Childhood trauma in treated alcoholics. Prevalence and relevance for clinical impairment
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Child Sexual and Physical Abuse and Alcoholism: A Review

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Abstract

Objective: To examine possible relations between child sexual or physical abuse and adult alcoholism. Method: Studies reviewed included prospective studies, retrospective studies on the prevalence of child sexual or physical abuse in alcoholics and nonalcoholics, and retrospective studies in mental health clients and in population samples comparing the prevalence of alcohol use disorders in abused and nonabused subjects. Results: Prospective studies do not indicate a significant association between child sexual or physical abuse and alcoholism. In contrast, studies among alcoholic women do suggest a relationship. Also, a significant higher prevalence of alcohol problems in abused women than in nonabused women is found in population samples. The results of studies among mental health clients are inconclusive. In addition, several methodological limitations should be taken into consideration when evaluating results of the available studies. Conclusions: Current evidence is insufficient to draw conclusions about relationships between child sexual or physical abuse and alcoholism in men. Among females, however, there is a higher likelihood of alcohol problems if they were sexually or physically abused as children.

4.1 Introduction

In recent years, child sexual abuse (CSA) and child physical abuse (CPA) have been the subject of both scientific and public concern. Estimates of prevalence of CSA and CPA in the general population vary widely, however, due to several methodologic factors (Draijer, 1985, 1988, 1990; Peters et al., 1986; Wyatt & Peters, 1986a,b; Gelles & Straus, 1988; Leventhal, 1990): (1) method used (e.g. self-administered questionnaires may yield lower rates than interviews); (2) number and content of questions asked (one broad question generally gives lower rates than multiple questions, and questions labeling experiences as “abuse” generally give lower rates than questions about specific events); (3) specificity of abuse definition, (e.g. inclusion of a wider range of activities will give higher rates); (4) perpetrator’s age (exclusion

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of sibling or peer experiences will give a lower rate); and (5) victim's age at the time the incident occurred (a younger age cutoff will give a lower rate). Besides, of concern in estimating prevalence is the difficulty in establishing the accuracy of abuse reports. Exclusion of false positives (e.g. due to delusions or intentional misrepresentations for secondary gain) or false negatives (e.g. due to denial or forgetting) cannot be guaranteed (Draijer, 1985, 1988; Briere, 1992b; Herman, 1992a; Briere & Conte, 1993; Williams, 1994, 1995).

In community studies using more sophisticated methodologies, reported rates for contact sexual abuse ranged from 7% to 33% for women and 4% to 8% for men (Bagley, unpublished manuscript; Wyatt, 1985; Russell, 1986; Draijer, 1988; Stein et al., 1988). Due to differences in survey methods - i.e. perpetrators vs. victims as informants - the information on prevalence of CPA is difficult to integrate. Physical abuse of their children in the previous year was reported in national surveys by 5% to 14% of parents (Straus et al., 1980; Gelles & Edfelt, 1986; Straus & Gelles, 1986). In national surveys among adult women the CPA rate ranged from 11.5% to 34% (Draijer, 1988; Römkens, 1989), whereas a rate of 8% has been found in adolescents (Sariola & Uutela, 1992). In these studies CPA was defined as excessive physical force by parental figures operationalized through using the severe violence index of the Conflict Tactics Scales (CTS; Straus, 1979, 1990). In a national telephone survey among 2,000 children aged 10 to 16 years (Finkelhor & Dziuba-Leatherman, 1994), 22.2% reported nonfamily assaults and 7.5% experienced family assaults (2.2% by a parent), including assault by siblings and peers. Findings are inconclusive regarding gender differences in CPA prevalence. Sariola & Uutela (1992) and Finkelhor & Dziuba-Leatherman (1994) did not report gender differences, whereas Straus & Gelles (1986) reported a higher CPA prevalence among boys.

Of particular interest is the extent to which CSA and CPA produce long-term effects in adulthood. Besides self-destructive behavior, anxiety, depression, poor self-esteem, difficulty in trusting others, anger and hostility, substance use disorders are noted as long-term effects of child abuse (for reviews, see Wyatt & Powell, 1988; Draijer, 1988, 1990; Beitchman et al., 1992; Herman, 1992a). Although the association between child abuse and subsequent alcohol and/or drug problems has a great deal of plausibility, a greater incidence of many DSM-III-R (American Psychiatric Association, 1987) Axis I diagnoses has been found to be associated with CSA or CPA. Therefore, it is assumed that child abuse may be a general, nonspecific factor that contributes to psychopathology, including substance use
disorders. An important question is whether there are other factors, such as family dysfunction, childhood neglect or parental substance abuse problems, rather than the abuse per se, that laid the foundation for later psychiatric disturbance (Wyatt & Powell, 1988; Draijer, 1988, 1990; Cicchetti & Carlson, 1989; Beitchman et al., 1992; Herman, 1992a). Both the adult disorder and the child abuse could originate in a disturbed family environment that failed to nurture and protect the developing child. Child abuse would not then be causal but would share a common cause with substance use disorder.

It is of considerable clinical and theoretical importance to assess whether CSA and/or CPA are risk factors for the development of substance use disorders, i.e. both for our understanding of the etiology of these disorders and for the development of appropriate treatment strategies. This review evaluates current evidence on this subject and suggests avenues for future research. Because of length limitations, the review is selective, focusing on adults and on alcohol use disorders. The restriction to adults is justified by the fact that alcoholism is a heterogeneous disorder with both early and late onset subtypes (e.g. before or after the 25th year). For recognition of associations between child abuse and late onset heavy drinking, assessment of effects of child abuse in terms of alcohol problems should go beyond the period of young adulthood. Studies included are: (1) prospective studies; (2) retrospective studies on CSA and CPA in (a) alcoholics in treatment and controls, or in alcoholics in treatment only, and in (b) alcoholics in the general population and controls; and (3) retrospective studies on alcohol use disorders in (a) abused and nonabused mental health clients, and in (b) abused and nonabused subjects in the general population.

