

Looking Beyond the Screen: A Critical Review of the Literature on the Online Child Pornography Offender

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Abstract

This article reviews the current literature pertaining to those who engage in child pornography offending. The basic characteristics of online child pornography offenders (CPOs) and related typologies are briefly presented prior to reviewing the comparative literature pertaining to CPOs and child contact sexual offenders. In general, CPOs have been found to be relatively high functioning and generally pro-social individuals with less extensive and diverse offending histories than contact offenders. CPOs also display high levels of sexual pre-occupation, deviant sexual interests, and deficits in interpersonal and affective domains that surpass those of contact offenders. Although further research is required to replicate and clarify preliminary findings, the available evidence indicates that existing sexual offender risk assessment tools and treatment programs are not suitable for use with CPOs, and thus require revision and empirical evaluation prior to widespread use among this population. The article concludes with implications for clinical practice and directions for future research.

Keywords

child pornography, online sexual offending, Internet, risk factors, treatment needs

In late 2007, a European website was hacked and 99 images of child pornography were posted on the website. Within just 76 hours, the website had received 12 million hits from more than 144,000 Internet Protocol (IP) addresses across 170 countries

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(Australian Federal Police, 2009). The magnitude of online activity that occurred in the 3 days in which this material remained on the Internet emphasizes the way in which the Internet has dramatically altered the ability to access, possess, distribute, and produce child pornography in modern society. Although involvement with child pornography long pre-dates the advent of the Internet, the mass communication capabilities afforded by the Internet have exponentially increased the availability and accessibility of this material (Wall, 2007), resulting in an increase in child pornography offending over the last two decades (Brennan, 2012; Motivans & Kyckelhahn, 2007; Victoria Police, 2014; Wall, 2007).

Accordingly, questions concerning the motives and characteristics of those who engage in online child pornography offending have been raised, and have led to both public and professional concerns regarding the risk of harm to children posed by these offenders. Underpinning these concerns is the key question of whether or not child pornography offenders (“CPOs”) represent a distinct class of sexual offender that differs from traditional “offline” contact sexual offenders, or whether they are merely typical child sexual offenders employing a new medium to facilitate their offending (Seto & Hanson, 2011). The answer to this question has important implications for determining whether the risks and treatment needs of CPOs are being appropriately identified and targeted by current clinical practice in the field of forensic psychology.

Scope of the Review and Terminology

This article aims to highlight what is currently known, as well as gaps in available knowledge, regarding those who engage in online child pornography offenses. The challenges associated with characterizing the CPO population in light of the limitations of the extant literature will be briefly discussed prior to providing a critical analysis of the literature surrounding the demographic, psychosocial, offending, and psychological characteristics of CPOs. The findings of studies that compare the characteristics of child pornography and child contact sexual offenders will be a particular focus of this article. This research has important applications, as it informs the extent to which extant risk assessment and treatment practices pertaining to contact child sex offenders may extend to CPOs.

It is important to acknowledge that the Internet has facilitated the sexual exploitation of children in broader sense, including solicitation or “online grooming” offenses, as well as child “sexual tourism” and trafficking (Calder, 2004; Seto, 2013). However, it is the view of the authors that these crimes likely differ in nature when compared with child pornography offenses. With the exception of those production offenses where the offender is directly involved in the abuse of the child, child pornography offenses do not typically involve the direct victimization of children. In contrast, solicitation and sexual tourism offenses commonly have contact offending, or at least sexual interaction with a child, as their aim. Thus, while acknowledging that this distinction is not always clear within the literature discussed, particularly the earlier studies, this article seeks to limit discussion to those engage in child pornography offenses specifically. As such, literature relating specifically to the online solicitation and trafficking of children will not be addressed within this review.

Given that the majority of modern child pornography offenses are committed online (Motivans & Kyckelhahn, 2007), the term “child pornography offender” (CPO) will be adopted throughout to refer to those who use the Internet to access, download, distribute, or produce child pornography. Although it is acknowledged that increasingly popular terms such as “child exploitation material,” and “child abuse material” (Criminal Code Act, 1995; Virtual Global Taskforce, 2011) more accurately reflect the nature of the harm committed against those depicted in such material, the term “child pornography” has been adopted throughout this review to remain consistent with the majority of the existing literature and legislation. Similarly, unless otherwise specified, the term “contact offender” will be used to refer to those who engage in contact sexual offenses against children specifically.

The Heterogeneous Nature of CPOs

The increase in child pornography offending over the last two decades has resulted in an increased awareness of this phenomenon and a subsequent emergence of a small but growing literature base dedicated to understanding the unique motivations, characteristics, risks, and needs of those who engage in this type of offending. It is critical to emphasize from the outset that there are a range of people who are found to possess child pornography; as such, it is important to realize that when trying to characterize populations of CPOs, there will be a mixture of offenders with broad ranging motivations, histories, and characteristics. Thus, when dealing with individuals, due caution must be used not to assume that the offender has particular characteristics.

Preliminary research findings suggest that, on average, CPOs are almost exclusively male and Caucasian in ethnicity, and tend to be in their late-30s to mid-40s, employed and well educated (Bourke & Hernandez, 2009; Merdian, Wilson, & Boer, 2009; Motivans & Kyckelhahn, 2007; O'Brien & Webster, 2007; Seto, Reeves, & Jung, 2010; Wakeling, Howard, & Barnett, 2011). This is in stark contrast to findings pertaining to the general offending population, high proportions of whom are of ethnic minority status and have limited educational backgrounds (Beck & Harrison, 2006; Coley & Barton, 2006; Corrections Victoria, 2010; Harlow, 2003). Moreover, studies have typically reported low rates of historical and prospective offending in this population, with between 53% and 89% of CPOs having no known history of offending, and up to one third being convicted of further offenses following their involvement with child pornography (Barnett, Wakeling, & Howard, 2010; Eke, Seto, & Williams, 2011; Elliott, Beech, Mandeville-Norden, & Hayes, 2009; Endrass et al., 2009).

This basic characterization of CPOs would appear to indicate the existence of a somewhat specialist group of offenders who, outside of their involvement with child pornography, appear quite similar to the average member of the community. Although the majority of past comparative research has made comparisons between child pornography and contact offenders, there is evidence to suggest the presence of a third group (typically referred to as “dual” offenders) who engage in both child pornography and contact offenses (Seto, Hanson, & Babchishin, 2011). In fact, this may well be the largest group of so-called CPOs. Moreover, different patterns of offending are

emerging in clinical practice anecdotally. Typically, it has been assumed that offenders commence with viewing online child pornography and then “escalate” to contact offending. Increasingly, however, we are seeing the opposite pattern in our own clinical work, with some offenders with a history of contact offending reoffending by accessing or downloading online child pornography. Thus, there is no single pattern of offending and no single type of offender who engages with online child pornography. Although little is currently known about the process of dual offending, emerging research has reported some differences in the characteristics of contact, dual, and CPOs (Babchishin, Hanson, & VanZuylen, 2015; Elliott, Beech, & Mandeville-Norden, 2013), indicating that these are likely to constitute three distinct offending groups: CPO exclusively, contact only, and dual offending (i.e., child pornography and contact child sexual offending).

Moreover, although less attention has been paid to this within the empirical literature to date, there may also be important within-group differences among exclusive CPOs, given that various ways in which individuals can engage with sexualized materials of children. It is quite possible, for example, that those who access and download child pornography may differ in their characteristics to those who actively trade, sell, and produce child pornography online. Indeed, the small number of existing typologies pertaining to child pornography offending suggests that CPOs are a heterogeneous group who present with a range of motivations and behaviors associated with their offending (Aslan, 2011). Although an extensive review of these typologies is beyond the scope of this article, Table 1 provides a summary of each of the emerging typologies relating to child pornography offending, should readers wish to examine these in greater depth. However, a major weakness of this body of work is the dearth of empirical input, with these typologies typically being developed on the basis of clinical experiences and/or qualitative analysis of small and potentially biased samples. Moreover, none of the typologies has yet to be subject to empirical validation, limiting their generalizability and constituting a clear area for research in future.

Challenges Within the Existing Literature

Prior to presenting the available findings relating to the characteristics of CPOs in comparison with contact offenders, it is important to discuss some of the weaknesses within the existing literature. These weaknesses both limit the ability to make firm conclusions about those who engage in child pornography offenses, as well as to meaningfully synthesize and interpret findings within the literature. Key to this discussion is the significant variability in the way those who commit child pornography offenses are defined, labeled, and categorized within the empirical literature. For example, some studies have utilized broadly defined samples of “online” or “Internet” offenders, either collapsing different types of online sexual offenders into one big group or failing to adequately specify the offense types included within their samples (Hernandez, 2000; Middleton, Mandeville-Norden, & Hayes, 2009; Tomak, Weschler, Ghahramanlou-Holloway, Virden, & Nademin, 2009). Other studies have utilized methodologies that do not differentiate between those who exclusively commit child

Table 1. Summary of the Main Typologies Relating to Child Pornography Offending.

