Sexual abuse history among adult sex offenders and non-sex offenders: A meta-analysis

Ashley F. Jespersen, Martin L. Lalumière, Michael C. Seto

Objective: The sexually abused–sexual abuser hypothesis states there is a specific relationship between sexual abuse history and sexual offending, such that individuals who experience sexual abuse are significantly more likely to later engage in sexual offenses. Therefore, samples of adult sex offenders should contain a disproportionate number of individuals who have experienced sexual abuse, but not necessarily other types of abuse, compared with samples of other types of offenders.

Methods: We compared rates of sexual and other forms of abuse reported in 17 studies, involving 1,037 sex offenders and 1,762 non-sex offenders. We also examined the prevalence of different forms of abuse in 15 studies that compared adult sex offenders against adults ($n = 962$) and against children ($n = 1,334$), to determine if the sexually abused–sexual abuser association is even more specific to individuals who sexually offend against children.

Results: We observed a higher prevalence of sexual abuse history among adult sex offenders than among non-sex offenders (Odds Ratio = 3.36, 95% confidence intervals of 2.23–4.82). The two groups did not significantly differ with regard to physical abuse history ($OR = 1.50$, 95% CI = 0.88–2.56). There was a significantly lower prevalence of sexual abuse history among sex offenders against adults compared to sex offenders against children ($OR = 0.51$, 95% CI = 0.35–0.74), whereas the opposite was found for physical abuse ($OR = 1.43$, 95% CI = 1.02–2.02).

Conclusion: There is support for the sexually abused–sexual abuser hypothesis, in that sex offenders are more likely to have been sexually abused than non-sex offenders, but not more likely to have been physically abused. We discuss potential mechanisms for the relationship between sexual abuse history and sexual offending, including the possibility that a third factor might account for the relationship.

Practice implications: The most obvious implications of these findings is that the prevention of sexual abuse of children, either through prevention programs directly targeting children or through treatment programs targeting individuals who are likely to sexually offend against children (e.g., known sex offenders against extra-familial boys), may eventually reduce the number of sex offenders. This implication is dependent, however, on a causal role of childhood sexual abuse, and on the effectiveness of prevention and treatment practices.

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Introduction

Many studies have examined the personal histories of sex offenders in the hope of uncovering events that may influence the development of a tendency to commit sexual offenses (e.g., Bagley, Wood, & Young, 1994; Bard et al., 1987; Dhawan & Marshall, 1996; Dutton & Hart, 1992; Groth, 1979; Haapasalo & Kankkonen, 1997; Harris, Rice, Hilton, Lalumière, & Quinsey, 2007; Marshall, Serran, & Cortoni, 2000; McCormack, Hudson, & Ward, 2002; Seghorn, Prentky, & Boucher, 1987; Simons, Wurtele, & Heil, 2002; Worling, 1995). One of the most frequently discussed events in explanations of adolescent and adult sexual offending is the experience of sexual abuse in childhood.

The interest in childhood sexual abuse as a possible causal factor for sexual offending probably stems from the similarity of the putative cause (experiencing sexual abuse) and putative effect (committing sexual abuse), and from the well-established empirical connection between the experience of early adversity and various pathological outcomes (e.g., Widom & Maxfield, 2001; Widom & White, 1997). Because childhood sexual abuse is often accompanied by other difficult experiences (e.g., other forms of abuse, neglect, violence directed towards other family members, general family hardship), and because sexual offending typically does not occur in the absence of other problem behaviors (e.g., non-sexual crimes, substance abuse), it is difficult to determine whether the experience of sexual abuse has a unique association with the commission of sexual offenses. Experiencing sexual abuse may be part of a more generally adverse early environment that is related to multiple problems later in life.

Many authors have postulated that there is a unique association between the experience of childhood sexual abuse and the commission of sexual offenses later in life, the so-called sexually abused–sexual abuser hypothesis (for reviews see Seto, 2008; Ward, Polaschek, & Beech, 2006). Below we discuss possible mechanisms through which childhood sexual abuse might be linked to later sexual offending, including social learning and the effects of sexual abuse on subsequent psychosexual development. Many of these proposed explanations suggest that the association between sexual abuse history and sexual offending is strongest for those offenders who target children (e.g., Burton, 2003).

There are two main approaches to determining if there is a specific association between childhood sexual abuse and adult sexual offending. The best but more difficult approach is to prospectively follow a group of individuals who have experienced sexual abuse and a group of matched individuals who have not, and to examine various adult outcomes, including sexual offending. The second approach involves retrospectively comparing individuals who have versus have not committed sexual offenses on their histories of sexual abuse. Comparisons of sex offenders and other kinds of offenders are particularly useful in this regard, because comparisons of sex offenders to non-offenders do not clarify if childhood sexual abuse is specifically associated with sexual offending or more generally associated with criminal behavior. Demonstrating a significant difference between sex offenders and non-sex offenders suggests the association is specific to sexual offending because both groups have engaged in criminal behavior.

Widom and Ames (1994) reported a study adopting the prospective approach. They followed 908 children who had been sexually abused, physically abused, or neglected before the age of 12, and compared them with 667 children who had not been maltreated. The maltreated and comparison groups were matched on age, sex, race, and socioeconomic status; and the determination of abuse or neglect was based on court records, addressing the potential methodological problem of a reporting bias in abuse history in testing the sexually abused–sexual abuser hypothesis. Widom and Ames found that all three types of abuse increased the likelihood of arrests for adult sex crimes. Sexual abuse history was not more strongly predictive of sexual crimes than was physical abuse history, but physical abuse history was much more strongly related to crimes of rape or sodomy than was sexual abuse history. The base rate of sexual crimes was low (3%). In an extension of that study, Widom and Maxfield (2001) reported that physical abuse history was more strongly related to later violent offending than was sexual abuse history; unfortunately, the authors did not distinguish between sexually and non-sexually violent offending in the extension.

Salter et al. (2003) also reported on a longitudinal follow-up, and found that 26 of 224 (12%) sexually abused boys later committed sexual offenses, most involving sexual contacts with children. The follow-up period was 7–19 years in duration, but most of the sexual offenses took place only a few years after the childhood sexual abuse took place; the average age of the boys at the time of their sexual abuse was 11, while the average age at the time of the sexual offense was 14. The sexually abused boys who later committed sexual offenses were significantly more likely to have experienced neglect, lacked parental supervision, and witnessed serious intra-familial violence than the non-offending sexually abused boys. They were also significantly more likely to have a female perpetrator of the sexual abuse. Unfortunately, Salter et al. did not include a comparison group of non-abused boys.