4.2 Methods

Potential articles were retrieved by a search of the CD-ROM database for Psychlit, as well as the Medline database. Keywords included incest, sexual abuse, physical abuse, child abuse, alcohol dependence/abuse, and alcoholism. Additional references were identified from bibliographies of the articles obtained by the search, and from textbooks on childhood sexual and/or physical abuse and alcoholism. Unpublished documents were not included.
4.2.1 Key issues considered in evaluating the studies in this review

Some methodological issues should be considered in evaluating available studies on associations between CSA/CPA and alcoholism (Draijer, 1985, 1990; Widom, 1988; Mash & Wolfe, 1991; Briere, 1992b; Kinard, 1994; Bertolli et al., 1995; see also, Stewart, 1996). First, findings must be evaluated in terms of the specific definitions and assessment methods being used for child abuse and alcohol problems. For instance, comparisons involving noncontact CSA or mild forms of physical punishment are likely to obscure effects (Draijer, 1988, 1990; Briere, 1992b). Concerning alcohol problems, it is generally assumed that more structured and specified instruments give more reliable reports (see, e.g. Murray et al., 1994; Carroll, 1995). Also, careful assessment of controls is important, because inclusion of false negatives may lead to underestimation of effect (Butler et al., 1993).

Second, as prospective studies are rare (due to their relative expense, time-consuming nature and high potential for subject attrition), most of the reviewed studies rely on retrospective reports of abuse, of which the validity is of concern (Draijer, 1988, 1990; Briere, 1992b). If, for example, those denying their abuse experiences are included in no-abuse comparison groups, differences between groups will become obscured. Besides, assigning causality is problematic. Of further concern is the so-called “effort after meaning”, implying that persons with psychological distress try to find some explanation for their current problems. Therefore, controls may be less likely to report CSA and CPA than alcoholic or psychiatric patients.

Regarding prospective studies, if child abuse is restricted to identified cases in which agencies intervened, findings on the impact of child abuse on adult functioning may be confounded by interventions effects (e.g. social support following disclosure, children placed in long-term substitute care, subsequent parental care, provision of treatment for the victim) (Widom et al., 1995). Also, the type of maltreatment (i.e. CSA, CPA, neglect) reported to or substantiated by authorities may not always reflect all forms of maltreatment, due to lack of sufficient evidence for all types experienced to be reported or substantiated, resulting in misclassification if separate abuse groups are used (Kinard, 1994). In addition, substantiated cases may be biased toward more severe abuse and toward an overpresentation of families of low socioeconomic status (e.g. Draijer, 1985; Zellman, 1990).
Finally, alcoholism cannot be attributed to CSA or CPA per se without controlling for other possible contributing factors, e.g. family background, childhood neglect and adult victimization experiences. However, controlling by matching, especially when using controls recruited from a different population than abused subjects (hereafter, nonequivalent groups), is likely to be insufficient, because comparability on unmeasured factors remains unclear. Instead, multivariate tests (e.g. canonical correlation analysis or causal modelling techniques) are preferred (Briere, 1988, 1992b; Draijer, 1988, 1990; Briere & Elliott, 1993; see also: Stewart, 1996).

Overall, rigorous studies of CPA/CSA and later alcohol problems would choose a prospective design. However, given the difficulties to plan such a study in a sample of children before physical/sexual abuse, less ideally a sample of identified child abuse cases could be followed up to examine their psychological functioning. Because this design has certain drawbacks (see above), cross-sectional studies can also be of value, especially general population studies. This, because such studies minimize the potential impact of “Berkson’s selection bias,” which may be operative in clinical studies (i.e. the notion that individuals with more problems - both child abuse history and alcohol problem - may be more likely to seek treatment than individuals with only one problem, thereby potentially inflating degrees of association between child abuse and alcohol problems in clinical samples).

Whatever the choice of design, a rigorous study would at least involve the following features: (1) assessment of alcohol problems with an established instrument of sufficient reliability and validity; (2) use of unambiguous, specified definitions for CPA and CSA, assessed with an instrument that includes multiple questions describing specific events; (3) assessment of possible confounders with valid and reliable instruments; (4) a sample with adequate age range recruited from a relatively homogeneous population; and (5) sufficient statistical power (e.g. adequate sample size) (Draijer, 1990; Briere, 1992b). These are the design features that provide the context for evaluating the studies in this review.
4.3 Review of studies

4.3.1 Prospective studies

*Child sexual abuse and alcoholism.* One study appeared in this area. As part of a cohort study (Widom, 1989; Widom et al., 1995), a sample of abused and neglected children (N = 611; cases substantiated by court from 1967 to 1971; restricted to children under age 12) was matched for age, sex, race and approximate social class background with children not identified by authorities as abused or neglected (N = 457) and followed prospectively into young adulthood (age in the 1989 sample ranges from 16 to 32 years, with almost 50% under age 25; Widom, 1989). The National Institute Mental Health Diagnostic Interview Schedule (DIS) (Robins et al., 1981) was used to assess DSM-III-R alcoholism and number of alcohol-related symptoms. For CSA cases the charges varied from assault and battery with intent to gratify sexual desires to fondling or touching in an obscene manner, incest, sodomy, etc. Multivariate analysis, with controls for childhood poverty, childhood neglect and CPA indicated that having a parent with an alcohol/drug problem does lead to a significantly higher risk of subsequent alcohol problems, whereas being sexually abused in childhood does not. For women, childhood neglect was a significant predictor of number of lifetime alcohol-related symptoms, but not of lifetime diagnosis with controls for parental alcohol/drug problems, CSA and CPA, childhood poverty, race and age. Although this study has a number of methodological strengths (e.g. large sample, use of a reliable and valid measure for alcohol problems, an appropriate control group), its major limitations are the unknown effects of treatment on postabuse symptomatology and the fact that outcome was assessed relatively early in adulthood. Therefore, findings must remain tentative.