Author(s)	Focus	Categories	Description
Hartman, Burgess, and Lanning (1984)	Behavioral/ motivational (Pre-Internet)	Closet collector	Covert interest in child pornography (CP), without direct victimization of children, believing this to be wrong.
		Pedophile collector	Clear sexual interest in children, manifesting in "monogamous" child contact offending and varying levels of involvement in CP collecting.
		Cottage collector	Non-commercial production and solicitation of CP in group contexts, with intent of forming connections with other CP collectors.
		Commercial collector	Direct involvement in contact victimization for the sole purpose of benefitting financially from the production and dissemination of CP material.
Alexy, Burgess, and Baker (2005)	Behavioral Considers online sexual offending more broadly	Trader	Collect and/or trade CP online. Includes possession, distribution, and production offenses.
		Traveler	Engage in discussion with children online and use their skills at manipulation and coercion to meet a child in person for sexual purposes.
		Trader/traveler	Engage in both trading and traveling.
Sullivan and Beech (2004)		Untitled	Collect material as a larger part of sexual offending, which may include the direct sexual victimization of children.
		Untitled	Collect material to feed an emerging sexual interest in children.
		Untitled	Access material due to curiosity.
Lanning (2001)	Motivational	Situational	No specific sexual interest in children. Either offend as a result of 1. impulsivity or curiosity (<i>normals</i>), 2. a pattern of anger- or power-driven antisocial behavior (<i>morally indiscriminants</i>), and 3. a desire to profit financially from distribution of material (<i>profiteers</i>).
		Preferential	Clear sexual interest in children, which is 1. specific to children and long-standing (<i>pedophiles</i>),

(continued)

Table 1. (continued)

Author(s)	Focus	Categories	Description
Krone (2004)	Behavioral	Miscellaneous	2. part of a wide variety of deviant sexual interests that includes children (<i>sexually indiscriminants</i>), or
			3. previously suppressed but has emerged in response to the Internet (<i>latents</i>).
		Miscellaneous	Access for a variety of reasons, such as curiosity, to prank or embarrass others, to covertly investigate the phenomenon and perpetrators (journalists, over-zealous citizens). May also include "older boyfriends"; young adults (late teens, early 20s) who use the Internet to interact sexually with adolescent girls or boys.
		Browser	Response to spam, accidental hit on suspect site—material knowingly saved. Nil networking, nil security, indirect abuse.
		Private fantasy	Conscious creation of online text or digital images for private use. Nil networking, nil security, indirect abuse.
		Trawler	Large collection of pornography in which child pornography features. Actively seeking child pornography using openly available browsers. Low level of networking, nil security, indirect abuse.
		Non-secure collector	Actively seeking material, often through peer-to-peer networks. High level of networking, nil security, indirect abuse.
		Secure collector	Actively seeking material but only through secure networks using encryption, passwords, or trading for entry. Driven by a desire to gather a collection. High level of networking, security measures utilized, indirect abuse.

(continued)

Table 1. (continued)

Author(s)	Focus	Categories	Description
Merdian, Curtis, Thakker, Wilson, and Boer (2013)	Multi-dimensional Each individual is classified across three dimensions	Groomer	Cultivating an online relationship with one or more children to establish sexual relationship (online or offline). The offender may or may not seek material in any of the above ways. Pornography may be used to facilitate abuse. Variable level of networking and security (dependent on victim), direct abuse.
		Physical abuser	Direct contact offending with child pornography used to supplement or facilitate offending. The offender may or may not seek material in any of the above ways. May include production without intent to distribute. Variable level of networking and security, direct abuse.
		Producer	Records own abuse or that of others (or induces children to submit images of themselves) and distributes to others. Variable level of networking and security, direct abuse.
		Distributor	May distribute at any one of the above levels and may or may not have a sexual interest in children. Variable level of networking, security measures utilized, indirect abuse.
		Dimension 1: Fantasy or contact driven	1. Where CP is used to fuel individual sexual fantasy (<i>fantasy-driven offending</i>) 2. Where CP offending occurs as a result of contact offending (producing own materials) or as a means of facilitating contact offending by showing materials to potential victims to normalize adult-child sexual activity (<i>contact-driven offending</i>)
		Dimension 2: Motivation	1. CP use is driven by a specific sexual interest in children, either in fantasy (possessors) or real life (producers; <i>pedophilic</i>)

(continued)

Table 1. (continued)

Author(s)	Focus	Categories	Description
			2. Engage with CP as part of a wider pattern of sexual deviance and deviant pornography use (<i>general deviant sexual interest</i>)
			3. May be sexually interested in CP, but primarily motivated by the value of child pornography, either financially or as a currency to access other deviant materials (<i>financial</i>)
			4. Motivated by other, non-sexual reasons, such as curiosity, moral considerations, or the act of “collecting” itself (<i>other</i>)
		Dimension 3: Social component	An individual’s level of networking is determined by the pattern of interaction with CP-related technologies and like-minded others. A higher level of networking is considered to represent higher offending severity and possibly higher recidivism risk.
			1. Primarily engaged in static online services (e.g., websites) with little or no use of interactive communication tools (e.g., chat services or message boards; <i>low networking</i>)
			2. Indicated by use of interactive communication tools (e.g., chat services or messaging boards), being a member of CP newsgroups, or trading material with like-minded others (<i>high networking</i>)

pornography or contact offenses and those with a history of both offending, typically due to categorizing offenders based only on their most recent offenses, rather than their entire criminal histories (Aslan & Edelman, 2014; Elliott et al., 2009; Jung, Ennis, Stein, Choy, & Hook, 2013; Webb, Craissati, & Keen, 2007). Therefore, it cannot be guaranteed that offenders within their samples constitute “pure” child pornography or contact samples. As such, although we use the term “child pornography offender” to refer to those who commit child pornography offenses exclusively, it is emphasized that such clarity is not always afforded within the extant literature base.

Finally, an additional challenge to accurately characterizing the CPO population relates to the broader issue of the infancy of the Internet as a technological entity, and

thus the infancy of online child pornography offending as a topic of empirical investigation. As such, the literature base pertaining to this phenomenon is currently small in size and scope, and in some instances, characterized by mixed findings. Similarly, most existing studies have used samples of convenience that are drawn from forensic populations, and thus unlikely to be representative of the entire population of child pornography users. Therefore, the characteristics of more sophisticated offenders who use additional technological measures to evade detection by police online remain unknown at this stage. It is possible that such individuals will differ from offender samples, and thus may constitute another form of heterogeneity within the broader group of people who engage with child pornography.

Comparisons Between Child Pornography and Child Contact Sexual Offenders

Despite the limitations outlined above, this article seeks to review the available findings pertaining to the characteristics of CPOs when compared with contact sexual offenders. Understanding the extent to which CPOs differ from other types of sexual offenders is crucial to enhancing current sexual offending assessment and treatment frameworks, which may not adequately address the needs of CPOs as separate to child contact sexual offenders. Although findings are best considered preliminary in nature given the small amount of comparative research that has been conducted to date, there is evidence to suggest that CPOs may differ from contact sexual offenders across a number of socio-demographic, psychosocial, criminological, and psychological domains. Table 2 provides a summary of these preliminary findings, including the instances where findings have been inconsistent across the existing literature.

Socio-Demographic Characteristics

As detailed in Table 2, findings pertaining to the demographic characteristics of CPOs have tended to be fairly stable among the available literature, with CPOs typically being more likely to be identified as Caucasian and of higher academic and occupational standing than child contact sexual offenders (Aslan & Edelman, 2014; Babchishin, Hanson, & Hermann, 2011; Babchishin et al., 2015; Merdian et al., 2009). Although findings relating to offender age have been less consistent across the literature, a recent meta-analysis of the available research characterized CPOs as younger in age than contact offenders (Babchishin et al., 2015). It is possible that these differences may represent the demographic characteristics of the overall population of Internet users, as those who are younger and have higher levels of educational and occupational attainment are more likely to have access to the technology required to engage in child pornography offending (Tomak et al., 2009; Zickuhr & Smith, 2012). Similarly, findings related to ethnicity may reflect global Internet usage trends, given the limited accessibility and usage of the Internet in developing countries when compared with the Western world (International Telecommunication Union, 2011), as well as the fact that the majority of the available research data have been drawn from

Table 2. Summary of the Characteristics of CPOs in Comparison With Contact Sexual Offenders.

