

Child Pornography Possessors and Child Contact Sex Offenders: A Multilevel Comparison of Demographic Characteristics and Rates of Recidivism

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Abstract

Considerable debate surrounds the topic of whether possessing or distributing online images of child pornography (CP) represents a new type of crime perpetrated by conventional sex offenders (e.g., child contact [CC] sex offenders), or whether individuals who commit these crimes differ from contact sex offenders in meaningful ways. The current study compares groups of Internet (CP) and CC sexual offenders, with each group's sexual offending history exclusively confined to its offense category. *T* tests were used to conduct bivariate comparisons of group demographics and criminal histories. Rates of recidivism were examined using survival curves and Cox proportional hazard regression models. Results showed significant differences on demographic and criminal history variables, with CP offenders demonstrating a lower frequency of prior criminal offending and substance abuse, and higher rates of pre-incarceration employment and level of education. Rates of recidivism were significantly different between the two groups, with CP offenders showing lower rates of re-offense for most measures of recidivism. When controlling for background characteristics and the timing of the event, CC offenders were at much greater risk for having an arrest for a new crime or a non-sexual violent crime than CP offenders. Treatment and policy implications are discussed, along with suggestions for future research.

Keywords

child pornography, child molestation, recidivism, survival analysis

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Introduction

Considerable debate surrounds the topic of whether the Internet-facilitated possession or distribution of child pornography (CP) represents a new type of crime perpetrated by conventional sex offenders, or whether those who possess CP constitute a “new” type of offender that differs from the conventional sex offender (Seto & Hanson, 2011). Research in this area has examined similarities and differences between Internet CP and contact sex offenders on demographic and psychological variables, rates of recidivism, and risk factors for re-offense. The first approach to this question has examined the characteristics and recidivism rates of samples of persons convicted of CP offenses, to include subjects both with and without a history of prior contact offenses. The growing literature in this area has yielded important findings such as the proportion of CP offenders with prior contact offenses or future re-offenses (Seto & Eke, 2005). Such research has the advantage of generalizability to CP offenders in criminal justice settings because the criterion for inclusion in the study is simply the commission of a CP offense. However, as will be discussed, studies of this type vary widely in the proportion of CP offenders in the sample who have histories of prior contact offending.

A second approach adopts a more restrictive definition of a CP offender by excluding subjects with any known history of contact offending. There are two advantages of this approach: First, group homogeneity may improve our understanding of within-group (CP-only offenders) characteristics, and between-group (CP vs. contact offenders) differences. Second, CP offenders who lack a history of known contact offenses against children, sometimes referred to as “just pictures” cases (Wood, Seto, Flynn, Wilson-Cotton, & Dedmon, 2009), are a subgroup of particular interest to clinicians. Indeed, representations of Internet CP offenders in the popular media appear to have this type of case in mind when referring to “internet pornography offenders” generally (Bazelon, 2013). The present study adopts this latter approach, using a restrictive definitional criterion to minimize the potential overlap between CP and contact offense histories, in an effort to gain a clearer understanding of the differences between CP and contact sexual offenders on demographic characteristics and rates of re-offending.

Child Pornography

Before the development of the Internet, CP primarily existed as printed materials, photographs, 8-mm reel-to-reel film and videocassettes. The production and duplication of these materials required expensive equipment of the kind not normally found in the average home. To distribute images of child abuse, one had to either personally transport them or rely on a domestic mail carrier. Unsurprisingly, these challenges and risks may have served as barriers to offending for some persons who would have otherwise been inclined to obtain CP. The expansion of the Internet over the past two decades has largely removed these barriers. Various forms of digital media offer quick and easy ways of producing and duplicating sexually explicit images or videos of minors. Furthermore, the Internet allows for the rapid exchange of these images

between users from all parts of the globe. As the ability to store large amounts of data at low cost increases, users are easily able to retain voluminous quantities of images and video. The true quantity of child abuse images stored around the world is incalculable, and the ability of interested individuals to access this data is limited only by the extent of their technical knowledge and their willingness to risk detection. With most homes and businesses offering ready access to a computer and the Internet along with the relative anonymity associated with the massive volume of online transactions, the perceived risk of involvement with child abuse images has diminished considerably.

Legislators, responding to the proliferation of CP, have expanded criminal codes and penalties for CP offenses. Law enforcement agencies have increased the allocation of resources aimed at the detection and apprehension efforts and the prioritization of CP cases in prosecutors' caseloads. The combination of these factors has dramatically increased the population of CP offenders in prison. In the United States, the number of CP cases handled by federal prosecutors increased by over 1000% between 1994 and 2006, and the median sentence received by those convicted of CP offenses increased from 15 to 60 months during the same time period (Motivans & Kyckelhahn, 2007).

Of the many questions regarding CP offending, perhaps the most contentiously debated is the relationship between CP and child contact (CC) sexual offending. As noted above, a proportion of CP offenders also have a history of contact sexual offending. A meta-analysis conducted by Seto and colleagues (Seto, Hanson, & Babchishin, 2011) examined 24 samples of CP offenders and determined that 12% presented histories with officially known contact offenses and 55% with self-report contact offenses (e.g., disclosures of contact offending in the context of treatment or polygraph). The extent of this proportion varied widely across samples. In some samples, none or few of the CP offenders had documented contact offense histories (e.g., Buschman & Bogaerts, 2009; Endrass et al., 2009). At the other extreme were studies that reported a very high prevalence (84.5%) of self-reported prior contact offending in CP offenders (Bourke & Hernandez, 2009).¹ The available evidence points to the conclusion that while some CP offenders are also contact offenders, others confine their offending to CP, with Seto's meta-analysis providing the best current approximation of the proportion in each category.