Turning to the retrospective approach, Hanson and Slater (1988) reviewed 18 studies that examined the sexual abuse histories of adult sex offenders. They reported that 33% of sex offenders against children met a broad definition of childhood sexual abuse (any sexual contact with an older person), and 23% met a narrow definition (forced sexual contact with an adult). They also found that offenders against boys had about twice the rate of childhood sexual abuse as offenders against girls, and there was no difference between intra- and extra-familial offenders. The limitations of the Hanson and Slater review in the context of testing the sexually abused–sexual abuser hypothesis are that it did not examine other forms of abuse and did not examine the childhood sexual abuse of non-sex offenders. In addition, the comparison of sub-groups of sex offenders was done across studies, rather than within studies, leaving open the possibility that sub-group differences in rates of sexual abuse could be due to other differences across studies, such as different definitions of abuse.
Seto and Lalumière (submitted for publication) performed a meta-analysis of 57 studies comparing male adolescent sex offenders and adolescents who committed non-sexual crimes on a variety of variables. Sixteen studies included data on both sexual and physical abuse history. Among these studies, sex offenders were much more likely to have been sexually abused than non-sex offenders (odds ratio, or OR = 4.81). Sex offenders were also more likely to have been physically abused, but the group difference was much smaller (OR = 1.60). The meta-analysis also revealed that adolescent sex offenders were more likely to have been exposed to sexual violence in the family, but not more likely to have been exposed to non-sexual violence in or outside the family. Testing the notion that sexual abuse history is particularly relevant to sexual offending against children, seven studies included in the meta-analysis by Seto and Lalumière distinguished adolescent sex offenders according to the age of their victims: offenders against children were significantly more likely to have been sexually abused compared to offenders against peers, and there was no significant difference between the two subgroups of sex offenders for physical abuse history. These results provide support for the hypothesis of a specific association between childhood sexual abuse and later sexual offending: the type of abuse that most distinguished the histories of adolescent sex and non-sex offenders was sexual abuse.

The present study

The purpose of the present study is to compare the abuse histories of adult sex offenders with the abuse histories of adult non-sex offenders. If there is an association between the experience of sexual abuse and later sexual offending, it should be observed not only among adolescent offenders but among adult offenders as well.

If the sexually abused–sexual abuser hypothesis is correct, adult sex offenders will be more likely to have a history of sexual abuse than other types of offenders, and there should be a much smaller difference, if any, between these groups with regard to other types of abuse. This is a stringent test of the sexually abused–sexual abuser hypothesis, because different forms of maltreatment tend to co-occur (e.g., Finkelhor, Ormrod, & Turner, 2007), so one might expect adult sex offenders to also be more likely to have a history of physical abuse and neglect as well. However, the difference in physical abuse or neglect history should not be as large as the difference in sexual abuse history.

We also examined the abuse histories of sex offenders distinguished on the basis of the ages of their victims. Based on the results of Seto and Lalumière (submitted for publication), we expected a higher prevalence of sexual abuse in the histories of sex offenders against children compared to offenders against adults, and no difference for physical abuse history. Finally, we examined the abuse histories of sex offenders against children who were classified as pedophilic or non-pedophilic (pedophilia is defined as a persistent sexual attraction to prepubescent children). Not all sex offenders against children are pedophiles—Seto (2008) suggested that up to half of sex offenders against children, seven studies included in the meta-analysis by Seto and Lalumière distinguished adolescent sex offenders according to the age of their victims: offenders against children were significantly more likely to have been sexually abused compared to offenders against peers, and there was no significant difference between the two subgroups of sex offenders for physical abuse history. These results provide support for the hypothesis of a specific association between childhood sexual abuse and later sexual offending: the type of abuse that most distinguished the histories of adolescent sex and non-sex offenders was sexual abuse.

Method

Selection of studies

We performed a search of the electronic databases PsycInfo, ProQuest Digital Dissertations, and Academic Search Premier, reviewing each abstract and selecting only relevant studies. Search keywords were: [sex* offen* or sex* crim* or rapist* or rape* or sex* assault* or pedophil* or sex* aggress* or child* molest* or voyeur* or exhibitionis*] and [neglect* or physical* abus* or abus* victim* or (child* N4 domest* violen*) or [expos* N4 (abus* or violen* or assault*)]] and [English language and year = 1975–2005]. We also examined the reference lists of empirical and review articles addressing the association between sexual abuse history and sexual offending. Only publicly available articles, theses, and dissertations were included in the present meta-analysis because they are easily accessible to readers who wish to examine the study data and they have been subjected to some form of peer or academic review. The possibility of a publication bias was examined with a funnel graph (see below).

Studies were selected based on the following criteria: First, studies must have compared sex offenders to offenders who had not committed any sexual offenses (main analysis), or must have compared sex offenders who had sexual contact with an adult to sex offenders who had sexual contact with a child (analysis of subgroups of sex offenders). Studies that compared sex offenders with only non-offenders (e.g., Marshall & Mazzucco, 1995) were not included in this meta-analysis. Second, the sex offenders and non-sex offenders must have been adults, which we defined as 18 years of age or older. The only exception was the study by Romano and De Luca (1996), in which 41 of the 42 offenders were 19 years of age or older, but the remaining offender was 17 years old (E. Romano, personal communication, November 1, 2007). Third, studies must have included information on sexual abuse history; studies that reported information on physical abuse (or neglect) but not on sexual abuse were excluded because the focus of this meta-analysis was the sexually abused–sexual abuser hypothesis.
Fourth, we included only studies published in English between January of 1975 and May of 2005. Many studies published prior to 1975 included offenders who had committed sexual offenses that are not considered as such today, such as homosexual or promiscuous behavior (e.g., Apfelberg, Sugar, & Pfeffer, 1944). Seto and Lalumière (submitted for publication) also excluded studies reported prior to 1975. Finally, studies must have reported data in a form that allowed us to calculate an odds ratio. For examples, Haapasalo and Kankkonen (1997), Lee, Jackson, Pattison, and Ward (2002), and Prentky et al. (1989) were excluded because we were unable to calculate odds ratios based on the data reported in these studies.

Studies reporting on completely overlapping samples were considered as one study; for example, Green and Kaplan (1994) and Kaplan and Green (1995) reported on the same sample of female offenders. If two or more studies reported on overlapping samples, the largest sample or the study with the most data was used for analysis. For example, Freund and Kuban (1994) included more information than Freund, Watson, and Dickey (1990) on the same subjects, so we analyzed the 1994 publication. A few data anomalies or discrepancies were discovered in a small number of studies that were included in the meta-analysis; for example, different data values were reported in the text versus a table. The initial method for resolution of each anomaly was to contact the study author(s). In cases where this attempted contact was unproductive, we used data reported in tables rather than in the text.

The sex offenders included in each study may have had a history of non-sexual crimes as well, but non-sex offenders, by definition, could not have any history of sexual crimes. Subgroups of non-sex offenders (e.g., violent and non-violent offenders) were merged for our analysis. The categorization of sex offenders as against children versus against adults varied across studies: some studies defined a victim as a child using a simple age cut-off that varied from “under 13” to “under 18” years old (e.g., Bard et al., 1987); other studies considered the age difference between the perpetrator and victim, along with the age of the victim (e.g., Harris, 2004); and other studies use such labels as “child” and “adult” and did not report a specific victim age criterion (e.g., Simons et al., 2002). We nevertheless retained the phrase “sex offenders against children.”

The search led to the inclusion of 24 published articles, theses, or dissertations comparing either adult sex offenders (n = 1,037) with non-sex offenders (n = 1,762), or comparing sex offenders against children (n = 962) with sex offenders against adults (n = 1,334) on their histories of sexual abuse. Six studies provided both types of comparison. All studies but one involved male offenders. The final list of studies can be found in the reference list, marked with an asterisk.