Variable	Outcome	Summary of findings
Socio-demographics		
Age	Younger	Meta-analytic and other findings indicate that CPOs tend to be younger than contact offenders. ^{a,b,c}
Ethnicity	Caucasian	With the exception of one study that reported no difference, ^b CPOs have typically been characterized as less likely to be of ethnic minority status than contact offenders. ^{a,d}
Education	Higher functioning	CPOs typically have higher levels of academic achievement than contact offenders, as measured by both categorical education attainment levels and total years of schooling. ^{a,b}
Employment	Higher functioning	Comparisons regarding overall employment rates are lacking, a small number of studies have reported higher stability in employment and employment in more skilled positions among CPOs than contact offenders. ^{a,b}
Relationship status	Lower functioning	CPOs are typically less likely to be involved in a romantic relationship than contact offenders, both at the time of measurement and historically. ^{b,c,e,f}
Psychosocial background		
History of sexual abuse	Less likely	Conflicting results among the two available meta-analyses, ^{a,d} although the later findings indicate that CPOs are less likely to have experienced early sexual victimization than contact offenders. ^a However, an additional study found no difference in rates of sexual abuse. ^b
History of physical abuse	Less likely	Meta-analytic results indicate that CPOs are less likely to have experienced early physical victimization than contact offenders, ^a however findings of an additional study found no difference in rates of physical abuse. ^b
Mental health problems	Mixed findings	Meta-analytic and other findings suggest similar levels of lower severity mental disorder (depression and anxiety) across groups, but that contact offenders are more likely than CPOs to experience major mental illness. ^{a,g} Whereas one study reported a higher level of contact with mental health services among CPOs than contact offenders, ^f another reported no difference. ^b
Substance use problems	Less likely	Meta-analytic findings suggest that contact offenders experience higher levels of substance use problems than CPOs, ^a although an additional study reported no difference in substance use patterns. ^b
Criminological		
Historical offending—Overall	Less likely	CPOs typically are less likely to have committed prior offenses and have less extensive criminal histories than contact offenders. ^{a,c}

(continued)

Table 2. (continued)

Variable	Outcome	Summary of findings
Historical offending—Sexual	Less likely	Meta-analytic and other findings indicate that CPOs demonstrate lower rates of historical sexual offending than contact offenders. ^{a,c}
Recidivism—Sexual	Undetermined	Although one study found the short-term rates of sexual recidivism (18 months) to be similarly low among both CPOs and contact offenders, ^f there has been no comparison of the recidivism trends of these groups over the longer term.
Psychological Offense-supportive beliefs	Fewer	CPOs tend to demonstrate more empathy toward victims, less distorted thinking regarding offending, and lower levels of identification with children when compared with contact offenders. ^{a,c,h} CPOs have been found to demonstrate lower levels of antisociality, aggression, and psychopathic traits compared with contact offenders, as measured by standardized clinical personality and psychopathy inventories. ^a Some initial evidence to suggest that the cognitive distortions held more strongly by CPOs tend to be specific to their offense type. ⁱ
Interpersonal and affective deficits	Higher	Similar levels of mood disorder when compared with other sexual offenders, but higher levels of emotional loneliness, underassertiveness, and passivity and lower levels of self-esteem have been found in the CPO population when compared with contact offenders. ^{a,c}
Fantasy proneness and sexual deviancy	Higher	Studies have reported that when compared with contact offenders, CPOs demonstrate higher levels of sexual pre-occupation and fantasy, sexual attraction to children, pedophilic fantasy, and use of sexual activity as a coping strategy. ^{a,c}

Note. CPO = child pornography offenders.

^aBabchishin, Hanson, and VanZuylen (2015).

^bAslan and Edelman (2014).

^cElliott, Beech, Mandeville-Norden, and Hayes (2009).

^dBabchishin, Hanson, and Hermann (2011).

^eSeto, Wood, Babchishin, and Flynn (2012).

^fWebb, Craissati, and Keen (2007).

^gJung and Stein (2012).

^hMerdian, Curtis, Thakker, Wilson, and Boer (2014).

ⁱHowitt and Sheldon (2007).

samples in Western countries. Thus, with growing number of Internet users across the life span and economic strata, the demographic characteristics of CPOs might well change over time.

Preliminary findings have also suggested that CPOs and contact offenders differ in terms of their functioning within romantic relationships. When compared with contact

sexual offenders, a higher proportion of CPOs have been found to identify as “single,” and fewer have reported being in co-habiting relationships or to have previously lived with a romantic partner (Elliott et al., 2013; Seto, Wood, Babchishin, & Flynn, 2012; Webb et al., 2007). Although it is difficult to make any definitive assertions at this point in time, two possible explanations for this are that CPOs demonstrate a lower level of interest in romantic relationships when compared with contact offenders, or alternatively, that CPOs are less skilled than contact offenders in initiating and maintaining intimate relationships. Both suggestions are supported by the available research pertaining to the psychological characteristics of CPOs and contact offenders, with higher levels of both sexual interest in children and interpersonal and affective deficits being reported among CPOs when compared with contact sexual offenders (Babchishin et al., 2015). Further research would be of assistance in clarifying this issue, however, given that conceptualizations of relationship status and functioning have been inconsistent among the small number of studies in this area.

Psychosocial Background

A small number of studies have also examined the psychosocial backgrounds of CPOs in comparison with contact offenders, allowing for the preliminary identification of potential differentiating factors in this domain. Building upon a prior meta-analysis of the characteristics of “online sexual offenders” (Babchishin et al., 2011), Babchishin and colleagues (2015) recently conducted a meta-analysis of 29 published and unpublished studies comparing CPOs with contact and/or dual offenders across a range of demographic, background, offending, and psychological variables. It was found that despite displaying similar levels of general mental health and psychological difficulties, contact offenders were more likely to use substances and to suffer from severe forms of mental illness, such as schizophrenia, than CPOs. In contrast, of the two studies that have reported on contacts with mental health services, both detected higher rates among CPOs than contact offenders (Aslan & Edelmann, 2014; Webb et al., 2007), although it should be noted that the difference did not reach statistical significance in one of the studies (Aslan & Edelmann, 2014).

In regard to early life adversity, the Babchishin et al. (2015) meta-analysis found that contact offenders were more likely to have experienced significant difficulties during childhood, including family disruption, conduct problems, and both physical and sexual victimization, when compared with CPOs. Interestingly, no significant difference in historical sexual abuse was detected between CPOs and contact offenders in the earlier meta-analysis (Babchishin et al., 2011), perhaps reflecting the fact that, unlike the later meta-analysis, dual offending was not accounted for. However, consistent with prior research that has suggested that early sexual victimization may play a role in the etiology of later sexual and violent offending (Ogloff, Cutajar, Mann, & Mullen, 2012; Stinson, Sales, & Becker, 2008), the original meta-analysis did find that both groups were more likely to have experienced sexual victimization in childhood than the normative population. Additional findings from a subsequent study were somewhat inconsistent with prior findings; although child pornography, contact, and dual offenders

were not found to differ on the basis of rates of childhood sexual or physical or emotional abuse, contact offenders were more likely to have experienced multiple forms of childhood abuse when compared with CPOs (Aslan & Edelmann, 2014). Such findings indicate a need for further research that teases out the potential and complex impacts of early victimization on both child pornography and contact offending.

Offending Characteristics

Despite concerns regarding the risk of contact offending that CPOs pose, very few studies have empirically compared the offending patterns of CPOs and contact sexual offenders, with the majority of the available findings relating to historical, rather than prospective, offending characteristics. When compared with contact offenders, CPOs have consistently been characterized as less likely to have committed prior offenses, both in regard to general offending (Babchishin et al., 2015; Elliott et al., 2009) and sexual offending specifically (Babchishin et al., 2015). In contrast, very little is known about the offending trajectories of CPOs as compared with contact sexual offenders, with the only existing study reporting that the rates of sexual recidivism were similarly low among both child pornography (3%) and contact (2%) offenders at an 18-month follow-up (Webb et al., 2007). Given the dearth of research in this area, it remains unknown whether these rates would remain stable over the longer term or across offenses of a non-sexual nature, neither of which have been subject to empirical examination at this stage, thus constituting questions for investigation within future research.

Psychological Characteristics

Although the current literature has tended to demonstrate more similarities than differences surrounding the psychological characteristics of child pornography and contact offenders (Merdian et al., 2009), some key differentiating features have been identified. As outlined in Table 2, there is evidence to suggest that CPO and contact offenders differ based on their antisocial or offense-supportive beliefs, interpersonal and affective characteristics, and their levels of fantasy proneness and sexual deviancy.

Offense-supportive beliefs. As a broad category, research surrounding offense-supportive beliefs has typically centered on levels of victim empathy, cognitive distortions and emotional identification with children. When compared with sexual offenders, CPOs have been consistently found to demonstrate fewer offense-supportive beliefs, typically displaying more empathy toward victims, less distorted thinking regarding offending, and lower levels of emotional identification with children (Babchishin et al., 2015; Elliott et al., 2009; Merdian, Curtis, Thakker, Wilson, & Boer, 2014). These findings are supported by other research that has identified higher levels of antisociality, aggression, and psychopathic traits among child-oriented and generalist sexual offenders when compared with CPOs, as measured by both clinical personality inventories (Magaletta, Faust, Bickart, & McLearn, 2014; Tomak et al., 2009) and a specific psychopathy screening tool (Webb et al., 2007).

However, it has been suggested that CPOs may hold distorted beliefs that relate specifically to their offense type, which are unlikely to be captured by existing measures (Howitt & Sheldon, 2007; Merdian et al., 2014). Howitt and Sheldon (2007) administered a cognitive distortion measure that incorporated items specific to child pornography offending to a small sample of child pornography, contact, and dual offenders, and found that CPOs endorsed statements relating to children being sexual objects and child pornography offenses being less harmful than contact offenses to a significantly higher degree than contact offenders. Similarly, although Merdian et al. (2014) did not find any difference in the level of endorsement of beliefs specific to child pornography offending among their sample of contact, dual, and CPOs, they considered the lower levels of endorsement detected among CPOs on traditional cognitive distortion measures as evidence to suggest that these measures are currently ill-equipped to detect offense-specific distortions among the CPO population. Although there is clearly a need for further research and development in this area, findings from the available literature appear to indicate that CPOs hold fewer generalized offense-supportive beliefs than contact sexual offenders.