*Child physical abuse and alcoholism.* In this area three studies appeared. Widom et al. (1995) also studied CPA cases, including injuries such as bruises, cuts, burns, bone fractures and other evidence of physical injury. Controlling for childhood poverty, parental alcohol and/or drug problems, childhood neglect, CSA, race and age, CPA was not an independent risk factor for later alcohol problems.

McCord (1983) retraced 98% of 232 males (in 1983 in their late forties) from a group of boys who grew up in “transitional neighborhoods.” Of the original 253 subjects, only one
male per family was included in the follow-up, leaving 232 subjects. Based on information gathered in childhood (i.e. records from social workers for the period 1939-45) the men were divided into four categories according to how their parents treated them: “neglected” (n = 48), “abused” (n = 49), “rejected” (n = 34), or “loved” (n = 101). Physical abuse was based upon parents’ consistent use of physical punishments as a form of discipline. Operationalization of adult alcohol problems was limited to receiving alcohol treatment as indicated by clinical records. In terms of poverty and proportions from broken homes the four groups were similar. No significant group differences in proportions of men who had become alcoholics were found. Despite study strengths, the validity of findings is limited due to questionable definitions for both outcome and predictor variables. For example, doubts are being raised about the severity of the abuse included. Abuse referring to disciplinary corporal punishment may include milder forms of punishment.

In the third study, Martin & Elmer (1992) retraced 19 males and females - approximately 20 years after the victimization (current age 25 to 36 years) - from a group of 33 individuals who had been treated for multiple bone injuries due to assault as children. Five subjects (26%) reported drinking problems. However, in three of these five cases the abusive parents were heavy drinkers. Also, the authors indicate that the actual extent of drinking problems was probably not revealed, because of subjects’ reluctance to discuss substance abuse. How they assessed drinking problems is not described. In addition, indications for selective sample attrition are apparent in this study, e.g. institutionalized subjects could not be included in the follow-up sample. Given the serious methodological shortcomings, there is a strong need for caution in interpreting the findings.

Summary. The prospective studies do not provide support for a relationship between CSA or CPA and later alcoholism. However, several methodological shortcomings of these studies (e.g. the unknown effect of treatment on child abuse effects, questionable definitions of predictor and outcome variables, and assessment of alcohol problems in young adulthood) seriously hamper the generalizability and validity of their findings.
4.3.2 Studies of child sexual and/or physical abuse in alcoholics in treatment

Table 1 shows CSA and CPA prevalence rates in alcoholics in treatment (i.e. individuals seeking treatment for alcohol problems or attending meetings of Alcoholics Anonymous [AA]). As for uncontrolled studies, only those with samples of 20 or more alcoholic subjects are reviewed here.

Child sexual abuse in alcoholics in treatment. Three controlled studies were found, all reporting on women only. In the first, Covington (1986) compared 35 alcoholic women from AA and hospital treatment programs with a matched nonalcoholic community group of 35 women (age range 19-50"). Matching variables included age, education, marital status and religious background. An indirect measure (i.e. the Mortimer-Filkins test: see Webb, 1990) was used to screen out possible alcoholic controls. CSA criteria were unclear, since the women were free to report sexual victimization according to their own definition. Seventy-four percent of the alcoholic women reported sexual abuse before age 11 compared to 31% of the controls. However, for a number of reasons (e.g. heterogeneity of alcoholic sample, matching of nonequivalent groups, indirect measure of alcohol problems among controls, and unspecified definition of CSA) these findings are ambiguous.

The second study (Miller et al., 1987) incorporated improvements in study design, and in definitions and assessment of predictor, outcome and control variables. Nevertheless, findings must be interpreted with caution, because of comparison of nonequivalent groups, and of a nonrandom-snowball-sampling technique for selecting most alcoholic subjects (i.e. AA members). In this study, 45 alcohol-dependent women recruited from AA and treatment agencies were compared with 40 nonalcoholic women selected using a random-digit dialing technique from a household population (age range 18-45). Subjects were defined as alcoholic if they had been or were currently participating in alcohol treatment. The response rate among controls was rather low (28%), thus limiting generalizability of findings. The Michigan Alcoholism Screening Test (MAST; Selzer, 1971) was used to ensure that all women in the alcoholic group met some objective measure of alcoholism and to exclude alcoholic controls. Also, the quantity-frequency index for alcohol consumption (Armor & Polich, 1982) was used to exclude women who were inaccurately assigned to the alcoholic group. CSA, defined as contact and noncontact experiences before age 18, was assessed using
multiple questions describing specific events. No significant differences between the two groups were found regarding race, educational level, marital and employment status, parental divorce or separation, death in the family, and remarriage of a parent. However, compared to controls, the alcoholics were older, had a lower income, reported more changes in childhood family structure (i.e. the sum of parental divorce/separation, death in the family, remarriage of parent) and more often had at least one parent with alcohol-related problems. The alcoholic women were not only more likely to have experienced noncontact and contact CSA prior to age 18 (see Table 1), but also more frequently reported experiences over longer periods of time, especially if they were daughters of alcoholic parents. The father was usually not the abuser in these cases. Rather, there was a lack of protection for the child, who was abused by others. There was no indication that alcohol consumption had been initiated prior to sexual abuse. A multivariate (i.e. canonical correlation) analysis, controlling for current age, income source and number of changes in the family of origin, indicates that CSA (including noncontact experiences) and parental alcoholism are independent predictors of alcoholism in women.

