The likelihood that child pornography offenders will later commit a contact sexual offense is unknown. In the present study, we identified a sample of 201 adult male child pornography offenders using police databases and examined their charges or convictions after the index child pornography offense(s). We also examined their criminal records to identify potential predictors of later offenses: 56% of the sample had a prior criminal record, 24% had prior contact sexual offenses, and 15% had prior child pornography offenses. One-third were concurrently charged with other crimes at the time they were charged for child pornography offenses. The average time at risk was 2.5 years; 17% of the sample offended again in some way during this time, and 4% committed a new contact sexual offense. Child pornography offenders with prior criminal records were significantly more likely to offend again in any way during the follow-up period. Child pornography offenders who had committed a prior or concurrent contact sexual offense were the most likely to offend again, either generally or sexually.

KEY WORDS: child pornography offenders; criminal history; future offending.

There has been a great deal of public and professional attention to child pornography offenders in recent years, particularly with the emergence of the Internet and the pornographic content that it has made available (see Jenkins, 2001). A particularly salient question is whether child pornography offenders are likely to commit a sexual offense involving contact with a child. Unfortunately, there are no published data on the future offending of child pornography offenders. In fact, there have only been a few empirical studies on the characteristics of

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1 Centre for Addiction and Mental Health, and University of Toronto, Canada.
2 Behavioural Sciences Section Research Unit, Ontario Provincial Police, and York University, Canada.
3 To whom correspondence should be addressed at Law and Mental Health Program, Centre for Addiction and Mental Health, 250 College Street, Toronto, Ontario, Canada, M5T 1R8; e-mail: Michael_Seto@camh.net.
individuals who are charged with the possession, distribution, or production of child pornography.  

Howitt (1995) interviewed 11 adult male pedophiles who reported occasional use of child pornography. These men said they created their own sexually arousing materials using images from catalogues, magazines, and other freely and legally available sources. Durkin and Bryant (1999) describe the explanations given by 41 on-line participants of a Usenet newsgroup (alt.support-boy.lovers) who the authors described as pedophiles. Many of their participants appear to have been specifically interested in adolescent boys, and thus would not meet the DSM-IV-TR definition of pedophilia as a sexual attraction to prepubescent children (American Psychiatric Association, 2000; Seto, 2002). Quayle and Taylor (2002) interviewed 13 men convicted of downloading child pornography from the Internet. Many of these men acknowledged that the material they downloaded was sexually arousing to them and corresponded to the content of their sexual fantasies. Although these men selected the material that was most interesting to them, they said they also downloaded other material in order to complete collections of images or video clips or because the content was novel to them. Galbreath, Berlin, and Sawyer (2002) reported data from 39 outpatients who were assessed because of concerns about their use of the Internet for sexual purposes. All had used sexually explicit websites and the majority (64%) had participated in sexually explicit chat-rooms. Fifty-five percent of the outpatients had downloaded child pornography and 34% had attempted to meet a minor for sex. Finally, we recently demonstrated that possession of child pornography is a valid indicator of pedophilia, because it correlated positively with self-reported sexual interests in children and with phallometrically-assessed sexual arousal to stimuli depicting children (Seto, Cantor, & Blanchard, 2005).  

The likelihood of later offending by child pornography offenders is unknown. The present study was conducted to address the following three applied questions: How likely are child pornography offenders to incur new charges or convictions of any kind? How likely are they to specifically incur new charges or convictions for contact sexual offenses? What factors distinguish those who offend again from those who do not? We were specifically interested in examining the predictive validity of prior offenses and criminal versatility (in the types of offenses that have been committed). These criminal history variables are robust predictors of recidivism among offenders in general (Gendreau, Little, & Goggin, 1996)  

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4We define child pornography as visual depictions of children with their genital or anal areas uncovered or of children in sexual situations, consistent with the statutory definitions of Canadian and American legislation (Sec 163.1 of the Criminal Code of Canada and the American Child Pornography Prevention Act of 1996). For example, the Canadian Criminal Code defines child pornography as a visual representation that shows a “person who is or is depicted as being under the age of eighteen years and is engaged in or is depicted as engaged in explicit sexual activity” or displays “for a sexual purpose, of a sexual organ or the anal region of a person under the age of eighteen years” (Sec 163.1, R.S. 1985, c. C-46).
and sex offenders in particular (Hanson & Bussière, 1998). In addition to the practical implications for clinicians, criminal justice officials, and policy-makers, demonstrating that these variables can predict recidivism among child pornography offenders would be a theoretical contribution because it would suggest that antisociality plays a role in explaining child pornography offenses, as it does in explanatory models for other kinds of sexual offending.