Interpersonal and affective deficits. Variations among interpersonal and affective domains have also been recognized as factors that might differentiate CPOs and contact sexual offenders. Although affective and interpersonal deficits have been linked to sexual offending more globally (Hanson & Morton-Bourgon, 2005; Stinson et al., 2008), research has suggested that subtle differences in these domains can be observed among CPOs and other types of sexual offenders. For example, Babchishin and colleagues (2015) examined a number of interpersonal and affective variables in their recent meta-analysis. Although CPOs and contact offenders were not found to differ on the basis of broader intimacy, social or coping deficits, CPOs were found to present with lower levels of self-esteem and interpersonal assertiveness when compared with contact offenders. These findings seem to paint a picture of an offender who is passive in his approach to interpersonal relationships, consistent with the aforementioned findings of higher levels of single relationship status and lower functioning with romantic relationships within the CPO population.

Fantasy proneness and sexual deviancy. Alongside fewer offense-supportive beliefs and deficits in interpersonal functioning, research has also indicated that CPOs are highly sexualized individuals. Higher levels of sexual pre-occupation, fantasy (operationalized in the study as a tendency to identify *emotionally* with fictional characters), and use of sexual activity as a coping strategy have been identified in this population when compared with contact sexual offenders (Babchishin et al., 2015; Elliott et al., 2009). Moreover, higher levels of deviant sexual fantasy and interests, including pedophilia, have typically been detected among CPOs when compared with contact offenders, across studies utilizing both self-report and physiological measures of deviant sexual interests (Babchishin et al., 2015). Indeed, Seto, Cantor, and Blanchard (2006) provided compelling evidence to suggest that having a history of child pornography offenses was a stronger predictor of pedophilia than historical contact offenses against

children. Using a physiological measure of penile blood flow, they found that a significantly higher proportion of CPOs (61%) met physiological criteria for pedophilia when compared with both contact offenders (35%) and a control sample of patients with various sexual disorders (22%), and that CPOs displayed higher levels of sexual arousal to images of children than either of these groups. These findings are important as they suggest that engaging with child pornography may well be a more reliable indicator of deviant sexual interest than the direct sexual victimization of children, highlighting the need for further investigation into the role of exposure to such material in the development and maintenance of deviant sexual interests.

Summary of Comparative Findings

Although further comparative research is required to replicate, clarify, and improve upon the small number of existing findings regarding the characteristics of the CPO population, the preliminary findings appear to suggest that CPOs may represent a distinct group of offenders who differ from traditional contact sexual offenders in a number of ways. Overall, the findings are indicative of the presence of a somewhat higher functioning group of offenders who largely confine their offending to online or other non-contact sexual activities, and who are otherwise seemingly successful in life. One exception to this appears to be in the domain of romantic relationships, with CPOs tending to be less successful in relationships than contact sexual offenders. This is consistent with the findings of research into the psychological differences between these offender groups, which have generally reported lower levels of antisocial beliefs and higher levels of sexual pre-occupation, deviant sexual interests, and interpersonal deficits in the CPO population.

Studies that have expanded upon initial comparative findings by including dual offenders and conducting multivariate statistical analyses have tended to support the idea of the CPO as a generally pro-social, but emotionally withdrawn offender. For instance, Elliott et al. (2013) found that a function characterized by lower levels of antisocial beliefs and higher fantasy proneness in CPOs when compared with contact offenders explained 80.9% of variance in scores between child pornography, contact, and dual sexual offenders. Similarly, Lee, Li, Lamade, Schuler, and Prentky (2012) found that offenders in their sample were best differentiated based on their levels of antisocial behavior and Internet pre-occupation, with CPOs demonstrating lower levels of historical and recent antisocial behavior and higher levels of Internet pre-occupation and contact offenders demonstrating the opposite pattern. Interestingly, dual offenders were found to display elevated scores across both Internet pre-occupation and antisocial behavior, suggesting that an antisocial orientation may constitute a particular risk factor for the escalation to contact sexual offending in the CPO population. This is consistent with the meta-analytic findings of Babchishin et al. (2015), who labeled dual offenders as a particularly high-risk group after finding that they displayed higher levels of sexual interest in children than both CPOs and contact offenders, along with high levels of antisociality, offense-supportive belief systems, and access to children. However, given that only a small number of comparative studies

involving dual offenders exist at this time (Babchishin et al., 2015; Elliott et al., 2013; Howitt & Sheldon, 2007; Lee et al., 2012; Long, Alison, & McManus, 2013; McCarthy, 2010), future research surrounding this phenomenon is clearly warranted.

The Relationship Between Child Pornography and Contact Sexual Offending

Alongside the increase in availability and accessibility of online child pornography and this form of offending, concerns have been raised about the nature of the relationship between online and offline forms of sexual offending, and in particular, the risk that CPOs pose to children in the offline world (Bow, Bailey, & Samet, 2005; Seto & Hanson, 2011). Central to this issue is the question of whether child pornography leads to, deters, or has no relationship to contact sexual offending. For example, while some have argued that exposure to child pornography may promote contact sexual offending by validating and reinforcing attitudes surrounding the sexualization of children (Bourke & Hernandez, 2009), others have argued that child pornography acts as a substitute for contact offending, thereby preventing the direct sexual victimization of children (Riegel, 2004). Although plausible, such causative positions are yet to be directly examined or established within the existing empirical literature base, limiting the strength of these arguments.

Nonetheless, the small amount of research that has examined the offending trajectories of CPOs has provided some initial insights into this relationship. One particularly rigorous study that reported on the offending trajectories of 541 CPOs found that 30% of the sample had also come into contact with the police in regard to a contact sexual offense against a child over the course of their lives (Eke et al., 2011). Within the sample, the majority of CPOs had offended against children either prior (18%) or concurrently to their child pornography offenses (8%), while only 3.9% were detected for contact offenses over a 5.9-year period following their child pornography offenses (Eke et al., 2011). These figures are similar to those reported within a recent prospective study conducted by two of the same authors (Seto & Eke, 2015). Furthermore, a meta-analysis of studies that examined crossover offending demonstrated a similar pattern, reporting overall historical and recidivism contact sexual offending rates of 17.3% and 2%, respectively (Seto et al., 2011). Importantly, this meta-analysis also included studies that gathered offending data via self-report methodologies, and found that rates of historical contact offending differed significantly across self-report (55.1%) and official record (12.2%) methodologies. Although the results of some of the included self-report studies (Bourke & Hernandez, 2009) have been called into question due to the fact that offenders may have ulterior motives (e.g., feigning treatment progress) for falsely admitting to previous offenses following conviction (Burgess, Carretta, & Burgess, 2012), this difference may also reflect the tendency for official statistics to underrepresent the true extent of sexual offending (Gelb, 2007). Indeed, recent findings of Bourke et al. (2014) revealed high levels of undetected contact offending among individuals who were apprehended in relation to child pornography offenses. Rates of disclosure about contact offending increased from 4.7% to 57.5% during a polygraph interview procedure, which occurred at the point of police

intervention rather than post-conviction. Consistent with the meta-analytic findings of Seto et al. (2011), these findings indicate that contact offending is likely to be much more common among CPOs than research based on official data would suggest, although almost half of offenders appear to limit their sexual offending to engaging with child pornography online.

Research that both aims to further investigate and address these methodological inconsistencies and employs longer follow-up periods will be of great benefit in providing more accurate estimates of crossover offending and the typical trajectories of offending. Nonetheless, the available evidence does not appear to support the idea of a direct causal relationship between child pornography and contact sexual offending, at least in the short-term. This is consistent with the findings of McCarthy (2010), who reported that the majority of dual offenders in her sample (84%) had committed contact sexual offenses prior to, rather than following, their involvement with child pornography. Furthermore, if child pornography directly promoted contact sexual offending, one would reasonably expect rates of contact sexual offending to have similarly increased over the last two decades (Glasgow, 2010). Fortunately, official crime statistics indicate that this has not been the case (Brennan, 2012; Motivans & Kyckelhahn, 2007; Victoria Police, 2014).

In an effort to further understand the relationship between child pornography and contact offending, McManus and Almond (2014) compared trends in the rates of various child pornography offenses against the rates of 17 different contact sexual offenses involving minors over a 7-year period in the United Kingdom. The authors found that only 6 out of the 17 possible contact offenses were positively correlated with a pooled group of take, make, and distribute child pornography offenders. Moreover, there were no significant associations between rates of any of the contact sexual offenses and the offense of possession of child pornography (McManus & Almond, 2014). Although these findings may indicate partial support for an increased risk of contact offending among those who engage in the distribution and production of child pornography, the direction of causality cannot be determined from the analyses conducted in this study. Similarly, the extent of overlap in offenders within each of these groups was unknown, again limiting ability to make direct causal inferences between these offense types or determine the trajectory of offending in overlapping cases.

Taken together, these findings suggest that although some CPOs do go on to commit sexual offenses against children, engaging in child pornography offending does not inevitably lead to the direct sexual victimization of children. This may at first seem contradictory to the well-established finding that the presence of sexual deviance is one of the major risk factors for sexual recidivism (Hanson & Morton-Bourgon, 2005), particularly as high levels of sexual deviance have been detected among groups of CPOs. However, in addition to sexual deviance, Hanson and Morton-Bourgon (2005) also identified antisociality as a leading risk factor for sexual offense recidivism. These earlier findings are consistent with recent meta-analytic research that has reported higher levels of both sexual deviancy and antisociality among recidivist dual offenders (Babchishin et al., 2015). Thus, the relatively low levels of antisociality in samples of CPOs may act as a safeguard against escalation to contact sexual offending

(Seto, 2013). Further research into dual offending and offending trajectories will be of great benefit in further understanding the relationship between these online and offline forms of sexual offending.