More recently (Miller et al., 1993), data from a larger sample were collected (N = 472, age range 18-45) and assessment of alcohol-related problems was improved (i.e. using the DIS in addition to the MAST) as well as assessment of parental alcohol problems (i.e. a self-administered form of the Research Diagnostic Criteria; Andreasen et al., 1986). The definitional criteria for CSA of Miller et al. (1987) were used. In the analyses two sets of comparison groups were used (see Table 1). All groups were skewed to lower socioeconomic strata. The first analysis suggested that the relationship between CSA and women's alcohol problems is specific for alcoholics seeking treatment, since a significantly greater percent of women in alcoholism treatment reported CSA as compared to either women who are heavy drinkers but not in treatment (“drinking drivers”) or a nonalcoholic community group of women. However, the “drinking drivers” had actually lower levels of alcohol problems (as measured with the DIS and the MAST) than women in the alcoholism treatment group. Furthermore, the alcohol treatment group more frequently reported several types of CSA (i.e. exposure, touching, penetration) compared with women in the other two groups. After controlling - using regression analyses - for race, age, childhood socioeconomic status,
<table>
<thead>
<tr>
<th>Authors</th>
<th>Alcoholic group</th>
<th>Comparison group</th>
<th>% CSA</th>
<th>% CPA</th>
<th>Control variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kroll et al. (1985)</td>
<td>407 M IP</td>
<td>-</td>
<td>-</td>
<td>13%</td>
<td>-</td>
</tr>
<tr>
<td>Covington (1986)</td>
<td>35 F AA &amp; IP</td>
<td>35 F, C Nonalcoholic</td>
<td>74% vs. 31%</td>
<td>40% vs. 26%</td>
<td>Age, education, marital status, religion</td>
</tr>
<tr>
<td>Kovach (1986)</td>
<td>117F AA</td>
<td>-</td>
<td>25% Incest</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Scherotzki-Hanninger et al. (1986)</td>
<td>50 F IP</td>
<td>-</td>
<td>4% Incest (with father)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Downs et al. (1987)</td>
<td>45 F 71% AA 29% OP</td>
<td>40 F, C Nonalcoholic</td>
<td>-</td>
<td></td>
<td>By father: 55% vs. 16% slapped; 27% vs. 8% kicked, bitten, hit with a fist; 46% vs. 14% hit or tried to hit with an object; 23% vs. 5% beaten up</td>
</tr>
<tr>
<td>Miller et al. (1987)</td>
<td>45 F 71% AA 29% OP</td>
<td>40 F, C Nonalcoholic</td>
<td>67% vs. 28%</td>
<td>-</td>
<td>See Downs et al. (1987)</td>
</tr>
<tr>
<td>Schaefer et al. (1988)</td>
<td>100 M IP (VA)</td>
<td>-</td>
<td>-</td>
<td>31%</td>
<td>-</td>
</tr>
<tr>
<td>Nadeau (1990)</td>
<td>40 F IP</td>
<td>-</td>
<td>13% (5% incest)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Downs et al. (1992)</td>
<td>59 F OP</td>
<td>69 F Partner victimization; 83 F Alcoholic &amp; partner victimization; 80 F, C Nonalcoholic</td>
<td>-</td>
<td>No prevalence rates, only differences between groups</td>
<td>Age, childhood SES, number of changes in family structure, parental alcohol problems, GSI</td>
</tr>
<tr>
<td>Authors</td>
<td>Alcoholic group</td>
<td>Comparison group</td>
<td>% CSA&lt;sup&gt;a&lt;/sup&gt;</td>
<td>% CPA&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Control variables</td>
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<tr>
<td>Miller et al.</td>
<td>98 F OP</td>
<td>100 F “Drinking Drivers”; 82 F, C Nonalcoholic</td>
<td>66% vs. 21% vs. 35%</td>
<td>Moderate violence father: 56% vs. 40% vs. 35% Moderate violence mother: 65% vs. 49% vs. 51%</td>
<td>Age, race, childhood SES, number of changes in family, parental alcohol problems</td>
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<tr>
<td>(1993) Comparison 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Miller et al.</td>
<td>178 F OP</td>
<td>92 F, T&lt;sup&gt;1&lt;/sup&gt; Nonalcoholic; 82 F, C Nonalcoholic</td>
<td>70% vs. 52% vs. 35%</td>
<td>Moderate violence father: 57% vs. 46% vs. 35% Moderate violence mother: 71% vs. 63% vs. 51%</td>
<td>Parental alcohol problems, number of changes in family</td>
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<tr>
<td>(1993) Comparison 2</td>
<td></td>
<td></td>
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<tr>
<td>Von der Stein and Podoll</td>
<td>100 M 50 F IP</td>
<td></td>
<td>M: 1% incest F: 8% incest</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>(1994)</td>
<td></td>
<td></td>
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<tr>
<td>Windle et al.</td>
<td>481 M 321 F IP</td>
<td></td>
<td>M: 12%</td>
<td>M: 24%</td>
<td>-</td>
</tr>
<tr>
<td>(1995)</td>
<td></td>
<td></td>
<td>F: 49%</td>
<td>F: 33%</td>
<td></td>
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</tbody>
</table>

<sup>a</sup> CSA=childhood sexual abuse; <sup>b</sup> CPA=childhood physical abuse; <sup>c</sup> M=males; <sup>d</sup> IP=inpatients; <sup>e</sup> VA=Veterans Administration; <sup>f</sup> F=females; <sup>g</sup> C=community; <sup>h</sup> AA=Alcoholics Anonymous; <sup>i</sup> OP=outpatients; <sup>j</sup> SES=socioeconomic status; <sup>k</sup> GSI=Global Severity Index SCL-90; <sup>l</sup> T=in treatment
parental alcoholism and number of changes in childhood family structure, these differences remained significant. The second analysis showed that women in outpatient alcohol treatment reported significantly higher rates of CSA than did nonalcoholic women in the community group, or nonalcoholic women receiving other mental health services, indicating that CSA is associated with the development of women’s alcohol-related problems when holding treatment condition constant. After controlling for demographic characteristics and parental alcohol problems these patterns persisted.

