (94% pled guilty). However, the rationale of this argument becomes problematic when you consider that these offenders typically only confess to what investigators already know: the evidence of child pornography on their computer (Buschman et al., 2010; Lanning, 2010). Not surprisingly, offenders are extremely reluctant to disclose their offending history, so they may quickly offer admissions to child pornography charges in an effort to keep any additional prior contact offenses hidden. Investigators and prosecutors should be cautious of offenders who seem overly anxious to plead guilty. They may be motivated to plead guilty in order to prevent discovery of the full scope of their criminal sexual activity, including contact offending against children (Lanning, 2010). The authors recognize that not all offenders will have crossover offenses. However, in the majority of online SEOC cases in which the polygraph was administered, investigators were successful in obtaining disclosures of previously undetected contact offenses. Given these and the results of previous literature regarding polygraph use with child sex offenders (Bourke & Hernandez, 2009; Buschman et al., 2010; Heil & English, 2009; Gannon et al., 2013), it is hypothesized that in at least some of the 62% of child pornography possession-only cases reported in this study, additional sexual offenses against children would likely have been uncovered if the offender was asked and agreed to take a polygraph. It is therefore recommended that investigative techniques for child pornography crimes expand to include the use of the polygraph whenever possible.

5.4. Limitations

The strength of this study is that the primary source of information was obtained from investigative reports rather than a reliance on self-report data often seen in other studies. This perspective is a needed addition to the existent literature from clinical and academic sources. However, even with access to a variety of case reports, some records lacked basic demographics (e.g., education level, marital status) and very few contained specific background information of the offender such as medical history or mental health records. There are several additional limitations to consider when discussing the current research. Although the study's sample size is equal to or exceeds those of other studies, the method of case selection limits generalizabilty. Because it was not feasible to collect information on all child sexual exploitation cases investigated by the FBI, the sampling of cases for the two time frames included in this study was executed using a convenience sampling method rather than selecting cases purely at random. Additionally, although all cases were selected from a list generated by the FBI's internal Automated Case Support (ACS) database, inclusion was also based on availability of information and investigator response. Despite this, the sample is well representative of the operational cases of child sexual exploitation investigated by the FBI. Further, typical of sex offender research is the sole inclusion of offenders who have come into contact with law enforcement and the judicial system. Comparison samples are difficult to attain, and are therefore often not included.

Though the range of years represented in the cases allowed for an analysis of investigative and behavioral variables over time, the older cases within the overall sample may not reflect developments in technology and/or current capabilities. However, the additional 53 cases resolved in 2010 were added to update the original sample and provide a more current snapshot of technology trends and patterns observed in online child sexual exploitation investigations. In addition, the statistical comparison of offender variables conducted across the two samples did not reveal any relevant significant differences, suggesting that although technology capabilities have advanced, online child sex offender behavior is relatively constant.

Finally, the study focused on a sample of online SEOC offenders of which the crossover and contact offenders are only a subset of the overall sample population. Data pertaining to the SEOC crimes committed by an offender was collected based on information available at the time of the offense. The researchers were limited to information based on the instant child pornography investigation. Hence, the crossover offending behavior reflected in this sample may not be representative of crossover and contact offending behavior in general. In addition, the study was not developed to focus exclusively on crossover and contact offending behavior. The data obtained from the overall sample of online child sexual exploitation offenders examined a broad range of behavior and offense characteristics, and was initially exploratory in nature. Hence, the results obtained limited the statistical analyses that could be conducted.

6. Conclusion

Although the present analysis was exploratory in nature, results suggest that an interest in child pornography is strongly related to an interest in active child sexual abuse and that such images serve as sexually motivating stimulus for contact sex offenders. While law enforcement cannot arrest an offender for something he wants or plans to do in the future, analysis of the child pornography collection could give investigators a starting point in determining whether the suspect committed contact sex offenses against a child. Results of this study indicate that offenders' collections highlight their preferred victim characteristics of the type of child they are likely to offend against if afforded the opportunity and access to such child victims. This also further highlights the recurrent relationship of child pornography possession to contact offending. Although the current study supports the preferential nature of these offenders with regard to victim selection, it also emphasizes the variability in the behavior of such offenders. Rather than classify child sex offenders by "type" on the basis of crimes for which they were apprehended (i.e., possessors or contact offenders), it may be more accurate to evaluate child sex offenders based on a similar motivational pathway that leads to co-occurring sexual offenses against children. Although establishing whether a direct causal relationship exists between viewing child pornography and committing contact sexual abuse against children is difficult to determine, results of this analysis stress the importance of additional investigation into SEOC criminal behavior beyond the crime for which the offender is under investigation. As retired FBI Agent Ken Lanning so aptly observed from his experience working SEOC cases, "child pornography should always be viewed as both a violation of the law and possible corroboration [of child molestation]" (Lanning, 2010, p.93). Therefore, child pornography cases should not be overlooked or discounted based on initial evidence of possession-only.

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