Comparing Child Pornography and Contact Offenders

Given the lingering questions concerning the degree of overlap between CP and contact offending, interpretation of studies examining the similarities and differences between these populations require some attention as to how a study's CP offender sample was defined. Studies have typically adopted either an offense-specific criterion (i.e., the most recent offense) or a life-history criterion (i.e., the totality of the offender's known offense history). Whether an offender convicted of a CP offense who also had a history of prior contact offenses should be characterized as a "CP offender" is a question beyond the scope of this article. Fortunately, the studies to be cited have explicitly described the criteria for inclusion in their study samples.

With the above caveat in mind, a number of studies have found differences between CP and CC offenders. CP offenders are, on average, older (Babchishin, Hanson, & Hermann, 2011; Elliott, Beech, Mandeville-Norden, & Hayes, 2009), less likely to identify as a minority (Babchishin et al., 2011), more highly educated (Blanchard et al., 2007), and more likely to have skilled or managerial-level employment as well as access to a computer, either at home or work (Babchishin et al., 2011). CC offenders are more likely to be unemployed or work in a manual profession such as retail or labor (Babchishin et al., 2011) and to have more extensive criminal histories than CP offenders.

In addition to the demographic differences shown above, a number of recent studies have compared CP and CC offenders on a variety of structured assessment instruments. Babchishin et al.'s (2011) meta-analysis also found that CP offenders scored significantly higher on three measures of sexual deviance (penile plethysmography, the Sexual Fantasy Questionnaire (Wilson, 1978) and the sexual deviance item of the STABLE-2007). Interestingly, CP offenders demonstrated a higher level of victim empathy than did CC offenders. Babchishin et al. (2011) also found that CC offenders showed more cognitive distortions and a slightly higher degree of emotional identification with children than CP offenders. In 2009, Elliott and colleagues (Elliott et al., 2009) showed that, when compared with CC offenders, CP offenders tended to have lower scores on measures associated with general criminality such as cognitive impulsivity and offense supportive beliefs.

One of the more recent studies was done by McCarthy (2010) who examined the differences between CP offenders with and without a prior history of CC offending. Exploring six areas of Internet sexual activity, she found that CP offenders with a contact offense history were more likely to have a history of illicit drug use and a history of more than one conviction for a sexual crime, and were more likely to network with others with similar sexual interests and had larger CP collections.

Recidivism and Child Pornography Offenders

Research to date in Canada, the United Kingdom, and Switzerland, suggests that CP offenders have relatively low re-offense rates when compared with CC offenders. A recent meta-analysis by Seto et al. (2011) examined a diverse group of online offenders, the majority of which were convicted of CP offenses. The analysis revealed that 4.6% re-offended with a sex crime during the 1.5- to 6-year follow-up period. Of those who recidivated with a sex crime, 43.5% committed a contact offense and 73.9% committed a new CP offense. The numbers did not total to 100% as an offender could have been charged with both types of sex crime.

The CP offender samples studied in Seto's meta-analysis vary in proportion of subjects with histories of prior contact offenses. For example, the sample studied by Faust, Bickart, and Renaud (2009) comprised 870 CP offenders, of whom 9.4% had prior convictions for contact sexual offenses. In contrast, only 2 of the 231 Internet CP subjects in the sample studied by Endrass et al. (2009) had a prior conviction for a contact sexual offense.

In sum, the accumulated evidence from the aforementioned studies suggests that CP offenders have lower rates of re-offense than contact offenders. While, as a group, it would appear that CP offenders present lower risk of re-offense than contact offenders, as individuals they present along all levels of the spectrum of risk. In reference to Internet offenders generally, Seto et al. (2011) asserted it is “a mistake to fail to differentiate online offenders by the risk they pose” (p. 140). In addition, Seto (2013) has noted that much of our knowledge of risk factors for conventional sex offenders may apply to our understanding of risk among CP and that modifications to existing risk measures may yield acceptable predictive accuracy when used with online offenders.

One of the most compelling needs for research on the risk for recidivism posed by CP offenders is to more clearly define the treatment and risk needs of this population. There is a widely supported idea that treatment interventions targeting higher risk populations are the most effective (Andrews & Bonta, 1994). Lack of knowledge about the level of risk posed by CP offenders hinders the effective prioritization of this population, driving correctional administrators to either place all of them in programs for high-risk sex offenders or, alternately, track CP offenders into low-risk, outpatient types of treatment programs. Both approaches are problematic. For CP offenders who are low risk, high-intensity treatment may inadvertently increase their risk for recidivism by their association with their more criminally inclined peers (see Lovins, Lowencamp, & Latessa, 2009; Lowencamp, Latessa, & Holsinger, 2006, for a discussion on treatment and increased recidivism risk among a population of general offenders). Conversely, treating CP offenders who are actually high risk by placing them in low-intensity programs ensures that some unknown proportion of these cases may receive a suboptimal treatment dose (Bourgon & Armstrong, 2006). In sum, given the absence of knowledge of the re-offense risk of CP offenders, correctional agencies are unable to effectively employ a risk-based approach to treatment programming. Recent efforts to validate the Risk Matrix 2000 on CP offenders in the United Kingdom yield evidence of acceptable predictive accuracy, suggesting that an effective risk tool will be at hand in the foreseeable future (Barnett, Wakeling, & Howard, 2010). However, the low overall re-offense base rates among CP offenders may necessitate further research with larger sample sizes or longer follow-up periods (Wakeling, Howard, & Barnett, 2011).

Finally, with the growing but still relatively small number of studies on CP offenders, we have noted some important differences in the definitional criteria for inclusion in a CP offender sample. As a result, the samples studied in prior research vary significantly in the degree to which CP group samples included subjects with a total history that includes both CP and CC offending. We do not argue that one definition or method of sample selection is superior to the other; however, we assert that it is important to be conscious of definitional issues in interpreting the literature in this area of study. Our approach in this study applies a life-history definition of a CP offender, to exclude subjects with known histories of contact offending. We argue that this approach increases the homogeneity of group and provides the clearest contrast between these modes of offending, at least for the purpose of comparing offender characteristics and rates of re-offense.