Selection of abuse history variables

We organized the abuse history variables into three domains: (1) sexual abuse, (2) physical abuse, and (3) emotional abuse or neglect. All studies provided data on sexual abuse history, but not all of these studies provided data on other forms of abuse. Furthermore, the definitions of abuse varied across studies. When possible, we selected data that referred to sexual or physical abuse involving contact with a person over abuse that did not involve contact; abuse perpetrated by an older person over abuse perpetrated by a peer; abuse occurring before puberty over abuse occurring later; and more general definitions of abuse over more specific definitions (e.g., any physical abuse over a specific form of physical abuse such as hitting with an object). Most of these selection criteria were chosen because of previous suggestions that abuse involving more intrusive sexual acts, greater force, or a larger age difference was more likely to lead to maladaptive coping and later sexual offending (e.g., Burton, Miller, & Tai Shill, 2002). The last criterion (a more general definition of abuse) was chosen to facilitate comparison across studies. Note that for any given within-study comparison, the same definition of abuse was used for both groups, and thus group differences are directly interpretable.

The original list of variables is available from the authors, and the final list is included in the tables below. All variables in all 24 studies were coded independently by two coders. The majority of the 10 coding errors (out of 515 separate observations for the abuse variables; overall kappa = 0.96) were due to errors in transcription or misreading of the article; discrepancies were resolved by discussion.

Effect size

Because the dependent variables are typically reported as frequency or percentage data, we used odds ratios to represent the direction and size of the group difference (Haddock, Rindskopf, & Shadish, 1998). An odds ratio represents the ratio of the odds of an event being present in one group to the odds of the same event being present in a comparison group. For example, if 25 out of 100 sex offenders have a history of sexual abuse, their odds of having a sexual abuse history are 25/75, or 0.33; if 10 out of 100 of non-sex offenders have a similar history, their odds are 10/90, or 0.11. The odds ratio for this comparison is thus 0.33/0.11, or 3.0. An odds ratio of 1.0 represents the absence of a group difference whereas an odds ratio greater than 1.0 means a greater prevalence of abuse in the first group; an odds ratio smaller than 1.0 means a lower prevalence of abuse in the first group. Odds ratios were calculated from absolute frequencies or percentages of abuse reported in individual studies, or derived from means and standard deviations when abuse data were presented on a continuous scale.

Ninety-five percent confidence intervals were calculated for the odds ratio of each study and for average odds ratios calculated across sets of studies. Confidence intervals that did not include 1.0 indicate a statistically significant group difference. Our meta-analytic calculations were weighted by sample size, such that studies with larger samples made a larger contribution to the average odds ratio than studies with smaller samples. All calculations, including the transformation of mean differences into odds ratios, were conducted with the commercially available software program Comprehensive Meta-
Analysis Version 2.2.027 (Borenstein, Hedges, Higgins, & Rothstein, 2005). Meta-analytic calculations were conducted under a random effects model.

Each study could contribute only one effect size to a given abuse domain. For studies that reported multiple dependent variables in a given abuse domain, we selected the variable that best represented the domain in question. When one variable was not clearly superior to another, a weighted average effect size was calculated for all relevant dependent variables. For example, McCormack et al. (2002) reported two variables assigned to the emotional abuse or neglect domain: Mother's Acceptance and Father's Acceptance; an average effect size was calculated for these two variables and used in subsequent analyses involving this study and this domain.

Results

The results are organized into five sections. First, we compared sex offenders with non-sex offenders on the three domains of abuse history (sexual abuse, physical abuse, and emotional abuse or neglect), the main focus of this study. Second, we compared sex offenders against adults with sex offenders against children on the same three domains. Third, we compared two groups of sex offenders against children on the three abuse domains: those who are likely to have pedophilic interests and those who are unlikely to have such interests. Pedophilia was coded from a formal diagnosis of pedophilia, admission of a sexual interest in children, or by having extra-familial child victims (see Seto, 2008; Seto & Lalumière, 2001; Seto, Lalumière, & Kuban, 1999). Results of individual studies are presented in Tables 1–3. The tables contain the overall effect size for each comparison as well as, for each study, information on the variable descriptor, the sample size and information on the age of the groups, the percentage of offenders in each group who reported experiencing abuse, the odds ratio comparing the two groups, and the 95% confidence intervals.

Fourth, we examined source of information for the abuse history as a moderator variable, to address the possibility that a self-report bias can explain any group differences that were found. Finally, we examined the possibility of a publication bias by preparing a funnel graph and comparing the average effect sizes of peer-reviewed (articles) and non-peer-reviewed (theses or dissertations) studies. We originally planned to conduct analyses of potentially theoretically informative moderator variables (e.g., perpetrator–victim relationship, severity of abuse), but discovered after coding all of the studies that there were too few studies reporting on these variables for meaningful analyses.

Sex offenders versus non-sex offenders

Table 1 shows the 17 studies that compared sex offenders with non-sex offenders on abuse histories. All but one study reported greater odds of having experienced sexual abuse among sex offenders relative to non-sex offenders. Seven of these odds ratios were significantly different from 1.0. The weighted average odds ratio over the 17 studies was 3.36, with a 95% confidence interval of 2.34–4.82. The effect sizes were significantly heterogeneous, $Q_{16} = 35.1, p < .005$, suggesting the presence of one or more moderator variables (the $Q$ statistic has a chi-square distribution and tests the null hypothesis that variation in study effect sizes is due to sampling error, i.e., that there is no moderator that influences this variation).

Of the 17 studies, 10 also reported data on physical abuse; seven of those studies reported a higher prevalence of physical abuse among sex offenders compared with non-sex offenders, with four significant group differences. The weighted average odds ratio over the 10 studies was 1.60, with a 95% confidence interval of 0.92–2.80. The effect sizes were significantly heterogeneous, $Q(9) = 30.2, p < .001$.

We also examined the average sexual abuse odds ratio for the 10 studies that also reported data on physical abuse. The weighted average odds ratio for sexual abuse was 2.86, with a 95% confidence interval of 1.91–4.28. Therefore, for this restricted group of studies, the group difference for sexual abuse ($OR = 2.86$) was significantly larger than for physical abuse ($OR = 1.60$).

Of the 17 studies, 6 provided data in the emotional abuse or neglect domain. Only 2 of the 6 studies reported that sex offenders were significantly more likely to have been victims of emotional abuse or neglect than non-sex offenders. The weighted average odds ratio over the 6 studies was 0.63, with a 95% confidence interval of 0.32–1.24. The effect sizes were significantly heterogeneous, $Q(5) = 12.8, p < .05$.

In sum, sex offenders differed significantly from non-sex offenders on sexual abuse history, but not on history of physical abuse or history of emotional abuse or neglect. Studies reporting both sexual and physical abuse data showed larger group differences on average for sexual than for physical abuse. Study effect sizes were heterogeneous for all of these comparisons, suggesting the presence of moderator variables.