Clinical Implications

Evidence of characteristics that differentiate CPOs from contact sexual offenders suggests that these offenders are likely to constitute a distinct type of child sexual offender with different risk profiles and treatment needs to contact offenders. This raises the question of whether or not existing sexual offender assessment and treatment frameworks, which have not typically been developed or validated for use with those who commit child pornography offenses alone, adequately address the needs of this population. Although there is likely to be some overlap in the risk profiles and treatment needs of these offender populations, some factors may be less relevant to the child pornography population, while others that are specifically relevant to this population may not be considered within existing frameworks. Currently, research surrounding the efficacy of utilizing current assessment and treatment practices within the CPO population is limited, posing significant challenges for clinicians working with this population.

Risk Assessment of CPOs

Although the available data indicate that recidivism among CPOs appears to be low overall (Eke et al., 2011; Seto et al., 2011), it is clear that at least some CPOs go on to commit further offenses. A major challenge faced by clinicians working with this population is determining which of these offenders pose the greatest risk of reoffending, including escalation to contact sexual offending. The findings of the available studies that have examined the efficacy of pre-existing sexual offending risk assessment tools have indicated that some traditional risk factors are likely to be less relevant to the CPO population. For example, Osborn, Elliott, Middleton, and Beech (2010) found that two traditional static risk assessment tools, the Static-99 (Harris, Phenix, Hanson, & Thornton, 2003) and the Risk Matrix 2000 (RM2000; Thornton et al., 2003), severely over-estimated the risk of reoffending among CPOs. Despite the fact that no offenders in the sample had reoffended in the 1.5- to 4-year follow-up period, the majority were categorized as either moderate-high or high risk (90%) on the Static-99 or medium risk (72%) on the RM2000, with none being categorized as low risk. However, when items relating to the relationship to the victim (known or stranger) and having a history of non-contact offenses were removed, the accuracy of the RM2000 was found to improve substantially, with 72.6% of offenders being classified as low risk.

As most child pornography offending is non-contact in nature and involves victims who are not known to offenders, these items are less likely to be relevant to predicting the risk of these offenders, and may mistakenly inflate risk estimates associated with reoffending in this population. Support for the findings of Osborn et al. (2010) has

been inconsistent among the two other studies that have evaluated the accuracy of the modified RM2000 in predicting the future offending of CPOs; whereas Wakeling et al. (2011) found that the modified RM2000 performed no better than chance when predicting the risk of CPOs, a second study by the same group reported a moderate level (Area Under the Curve [AUC] = .70) of predictive accuracy (Barnett et al., 2010). Although this discrepancy is difficult to interpret given the extremely low base rates of recidivism in these studies (Barnett et al., 2010), these initial findings provide some evidence to suggest that traditional static risk assessment measures, particularly those that include items relating to nature of the offender's relationship with the victim and non-contact offending, may overestimate the risk posed by this population.

While these findings suggest possible utility of using existing risk assessment tools within the wider CPO population, there is currently no risk assessment tool that is valid for use with individuals who commit child pornography offenses alone. Indeed, the risk profiles of this population are poorly understood at the current time, with most existing research identifying factors associated with recidivism among broader samples of CPOs, such as those including dual offenders. In their rigorous and large-scale investigation into the prospective offending patterns of CPOs, Eke et al. (2011) found that 32.3% of CPOs went on to commit a further offense of some kind in the 5.9-year follow-up period. Those with a history of violent offenses (including contact sexual offenses) were significantly more likely to reoffend (50.5%) with any offense than offenders with a history of non-violent (40.2%) or child pornography offenses alone (15.4%). Consistent with the wider sexual offending risk assessment literature (Hanson & Bussière, 1998), younger offender age at first conviction and prior offending, including with general, violent, and contact sexual offenses, were identified as significant predictors of future general offending as well as contact sexual offenses specifically.

More recently, Seto and Eke (2015) examined the predictive validity of their static risk checklist, the Child Pornography Offender Risk Tool (CPORT), among a sample of 286 CPOs who were followed over a fixed period of 5 years. Based on preliminary univariate analyses, the CPORT included seven items relating to offender age, prior criminality and breaches, sexual interests, and content of child pornography possessed, which were coded as present or not present and summed to obtain an overall risk score. Analyses revealed the total CPORT score was found to be a significant predictor of both general (AUC = .66) and sexual recidivism (AUC = .74) among the overall sample. Importantly, however, the tool did not significantly predict sexual recidivism among offenders who committed child pornography offenses in the absence of other sexual or non-sexual offenses. In contrast, the CPORT performed best for those with a history of both child pornography and contact sexual offenses (AUC = .80). The authors suggested that the failure to detect a significant difference for the child pornography-only offenders might be due to the lower rates of sexual recidivism among this group (6%) when compared with dual offenders (23%), consistent with other research that has reported higher rates of recidivism among dual offenders when compared with CPOs (Goller, Graf, Frei, & Dittmann, 2010; Graf & Dittmann, 2011). Alternatively, these findings may indicate that CPOs are a distinct group of offenders

who present with unique risk profiles, whereas dual offenders may represent a particularly high-risk group (as per Babchishin et al.'s, 2015, characterization) with similar risk profiles to contact sexual offenders.

Thus, the available findings suggest that the risk profiles of dual offenders and other sexual offenders are likely to overlap to some degree. However, very little is known about the risk factors that may be unique to the CPO population. One particular area of growing interest is the relationship between the characteristics of an offender's collection of child pornography and their level of risk. This idea was first raised by Taylor, Holland, and Quayle (2001) who, based on their assumption that individuals were likely to seek out material that was of specific interest to them, contended that the content of offenders' collections could provide unique information about the psychological characteristics and motivations of offenders, which might prove useful in making judgments about both the likelihood and severity of their offending and subsequent behavior. Their collection typology, known as the COPINE (Combating Paedophile Information Networks in Europe) scale, was developed via qualitative analyses of an extensive database of child pornography in an attempt to provide an objective means of characterizing an offender's collection. The scale consists of 10 categories of images ranging from least (level 1 = *indicative*) to most (level 10 = *sadistic/bestiality*) severe, allowing for the inclusion of material that typically falls outside of legal definitions of child pornography (see Taylor et al., 2001). Due to its utility in quantifying the severity of an individual's offending, the COPINE scale has since been adapted for use within the legal setting, with some jurisdictions using this information to inform prosecutions and guide sentencing decisions within child pornography cases (Mizzi, Gotsis, & Poletti, 2010; Sentencing Council, 2013; United States Sentencing Commission, 2009).

Currently, it is largely unknown how these collection characteristics relate to risk, with the existing studies that have made comparisons between the collection characteristics of CPOs and dual offender's producing mixed findings. In her study, McCarthy (2010) found that dual offenders possessed a higher proportion of child pornography in their overall pornography collections as well as a greater number of child pornography images overall when compared with CPOs, although the two groups spent similar amounts of time viewing child pornography each week. However, the groups differed based on their adult pornography use, with dual offenders spending significantly more time viewing adult pornography each week than CPOs. In contrast, both McManus, Long, Alison, and Almond (2014) and Long et al. (2013) found that CPOs were more likely to possess larger collection sizes and to have paid for material than dual offenders, with the latter study also reporting that CPOs were more likely to have been downloading child pornography for a longer period of time than dual offenders. Further, Seto and Eke (2015) found the gender of the victim depicted in child pornography images to be a discriminating factor, with a higher proportion of material featuring boys relative to girls (both clothed and nude) being identified among dual offenders' collections than CPOs'. Items relating to this were subsequently included in their preliminary risk tool, the CPORT, however, as with the overall tool, this factor did not predict recidivism in those with child pornography offenses alone. Given the small

number of studies examining this issue overall, further research is required to clarify both the significance of existing findings and the potential relationship between the various collection characteristics and risk.

Given the ever-expanding capabilities of the Internet and computer technologies, which now allow thousands of images to be downloaded with a single click of a mouse button, it is possible that factors such as collection size and image severity have little bearing on the risk posed by those who engage in child pornography offending. Indeed, Glasgow (2010) proposed that information pertaining to the level of involvement with material is likely to be of greater relevance than the characteristics of the overall collection. He argued that certain patterns of digital activity, such as repeated access, replication, and movement of particular files within an offender's collection, reflects a higher level of engagement with that material, thus suggesting a specific sexual interest in the content depicted. Although theoretically sound, research examining this idea is limited by the fact that digital evidence of this kind is not routinely generated during police investigations and thus not available to researchers at this time. Given that some of these characteristics may be considered when sentencing individuals convicted of child pornography offenses, ongoing research into these factors is essential.

Psychological Treatment of CPOs

Assuming that ongoing research will continue to facilitate the development and modification of risk assessment tools and procedures that accurately identify the CPOs who are at greatest risk of reoffending, the issue of treatment arises. Seto (2013) recently provided a very apt appraisal of the current climate surrounding treatment practices in this area, stating that practice is largely based on clinical intuition and knowledge of the treatment needs of the wider sexual offender population. He considered the key issues to be addressed through future research endeavors to be determining what the most important targets for treatment are, how they would be most effectively addressed, and whether gains in these areas actually translate to a reduction in recidivism. Although very little research has been conducted in the latter two areas, the findings of comparative research have allowed for initial hypotheses regarding the likely targets of treatment for CPOs to be formed.