In the present study, we predicted that child pornography offenders with a history of other offenses would be more likely to reoffend than those without such a history. Because prior sexual offending is specifically predictive of sexual recidivism (Hanson & Bussière, 1998), we further predicted that child pornography offenders with a history of contact sexual offenses would be the most likely to commit contact sexual offenses in the future.

METHOD

Participants

The initial study sample consisted of persons listed on the Ontario Sex Offender Registry who had ever been convicted for possession, distribution, or production of child pornography, as defined by Canadian criminal law. The Sex Offender Registry is a database of sex offenders who reside in the province of Ontario; it became active in April, 2001. At that time, all offenders who were serving a sentence for a sexual offense (i.e., incarcerated or living in the community under probation or parole conditions) were recorded in the registry. Since then, all individuals convicted at trial or found Not Criminally Responsible (comparable to not guilty by reason of insanity legislation in some American states) and then given an absolute discharge by a mental health review board are required by law to register annually with police, who record the following information: name; date of birth; current address; current photograph; physical description; behaviour related to the offense; and known sexual offenses. Sex offenders who are convicted elsewhere in Canada and move to Ontario are also required to register upon arrival. Juvenile sex offenders (youths convicted of an offense committed while they were between the ages of 12 and 17) are not registered unless they are tried as an adult, nor are persons who have been pardoned or who have received absolute or conditional discharges at trial. Offenders were excluded from the study sample if they had been convicted of possession of “obscene material” but it could not be determined if the material was child pornography (11 cases), or the child pornography conviction was successfully appealed or pardoned (4 cases).

A total of 205 child pornography offenders were identified in our search of the Ontario Sex Offender Registry database. Only one of the child pornography offenders was female; this person was a 46-year-old woman charged with a male co-offender in the sample. She was dropped from the following analyses in order
to have a sample that was homogeneous with regard to subject sex. Three of the remaining offenders were dropped from the sample because they remained in custody during the entire follow-up period, and thus had no time at risk in the community.

The final sample was comprised of 201 child pornography offenders. The age of offenders at the time of their index offenses ranged from 19 to 76 years ($M = 38.3$, $SD = 12.2$). Their age upon first ever criminal charge or conviction ranged from 13 to 76 ($M = 32.0$, $SD = 13.2$).

### Procedure

We obtained information on each child pornography offender from the Ontario Sex Offender Registry. Additional information was available for 84 (42%) of the offenders from the Violent Crime Linkage Analysis System, a national database maintained on violent offenders, including sex offenders (see Collins, Johnson, Choy, Davidson, & MacKay, 1998, for a description of this system). Although child pornography offenses are not an inclusion criterion for the Violent Crime Linkage Analysis System, some cases are included at the discretion of the investigating officers. Offenders may also be entered into this database because of violent offenses they had committed in the past. Information from this database includes offender age, occupation, psychiatric history, criminal history and offense details. Research assistants were trained to code the study variables from these two different databases—Ontario Sex Offender Registry and Violent Crime Linkage Analysis System—using a standard data coding form.

Interrater reliability was examined for all study variables in a total of 24 cases (12% of the sample), with 8 cases reviewed at the beginning, middle, and end of the coding process, respectively. Interrater reliability was very good, with Spearman correlations for the continuous variables ranging from .94 to 1.0, and kappas for the categorical variables ranging from .70 to 1.0. Any disagreements between raters were then resolved by consensus for all cases.

We defined a nonviolent offense as a charge or conviction for offenses that did not involve direct contact with a person (e.g., offenses such as theft, fraud, or possession of narcotics). Child pornography and noncontact sexual offenses were also counted in this category. As in other studies on sex offenders that we have conducted, we defined a violent offense as a charge or conviction for a nonsexually violent or sexual offense involving physical contact with a victim (Barbaree, Seto, Langton, & Peacock, 2001; Seto & Barbaree, 1999). We defined a sexual offense as one that could be clearly identified as being sexual in nature based on the category of criminal offense or other information available in the databases. We further distinguished sexual offenses according to whether there was physical contact with a victim (contact sexual offenses) or not (noncontact sexual offenses). Noncontact sexual offenses included charges or convictions for possession, distribution, or
production of child pornography, as well as offenses such as indecent exposure, procuring prostitutes, or possession of obscene materials (e.g., possessing visual depictions of violent sexual interactions). Because of our particular interest in this study, we also considered child pornography offenses separately.