Besides the controlled studies, five uncontrolled studies of CSA in alcoholics in treatment were found (Kovach, 1986; Scherotzki-Hanninger et al., 1986; Nadeau, 1990; Von der Stein & Podoll, 1994; Windle et al., 1995), of which three examined only incest (see Table 1). Three of the five studies focused on females, two concern both sexes. Since study findings are difficult to interpret because of lack of control groups, it is instructive to examine if the reported prevalence rates of CSA are higher than population based rates. For such a comparison, findings of Windle et al. (1995) are considered the most informative, given the methodological strengths of this study as opposed to the other four, i.e. large sample (481 male and 321 female inpatients, age range 19-57), and a specified definition of CSA with conservative criteria (e.g. unwanted sexual contact before age 18) assessed in face-to-face interviews with a sensitive, behavior-specific question. The CSA rate reported for male inpatients (12%) is somewhat higher than those found among men in community surveys employing about the same method (4% to 8%; Bagley, unpublished manuscript; Stein et al., 1988). However, the CSA rate reported for female inpatients was considerably higher than ranges found among women in community-based studies utilizing comparable methods, i.e. 49% versus 7% to 33% (Wyatt, 1985; Russell, 1986; Draijer, 1988; Stein et al., 1988). In the methodological much less rigorous study of Nadeau (1990) (e.g. N = 40, subjective definition for CSA) a 13% rate of CSA was reported by female alcoholic inpatients.

Of the uncontrolled studies examining incest, only one (Kovach, 1986) provides sufficient data to permit a comparison with community-based prevalence rates. In this study, a quarter of female AA-members (no information given on current age of subjects) reported childhood incest, defined as sexual contact experiences with individuals who functioned in a parental or familial role or with someone whom the subject perceived to be closely related. This rate is considerably higher than those found in women in community surveys (Russell, 1986: 16% before age 18; Draijer, 1988: 15.6% before age 16).
Child physical abuse in alcoholics in treatment. In this area four studies concerning women appeared. In Covington’s (1986) study, described above, the CPA rate before age 11 -subjectively defined - in alcoholics was significantly higher than in controls (40% vs. 26%). The other three studies (Downs et al., 1987; Downs et al., 1992; Miller et al., 1993) were conducted by one research group using the same instruments to assess parent-to-child violence (CTS) and alcohol-related problems (MAST, in the last study complemented with the DIS). In the first study (Downs et al., 1987), using the same sample as Miller et al. (1987, see above), multivariate (i.e. regression and discriminant) analysis, controlling, among others (see Table 1), for presence of parental alcohol problems, suggests that father-to-daughter physical violence is related to alcoholism, whereas mother-to-daughter violence is not. The other two studies (Downs et al., 1992; Miller et al., 1993) confirmed these findings, even after introducing more covariates (see Table 1). Only Downs et al. (1992) report that severe violence by the mother was also associated with alcohol problems. Interestingly, in all three studies fathers’ verbal abuse (assessed with the CTS subscale) also predicted the development of adult alcohol-related problems. The methodological problems mentioned earlier for the studies of Miller et al. (1987, 1993) also apply to Downs et al. (1987, 1992).

In three uncontrolled studies concerning male alcoholic inpatients, employing comparable definitional criteria for CPA (i.e. repeated episodes of physical aggression that caused injuries), CPA prevalence rates ranged from 13% to 31% (Kroll et al., 1985; Schaefer et al., 1988; Windle et al. 1995, see Table 1). However, histories of CPA were obtained by different methods: chart review (Kroll et al., 1985), self-report questionnaire (Schaefer et al., 1988) and interviews (Windle et al., 1995). Factors accounting for the lower rate found by Kroll et al. (1985) are the tolerant view toward the reported greater use of corporal punishment by lower socioeconomic classes and not rating “whippings” as abuse. Furthermore, it is unclear whether Kroll et al. included abuse by individuals other than parental figures as in the other two studies. For female inpatients, Windle et al. (1995) found a CPA rate of 33%. The CPA rates in alcoholic patients do not exceed base rate prevalence of CPA in the general population (11.5% to 34%; see Draijer, 1988; Römkens, 1989). However, making direct comparisons between rates is difficult, because general population CPA rates have been established with women only and with generally more narrow definitions than used in the alcoholic sample studies.
Summary. The available data are insufficient to draw conclusions about associations between CSA and/or CPA and alcoholism in males in treatment, since all studies among males are uncontrolled. However, alcoholic females in treatment report significantly higher rates of CSA than controls, with two of the three controlled studies (Miller et al., 1987, 1993) considered to be more rigorous. Worth noticing are the findings of Miller et al. (1987) that CSA and parental alcoholism are both independent predictors of alcoholism in women. Among five uncontrolled studies, one relatively rigorous study suggests an association between contact CSA and alcohol problems in women, while another suggests an association between incest (contact experiences) and alcohol problems among women.

Four controlled studies reporting on female alcoholics indicate a relationship between CPA and alcohol problems, with the three most rigorous focusing on parent-to-child violence (Downs et al., 1987, 1992; Miller et al., 1993). These three studies demonstrate that the gender of the abusive parent appears to influence this relationship, even when controlling for parental alcohol problems.