Present Study

The current study attempts to expand on the literature concerning CP offenders and their risk of recidivating by comparing them with a sample of CC sex offenders. More specifically, the CP offenders in this study encompass the “just pictures” offenders that have been the subject of much debate in the U.S. criminal justice system. Also examined is the degree to which the offender’s status as a CP or CC offender is still relevant when known criminal history and demographic variables are added to a model describing various types of recidivism.

Method

Subjects

The sample was selected from the total population of male sex offenders released from federal (U.S.) custody between 2002 and 2005. Within the U.S. federal prison system, an inmate is classified as a sex offender for case management purposes if he has a current or prior sex offense conviction, either in federal or state jurisdictions. This study included individuals identified as sex offenders using this definition. This selection process yielded an initial sample of 638 offenders. A small minority ($n = 5$) of subjects were serving a sentence for a non-sexual offense, and were included in the sample based on a prior sex offense conviction.

To classify sample subjects as CP or CC offenders, complete criminal histories were examined for offending patterns. Specifically, if an offender was serving time for a CP offense, but had a conviction for a CC offense, either in addition to or at some point prior to their current offense, they were excluded from the analysis. The same held true for offenders serving time for a CC offense, but who had a concurrent or prior conviction for a CP offense.

As a result of the application of the above classification scheme, the CP group comprised 428 offenders who had a history of one or more convictions for the possession or distribution of CP, and no known history of CC sexual offenses.² Of these, all 428 were serving time for a CP index offense. The CC group comprised 210 offenders who had a history of one or more convictions for a contact sexual offense and no history of arrests or convictions for the possession or distribution of CP. Of this group, 205 of the 210 were incarcerated for a CC index offense.

The Federal correctional system’s information management and classification system (SENTRY) was used to collect data on demographic variables such as race, age at release for index offense, ethnicity, and criminal history score. The criminal history score was created by the U.S. Sentencing Commission and is used to calculate the severity of the individual’s criminal history prior to the individuals sentencing for current offense of conviction. Score categories range from 1, least severe (0-1 point) to 6, most severe (13 or more points). Data on current offense, prior offenses, family history, education, and employment were coded from the Pre-Sentence Investigation report (PSI-R) created by U.S. Probation for the U.S. Federal Courts for each offender.

Specific variables coded from the PSI-R were selected due to the fact that they were consistently available (i.e., not typically missing) and had been shown to be predictive of recidivism in other studies (see Faust et al., 2009).

Measuring Recidivism

Recidivism was defined as any arrest for the commission of a new crime or probation violation that occurred between the offender's release from custody and the date of the National Crime Information Center (NCIC) information retrieval (censoring date). Arrest information was taken from (NCIC) reports for each offender. The NCIC is a computerized index of state and federal criminal justice information maintained by the Federal Bureau of Investigation. Not all states report to the NCIC, so multi-state record checks were also performed on all offenders. Results of these record checks were coded along with NCIC reports.

Arrests that were described as technical violations of supervised release were coded as probation violations. An arrest defined as a new criminal event based solely on the post-release status of an arrestee was coded as a probation violation. For example, a sex offender charged with the crime of failing to register was coded as a probation violation. Failing to register is a crime only for those with a status as a sex offender. Conversely, arrests for new criminal behavior that were listed as supervised release violations were coded as new arrests for criminal behavior.

Offenses considered new crimes were broken down into one of four categories. Offenses not involving a sexual element and lacking any violent conduct were categorized as Non-sexual Non-violent (e.g., theft, possession of narcotics, driving under the influence). Those offenses without a sexual element, but that contained violent conduct, were categorized as Violent Non-sexual (e.g., assault, robbery, domestic violence). Offenses with a sexual element were sorted into one of the two remaining categories. Sexual offenses involving direct contact with a victim (e.g., sexual assault of a child) or those with no physical contact but with a targeted victim (e.g., exposure) were coded as Sex Offense Targeted Victim. Finally, any arrests or convictions for possession or distribution of CP were coded as Child Pornography Offense.

Time at Risk for Recidivism

Time at risk was defined as the number of months between the date the offender left custody and the date of arrest or the date of censoring. The censoring date was the date of the NCIC retrieval for those with no arrests or the date of a competing arrest for those arrested on a different type of recidivism. Risk intervals were calculated for each type of recidivism under consideration. This interval was defined as the amount of time between when the offender left custody and the outcome of interest (i.e., type of recidivism), or the censoring date. This yielded a measure of risk for re-offense that controlled for time periods where the offender was out of the risk pool.

Statistical Method

The current analysis started with bivariate comparisons between CP and CC offenders on a number of demographic and criminal history variables. This step was taken to determine the extent of measurable differences between the two groups and to identify potential covariates for a multivariate model assessing the differences between CP and CC offenders.

As there was no fixed follow-up time for the sample, differences in rates of recidivism between the groups were examined in two steps. First, models comparing CP and CC offenders' survival rates were computed using survival curves. Kaplan–Meier estimates provided estimates of the probability of group survival to the point on the graph under examination. Second, as it appeared that CP and CC group comparisons were significant in the survival curves, a comparison of CP and CC offenders was made with multivariate Cox-regression. Variables flagged as significantly different in the bivariate models were tagged as potential covariates for the Cox-regression model. Including covariates provided a step for identifying confounding effects of variables other than CP and CC status. The Cox model produced an estimate of the independent effects of offense type (i.e., CP vs. CC), after controlling for the other covariates (i.e., demographics, criminal history, and mental health factors).

As the number of observed instances of recidivism in the current study was low, with the exception of the “any arrest” outcome, it was necessary to limit the number of independent covariates that were included in the Cox-regression models. As the primary focus was CP/CC differences, the decision was made to utilize stepwise regression techniques (forward selection) to obtain the final models. In all models, offense type (CP or CC) was included. As the primary focus of the analysis was directed at interpreting this variable, any resulting discrepancies between models in terms of the variables included were not theoretically problematic.