The fact that CPOs have been found to display higher levels of sexual pre-occupation, deviant sexual interests and interpersonal deficits than contact offenders indicates that these factors are likely to constitute salient targets for clinical intervention when working with this population. Based on the knowledge gained from their and other comparative studies, Magaletta et al. (2014) considered the development of adaptive self-regulation strategies (that do not rely on sexualized behaviors) and interpersonal skills (e.g., communication skills, conflict resolution, and assertiveness) to be important targets for intervention. In addition, treatment aimed at this population is likely to require a greater emphasis on the management of deviant sexual arousal and interests, as well as interventions aimed at addressing problematic online behavior more generally, such as engaging in the use of other forms of pornography, social networks, and pedophilia forums (Holt, Blevins, & Burkert, 2010; Median, Curtis, Thakker, Wilson,

& Boer, 2013; Seto, 2013). In contrast, treatment that targets antisocial cognitions and lifestyle factors may be less indicated, even though offenders have been found to hold some distorted beliefs that are specific to child pornography offending (Howitt & Sheldon, 2007). Indeed, some have suggested that these distortions might be better conceptualized as problems with victim awareness, rather than global deficits in victim empathy (Burke, Sowerbutts, Blundell, & Sherry, 2002; Seto, 2013), with Middleton et al. (2009) reporting that once the CPOs in their sample developed an awareness of how engaging with child pornography facilitated the direct sexual abuse of children, appropriate levels of victim empathy were displayed among participants. Thus, although CPOs with no other offending history may not require extensive intervention surrounding generalized pro-offending attitudes and antisocial lifestyle factors, they are likely to require targeted interventions that aim to increase their victim awareness.

As highlighted by Seto (2013), consideration also needs to be given to how to most effectively deliver intervention to those who commit child pornography offenses. Although the treatment needs of child pornography and contact offenders are likely to overlap somewhat, the presence of the unique needs of each of these offender populations suggests that child pornography treatment is likely to be most effectively and efficiently delivered through specialized treatment programs. One such program, which has now been implemented nationally throughout the United Kingdom, is the Internet Sexual Offender Treatment Program (i-SOTP) developed by Middleton et al. (2009). The program is specifically designed for those who commit online child pornography offenses, and thus in addition to traditional program content, has a strong emphasis on online behavior, problematic Internet use, and sexual compulsivity. It is designed to be delivered in either individual or group format and comprises six modules that address the following issues: (a) value identification and motivation to change; (b) functional analysis of offending behavior; (c) offense-supportive beliefs and victim awareness; (d) intimacy and emotional self-regulation deficits; (e) compulsivity, problematic Internet use, and sexual deviancy; and (f) relapse prevention and development of a "new life plan."

Initial evaluative findings have provided some support for the efficacy of i-SOTP as an agent of change, with Middleton et al. (2009) reporting that those who undertook the program demonstrated positive changes across 12 of the 15 socio-affective and offense-supportive domains captured by the pre- and post-treatment assessment battery. Overall, 53% of the sample was deemed to have achieved "treated profile status," as determined by demonstrating scores comparable with a normative population on a number of measures across both socio-affective and offense-supportive domains. However, given that a comparison sample was not utilized within this evaluation, it is unclear whether these changes can be truly attributed to participation in the treatment program, or to another factor common to participants, such as receiving a criminal justice sanction. A further limitation of these findings relates to the fact that recidivism outcomes were not examined as part of this study. It is therefore unknown whether the treatment gains made through i-SOTP translated to a reduction in reoffending in CPOs. Indeed, given the paucity of research concerning recidivism among CPOs more

broadly, little is known about whether or not the psychological problems exhibited by CPOs constitute “criminogenic needs”; that is, needs that can be successfully treated via intervention and which, as a result of this intervention, reduce offending behavior (Andrews & Bonta, 2010). Further research that aims to clarify this will play an important role in informing the ongoing development of effective and relevant treatment programs that meaningfully reduce the risk of reoffending among the CPO population.

Summary and Future Research Directions

With the growth in the capacity and availability of the Internet over the last two decades has come an increase in the number of individuals coming into contact with the criminal justice system for child pornography offenses. This, in turn, has prompted the emergence of a growing body of literature dedicated to enhancing current understandings of CPOs and how this population is related to those who are involved in the direct sexual abuse of children. It is important to note that people who access or download child Internet pornography are a heterogeneous group. Thus, care must be taken not to assume that the general findings reviewed in this article necessarily apply to all people charged or convicted of accessing or downloading child pornography.

Although the research base surrounding this phenomenon is still in its infancy, preliminary findings have indicated that CPOs differ from contact offenders in a number of important ways, suggesting that they are likely to represent a distinct type of offender with unique risks and treatment needs. Although CPOs demonstrate similar levels of historical and prospective sexual offending, they appear to be less diverse in their offending, typically limiting this to sexual offenses. Moreover, the available (albeit limited) evidence indicates that there is a substantial minority of CPOs who do not commit contact sexual offenses against children, refuting the idea of a direct causal relationship between child pornography and contact sexual offending. Such evidence is consistent with the findings of psychological studies, which have typically characterized CPOs as pro-social outside their involvement with child pornography, but highly sexualized and emotionally avoidant individuals who are more likely to display a specific sexual interest in children than contact offenders.

Given these differences, pre-existing risk assessment and treatment programs may not adequately address the needs of this population and thus require revision and evaluation prior to widespread use among this population. Preliminary evidence has suggested that current static risk assessment tools are likely to overestimate the risk of CPOs, and that more accurate assessments may be obtained by removing any items regarding non-contact offenses and the offender's relationship to victims. Conversely, items relating to previous offending, violent offending, and younger age when offending are likely to remain relevant to risk judgments about this population, particularly those who fall into the dual offender category, with those demonstrating these characteristics likely to be at increased risk of further offending than those without these characteristics.

Although less extensively researched, there is some initial evidence to suggest that CPOs and dual offenders may differ in the ways in which they engage with

pornographic material. In particular, preliminary findings suggest that dual offenders may have more diverse sexual interests than CPOs. However, the significance of this is unclear at this stage and warrants further investigation prior to certain collection characteristics being labeled as “risk” or “protective” factors in relation to the CPO population. As digital evidence becomes more available, research efforts should be directed toward determining whether the characteristics of collections and/or digital indicators of the level of involvement in offender can be accurately and reliably linked to risk.

These findings also indicate that the treatment of CPOs is likely to differ in focus than that of contact offenders, and thus might be best accommodated within specialized, rather than traditional, treatment programs. In general, when compared with contact offenders, CPOs are likely to require less intervention surrounding antisocial lifestyle and cognitions, and greater intervention surrounding sexual deviancy and interpersonal, affective, and self-regulation deficits. In addition, intervention surrounding problematic online behavior, such as engaging with other CPOs online, participating in online pedophilia forums, and general pornography use, is of particular relevance to this population, but is unlikely to be addressed within traditional sexual offender treatment programs. Although initial findings regarding the i-SOTP (Middleton et al., 2009) have provided preliminary support for specialized treatment, more rigorous evaluations that utilize comparison samples and examine outcome data are required to make more definitive assertions. Moreover, little is known about the treatment needs of higher risk CPOs, and whether they are more likely to be best accommodated for by specialized or traditional treatment programs. Given that they may present with more extensive and diverse criminal histories, it is possible that they may be more similar to contact offenders than lower risk CPOs; however, research surrounding this population is limited at this stage.

Indeed, despite the increase in the amount of research surrounding CPOs over the last decade, it is clear that many questions remain unanswered at this stage and that there is much scope for further research within this area. One issue that is poorly understood is the offending trajectories of those who engage in child pornography offending. Given the discrepancy between self-report and official record methodologies, further research is required to clarify the true incidence of historical offending, as well as to investigate the longer term recidivism patterns of individuals who commit child pornography offenses. In particular, very little is known about those who engage in both child pornography and contact offending, the likely trajectory of dual offending and if there are differences between offenders who have opposing trajectories of dual offending. That is, just as there are differences between child pornography, contact, and dual offenders, there may also be differences between dual offenders who escalate from child pornography to contact offenses compared with dual offenders who first commit contact offenses and later reoffend with child pornography offenses. Further research is required to both quantify the different trajectories of dual offending and investigate and understand potential differences between these groups.

Other potential areas for further inquiry include research aimed at furthering the current understanding of the role of the Internet in child pornography offending and

the characteristics of those who engage in this type of offending. For example, although it is clear that the Internet has facilitated an increase in child pornography offending in recent times, it is not known how (or if) this relates to the development of deviant sexual interests in those who are engaging in child pornography offending through this medium. Similarly, it would be useful to understand whether the various socio-demographic characteristics identified among the CPOs represent true differences between child pornography and contact offenders or if they are merely artifacts of those who are using the Internet more broadly. In addition, despite the emergence of a number of typologies surrounding this offense type, there has been a lack of empirical scrutiny of these typologies, and none has yet comprehensively incorporated both motivational and behavioral components of child pornography offending. Moreover, despite the significant findings surrounding the interpersonal and affective deficits of CPOs, no typology has included affective dysregulation, loneliness, or poor social skills as potential motivators for engaging in child pornography offending.