4.3.3 Studies of child physical abuse in alcoholics in the general population

Holmes & Robins (1987, 1988) compared alcoholics (without other disorders) in the general population with persons with lifetime major depressive disorder or no psychiatric disorder matched by age in the same population with respect to harsh disciplinary experiences in childhood. Psychiatric diagnoses of these men and women (age 18 to 50) were assessed with the DIS (see Regier et al., 1984). Several months after the diagnostic assessment, the selected subjects were interviewed by means of multiple screening questions (Home Environment Interview, Version II; Robins et al., 1985) about parental disciplinary practices between age 6 to 13. Reports of unfair, inconsistent and abusive discipline by parents predicted both alcohol and depressive disorders independently of respondent’s sex, childhood behavior problems and parental psychiatric history (e.g. alcohol and drug disorders). This study has many design strengths. However, generalizability of findings remains unclear, as experiences of harsh punishment were only assessed between age 6 to 13. Given that parental physical abuse of children before age 6 is not uncommon, it might well be expected that both the diagnostic groups and the control group include subjects who were abused as young children but were not identified.
4.3.4 Alcoholism in abused and nonabused adult mental health clients

Alcoholism in mental health clients with or without child sexual abuse histories. Four studies compared the prevalence of alcoholism among sexually abused and nonabused mental health clients, all using about the same definitional criteria for CSA (i.e. sexual contact abuse, ranging from fondling to intercourse). Three studies were on women only and one covered both sexes.

Briere & Runtz (1988) report that sexually abused female crisis center clients (N = 67) had over two times the likelihood of (self-defined) alcoholism as compared to nonabused female crisis center clients (N = 85, age range 14-54). Abused and nonabused clients did not significantly differ in terms of age, marital status or ethnicity. Abuse history was assessed by direct questioning during intake evaluations. Among 188 female psychiatric outpatients (mean [± SD] age = 35.3 ± 11.2 years), CSA histories - obtained through using a questionnaire with one broad question - were significantly associated with scores on the MAST, independent of CPA and family history of substance abuse (Swett et al., 1991). Unfortunately, demographic variables for abused versus nonabused women were not reported.

In contrast, Briere & Zaidi (1989) found no significant association between alcohol abuse (DSM-III-R diagnosis) and CSA in a sample of 50 female crisis center clients (mean age = 33.5 ± 12.0), but this could be due to small sample size (i.e. reduced statistical power to detect significant differences). Alcohol abuse diagnoses were about two times more prevalent in the CSA group than in the control group (i.e. 37% vs. 20%). Intake clinicians routinely asked the patients about CSA histories. Abused and nonabused clients were equivalent in terms of race, marital status, employment, education and income, but not in terms of age (mean age = 29.9 vs. 37.0). This age difference between groups could be a potentially confound, meaning that in the CSA group associations between abuse and late onset heavy drinking could not be fully established.

In their sample of 601 males and 346 females (age range 17-90) admitted to two psychiatric wards of a U.S. Air Force tertiary-care medical center, Brown & Anderson (1991) reported that patients with CSA did not have a higher prevalence of DSM-III-R alcohol use disorders than patients without CSA. However, patients reporting both CSA and CPA had the highest rate of alcoholism. Unfortunately, sex differences were not examined. A major
limitation of this study is that abuse histories were elicited by means of broad rather than specific questions. Given the rather unique nature of this sample (i.e. military), generalization to other psychiatric settings is impossible.

In addition, two studies were found comparing the prevalence of alcoholism between female incest victims seeking mental health treatment and control groups, presenting contrasting findings. In a pioneer study (Meiselman, 1978), no relationship was found between (step)father-daughter-incest histories and alcohol use disorder. However, only one of the 76 subjects (i.e. 26 incest victims and 50 controls; age range unclear, including some subjects younger than 15 years) in this study was given a clinical diagnosis of alcohol use disorder. Methodological shortcomings of this study are the inclusion of adolescent subjects, a small experimental group and the low overall prevalence of alcohol disorders compared with base-rates for women in the general population - 1% vs. 4.6% (Helzer, et al., 1991). The second study (Pribor & Dinwiddie, 1992) is more rigorous, including a larger sample of incest victims, utilizing two control groups and a standardized instrument (the DIS) to assess alcohol problems. Female incest victims (N = 52) in treatment by agencies or self-help groups with specialized programs for sexually abused women reported a significantly higher lifetime prevalence of alcohol abuse and dependence than an age- and race-matched comparison group of female general mental health clients (N = 23) or a group of women in the general population (based on St. Louis Epidemiologic Catchment Area data for women aged 18-55, no N provided) (i.e. 29% vs. 4% and 5%).

Alcoholism in mental health clients with or without child physical abuse histories. In two studies comparing the prevalence of alcohol problems in physically abused and nonabused adult mental health clients, CPA was defined as an assault before age 19, not limited to parental abuse. Both studies indicate a relationship between CPA and alcohol problems. In 188 psychiatric female outpatients, CPA was related to MAST scores independent of CSA and family history of substance abuse (Swett et al., 1991), whereas in the other study male and female inpatients with CPA histories had a higher prevalence of DSM-III-R alcohol use disorders than nonabused patients (Brown & Anderson, 1991). In both studies, patients reporting both CPA and CSA had the highest rate of alcoholic drinking.
Summary. Most studies do suggest an association between CSA/CPA and alcoholism in female mental health clients. However, there are concerns about the sensitivity of assessment of both the dependent and the independent variable in several of these studies. For example, in one study (Briere & Runtz, 1988) assessment of alcohol problems was based on self-definitions, which are, of course, of questionable validity, whereas in three other studies (Meiselman, 1978; Briere & Zaidi, 1989; Brown & Anderson, 1991) the operationalization of alcohol problems was based on clinical diagnoses. This latter operationalization may also imply an underestimation. Diagnostic accuracy in determining substance abuse in psychiatric populations cannot be guaranteed (Ananth et al., 1989; Albanese et al., 1994). Mental health clients may underreport their alcohol problems for fear of being excluded from treatment. In addition, in most studies, possible confounders such as parental alcohol problems or childhood neglect were not measured. Given the dearth of information on males in this area, no conclusions can be drawn whether CSA/CPA are related to alcohol problems in male mental health clients.