Results

Sample Characteristics

Of the full sample of sex offenders, 32% ($n = 210$) were classified as CC offenders while 68% ($n = 428$) fell into the CP category. Demographic characteristics are presented in Table 1.

CP offenders were significantly different from CC offenders on all of the included demographic variables. CP offenders were significantly older than CC offenders when they were released from prison (4 years older on average). CC offenders were significantly less likely to have been married at the time of their arrest for their current incarceration and significantly less likely to have been employed prior to their arrest. CP offenders were also disproportionately White.

Table 1 also shows that CP offenders were significantly different from CC offenders on all but one of the observed historical variables. Specifically, CP offenders were significantly older (10 years on average) than CC offenders when first arrested. They were also significantly less likely to have a history of substance abuse issues and to report having been sexually abused as a child. CP offenders were more likely to have

Table 1. Characteristics of the Child Pornography (CP; *n* = 428) and Child Contact (CC; *n* = 210) Samples.

	CP (%)	CC (%)
Demographics		
Race		
African American	5 (1.2)	38 (18.2)
White	399 (93.0)	43 (20.5)*
Asian	8 (1.9)	0 (0.0)
Native American	1 (0.2)	115 (55.0)
Hispanic	16 (3.7)	14 (6.7)
Age at release (<i>M</i>)	43.0 (<i>SD</i> = 11.4)	39.1 (<i>SD</i> = 12.1)*
Education (<i>M</i> years completed)	13.7 (<i>SD</i> = 2.4)	11.2 (<i>SD</i> = 2.6)*
Married (at time of arrest)	141 (32.9)	49 (23.4)*
Employed (at time of arrest)	365 (85.8)	128 (61.0)*
Criminal history and mental health		
Age at first arrest (mean)	33.7	23.7*
Prior substance abuse	59 (13.7)	90 (43.1)*
Mental health treatment	119 (28.0)	48 (22.8)
Sexually abused as child	50 (11.7)	37 (17.6)*
No prior arrests/convictions	243 (58.0)	53 (25.2)*
Criminal history score	0.59 (<i>SD</i> = 1.77)	2.23 (<i>SD</i> = 5.1)*
Recidivism		
New crime as first arrest	39 (9.1)	54 (25.7)
Probation violation as first arrest	82 (19.2)	81 (38.6)
Non-sexual non-violent	27 (6.3)	56 (26.7)
Non-sexual violent	6 (1.4)	30 (14.3)
Sexual (w/targeted victim)	13 (3.0)	12 (5.7)
Sexual (child pornography)	7 (1.6)	0 (0.0)

*Indicates statistical significance at *p* ≤ .05.

no prior arrests or convictions than CC offenders. This was also reflected in the finding that CP offenders had criminal history scores that were, on average, two points lower than scores of CC offenders. Finally, the CP group did not differ from the CC group in terms of whether they had a documented history of mental health treatment.

The follow-up period for the full sample ranged from 1 to 9 years, with an average of 4.8 years (*SD* = 1.5). During this period, 256 (41.1%) persons in the sample were arrested at least once. Table 1 shows the frequencies of arrests for the categories previously described. Overall, the majority of arrests were for probation violations (63.6%) followed by non-sexual non-violent offenses.

Survival Curves: CP Versus CC

A survival curve representing differences in survival rates and corresponding confidence intervals for an arrest for a new crime as first arrest after release is shown in