Given the infancy of the research within this area, there is also a need for ongoing research to clarify the mixed findings and replicate preliminary trends. Further efforts to identify and confirm the characteristics that differentiate CPOs from both contact and dual child sexual offenders across socio-demographic, psychosocial, offending, and psychological domains are required to inform the ongoing development of clinical practice surrounding the risk assessment and treatment of this population. Unfortunately, findings within the existing literature have likely been muddled by inconsistencies in definitions and selection criteria across studies, with many studies failing to specify what they mean by “online offender,” separate different types of online offenders, or take historical offenses into account when categorizing offender types. Thus, on a practical level, future research would benefit from applying more stringent, clear, and uniform selection criteria for participants, including criteria that differentiate between different forms of online offending, and classify dual, child pornography, and contact offenders according to their entire criminal histories, rather than on the basis of their most recent offense.

The knowledge gained from continuing research efforts within this area will have widespread applications within the criminal justice system and the associated forensic mental health field. Ongoing research into this population would enhance current understandings about both the nature of the broader CPO population and the relationship between child pornography and contact offending, and would potentially allow for the identification and clarification of risk factors and treatment needs associated with those within CPO population. Most important, by enhancing the assessment and treatment practices of clinicians working with individuals who engage in this form of offending, ongoing research will assist in combatting the cycle of abuse perpetuated by the child pornography market and aid in the prevention of ongoing child sexual abuse.

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References

- Alexy, E. M., Burgess, A. W., & Baker, T. (2005). Internet offenders: Traders, travelers, and combination trader-travelers. *Journal of Interpersonal Violence*, 20, 804-812. doi:10.1177/0886260505276091
- Andrews, D., & Bonta, J. (2010). *The psychology of criminal conduct* (5th ed.). New Providence, NJ: Anderson.
- Aslan, D. (2011). Critically evaluating typologies of internet sex offenders: A psychological perspective. *Journal of Forensic Psychology Practice*, 11, 406-431. doi:10.1080/15228932.2011.588925
- Aslan D., & Edelmann R. (2014). Demographic and offence characteristics: A comparison of sex offenders convicted of possessing indecent images of children, committing contact sex offences or both offences. *The Journal of Forensic Psychiatry & Psychology*, 25, 121-134. doi:10.1080/14789949.2014.884618
- Australian Federal Police. (2009, March). AFP successfully combats child sex exploitation. *Platypus Magazine*, No. 101. Retrieved from <http://www.afp.gov.au/~media/afp/pdf/1/11-child-protection.ashx>
- 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, 92-123. doi:10.1177/1079063210370708
- Babchishin, K. M., Hanson, R. K., & VanZuylen, H. (2015). Online child pornography offenders are different: A meta-analysis of the characteristics of online and offline sex offenders against children. *Archives of Sexual Behavior*, 44, 45-66. doi:10.1007/s10508-014-0270-x
- Barnett, G. D., Wakeling, H. C., & Howard, P. D. (2010). An examination of the predictive validity of the Risk Matrix 2000 in England and Wales. *Sexual Abuse: A Journal of Research and Treatment*, 22, 443-470. doi:10.1177/1079063210384274
- Beck, A., & Harrison, P. M. (2006). *Number of inmate in state prisons and local jails per 100,000 residents, by gender, race, and Hispanic origin, June 30, 2005* [Data file]. Retrieved from <http://www.bjs.gov/index.cfm?ty=pbdetail&iid=1863>
- Bourke, M., Fragomeli, L., Detar, P. J., Sullivan, M. A., Meyle, E., & O'Riordan, M. (2014). The use of tactical polygraph with sex offenders. *Journal of Sexual Aggression*. Advance online publication. doi:10.1080/13552600.2014.886729
- Bourke, M., & Hernandez, A. (2009). The "Butner Study" redux: A report of the incidence of hands-on child victimization by child pornography offenders. *Journal of Family Violence*, 24, 183-191. doi:10.1007/s10896-008-9219-y
- Bow, J. N., Bailey, R. W., & Samet, C. (2005). Forensic evaluation of Internet sexual activity. *Journal of Forensic Psychology Practice*, 5, 1-29. doi:10.1300/J158v05n02_01
- Brennan, S. (2012). *Police-reported crime statistics in Canada, 2011*. Retrieved from <http://www.statcan.gc.ca/pub/85-002-x/2012001/article/11692-eng.pdf>
- Burgess, A. W., Carretta, C. M., & Burgess, A. G. (2012). Patterns of federal Internet offenders: A pilot study. *Journal of Forensic Nursing*, 8, 112-121. doi:10.1111/j.1939-3938.2011.01132.x
- Burke, A., Sowerbutts, S., Blundell, S., & Sherry, M. (2002). Child pornography and the Internet: Policing and treatment issues. *Psychiatry, Psychology and Law*, 9, 79-84. doi:10.1375/pplt.2002.9.1.79

- Calder, M. C. (2004). The Internet: Potential, problems and pathways to hands-on sexual offending. In M. C. Calder (Ed.), *Child sexual abuse and the Internet: Tackling the new frontier* (pp. 1-24). Dorset, UK: Russell House Publishing.
- Coley, R. J., & Barton, P. E. (2006). *Locked up and locked out: An educational perspective on the U.S. prison population*. Retrieved from <http://www.ets.org/Media/Research/pdf/PIC-LOCKEDUP.pdf>
- Corrections Victoria. (2010). *Statistical profile of the Victorian prison system: 2005-06 to 2009-10*. Retrieved from <http://www.corrections.vic.gov.au/utility/publications+manuals+and+statistics/statistical+profile+of+the+vic+prison+system>
- Criminal Code Act 1995, 12 C.F.R. § 474 (2012).
- Eke, A. W., Seto, M. C., & Williams, J. (2011). Examining the criminal history and future offending of child pornography offenders: An extended prospective follow-up study. *Law and Human Behavior*, 35, 466-478. doi:10.1007/s10979-010-9252-2
- Elliott, I. A., Beech, A. R., & Mandeville-Norden, R. (2013). The psychological profiles of Internet, contact, and mixed Internet/contact sex offenders. *Sexual Abuse: A Journal of Research and Treatment*, 25, 3-20. doi:10.1177/1079063212439426
- Elliott, I. A., Beech, A. R., Mandeville-Norden, R., & Hayes, E. (2009). Psychological profiles of Internet sexual offenders: Comparison with contact sexual offenders. *Sexual Abuse: A Journal of Research and Treatment*, 21, 76-92. doi:10.1177/1079063208326929
- Endrass, J., Urbaniok, F., Hammermeister, L. C., Benz, C., Elbert, T., Laubacher, A., & Rossegger, A. (2009). The consumption of Internet child pornography and violent and sex offending. *BMC Psychiatry*, 9, 43-49. doi:10.1186/1471-244X-9-43
- Gelb, K. (2007). *Recidivism of sex offenders: Research paper*. Retrieved from <http://www.sentencingcouncil.vic.gov.au/sites/default/files/publication-documents/Recidivism%20of%20Sex%20Offenders%20Research%20Paper.pdf>
- Glasgow, D. (2010). The potential of digital evidence to contribute to risk assessment of Internet offenders. *Journal of Sexual Aggression*, 16, 87-106. doi:10.1080/13552600903428839
- Goller, A., Graf, M., Frei, A., & Dittmann, V. (2010). PW01-117-Recidivism of internet sex offenders: An epidemiologic study on more than 4600 offenders in Switzerland. *European Psychiatry*, 25(Suppl. 1), 1533. doi:10.1016/S0924-9338(10)71516-9
- Graf, M., & Dittmann, V. (2011). Forensic-psychiatric treatment for Internet sex offenders. In D. P. Boer, R. Eher, L. A. Craig, M. H. Miner, & F. Pfäfflin (Eds.), *International perspectives on the assessment and treatment of sexual offenders: Theory, practice, and research* (pp. 479-488). Hoboken, NJ: Wiley-Blackwell.
- Hanson, R. K., & Bussière, M. T. (1998). Predicting relapse: A meta-analysis of sexual offender recidivism studies. *Journal of Consulting and Clinical Psychology*, 66, 348-362. doi:10.1037/0022-006X.66.2.348
- Hanson, R. K., & Morton-Bourgon, K. E. (2005). The characteristics of persistent sexual offenders: A meta-analysis of recidivism studies. *Journal of Consulting and Clinical Psychology*, 73, 1154-1163.
- Harlow, C. W. (2003). *Education and correctional populations* (NCJ 195670). Retrieved from <http://www.bjs.gov/content/pub/pdf/ecp.pdf>
- Harris, A., Phenix, A., Hanson, R. K., & Thornton, D. (2003). *STATIC-99 coding rules: Revised*. Retrieved from http://www.static99.org/pdfdocs/static-99-coding-rules_e.pdf
- Hartman, C. R., Burgess, A. W., & Lanning, K. V. (1984). Typology of collectors. In A. W. Burgess & M. L. Clark (Eds.), *Child pornography and sex rings* (pp. 69-110). Lanham, MA: Lexington Books.