4.3.5 Alcoholism in abused and nonabused adults in the general population

Alcoholism in subjects with and without child sexual abuse histories. Six community-based surveys explored prevalence rates of alcoholism among sexual abuse victims and nonvictims. One of these studies covers both sexes and the other five report on women only. In five of these studies CSA was assessed in face-to-face interviews by means of well-defined questions, and the definitional criteria for CSA were about the same. In the sixth (Silverman et al., 1996), abuse was measured using a single question. Different instruments and criteria were used for the assessment of alcohol problems.

In a national survey of 1,054 adult women (age range 20-40) in Holland (Draijer, 1988), those who experienced incestuous contact abuse before age 16 more frequently reported problems with alcohol use (self-defined) than those without such experiences (12% vs. 5%). The abused women did not significantly differ in terms of age and childhood socioeconomic status from the comparison group of women.

In the Los Angeles Epidemiologic Catchment Area survey (Stein et al. 1988) comprising a probability sample of 3,132 adults (18 year or older), the DIS was used to assess alcohol abuse/dependence. In this sample 6.8% of the women and 3.8% of men reported
“forced sexual contact” before age 16. Overall, a significant association was found between CSA and a lifetime diagnosis of alcohol abuse/dependence (see also Scott, 1992). However, this association was significant for women but not for men: 20.8% of the sexually abused women had a lifetime alcoholism diagnosis versus 4.1% of the nonabused women. This association remained significant when controlling for other sexual abuses (i.e. adult sexual abuse, and combinations of CSA and adult sexual abuse) and demographic variables (sex, age, ethnicity and education).

Likewise, Peters (1988) found that women (age range 18-36) who experienced contact CSA before age 18 were significantly more likely than women reporting no such abuse to have a diagnosis of alcohol abuse (22% vs. 6%). However, abusive histories limited to only noncontact experiences were not associated with later alcohol abuse. Comparisons on demographic characteristics (age, education, income, socioeconomic status, marital status and having children) revealed no significant differences between the three groups (no abuse, noncontact, contact). Alcohol abuse (since the age of 18) was assessed using the Schedule for Affective Disorders and Schizophrenia-Lifetime (SADS-L; Endicott & Spitzer, 1979) and the Research Diagnostic Criteria (RDC; Spitzer et al., 1978). Information concerning CSA was obtained from data collected in the original study (Wyatt, 1985). Although there was considerable attrition of women from the original sample (N = 248) to the subsample (n = 119) involved in the present study (i.e. 52%), this attrition was evenly distributed across the three groups.

In New Zealand, Mullen et al. (1993) used a random community sample stratified on the basis of a first, postal phase into those reporting CSA and a control group who did not report CSA (N = 1,014 women under 65 years of age). In the second phase, information on CSA and CPA was obtained through interviews. The Present State Examination (PSE; Wing et al., 1974) was employed to establish current psychiatric symptoms. To assess abusive patterns of alcohol consumption, the WHO alcohol questionnaire (Saunders et al., 1987) was used. Because the impact of adult sexual or physical abuse might confound the differences between those who had experienced CSA and the control group, women who reported sexual or physical abuse as adults, and who gave no history of CSA, were not included as controls. Overall, CSA (including noncontact experiences) before age 16 was not related to alcohol use problems. However, the severity of CSA was associated with excessive use of alcohol, defined as currently consuming 14 or more units a week. Women who reported CSA
involving intercourse showed significantly higher rates of excessive alcohol use than controls (34% vs. 9%). Further analysis (i.e. logistic regression), which took into account potential risk factors (i.e. a range of social, family and other childhood factors) and which attempted to disentangle the independent effects of three forms of childhood abuse (i.e. physical, emotional, and sexual), revealed that heavy drinking was significantly associated with CSA but not with CPA or childhood emotional abuse (Mullen et al., 1996).

It is worth noticing that in these four community studies the prevalence rates for alcohol problems among women with CSA histories far exceed the U.S. national rate for alcohol-related problems among women (i.e. 4.6%; Helzer et al., 1991). The four surveys meet many of the criteria outlined above (e.g. using an established instrument to measure alcohol problems, multiple screening questions regarding CSA, and rigorous sampling procedures), and all provide strong support for a relationship between (severity of) CSA and alcohol problems in women.