Sex offenders against adults versus sex offenders against children

Table 2 compares sex offenders against adults (primarily rapists) and sex offenders against children on the three abuse domains. Fifteen studies contributed to the sexual abuse domain. Of these, 12 studies reported a lower prevalence of sexual abuse among sex offenders against adults than among sex offenders against children, with 5 of these group differences being statistically significant. The weighted average odds ratio over the 15 studies was 0.51, with a 95% confidence interval of 0.35–0.74. The effect sizes were significantly heterogeneous, $Q(14) = 47.2, p < .001$. 
Table 1
Histories of abuse among sex offenders and non-sex offenders.

<table>
<thead>
<tr>
<th>Study</th>
<th>Variable</th>
<th>Sex offenders</th>
<th>Non-sex offenders</th>
<th>Odds ratio (95% confidence intervals)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brager (2002)</td>
<td>Victim of sexual assault by the age of 18 years</td>
<td>35%</td>
<td>14%</td>
<td>3.36 (2.34–4.82)</td>
</tr>
<tr>
<td>Bumby (1995)</td>
<td>History of sexual abuse</td>
<td>32%</td>
<td>20%</td>
<td>1.60 (0.92–2.80)</td>
</tr>
<tr>
<td>Condy, Templar, Brown, and Veaco (1987)</td>
<td>Female forced male (type of sexual coercion)</td>
<td>15%</td>
<td>0%</td>
<td>3.41 (2.06–5.67)</td>
</tr>
<tr>
<td>Dhawan and Marshall (1996)</td>
<td>Contact sexual abuse</td>
<td>51%</td>
<td>20%</td>
<td>4.18 (2.11–8.27)</td>
</tr>
<tr>
<td>Dutton and Hart (1992)</td>
<td>Sexual abuse</td>
<td>25%</td>
<td>8%</td>
<td>4.00 (2.43–6.61)</td>
</tr>
<tr>
<td>Glasser et al. (2001)</td>
<td>Sexual abuse</td>
<td>38%</td>
<td>11%</td>
<td>4.50 (3.05–6.65)</td>
</tr>
<tr>
<td>Green and Kaplan (1994), Kaplan and Green (1995) (female sample)</td>
<td>History of sexual abuse</td>
<td>19%</td>
<td>12%</td>
<td>1.70 (0.72–4.01)</td>
</tr>
<tr>
<td>Marshall et al. (2000)</td>
<td>Molested</td>
<td>53%</td>
<td>21%</td>
<td>3.91 (1.27–12.06)</td>
</tr>
<tr>
<td>McCracken et al. (2002)</td>
<td>Sexual abuse</td>
<td>5%</td>
<td>2%</td>
<td>1.05 (0.58–1.90)</td>
</tr>
<tr>
<td>Overholser and Beck (1989)</td>
<td>Sexually abused as a child</td>
<td>42%</td>
<td>8%</td>
<td>7.86 (0.87–71.06)</td>
</tr>
<tr>
<td>Redondo (1997)</td>
<td>Sexually abusive experiences</td>
<td>59%</td>
<td>29%</td>
<td>3.33 (0.69–16.02)</td>
</tr>
<tr>
<td>Romano and De Luca (1996)</td>
<td>Childhood sexual abuse</td>
<td>5%</td>
<td>2%</td>
<td>1.10 (0.14–8.65)</td>
</tr>
<tr>
<td>Stirpe (2003)</td>
<td>Sexual abuse by parents</td>
<td>4%</td>
<td>4%</td>
<td>1.16 (0.34–4.09)</td>
</tr>
<tr>
<td>Stirpe and Stermac (2003)</td>
<td>Sexual abuse as a child</td>
<td>61%</td>
<td>21%</td>
<td>5.83 (2.46–13.80)</td>
</tr>
<tr>
<td>Tathiah (1990)</td>
<td>Sexually abused</td>
<td>74%</td>
<td>17%</td>
<td>15.00 (2.42–93.01)</td>
</tr>
<tr>
<td>Weeks and Widom (1998)</td>
<td>Sexual abuse as a child</td>
<td>26%</td>
<td>13%</td>
<td>2.49 (1.11–5.59)</td>
</tr>
<tr>
<td></td>
<td>Physical abuse</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brager (2002)</td>
<td>Victim of childhood physical abuse by a caregiver</td>
<td>76%</td>
<td>57%</td>
<td>2.44 (0.38–15.81)</td>
</tr>
<tr>
<td>Bumby (1995)</td>
<td>History of physical abuse</td>
<td>55%</td>
<td>25%</td>
<td>3.91 (1.27–12.06)</td>
</tr>
<tr>
<td>Dutton and Hart (1992)</td>
<td>Physical abuse by parent, step-parent, or guardian</td>
<td>34%</td>
<td>30%</td>
<td>1.21 (0.82–1.78)</td>
</tr>
<tr>
<td>Green and Kaplan (1994), Kaplan and Green (1995) (female sample)</td>
<td>Intra-familial physical abuse</td>
<td>73%</td>
<td>45%</td>
<td>3.20 (0.54–18.98)</td>
</tr>
<tr>
<td>Kukla (2003)</td>
<td>History of physical abuse</td>
<td>3%</td>
<td>9%</td>
<td>0.10 (0.01–0.81)</td>
</tr>
<tr>
<td>McCracken et al. (2002)</td>
<td>Physical abuse</td>
<td>46%</td>
<td>10%</td>
<td>0.98 (0.54–1.78)</td>
</tr>
<tr>
<td>Stirpe (2003)</td>
<td>Physical abuse by parent</td>
<td>91%</td>
<td>48%</td>
<td>3.39 (1.35–8.56)</td>
</tr>
<tr>
<td>Stirpe and Stermac (2003)</td>
<td>Physical abuse</td>
<td>91%</td>
<td>48%</td>
<td>3.39 (1.35–8.56)</td>
</tr>
<tr>
<td>Tathiah (1990)</td>
<td>Parent physically abusive</td>
<td>46%</td>
<td>24%</td>
<td>0.41 (0.11–1.56)</td>
</tr>
<tr>
<td>Weeks and Widom (1998)</td>
<td>Any physical violence</td>
<td>66%</td>
<td>64%</td>
<td>1.07 (0.52–2.19)</td>
</tr>
<tr>
<td></td>
<td>Emotional abuse or neglect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brager (2002)</td>
<td>Described parent as neglectful or abandoning</td>
<td>23%</td>
<td>54%</td>
<td>0.63 (0.32–1.24)</td>
</tr>
<tr>
<td>Green and Kaplan (1994), Kaplan and Green (1995) (female sample)</td>
<td>Parental acceptance and responsiveness</td>
<td>46%</td>
<td>46%</td>
<td>0.24 (0.04–1.55)</td>
</tr>
<tr>
<td>McCracken et al. (2002)</td>
<td>Parental acceptance and responsiveness</td>
<td>46%</td>
<td>46%</td>
<td>0.24 (0.04–1.55)</td>
</tr>
<tr>
<td>Stirpe (2003)</td>
<td>Parents neglectful</td>
<td>24%</td>
<td>20%</td>
<td>0.87 (0.42–1.79)</td>
</tr>
<tr>
<td>Stirpe and Stermac (2003)</td>
<td>Verbal abuse</td>
<td>6%</td>
<td>46%</td>
<td>0.08 (0.02–0.35)</td>
</tr>
<tr>
<td>Tathiah (1990)</td>
<td>Cold parental treatment</td>
<td>18%</td>
<td>15%</td>
<td>1.26 (0.52–3.06)</td>
</tr>
<tr>
<td>Weeks and Widom (1998)</td>
<td>Neglect</td>
<td>18%</td>
<td>15%</td>
<td>1.26 (0.52–3.06)</td>
</tr>
</tbody>
</table>

Note: Significant group differences are indicated in bold. All studies included male subjects unless otherwise noted. Mean age for each group is presented unless otherwise noted.
### Table 2
Histories of abuse among sex offenders against adults and sex offenders against children.