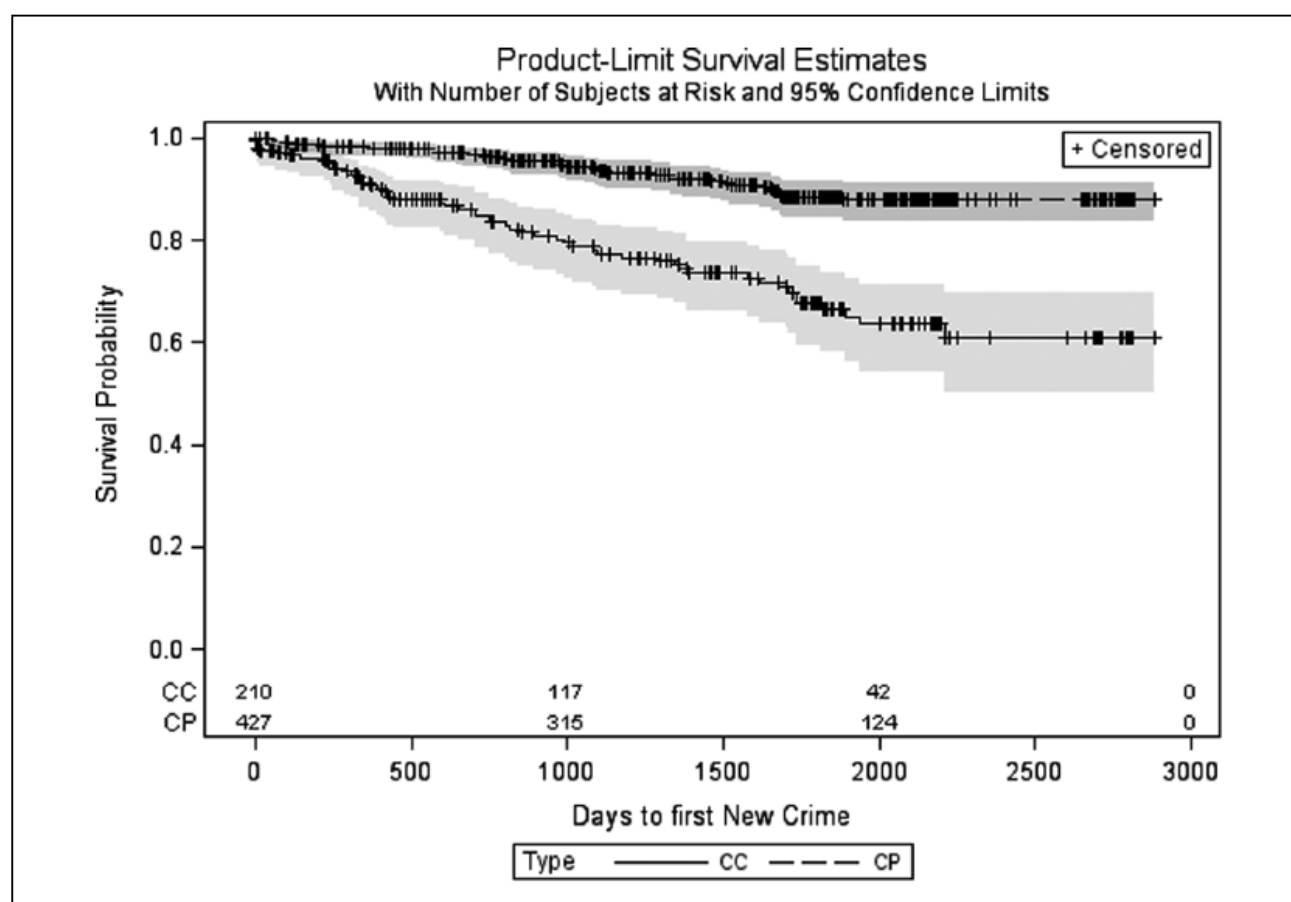


Figure 1. Survival curves for days to first crime comparing CP ($n = 428$) and CC ($n = 210$) offenders, with number of subjects at risk and 95% confidence intervals.
 Note. CP = child pornography; CC = child contact.

Figure 1. As the graph indicates, in bivariate comparisons, CC offenders have lower survival rates for all points in time.

The survival curve for a probation violation is depicted in Figure 2. The survival rate for CP and CC offenders was not statistically distinguishable until about 2,000 days, or 5.5 years. At that point, the survival rates diverged, with CP offenders surviving at a higher rate. The large drop-off noted at the end of the curve for both groups is likely an artifact of the small sample size remaining at these time points and the infrequency of these events.

Non-sexual non-violent offending was examined next (not shown). The pattern shown here was similar to the results for probation violations: CP offenders eventually survived at a higher rate than CC offenders, but this difference was not statistically evident until later points in time. In this case, the differences started to emerge between 1,500 and 2,000 days from initial release from custody.

Non-sexual violent offending is the focus of Figure 3. As seen here, CP offenders had higher survival rates than CC offenders for all time periods examined. CC offenders had higher rates of re-offending, and the groups' differences showed up much earlier than that for the other offense types examined.

The final re-offense type examined is sexual offending against a targeted victim. The results (not shown) suggest that there was limited offending of this type overall, and little distinction between CP and CC offenders that there was little distinction