- Hernandez, A. E. (2000, November). *Self-reported contact sexual offenses by participants in the Federal Bureau of Prisons' Sex Offender Treatment Program: Implications for Internet sex offenders*. Paper presented at the 19th Research and Treatment Conference of the Association for the Treatment of Sexual Abusers, San Diego, CA.
- Holt, T. J., Blevins, K. R., & Burkert, N. (2010). Considering the pedophile subculture online. *Sexual Abuse: A Journal of Research and Treatment*, 22(1), 3-24. doi:10.1177/1079063209344979
- Howitt, D., & Sheldon, K. (2007). The role of cognitive distortions in paedophilic offending: Internet and contact offenders compared. *Psychology, Crime & Law*, 13, 469-486. doi:10.1080/10683160601060564
- International Telecommunication Union. (2011). *Individuals using the Internet per 100 inhabitants, 2001-2011* [Data file]. Retrieved from <http://www.itu.int/ITU-D/ict/statistics/>
- Jung, S., & Stein, S. (2012). An examination of judicial sentencing decisions in child pornography and child molestation cases in Canada. *Journal of Criminal Psychology*, 2(1), 38-50. doi:10.1108/20093821211210486
- Krone, T. (2004). *Typology of online child pornography offending* (Trends and Issues in Crime and Criminal Justice, No. 279). Retrieved from <http://aic.gov.au/publications/current%20series/tandi/261-280/tandi279.html>
- Lanning, K. (2001). Child molesters and cyber pedophiles: A behavioral analysis. In R. R. Hazelwood & A. W. Burgess (Eds.), *Practical aspects of rape investigation: A multidisciplinary approach* (pp. 199-220). Boca Raton, FL: CRC Press.
- Lee, A. F., Li, N.-C., Lamade, R., Schuler, A., & Prentky, R. A. (2012). Predicting hands-on child sexual offenses among possessors of Internet child pornography. *Psychology, Public Policy, and Law*, 18, 644-672. doi:10.1037/a0027517
- Long, M. L., Alison, L. A., & McManus, M. A. (2013). Child pornography and likelihood of contact abuse: A comparison between contact child sexual offenders and non-contact offenders. *Sexual Abuse: A Journal of Research and Treatment*, 25, 370-395. doi:10.1177/1079063212464398
- Magaletta, P. R., Faust, E., Bickart, W., & McLearen, 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, 137-153. doi: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, 181-195. doi:10.1080/13552601003760006
- McManus, M. A., & Almond, L. (2014). Trends of indecent images of children and child sexual offences between 2005/2006 and 2012/2013 within the United Kingdom. *Journal of Sexual Aggression*, 20, 142-155. doi:10.1080/13552600.2014.893031
- McManus, M. A., Long, M. L., Alison, L., & Almond, L. (2014). Factors associated with contact child sexual abuse in a sample of indecent image offenders. *Journal of Sexual Aggression*. Advance online publication. doi:10.1080/13552600.2014.927009
- Median, H. L., Curtis, C., Thakker, J., Wilson, N., & Boer, D. P. (2013). The three dimensions of online child pornography offending. *Journal of Sexual Aggression*, 19, 121-132. doi:10.1080/13552600.2011.611898
- Merdian, H. L., Curtis, C., Thakker, J., Wilson, N., & Boer, D. P. (2013). The three dimensions of online child pornography offending. *Journal of Sexual Aggression*, 19, 121-132. doi:10.1080/13552600.2011.611898

- Merdian, H. L., Curtis, C., Thakker, J., Wilson, N., & Boer, D. P. (2014). The endorsement of cognitive distortions: Comparing child pornography offenders and contact sex offenders. *Psychology, Crime & Law*, 20, 971-993. doi:10.1080/1068316X.2014.902454
- Merdian, H. L., Wilson, N., & Boer, D. P. (2009). Characteristics of Internet sexual offenders: A review. *Sexual Abuse in Australia and New Zealand*, 2, 34-47.
- Middleton, D., Mandeville-Norden, R., & Hayes, E. (2009). Does treatment work with Internet sex offenders? Emerging findings from the Internet Sex Offender Treatment Programme (i-SOTP). *Journal of Sexual Aggression*, 15, 5-19. doi:10.1080/13552600802673444
- Mizzi, P., Gotsis, T., & Poletti, P. (2010). *Sentencing offenders convicted of child pornography and child abuse material offences* (Monograph No. 34). Retrieved from <http://www.jud-com.nsw.gov.au/publications/research-monographs-1/research-monograph-34/>
- Motivans, M., & Kyckelhahn, T. (2007). *Federal prosecutions for child sex exploitation offenders* [Data file]. Retrieved from <http://bjs.ojp.usdoj.gov/index.cfm?ty=pbdetail&iid=886>
- O'Brien, M., & Webster, S. (2007). The construction and preliminary validation of the Internet Behaviours and Attitudes Questionnaire (IBAQ). *Sexual Abuse: A Journal of Research and Treatment*, 19, 237-256. doi:10.1007/s11194-007-9057-0
- Ogloff, J. R. P., Cutajar, M. C., Mann, E., & Mullen, P. E. (2012). *Child sexual abuse and subsequent offending and victimisation: A 45 year follow-up study* (Trends & Issues in Crime and Criminal Justice No. 440). Retrieved from http://www.aic.gov.au/media_library/publications/tandi_pdf/tandi440.pdf
- Osborn, J., Elliott, I. A., Middleton, D., & Beech, A. R. (2010). The use of actuarial risk assessment measures with UK internet child pornography offenders. *Journal of Aggression, Conflict and Peace Research*, 2, 16-24. doi:10.1177/0306624X12465271
- Riegel, D. L. (2004). Letter to the editor: Effects on boy-attracted pedosexual males of viewing boy erotica. *Archives of Sexual Behavior*, 33, 321-323. doi:10.1023/B:ASEB.0000029071.89455.53
- Sentencing Council. (2013). *Sexual offences: Definitive guideline*. Retrieved from <http://www.sentencingcouncil.org.uk/wp-content/uploads/Aug-2015-Sexual-Offences-Definitive-Guideline-web.pdf>
- Seto, M. C. (2013). *Internet sex offenders*. Washington, DC: American Psychological Association.
- Seto, M. C., Cantor, J. M., & Blanchard, R. (2006). Child pornography offenses are a valid diagnostic indicator of pedophilia. *Journal of Abnormal Psychology*, 115, 610-615. doi:10.1037/0021-843X.115.3.610
- Seto, M. C., & Eke, A. W. (2015). Predicting recidivism among adult male child pornography offenders: Development of the Child Pornography Offender Risk Tool (CPORT). *Law and Human Behavior*, 39(4), 416-429. doi:10.1037/lhb0000128
- Seto, M. C., & Hanson, R. K. (2011). Introduction to special issue on Internet-facilitated sexual offending. *Sexual Abuse: A Journal of Research and Treatment*, 23, 3-6. doi:10.1177/107906321139929
- 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, 124-145. doi: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, 169-180. doi: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, 320-330. doi:10.1037/h0093925

- Stinson, J. D., Sales, B. D., & Becker, J. V. (2008). *Sex offending: Causal theories to inform research, prevention, and treatment*. Washington, DC: American Psychological Association.
- Sullivan, J., & Beech, A. (2004). Assessing Internet sex offenders. In M. C. Calder (Ed.), *Child sexual abuse and the Internet: Tackling the new frontier* (pp. 69-84). Dorset, UK: Russell House Publishing.
- Taylor, M., Holland, G., & Quayle, E. (2001). Typology of paedophile picture collections. *The Police Journal*, 74, 97-107.
- Thornton, D., Mann, R., Webster, S., Blud, L., Travers, R., Friendship, C., & Erikson, M. (2003). Distinguishing and combining risks for sexual and violent recidivism. *Annals of the New York Academy of Sciences*, 989, 225-235. doi:10.1111/j.1749-6632.2003.tb07308.x
- Tomak, S., Weschler, F. S., Ghahramanlou-Holloway, M., Virden, T., & Nademin, M. E. (2009). An empirical study of the personality characteristics of internet sex offenders. *Journal of Sexual Aggression*, 15, 139-148. doi:10.1080/13552600902823063
- United States Sentencing Commission. (2009). *The history of child pornography guidelines*. Retrieved from http://www.lb9.uscourts.gov/webcites/11documents/Henderson_History.pdf
- Victoria Police. (2014). *Offences recorded by offence code 2004/05-2013/14* [Data file]. Retrieved from http://www.police.vic.gov.au/content.asp?a=internetBridgingPage&Media_ID=72209
- Virtual Global Taskforce. (2011). *Frequently asked questions*. Retrieved from <http://www.virtualglobaltaskforce.com/resources/faqs/#adults>
- Wakeling, H. C., Howard, P., & Barnett, G. (2011). Comparing the validity of the RM2000 scales and OGRS3 for predicting recidivism by internet sexual offenders. *Sexual Abuse: A Journal of Research and Treatment*, 23, 146-168. doi:10.1177/1079063210375974
- Wall, D. S. (2007). Policing cybercrimes: Situating the public police in networks of security within cyberspace. *Police, Practice and Research*, 8, 183-205. doi:10.1080/15614260701377729
- Webb, L., Craissati, J., & Keen, S. (2007). Characteristics of Internet child pornography offenders: A comparison with child molesters. *Sexual Abuse: A Journal of Research and Treatment*, 19, 449-465. doi:10.1007/s11194-007-9063-2
- Zickuhr, K., & Smith, A. (2012). *Digital differences*. Retrieved from http://www.pewinternet.org/files/old-media/Files/Reports/2012/PIP_Digital_differences_041312.pdf