<table>
<thead>
<tr>
<th>Study Variable</th>
<th>Against adults</th>
<th>Against children</th>
<th>Odds ratio (95% confidence intervals)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sexual abuse</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subject victim sex assault</td>
<td>23% n = 107 age for all offenders = 36</td>
<td>57% n = 68</td>
<td>0.51 (0.35–0.74)</td>
</tr>
<tr>
<td>History of sexual abuse</td>
<td>15% n = 27 age = 29.7</td>
<td>45% n = 33 age = 33.4</td>
<td>0.23 (0.12–0.44)</td>
</tr>
<tr>
<td>Male forced male (type of coercion)</td>
<td>19% n = 37 age = 29.6</td>
<td>12% n = 34 age = 41.1</td>
<td>1.80 (0.46–6.61)</td>
</tr>
<tr>
<td>Molested at &lt; 12 yrs by adult or adolescent</td>
<td>18% n = 34 age = 27.1</td>
<td>27% n = 35 age = 32.8</td>
<td>0.57 (0.22–1.48)</td>
</tr>
<tr>
<td><strong>Physical abuse</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child abuse physical</td>
<td>56% n = 107</td>
<td>55% n = 68</td>
<td>1.07 (0.58–1.97)</td>
</tr>
<tr>
<td>History of physical abuse</td>
<td>74% n = 27</td>
<td>39% n = 33</td>
<td>4.40 (1.45–13.32)</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>56% n = 63</td>
<td>49% n = 223</td>
<td>1.31 (0.74–2.29)</td>
</tr>
<tr>
<td>Physical victimization as a child or adolescent</td>
<td>M = 0.88 (SD = 0.33) n = 175 age = 35.7</td>
<td>M = 0.88 (SD = 0.32) n = 282 age = 39.2</td>
<td>1.03 (0.73–1.46)</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>M = 4.23 (SD = 1.65) n = 30</td>
<td>M = 3.54 (SD = 1.64) n = 55</td>
<td>2.14 (0.95–4.84)</td>
</tr>
<tr>
<td>Child abuse physical</td>
<td>58% n = 97</td>
<td>57% n = 54</td>
<td>1.01 (0.52–1.99)</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>70% n = 77</td>
<td>43% n = 111</td>
<td>3.08 (1.66–5.70)</td>
</tr>
<tr>
<td>Physical abuse by parent</td>
<td>33% n = 30</td>
<td>40% n = 41</td>
<td>0.60 (0.17–2.18)</td>
</tr>
<tr>
<td>Physical abuse by parent</td>
<td>43% n = 21</td>
<td>40% n = 43</td>
<td>1.15 (0.40–3.31)</td>
</tr>
<tr>
<td>Emotional abuse or neglect</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child neglect</td>
<td>43% n = 107</td>
<td>57% n = 68</td>
<td>0.56 (0.30–1.04)</td>
</tr>
<tr>
<td>Parental acceptance and responsiveness</td>
<td>M = 4.84 (SD = 1.50) n = 30</td>
<td>M = 4.58 (SD = 1.12) n = 55</td>
<td>0.69 (0.31–1.56)</td>
</tr>
<tr>
<td>Child neglect</td>
<td>55% n = 97</td>
<td>59% n = 54</td>
<td>0.83 (0.42–1.62)</td>
</tr>
<tr>
<td>Parents neglectful</td>
<td>M = 3.08 (SD = 3.30) n = 20</td>
<td>M = 2.93 (SD = 3.17) n = 41</td>
<td>1.08 (0.41–2.86)</td>
</tr>
<tr>
<td>Parental abandonment and neglect</td>
<td>26% n = 21</td>
<td>20% n = 43</td>
<td>1.51 (0.46–5.01)</td>
</tr>
</tbody>
</table>

**Note:** Significant group differences are indicated in bold. In Freund and Kuban (1994), the category “sex offender against adults” included rapists, frotteurists, and individuals who had engaged in non-contact sexual offenses such as exhibitionism and voyeurism. All studies included male subjects. Mean age for each group is presented unless otherwise noted.
Of the 15 studies, 9 also provided data on physical abuse. All but one of these 9 studies reported a higher prevalence of physical abuse among sex offenders against adults than among sex offenders against children, with 2 of these differences being statistically significant. The weighted average odds ratio over the 9 studies was 1.43, with a 95% confidence interval of 1.02–2.02. The effect sizes were significantly heterogeneous, Q(8) = 17.7, p < .05.

We also examined the average sexual abuse odds ratio for the 9 studies that also reported data on physical abuse. The weighted average odds ratio for sexual abuse was 0.40, with a 95% confidence interval of 0.24–0.67. Therefore, for this restricted set of studies comparing sex offenders against adults with sex offenders against children on both sexual and physical abuse histories, the group differences were statistically significant for both types of abuse, with offenders against children more frequently reporting sexual abuse but less frequently reporting physical abuse than offenders against adults.

Of the 15 studies, 5 also reported data for the emotional abuse or neglect domain. Reporting of this type of abuse was quite similar across the 2 groups of sex offenders. The weighted average odds ratio over the 5 studies was 0.77, with a 95% confidence interval of 0.54–1.09. The effect sizes were not significantly heterogeneous, Q(4) = 2.8, p = .59.

In sum, sex offenders against adults were significantly less likely to report a history of sexual abuse than sex offenders against children, but significantly more likely to report a history of physical abuse. There was no significant group difference on reports of emotional abuse or neglect, but there were few studies on this type of abuse. Effect sizes were heterogeneous for all but one comparison.

**Pedophilic versus non-pedophilic offenders against children**

Five of the studies used in this meta-analysis provided data that allowed us to compare 2 groups of sex offenders against children: those who were more likely to be pedophilic and those who were less likely to be pedophilic. The distinction between pedophilic and non-pedophilic sex offenders against children was based on either a laboratory assessment of sexual arousal to children (Freud & Kuban, 1994), self-disclosure (Glasser et al., 2001), or victim choice (extra- versus intra-familial; Graham, 1996; Harris, 2004; Stirpe, 2003). Table 3 provides the results for these 5 studies. Three studies reported a greater prevalence of sexual abuse history among pedophilic offenders than among non-pedophilic offenders, with 1 of these differences being statistically significant. The weighted average odds ratio over the 5 studies was 1.13, with a 95% confidence interval of 0.78–1.64. The effect sizes were not significantly heterogeneous, Q(4) = 5.7, p = .22. Only three of the 5 studies also provided data on physical abuse, with no discernable pattern of group difference (odds ratios of 0.72, 0.90, and 1.31).