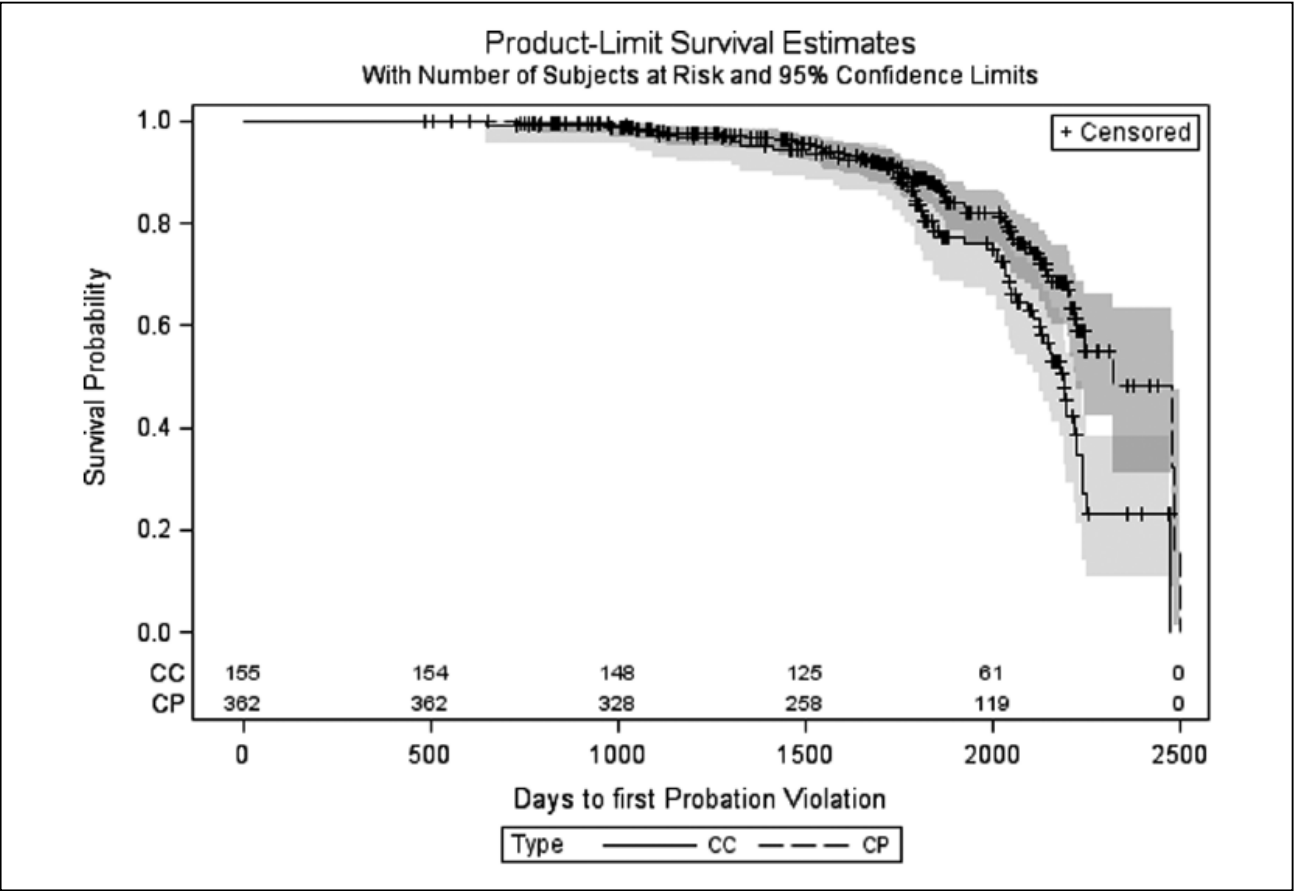


Figure 2. Survival curves for days to first probation violation comparing CP ($n = 428$) and CC ($n = 210$) offenders, with number of subjects at risk and 95% confidence intervals. Note. CP = child pornography; CC = child contact.

between CP and CC offenders, or much offending of this type in general. The lack of differentiation between the two groups is not surprising given the low frequency of this event.

In summary, the survival curves indicated that, when controlling for time at risk, there were significant differences between CP and CC offenders with regard to all measures of recidivism, with the exception of sexual re-offending. The greatest differences were noted for new crime as first arrest and non-sexual violent crimes.

Survival Analysis

The next stage of the analysis utilized Cox proportional hazard models to test the extent to which significant group differences observed in the survival curves remained when demographic and criminal history variables were considered.

The results for the Cox proportional hazard models are shown in Table 2. Only the effect for offense type (CP compared with CC) is reported in the table for the five measures of recidivism examined. The identification of the statistically significant controls used forward stepwise Cox proportional regression. Given that interpretation of the control variables was not the purpose of the current study, the parameters for the control variables were not reported in Table 2.

Several significant relationships found in the survival curve analysis were no longer significant when examined with the inclusion of the background characteristics.

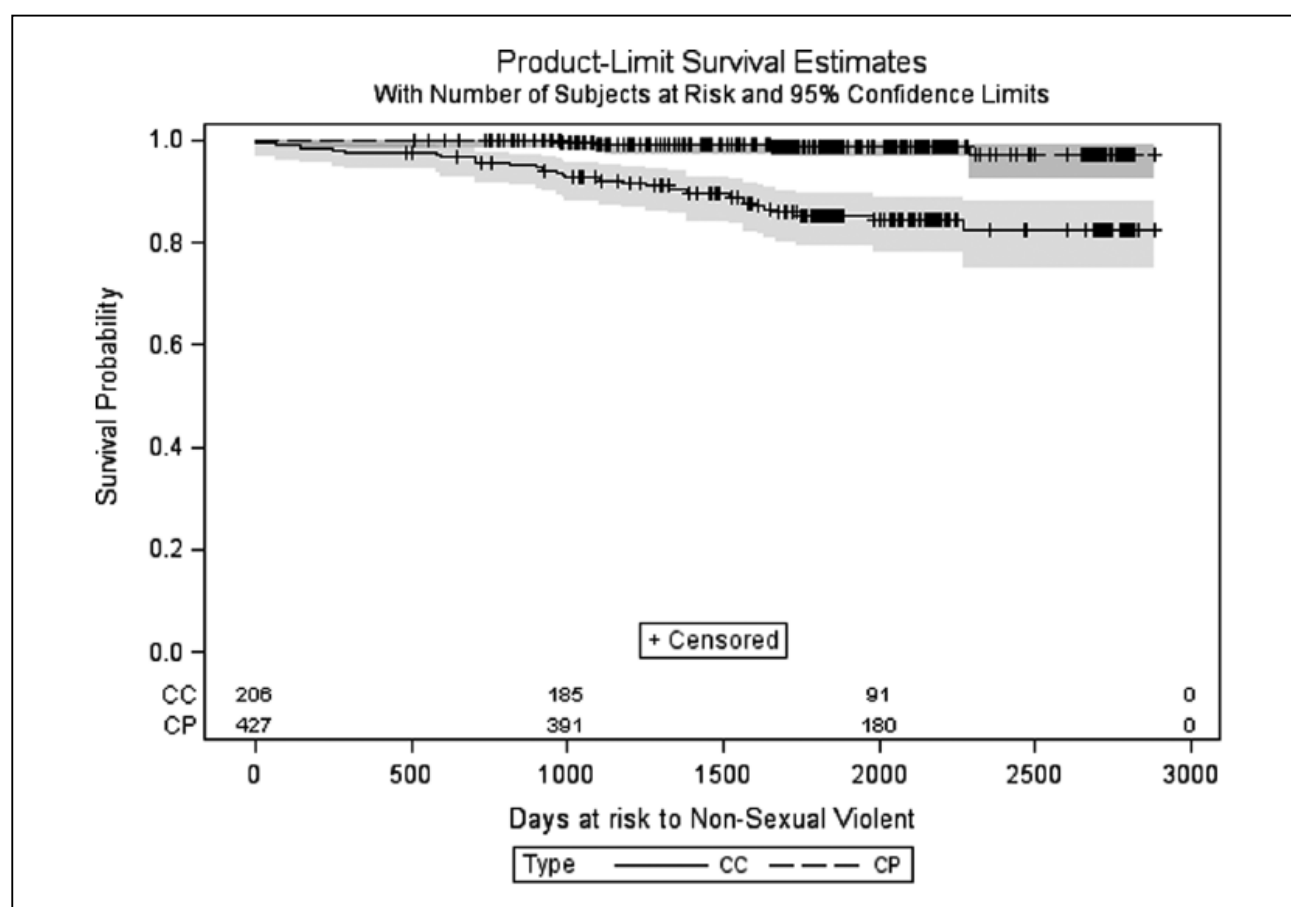


Figure 3. Survival curves for days to non-sexual violent comparing CP ($n = 428$) and CC ($n = 210$) offenders, with number of subjects at risk and 95% confidence intervals.
 Note. CP = child pornography; CC = child contact.