We obtained information about new offenses (defined as new charges or convictions) by accessing a national database maintained by the Canadian Police Information Centre, a service of the Royal Canadian Mounted Police. This database also contains information about the length of any custodial sentences and release dates from correctional institutions. We coded each new charge or conviction as of April 27, 2004, using the classification scheme described above, thus distinguishing between new nonviolent offenses, violent offenses, contact sexual offenses, noncontact sexual offenses, and child pornography offenses. Data obtained from the Sex Offender Registry and the Canadian Police Information Centre were merged into a common database and identifying information was removed prior to statistical analysis.

Time at risk for recidivism was calculated using both Sex Offender Registry and Canadian Police Information Centre data. We calculated time at risk as the difference between child pornography conviction date and the date of a new offense or the date that the follow-up data were obtained for the nonrecidivists (April 27, 2004). Time in custody was subtracted from this total, so that time at risk represented only the time that an offender had opportunity to offend while in the community. The average time at risk was 29.7 months ($SD = 14.2$ months, range = 15 days to 6.2 years). Time at risk exceeded the time since the inception of the Ontario Sex Offender Registry because some offenders had committed their child pornography offense before the registry was instated (e.g., those who were on probation or parole in April, 2001).

RESULTS

Criminal History

One hundred and twelve offenders (56%) had been charged with a criminal offense of any kind prior to their index offenses. Forty-five percent had prior nonviolent offenses, 30% had prior violent offenses, 24% of the sample had prior contact sexual offenses, 17% had prior noncontact sexual offenses, and 15% had prior child pornography offenses. Descriptive statistics of the criminal histories of the entire sample, and of the 112 men with prior criminal records, are reported in Table I.

Index Offenses

Two-thirds of the 201 subjects ($n = 135$) had only child pornography index offenses; the remainder were adjudicated for other kinds of offenses at the time
Table I. The Criminal Histories of Child Pornography Offenders

<table>
<thead>
<tr>
<th>Criminal history</th>
<th>Full sample (N = 201)</th>
<th>Sample with prior criminal history (N = 112)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean # prior nonviolent offenses</td>
<td>3.4 (9.5)</td>
<td>6.0 (12.2)</td>
</tr>
<tr>
<td>Mean # prior violent offenses</td>
<td>1.5 (3.4)</td>
<td>2.7 (4.1)</td>
</tr>
<tr>
<td>Mean # prior contact sexual offenses</td>
<td>1.0 (2.7)</td>
<td>1.8 (3.4)</td>
</tr>
<tr>
<td>Mean # prior noncontact sexual offenses</td>
<td>0.6 (2.2)</td>
<td>1.1 (2.9)</td>
</tr>
<tr>
<td>% prior child pornography offenses</td>
<td>15</td>
<td>27</td>
</tr>
</tbody>
</table>

Note. Standard deviations are reported in parentheses.

they were adjudicated for a child pornography offense. The third with other index charges or convictions engaged in a great deal of additional criminal activity, with an average of 4.3 nonviolent charges ($SD = 6.8$, range = $1 – 43$), 3.8 violent charges ($SD = 5.7$, range = $0 – 36$), 2.3 contact sexual charges ($SD = 3.7$, range = $0 – 19$), and 4.4 noncontact sexual charges ($SD = 7.4$, range = $1 – 42$). The top range values were accounted for by four offenders who had very long lists of charges at the time they were adjudicated for their index child pornography offenses; some of these charges might have involved multiple counts (e.g., multiple counts for multiple incidents involving the same victim) or an accumulation of historical offenses dealt with at the same time in court (e.g., charges for offenses committed over the past 10 years).

Later Offending

Thirty-four offenders (17%) offended again during the follow-up period. Of these, 30 offended again in the community, while 4 offended again while in custody; of the four who offended again in custody, two were charged with new child pornography offences (these offenders had communicated with associates outside of jail in order to continue their child pornography activities), one was charged with a nonsexually violent offense, and one was charged with a new contact sexual offense committed against another inmate. Eleven of the 29 men who offended again (6% of the follow-up sample) committed a new violent offense; of these violent offenses, 9 (4% of the follow-up sample) were new contact sexual offenses. In addition, 11 of the men who offended again incurred a new charge or conviction for a child pornography offense, resulting in a child pornography recidivism rate of 6% of the follow-up sample.