**Source of information**

Most of the studies included in this meta-analysis obtained abuse history information directly from the offenders, leading to the possibility that the group differences observed were the result of a self-report bias. For example, because the sexually abused–sexual abuser hypothesis is now widely known, and because being perceived as a victim of sexual abuse may elicit compassion, sympathy, or more lenient treatment, sex offenders may be more likely to report a history of sexual abuse even if they have no such history. The self-report bias is unlikely to be a bias towards over-reporting of any type of abuse among sex offenders, or towards under-reporting among non-sex offenders, because sex offenders did not differ significantly from non-sex offenders on physical abuse history. In the next analysis, we examined the influence of the source of information about abuse history on the size of the group differences.

Studies used either self-report alone, self-report combined with other sources (e.g., a collateral informant such as parent or primary caregiver, case files, or official data from child protection agencies), or information from case files alone as sources of information for the abuse variables. Because of the small number of studies using other sources of information, we compared results for studies using self-report alone with all other studies.

Examining sexual abuse among sex offenders versus non-sex offenders first, the 13 studies using self-report alone produced a weighted average odds ratio of 3.32 (95% CI 1.98–5.56), and the 4 studies using other sources of information obtained

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**Table 3**

Histories of sexual abuse among pedophilic and non-pedophilic sex offenders against children.

<table>
<thead>
<tr>
<th>Study</th>
<th>Variable</th>
<th>Pedophilic</th>
<th>Non-pedophilic</th>
<th>Odds ratio (95% confidence intervals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td></td>
<td>1.13 (0.78–1.64)</td>
</tr>
<tr>
<td>Freund &amp; Kuban (1994)</td>
<td>Molested at &lt;12 years by adult of either sex</td>
<td>34% n = 83 age = 35</td>
<td>17% n = 52 age = 29</td>
<td>2.43 (1.04–5.69)</td>
</tr>
<tr>
<td>Glasser et al. (2001)</td>
<td>Sexual abuse</td>
<td>33% n = 126 age = 40</td>
<td>38% n = 66</td>
<td>0.82 (0.44–1.52)</td>
</tr>
<tr>
<td>Graham (1996)</td>
<td>Sexual abuse</td>
<td>73% n = 78 age = 46</td>
<td>70% n = 145 age = 45</td>
<td>1.18 (0.64–2.18)</td>
</tr>
<tr>
<td>Harris (2004)</td>
<td>Sexual victimization as a child or adolescent</td>
<td>M = 0.70 (SD = 0.46)</td>
<td>M = 0.72 (SD = 0.45)</td>
<td>0.93 (0.61–1.42)</td>
</tr>
<tr>
<td>Stirpe (2003)</td>
<td>Sexual abuse perpetrated by mother and father</td>
<td>8% n = 22 age = 42.8</td>
<td>0% n = 19 age = 40.9</td>
<td>4.76 (0.21–105.47)</td>
</tr>
</tbody>
</table>

Note: Significant group differences are indicated in bold. All studies included male subjects.
Fig. 1. Funnel graph of the relationship between study sample size and odds ratio, for studies comparing sex offenders and non-sex offenders on history of sexual abuse. Line represents overall un-weighted average. Open circles represent non-peer reviewed studies (un-weighted mean log odds = 0.54), and closed circles represent peer-reviewed studies (un-weighted mean log odds = 0.56).

A weighted average odds ratio of 3.70 (95% CI 2.46–5.57). For physical abuse, the 8 studies using self-report only produced a weighted average odds ratio of 1.88 (95% CI 0.98–3.59), and the 2 studies using other sources of information produced a weighted average odds ratio of 0.43 (95% CI 0.04–4.87). Thus, the significant difference between sex offenders and non-sex offenders on sexual abuse was obtained for both sources of information, and the absence of a significant group difference for physical abuse was also observed for both sources.

Examining sexual abuse among sex offenders against adults versus sex offenders against children next, the 8 studies using self-report alone produced a weighted average odds ratio of 0.58 (95% CI 0.39–0.88), and the 7 studies using other sources of information produced a weighted average odds ratio of 0.47 (95% CI 0.26–0.86). For physical abuse, the 4 studies using self-report only produced a weighted average odds ratio of 1.68 (95% CI 0.88–3.22), and the 5 studies using other sources of information produced a weighted average odds ratio of 1.31 (95% CI 0.85–2.02). Thus, the significant difference between sex offenders against adults and sex offenders against children on sexual abuse was obtained for both sources of information, and the significant difference for physical abuse was not obtained for either source; offenders against adults, however, tended to have a greater prevalence of physical abuse than sex offenders against children for both sources.

Publication bias

All studies used in this meta-analysis were published in some form. One way to address the possibility of a publication bias towards results favoring a significant group difference is by examining a funnel graph. A funnel graph plots the un-weighted effect size as a function of sample size. A lack of publication bias would show heteroscedasticity and symmetry: higher variance in effect sizes for studies with small samples than for studies with large samples, and fairly symmetrical distribution (taking into account that an odds ratio distribution is not symmetrical about 1.0) of effect sizes around the overall average effect size (also, studies with the largest samples should produce effect sizes that are close to the overall average effect size). Fig. 1 shows the funnel graph for the comparison of sex offenders versus non-sex offenders on sexual abuse history, which was our main focus (log transformed values are presented because two studies had very large sample sizes and two others had very large effect sizes). The funnel graph suggests there was no publication bias.
Discussion

The results of the present meta-analysis support the sexually abused–sexual abuser hypothesis. A history of sexual abuse was significantly more prevalent among adult sex offenders than among adult non-sex offenders, but sex offenders did not significantly differ from other offenders on their histories of physical abuse or emotional abuse/neglect. This pattern of results, however, obscures an important difference across subgroups of sex offenders: offenders against adults were less likely to have been sexually abused than offenders against children, but more likely to have been physically abused. Unfortunately, there were too few studies comparing these two groups of sex offenders with non-sex offenders to determine whether the sexually abused–sexual abuser hypothesis is relevant to just one or both subgroups of sex offenders.

These results with adult samples are consistent with the findings of Seto and Lalumièrè (submitted for publication), in which adolescent sex offenders had a higher prevalence of sexual abuse history than adolescent non-sex offenders, and the group difference for sexual abuse history was much larger than for physical abuse or neglect. In the following section, we mention common explanations for the sexually abused–sexual abuser association. We then present alternative interpretations of the association between sexual abuse history and sexual offending, such as self-report biases and the role of third variables. We end with a discussion of the limitations of this meta-analysis and directions for future research.

The sexually abused–sexual abuser hypothesis

The association between sexual abuse history and sexual offending might be most relevant to sexual offending against children because sex offenders against children have a significantly higher prevalence of sexual abuse history than sex offenders against adults, but a significantly lower prevalence of physical abuse. Similarly, in our meta-analysis of studies of adolescents (Seto & Lalumièrè, submitted for publication), adolescent sex offenders with child victims were more likely to have a history of sexual abuse than adolescent sex offenders with peer or adult victims.