Table 2. Effect of Offense Type (CC vs. CP) for Different Measures of Recidivism.

Outcome	Estimate	Hazard ratio	SE	χ^2	Pr > χ^2
New crime as first arrest	0.62071	1.860	0.22648	7.5111	.0061*
Probation violation as first arrest	-0.30164	0.740	0.24363	1.5329	.2157
Non-sexual non-violent	0.30239	1.353	0.27317	1.2254	.2683
Non-sexual violent	1.89129	6.628	0.45976	16.9210	<.0001*
Sexual (w/targeted victim)	0.14985	1.162	0.37312	0.1613	.6880

Note. CP = child pornography; CC = child contact.

*Indicates statistical significance at $p \leq .05$.

For example, the effect of offender type (CP or CC) was no longer significant when examining probation violations and arrests for non-sexual non-violent crimes with the inclusion of background characteristics. The recidivism types that remained significant were those for New Crime and non-sexual violent offenses. For a new crime arrest, the hazard rate for CC offenders was 86% higher than the hazard rate for CP offenders. For non-sexual violent arrests, CC offenders had a hazard rate that was almost 563% higher than the hazard rate for CP offenders. These findings indicate that

when controlling for background characteristics and the timing of the event, CC offenders were at much greater risk for having an arrest for a new crime or a non-sexual violent crime than CP offenders.

The results for targeted sexual recidivism are also presented in Table 2. There were too few instances of targeted sexual offending for any reliable statistical analysis. None of the independent variables considered here predicted this outcome. Possession of CP is not shown in a table as no CC offenders were arrested for this during the observation period.

In summary, the Cox models confirmed a few of the relationships shown in the survival curves: CC offenders were at higher risk for a new arrest and for non-sexual violent than CP offenders. For probation violations, however, differences between CP and CC offenders were no longer significant as they were in the survival curves. The significant relationship between offender type and non-sexual non-violent arrests was also no longer significant when examined in the context of significant background characteristics.

Discussion

The current study examined a sample of released correctional inmates who were identified as sexual offenders and compared those with a history of possession or distribution of CP to those with a history of contact sexual offenses against children. Overall, our results indicated that these two groups differed on a number of demographic and criminal history variables. They were also different from one another when it came to an examination of several types of recidivism.

The differences in demographic variables may be relevant to the respective processes for CP and CC offending. For example, it is possible that many CP offenders and CC offenders share a common underlying offense motivation (e.g., pedophilic interest), but the modality of offending is influenced by the individual's access to, and familiarity with, the Internet. The degree of familiarity and access may, in turn, be related to his employment status, educational level, and related factors. Despite the presumed ubiquity of the Internet, a recent survey of 5,005 adult Americans found that a large segment of the population continued to lack home access to the Internet. For example, only 24% of persons who lacked a high school diploma had broadband at home, compared with 86% of college graduates (Horrigan, 2010). Although our study did not examine the extent to which our subjects had Internet access, given the demographic differences between the two groups, it is likely that a smaller proportion of the CC offender group had ready access to the Internet, or the skills to use it.

We also found that the CP and CC groups differed on many of the personal and criminal history variables. While the groups did not differ in terms of whether they had documented histories of mental health treatment, significantly fewer CP offenders had documented histories of substance abuse and child sexual abuse than CC offenders. CP offenders were also more likely to be first-time offenders than were CC offenders. In addition, CP offenders were, on average, older than CC offenders when first arrested. This suggests that, compared with the CC group, CP offenders either began

to engage in criminal behavior significantly later in life, or were better able to conceal their criminal behavior from law enforcement for a significantly longer period of time. In sum, our results are consistent with the findings of other studies, indicating that CP offenders, compared with contact offenders, tend to display fewer factors associated with a criminal lifestyle (substance abuse, criminal history) and more factors associated with pro-social orientation (marriage, employment, education).

The results of the survival curve analysis of the differences in rates of recidivism showed that when examined at the bivariate level, CP offenders were less likely to be rearrested for most of the types of recidivism. This is consistent with findings from other studies that had a more liberal definition of CP offending (see Webb, Craissati, & Keen, 2007), or who examined CP offenders without comparing them with a group of CC offenders (Seto et al., 2011).

Previous studies have increased our understanding of CP offenders by comparing the number of offenses known to law enforcement with the number of prior self-reported contact offenses offenders disclosed during a polygraph or in treatment (Bourke & Hernandez, 2009; Wood et al., 2009). These findings have been used to advance the argument that many, if not most, CP offenders are also contact offenders. As noted by Bourke and Hernandez (2009), the number of prior contact offenses acknowledged by CP offenders “challenges the often repeated assertion that CP offenders are ‘only’ involved with ‘pictures’” (p. 188). However, our findings suggest that whatever the extent of overlap between CP and contact offending, this relationship does not carry forward into future offending, at least with respect to non-sexual offending. Our study, consistent with others cited above, adds to the growing consensus that CP offenders are, as a group, comparatively low risk for recidivism compared with CC offenders.

Our finding, that offense type (i.e., CP vs. CC) was predictive of any future criminal activity, was still present for two of the five types of recidivism examined when controlling for significant demographic and criminal history variables. Given the current study examined a limited number of background characteristics, it is possible that group differences in recidivism would disappear with the inclusion of other variables typically associated with risk, such as psychopathy, for example. Moreover, there may be protective factors for re-offense that differentially impact recidivism for each group.