We then compared the new offense rates of offenders with no prior criminal history and those with a criminal history in the follow-up sample (see Table II). Offenders with a prior criminal history were significantly more likely to fail probation or parole and significantly more likely to offend again in some way. Other criminal involvement at the time they were adjudicated for the child pornography
Table II. Comparison of Child Pornography Offenders With and Without Prior Criminal Histories on Recidivism Outcomes

<table>
<thead>
<tr>
<th>Recidivism outcomes (%)</th>
<th>No priors ($N = 89$)</th>
<th>Any prior history ($N = 112$)</th>
<th>$\chi^2$</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any failure of conditional release</td>
<td>4.5</td>
<td>14.3</td>
<td>5.31</td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Any reoffense</td>
<td>9.0</td>
<td>23.2</td>
<td>7.14</td>
<td>$p &lt; .01$</td>
</tr>
<tr>
<td>Any violent reoffense</td>
<td>4.5</td>
<td>6.3</td>
<td>&lt; 1</td>
<td>$ns$</td>
</tr>
<tr>
<td>Any contact sexual reoffense</td>
<td>3.4</td>
<td>5.4</td>
<td>&lt; 1</td>
<td>$ns$</td>
</tr>
<tr>
<td>Any noncontact sexual reoffense</td>
<td>6.7</td>
<td>6.3</td>
<td>&lt; 1</td>
<td>$ns$</td>
</tr>
<tr>
<td>Any pornography reoffense</td>
<td>5.6</td>
<td>5.4</td>
<td>&lt; 1</td>
<td>$ns$</td>
</tr>
</tbody>
</table>

offenses was not significantly related to any of the outcome variables, although there was a consistent trend for those who had committed other crimes in addition to child pornography offenses to be more likely to fail probation or parole or to offend again (results not shown).

Finally, we classified child pornography offenders into groups according to the extent of their total criminal behavior, collapsing across prior criminal history and other criminal involvement at the time they were adjudicated for the child pornography offenses. We distinguished between those who had committed only child pornography offending, those who had ever committed nonsexual offenses as well, and those who had ever committed contact sexual offenses as well (see Table III). There was a significant difference between these three groups in their likelihood of committing a new offense of any kind and committing a new contact sexual offense. Child pornography offenders who had ever committed a contact sexual offense were the most likely to reoffend, either generally or sexually. There was no significant difference between these groups in their likelihood of failing probation or parole, committing a new noncontact sexual offense, or in committing a new child pornography offense.

Table III. Recidivism Outcomes of Child Pornography Offenders Distinguished According to Their Other Criminal Involvement (Whether Prior or Concurrent)

<table>
<thead>
<tr>
<th>Recidivism outcomes (%)</th>
<th>Child pornography only ($N = 76$)</th>
<th>Other nonsexual offending ($N = 49$)</th>
<th>Contact sexual offending ($N = 76$)</th>
<th>$\chi^2$</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any failure of conditional release</td>
<td>6.6</td>
<td>6.1</td>
<td>15.8</td>
<td>4.66</td>
<td>$p = .10$</td>
</tr>
<tr>
<td>Any reoffense</td>
<td>6.6</td>
<td>18.4</td>
<td>26.3</td>
<td>10.63</td>
<td>$p = .005$</td>
</tr>
<tr>
<td>Any violent reoffense</td>
<td>2.6</td>
<td>4.1</td>
<td>9.2</td>
<td>3.42</td>
<td>$ns$</td>
</tr>
<tr>
<td>Any contact sexual reoffense</td>
<td>1.3</td>
<td>2.0</td>
<td>9.2</td>
<td>6.44</td>
<td>$p &lt; .05$</td>
</tr>
<tr>
<td>Any noncontact sexual reoffense</td>
<td>5.3</td>
<td>8.2</td>
<td>6.6</td>
<td>&lt;1</td>
<td></td>
</tr>
<tr>
<td>Any pornography reoffense</td>
<td>3.9</td>
<td>8.2</td>
<td>5.3</td>
<td>1.03</td>
<td>$ns$</td>
</tr>
</tbody>
</table>
DISCUSSION