In the present meta-analysis, there were only five studies that distinguished offenders against children into those who were more versus less likely to be pedophiles, and these studies did not show any significant group differences. Unfortunately, the studies used in the present meta-analysis did not allow us to perform other potentially relevant group comparisons, such as offenders against boys versus offenders against girls and offenders against intra-familial victims versus offenders against extra-familial victims.

Nonetheless, there is evidence from other research to suggest that the sexually abused–sexual abuser association is specific to sex offenders against children and perhaps even to pedophilic sex offenders. Two studies have shown that adult sex offenders who report being sexually abused are more likely to admit being sexually aroused by children (Fedoroff & Pinkus, 1996; Freund et al., 1990), and several studies have shown that adolescent sex offenders who were sexually abused show relatively greater sexual arousal to children in laboratory assessments than those who were not abused (Becker, Hunter, Stein, & Kaplan, 1989; Becker, Kaplan, & Tenke, 1992; Hunter, Goodwin, & Becker, 1994). In a recent report, Simons, Wurtele, and Durham (2008) found that sex offenders against children reported more frequent experiences of childhood sexual abuse, in addition to early exposure to pornography, an earlier onset of masturbation, and sexual activity with animals. In contrast, sex offenders against adults reported more frequent experiences of childhood physical abuse, parental violence, emotional abuse, and cruelty to animals. In addition, Lee et al. (2002) compared 64 adult sex offenders with 33 non-violent offenders. The sex offenders were distinguished into subgroups according to the paraphilia they exhibited: pedophilia, bisexualophilia (a sexual preference for coercive sex), exhibitionism, or multiple paraphilias. Childhood emotional abuse was common across the paraphilia subgroups, and was more prevalent in all the subgroups compared with the non-violent offenders. Childhood sexual abuse was specifically associated with pedophilia, however; it did not distinguish exhibitionists or bisectrophiles from the combined group of other sex offenders and non-violent offenders, but it did distinguish pedophiles from the same combined group.

Explanations for the sexually abused–sexual abuser association

Learning. Burton (2003) suggested learning could help explain the association between a history of sexual abuse and later sexual offending against children. Learning may occur either through imitation of the perpetrator’s behavior, conditioning as a result of pairing any sexual stimulation caused by the sexual activity with cues of the sexual abuse such as the type of acts that occurred, and reinforcing attitudes and beliefs about the acceptability of adult-child sex. Consistent with this idea, Burton reported that adolescent sex offenders who had been sexually abused tended to perpetrate the same types of sexually abusive acts they had experienced themselves. It is not clear, however, why learning results in sexual behavior directed towards children, instead of sexual behavior directed towards older adults (from the perspective of the offender as a child), or why there are many female sexual abuse victims and few female sex offenders (see Seto, 2008).

Sexual development. Sexual abuse may have an impact on subsequent psychosexual development that then increases the risk of sexually offending in adolescence or adulthood. Two studies found that sexually abused adult sex offenders reported an earlier onset of masturbation than other adult offenders (Cortoni & Marshall, 2001; Smallbone & McCabe, 2003). Brown, Cohen, Chen, Smailes, and Johnson (2004) found a relationship between experiencing two or more episodes of childhood sexual abuse and an early onset of puberty in a non-offending sample of both men and women (11 years old for abused
participants and 13 years old for non-abused participants). An alternative explanation for this finding, of course, is that early maturing children are at greater risk of being sexually victimized. More research is needed to determine if sexual abuse causally affects psychosexual development, and to identify the mechanisms by which this might occur.

**Familial transmission or other third variables.** The association between sexual abuse history and later sexual offending may not be causal and might be better explained by third variables. Because a great deal of sexual abuse is perpetrated by older family members, it is possible that the association between a history of sexual abuse and later sexual offending represents genetic transmission of some underlying predisposition. That is, some children are sexually abused by family members (genetic relatives) and later may sexually offend against children not because they have been sexually abused, but because they share the genetic predisposition for sexual offending.

There has been no relevant study to date to address this question, except for one small study examining the familiality of paraphilias (Gaffney, Lurie, & Berlin, 1984). Genetically informative, longitudinal designs that distinguish between biologically related, sociolegally but not biologically related, and unrelated perpetrators and victims could shed light on this explanation. A genetic transmission hypothesis would have to be rejected if sex offenders against children were not more likely than non-sex offenders to have been sexually abused by genetically related family member, or considered incomplete if sex offenders against children were more likely than non-sex offenders to have been sexually abused by a non-genetically related family member.

The association between sexual abuse and sexual offending also could be explained by a shared link to psychopathology. Sexual abuse is associated with myriad psychopathological outcomes (for reviews, see Putnam, 2003; Rind & Tromovitch, 1997; Tyler, 2002) and adolescent sex offenders tend to score higher on various measures of psychopathology than other adolescent offenders (Seto & Lalumière, submitted for publication). Thus, the association may exist because children who are predisposed to experience psychopathology are more vulnerable to sexual abuse, and also more likely to commit sexual offenses. Alternatively, the experience of sexual abuse may result in psychopathology that then increases the risk of sexual offending. Longitudinal, multivariate studies that elucidate the timing of psychopathology and control for other relevant variables (e.g., family dysfunction) could test these possibilities. Of note, the difference between adolescent sex and non-sex offenders is much larger for history of sexual abuse than it is for various indicators of psychopathology, suggesting that this third variable cannot fully account for the sexually abused—sexual abuser association (Seto & Lalumière, submitted for publication).

**Study limitations**

The studies we reviewed did not allow us to examine the independent contributions of sexual abuse versus other forms of abuse using multivariate analyses, because some studies did not additionally report on physical abuse and emotional abuse or neglect. Further research on the abuse histories of large samples of adolescent or adult sex offenders, including measures of both sexual and non-sexual forms of abuse, could shed further light on the unique contribution of sexual abuse as a risk factor for later sexual offending.

Another limitation of this meta-analysis arises from the limitations of the individual studies that were included. Many of these studies had different definitions of abuse and many relied exclusively on self-report. In addition, there was the possibility of reporting errors; for example, two of the studies we reviewed reported data from the same female offender sample and provided partially inconsistent results (Green & Kaplan, 1994; Kaplan & Green, 1995). The reliance on self-report is perhaps the biggest methodological limitation, because there is evidence that some sex offenders may claim a history of sexual abuse in order to garner sympathy and elicit more favorable assessment, treatment, or sentencing recommendations (e.g., Freund et al., 1990; Stirpe & Stermac, 2003). Hindman and Peters (2001) found that the prevalence of a self-reported sexual abuse history decreased when sex offenders underwent polygraph testing, suggesting some reports of sexual abuse were false. On the other hand, some sex offenders will deny true childhood abuse histories due to feelings of embarrassment and shame (Dhawan & Marshall, 1996). Thus, self-reported abuse may be subject to both over-reporting and under-reporting.