Elliott et al. (2009) found that compared with offline offenders, online offenders tended to have less external locus of control, and lower levels of impulsivity. Thus, it is possible that these constructs serve as protective factors for a significant subset of CP offenders. Given that the pre-offense lives of CP offenders were characterized by pro-social rewards (better education, marriage, employment), it may also be that the potential loss of these rewards through criminal conviction/incarceration also served as a greater deterrent for re-offense among CP offenders than CC offenders whose lives offered fewer of those rewards. Although our findings did show that some CP offenders went on to sexually abuse a child, most did not. This points to existence of a subset of CP offenders who are distinct from those who have CC offenses (Babchishin et al., 2011). We should note however, that the sample purposively excluded mixed

offenders (i.e., those who had a history of CP and CC offending). Therefore, there may be offense processes that occur for this group that are wholly different than for the two groups studied here and that which we were unable to capture in our analysis.

Treatment Implications

There are significant treatment implications to our findings. First, because CP offenders who recidivate tend to do so sexually, programs serving these offenders are advised to concentrate on factors related to sexual deviancy and sexual self-regulation. The treatment protocol for CP offenders developed by Quayle, Erooga, Wright, Taylor, and Harbinson (2006) places an appropriate emphasis on the escalation of sexual fantasy and its influence on the offense process. Deficits in emotional self-regulation or intimacy may also be appropriate treatment targets, but future research is necessary to determine whether these stable dynamic factors are appropriate targets with CP offenders as they appear to be with contact offenders.

The second treatment implication is that, given the low overall re-offense rates of Internet CP offenders, correctional treatment programs are unlikely to achieve significant reduction in recidivism in directing services toward this group. As noted above, it is highly desirable to reserve high-intensity treatment for higher risk offenders, and afford lower intensity services to lower risk inmates. As far as the available empirical evidence is concerned, it appears warranted to view Internet CP offenders as a low-risk population, requiring less intensive interventions. As more of these offenders appear in therapy sessions or treatment groups, we are wise to pause and consider what we hope to achieve with this population. Our results suggest that significant reductions in recidivism are unlikely due to the low overall re-offense base rate of CP offenders.

It should be clarified that if CP offenders as a group are low risk, as individuals they present at all levels of the spectrum of risk. There is increasing consensus that static and dynamic risk factors for contact offenders may also be applied to the CP population (Hanson & Babchishin, 2009; Seto, 2009a, 2009b). Based on this, we might place into intensive programs those CP offenders who present with factors known to be associated with risk among sex offenders in general, such as those who are younger or who have histories of prior sexual or non-sexual offenses. One of the most important risk factors for contact sexual offenders is paraphilic arousal for/interest in children. It is not clear if sexual deviancy is a risk factor for future offending among CP offenders, and if so, how this can be assessed. Recently, there have been efforts to isolate CP offense characteristics related to sexual deviancy to determine whether they are suggestive of elevated risk (e.g., number of images; level of organization of the offender's CP collection; age and gender of children in images; Seto, 2009b). However, much research still needs to be done before we can determine which factors reliably predict risk among CP offenders.

Agencies providing treatment programs for CP offenders are advised to conduct research to ensure that these programs are actually reducing rates of re-offense in the clinical population. Moreover, there is good reason to broaden program evaluation outcome criteria to include measures of quality of life and wellness. In our sample, CP

offenders were similar to CC offenders in terms of the numbers in each group with documented prior mental health treatment. In addition, we found that offenders in the CC group were more likely than those in the CP group to have documented substance abuse and child sexual abuse histories. However, other researchers have begun to find that CP offenders are more likely than CC offenders to present with psychological difficulties (Webb et al., 2007) and deficits in interpersonal functioning and affective difficulties (Laulik, Allam, & Sheridan, 2007). Therefore, interventions aimed at improving intimacy and emotional self-regulation skills may be valuable with this population. In addition, anecdotal evidence from clinicians suggests that many CP offenders are distressed by their inability to effectively manage their sexual thoughts, and may benefit from programs designed to build sexual self-regulation skills. Even in the absence of appreciable change in the offender's likelihood of re-offense, such interventions have the potential to greatly improve the lives of treatment participants. Of course, from a resource allocation perspective within correctional agencies, programs aimed at reducing recidivism among higher risk offenders may have greater priority than those addressing treatment targets that are not directly related to risk of re-offense.

Limitations

While this study provided a representative sample of CP offenders, one limitation of this study is the representativeness of the CC offenders. More specifically, our sample of offenders serving time for child molestation or sexual assault comprised largely offenders from the District of Columbia, tribal lands, and to a lesser extent, military bases and national parks. This is apparent in the disproportionate number of Native Americans in the CC group. This is mainly due to the fact that, in the United States most child sex offenses that contain an element of contact fall under the jurisdiction of the state. It is, therefore, possible that these offenders would not be representative of child sexual abusers one might find in a state sample.

Analyzing recidivism for sexual offenses was problematic because of the relatively low rates of rearrest during the observed follow-up period. This was especially true for contact sexual recidivism, wherein rates were so low as to preclude the finding of any significant differences between the two groups. A post hoc power analysis revealed that we would either have to increase our sample size threefold, or extend our observation period by a minimum of 10 years to obtain enough observations to find a significant difference between the two groups.

Conclusion

Although the results of the current study should be interpreted within the context of these methodological limitations, this study makes a meaningful contribution to our understanding of Internet CP offenders. However, much additional research is needed to help us understand this relatively new population of offenders. The current study suggests that in many, if not most cases, we should consider and treat CP offenders differently from how we do contact offenders. However, in some cases, perhaps a

minority of cases, CP offenders may be more similar to contact offenders than they are different. Identifying those factors that distinguish the latter group from the former should be prioritized in future investigations.

Authors' Note

Opinions expressed in this manuscript are those of the authors and do not necessarily represent the position of the Federal Bureau of Prisons or the U.S. Department of Justice.

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Notes

1. This latter sample, characterized as an outlier, was excluded from the meta-analysis.
2. Evidence of prior child contact offending was expanded beyond simple convictions and included arrests and allegations. If any evidence of these was found, the child pornography (CP) offender was considered to have a history of contact offending and was removed from the analysis.

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