This study is the first ever to report on the later offending of a sample of child pornography offenders. Seventeen percent of the follow-up sample of 201 offenders had offended again in some way within an average of approximately 2.5 years after their release to the community (4 men reoffended while they were still in custody). As we predicted, and as would be expected based on generalist theories of crime, there was a significant difference in later offending between child pornography offenders classified into groups according to the extent of their other criminal behavior. Child pornography offenders who had ever committed a contact sexual offense were the most likely to reoffend. These group differences could be detected even though the overall rate of sexual recidivism was low (4%). Only one of the offenders with only child pornography offenses committed a contact sexual offense in the follow-up period. More of this group of offenders might subsequently commit a sexual offense as the duration of the follow-up period increases, but our finding does contradict the assumption that all child pornography offenders are at very high risk to commit contact sexual offenses involving children.

Validated actuarial risk scales such as the Sex Offender Risk Appraisal Guide or the Static-99 are already available for offenders who have had sexual contact with children (see Barbaree et al., 2001, for a comparison of some of the best-known scales, and see Hanson, Morton, & Harris, 2003, for a recent review). However, three-quarters of our total follow-up sample did not have any known history of contact sexual offending, which is consistent with data from another Canadian sample of child pornography offenders (Seto et al., 2005) and American samples of child pornography offenders (Federal Bureau of Investigation press release, retrieved from http://www.fbi.gov/pressrel/pressrel02/cm031802.htm on July 30, 2003; Perrien, Hernandez, Gallop, & Steinour, 2000; Raymond Smith, manager in charge of child pornography investigations at the United States Postal Inspection Service, personal communication cited in Klain, Davies, & Hicks, 2001). Further work examining risk factors among child pornography offenders without any known history of contact sexual offending could be of great assistance to police investigators and other professionals who need to assess risk and thereby prioritize their resources appropriately. We have plans to collect relevant details from police records in a follow-up study of child pornography offenders that will allow us to identify additional risk factors. Given the robustness of recidivism predictors across criminal subgroups that have been studied in detail (Bonta, Law, & Hanson, 1998; Gendreau et al., 1996; Hanson & Bussière, 1998; Hilton, Harris, & Rice, 2001; Lipsey & Derzon, 1998), we predict that the same kinds of risk factors will predict later offenses among child pornography offenders.

One limitation of our study is that we had access to only official records in this study, so we did not have data on psychological variables that would be relevant to understanding child pornography offenders. Of particular interest are
variables that reflect antisociality (e.g., antisocial attitudes and beliefs, antisocial personality traits, childhood and adolescent history of conduct problems) and atypical sexual interests (e.g., self-reported interests, sexual history, phallometric testing). We hope to look at some of these variables in our future research.

Another limitation is that we were only able to study individuals who had been charged and convicted of child pornography offenses. We did not have data from child pornography users who had not come into contact with the criminal justice system. Research on child pornography users that takes advantage of methods to increase participant recruitment and honest disclosure (e.g., anonymous Internet surveys, certificates of confidentiality) could be very illuminating. The ideal study design would recruit noncriminal, nonclinical pedophiles from the community.

A third limitation is the statistical power that we were able to obtain given our sample size and new offense base rate. We were still able to detect significant differences in new offenses between groups defined by criminal history, but we would like to see these results replicated using larger samples with higher new offense base rates. We intend to continue following this child pornography offender sample to see if the relationships between prior criminal history and other criminal involvement hold up with longer times at risk.

Further study of men who possess child pornography could inform theories about pedophilia and sexual offending against children, to the extent that possession of child pornography is indicative of pedophilic sexual interests (see Seto, Maric, & Barbaree, 2001, for a discussion of this idea, and Seto et al., 2005, for empirical evidence in support). Studying men who possess child pornography would allow us to study pedophilia in a group that is less criminal, on average, than correctional samples of contact sex offenders and perhaps less clinically impaired than individuals who are assessed in clinical settings. We would be able to determine what factors distinguish men who have pedophilic sexual interests and do not act upon them and those who do act upon them by initiating sexual contacts with children. Current theories of sexual offending would suggest that men who go on to have sexual contacts with children will be higher on indicators of antisociality (early conduct problems, antisocial personality traits, criminal history, etc.) than those who do not.

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