Approximately one-third of the studies we reviewed included other sources of information, such as case files, but in our experience some of those case files would rely on previous interviews with the offender, which would not obviate the problem of self-reporting biases. Retrospective studies that can draw on official records (e.g., directly from child protection services, or contemporaneous reports from school or social service agencies involved with the participant when he was a child) would be particularly useful in demonstrating that the association between sexual abuse history and later sexual offending is not due to reporting biases. We do not believe that the sexually abused—sexual abuser association can be entirely explained by reporting biases, however, because: (a) Widom and Ames (1994) used a prospective study design and also found a relationship between a history of sexual abuse (documented from court records) and later arrests for sexual crimes; (b) some of the studies relying on file information would have included sources of information other than self-report; and (c) one of the studies comparing adolescent sex and non-sex offenders reviewed by Seto and Lalumière (submitted for publication) found a much higher prevalence of sexual abuse among adolescent sex offenders (9%) than among adolescent non-sex offenders (1%) using only child welfare reports as a source of information (Fagan & Wexler, 1988).

A third limitation of this meta-analysis is that only five of the studies we examined specified the age at which the sexual abuse occurred: four specified the sexual abuse took place during childhood and the fifth indicated the offender was a minor at the time (Brager, 2002). An additional study did not indicate age but did specify that the sexual abuse was perpetrated by
both parents, and one could infer that most if not all of the offenders were minors at the time (Stirpe, 2003). This means we have demonstrated an association between a history of sexual abuse and adult sexual offending, but we cannot be certain whether it is childhood sexual abuse that is the relevant factor. The sex offender–non-sex offender difference on history of childhood sexual abuse for these six studies, however, is large and statistically significant ($OR = 3.53, 95\% CI 2.12–5.85$).

A fourth limitation is that some of the studies that distinguished sex offenders against children from sex offenders against adults included teenagers in their definition of child victim (e.g., 15 or 16 year olds in the case of Freund & Kuban, 1994). This likely attenuated the subgroup differences that were found, because the sexually abused–sexual abuser association may be specific to sex offenders against pre-pubertal children or even pedophilic sex offenders, and offenders who target teen victims are highly unlikely to be pedophiles. Future research should either classify offenders with teen victims separately, classify them as offenders against adults, or use clear demarcations in terms of victim age, for example, defining offenders against children as those with victims ages 12 and younger and offenders against adults as those with victims ages 18 and older.

Another limitation is that we examined only studies that compared sex offenders and non-sex offenders. Studies that also included non-offending adults, in addition to these two offender groups, could shed further light on the association between sexual abuse and sexual offending. Given the prospective study findings reported by Widom and Ames (1994), we would predict that both sex and non-sex offenders would be more likely to have histories of sexual and physical abuse than non-offenders, but the difference for sexual abuse would be larger for sex offenders.

Next, our inclusion criteria may have created a set of studies in which the sex offender groups may be more pathological or antisocial than the non-sex offender groups, because sex offenders could have a history of non-sexual offenses, but non-sex offenders could not have a history of sexual offenses. Perhaps the greater prevalence of sexual abuse history among the sex offenders can be accounted for by greater pathology or antisociality among the sex offenders compared to the non-sex offenders (this limitation does not apply to the comparison between sex offenders against adults and sex offenders against children). If this were the case, however, we would expect the sex offenders to also have a greater prevalence of childhood physical abuse than the non-sex offenders, which was not found. Nevertheless, future studies should match sex and non-sex offenders on prior criminal history in order to avoid this problem.

In addition, the information available from the studies used in this meta-analysis did not allow us to test potential moderator variables (other than source of information) that could explain the significant heterogeneity of effect sizes found in most of the group comparisons. Clearly, some studies produced larger group differences than others, and it would be important to discover the sources of this variability. The studies we selected were heterogeneous, for example, with regard to definition of abuse, the age criteria used to define a child victim, and the type of non-sex offenders (violent versus non-violent) who were sampled. Other potential moderators include the identity of the perpetrator (such as relative versus non-relative), the severity of the abuse, and the duration of the abuse.

Next, because of the questions addressed in this meta-analysis, the studies we selected for inclusion did not include the rare studies that compared sex offenders with non-sex offenders on physical abuse only, as our focus was on the sexual abuse explanation. Therefore, any conclusion about a group difference regarding physical abuse history must be preliminary.

Finally, only one study examined female offenders, and most studies examined adjudicated offenders, so it is possible that our findings do not generalize to female sex offenders or to individuals who have not been involved with the criminal justice system. Two recent studies suggest this is not the case; however: Christopher, Lutz-Lois, and Reinhardt (2007) found that their sample of 61 adult female sex offenders reported a more extensive history of sexual abuse than their sample of 81 non-sex offenders, similar to the result of the single study of female offenders included in our meta-analysis (Green & Kaplan, 1994; Kaplan & Green, 1995); Seto et al. (submitted for publication) surveyed large representative samples of young Swedish and Norwegian males and found that those who reported experiencing childhood sexual abuse were more likely to report engaging in sexual coercion.

Final comments

The large majority of sexually abused children do not go on to offend (e.g., Salter et al., 2003; Widom & Ames, 1994) so individual differences must play a role in the association between sexual abuse history and later sexual offending. A leading candidate for a vulnerability factor is being male: the large majority of sex offenders are male, yet the majority of child victims of sexual abuse are female (for a review, see Seto, 2008). In addition, not all sex offenders have a history of sexual abuse, so sexual abuse history is neither a sufficient nor a necessary condition for adult sexual offending (Hanson & Slater, 1988; Seto and Lalumière, submitted for publication).

More research is needed on the factors that help explain the association between a history of sexual abuse and later sexual offending. Other investigators have suggested that aspects of the sexual abuse such as the victim–perpetrator relationship, severity, duration, and timing of the sexual abuse are important (Burton, 2003; Finkelhor, 1979; Hunter, Figueredo, Malamuth, & Becker, 2003; Knight & Prentky, 1993). For example, Burton et al. (2002) examined a mixed group of adolescent offenders and found that sexually abused male youth were much more likely to have committed sexual offenses if they had been abused by both men and women, the perpetrator was related to him, the perpetrator used violence, the abuse took place over several years, and the abuse included penetrative sexual acts. Research is also needed on protective factors that may make some children resilient to the possible effect of sexual abuse. In order to identify such risk and protective factors, large-scale studies are needed, with larger samples, psychometrically sound measures of candidate factors, and multiple sources of data (see...
Caspí et al., 2002, for an example of a prospective study linking childhood maltreatment, genetic protective factors, and adult criminal offending).

The findings of both prospective and retrospective studies are consistent with the notion of a causal link between experiencing sexual abuse and later sexual offending, but much more research is needed to conclude that the association is indeed causal. For obvious ethical reasons, experimental research cannot be conducted, so evidence from stronger inference designs cannot be obtained. If bolstered further by multivariate, correlational research findings, however, our findings suggest that sexual abuse prevention programs could have both immediate and delayed benefits, first by decreasing the incidence of childhood sexual abuse, and then decreasing the prevalence of sex offenders as individuals grow up. Because sexual abuse history does not appear to be a risk factor for sexual recidivism, prevention and treatment efforts might have an impact on the onset, but not persistence, of sexual offending (Hanson & Bussière, 1998; Widom & Maxfield, 2001).

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References

References marked with an asterisk indicate studies included in the meta-analysis.


*Seto, M. C., & Lalumière, M. L. (submitted for publication). What is so special about adolescent sexual offending? A review and test of explanations using meta-analysis.*