Of particular interest in this area are two other studies employing a longitudinal design based on community samples. Since reports of abuse and alcohol problems are retrospective, and findings (part of them) are based on cross-sectional analysis of data, these studies are described here. Wilsnack and colleagues used a longitudinal design (1981-91) to explore connections between CSA and alcohol problems among women (Wilsnack, 1991; Russell & Wilsnack, 1991; Wilsnack & Wilsnack, 1993, 1995; Wilsnack et al., 1997). The initial sample in 1981 included 917 women aged 21 and older. To assess problem drinking three indicators were used: (1) an average consumption of one ounce of ethanol per day in the past 30 days, (2) one or more drinking-related problems in the past 12 months and (3) one or more symptoms of alcohol dependence in the past 12 months. Women who in 1981 had reported at least two of these three indicators were considered problem drinkers. Controlling for age, CSA predicted the onset of problem drinking over a 5-year follow-up period: in 1986 (based on interviews with 300 women of the initial sample) the 1981 nonproblem drinkers who reported CSA before age 18 were significantly more likely than 1981 nonproblem drinkers without CSA to report problem drinking (51% vs. 19%). In 1991, data were gathered from two subsamples, namely 696 women of the initial sample and a newly recruited group of 403 women aged 21 to 30. Based on cross-sectional analyses of the 1991 data, CSA was significantly related to heavy episodic drinking, intoxication, drinking-related problems and alcohol-dependence symptoms. Histories of CSA were in 1986 elicited in interviews by
means of a broad question ("Someone tried to make you have sexual activity that you really did not want"). To increase consistency with methods used in community studies on rates of CSA (Russell, 1983; Wyatt, 1985), a revised and expanded set of questions was included in 1991. The 1991 questions elicited substantially higher rates of CSA than did the broad question in 1986.

Silverman et al. (1996) examined the link between CSA and alcohol abuse-dependence (assessed with the DIS) in a sample of 375 young adults (188 males, 187 females) who had been participants in an ongoing 17-year longitudinal community study and who were reinterviewed in 1993 at age 21. The original sample (1977) was based on all youth who registered for kindergarten in a working-class community. Between 1977 and 1993 there were no indications for a pattern of selective attrition on demographic, behavioral, emotional or academic variables. In 1993 a single, broad question was used to measure CSA before age 18 ("Sexually abused or forced to have sex without your consent?"). It was reported by 12.3% of females and 1.1% of males. Further analyses were conducted on females only. Although alcohol problems were assessed in young adulthood, more than two-fifths (43.5%) of the sexually abused females versus 7.9% of nonabused females met DSM-III-R criteria for alcohol abuse-dependence.

Alcoholism in subjects with and without child physical abuse histories. One study appeared in this area. Silverman et al. (1996), described above, also studied the link between CPA and alcohol problems. In 1993 a single, broad and insensitive question was used to measure CPA before age 18 ("Were you physically abused?"); including abuse by nonfamily members. CPA was reported by 6.4% of females and 5.3% of males. No differences were found between abused and nonabused subjects with regard to alcohol abuse-dependence. However, since severely aggressive punitive events are often perceived to be deserved and not viewed by persons as abuse (see, e.g. Berger et al., 1988; Carlin et al., 1994), it is likely that CPA experiences are underestimated. Inclusion of false negatives in the nonabused group may have resulted in an underestimation of effect.

Summary. Given the rigorous design features (e.g. large samples, sensitive measurement of crucial variables, inclusion of control variables) of most of the general population studies focusing on CSA, and minimization of "Berkson's selection bias", results should be weighted
more heavily than those of previously discussed studies. Five of the six population studies among females provide support for a positive association between CSA and adult alcohol problems. Demographic characteristics did not confound this association. Of interest is the finding of Stein et al. (1988) that this association remained significant after controlling for other sexual abuses. In the sixth study (Mullen et al., 1993, 1996), a relationship was found between CSA involving intercourse and alcohol problems, excluding the impact of both adult sexual and physical abuse experiences, CPA, and childhood emotional abuse. Furthermore, findings in this study and those of Peters (1988) indicate that more severe CSA experiences are significantly associated with greater risk for alcohol problems. The one study of CSA and adult alcohol problems in males (Stein et al. 1988) found no relationship.

No association between CPA (including nonfamilial abuse) and alcohol problems in both females and males was reported, but concerns about the method of assessment of CPA detract from the validity of these findings.

4.4 Discussion

Overall, the empirical evidence for the notion that CSA or CPA are related to alcoholism is limited because of a number of methodological problems. However, during the last years the number of cross-sectional studies employing rigorous methods (e.g. utilizing larger samples, assessing alcohol problems with established instruments, using behavior-specific screening questions to assess CSA and CPA, and including several possible confounders) has increased. Based on these studies, it can be stated that among females there is a higher likelihood of alcohol problems if they were sexually or physically abused as children. For instance, in the community-based studies among females there is a consistent replication of associations between (severity of) CSA and alcohol problems.

In contrast, findings from the few existing prospective studies do not provide support for a relationship between CSA or CPA and alcohol problems in females. However, these studies have some serious methodological shortcomings. The design utilized by Martin & Elmer (1992) is too weak to base any conclusions upon. In the study of Widom et al. (1995), long-term abuse effects themselves cannot be disentangled from long-term intervention effects for a given abuse. Furthermore, associations between child abuse and late onset heavy drinking may not have been recognized for about half of their sample. Finally, an important
difference of this study compared to retrospective studies is the upper limit placed on the victim's age at the time of abuse (i.e. 11 years or younger versus mostly 15 or 18 years or younger), which may have influenced results. Concerning the study of McCord (1983), questionable definitions for both outcome and predictor variables may have resulted in an underestimation of effect. Taken together, due to serious methodological shortcomings these prospective studies should be weighted less heavily than rigorous cross-sectional studies when drawing conclusions about links between CSA or CPA and alcohol problems in women.

Despite the interest in CSA and CPA effects in female populations, there is a dearth of information on males. Therefore, there is insufficient evidence on which to base conclusions about relationships between CSA or CPA and alcoholism in males.

A question of paramount importance is how to interpret associations between child abuse and alcohol problems. The most cited explanation is that substance use may serve as a form of self-medication to mitigate negative psychological sequelae of the abuse (Van der Kolk & Greenberg, 1987; Ulman & Brothers, 1988; Root, 1989; Draijer, 1990; Young, 1990; Alexander, 1992; Cole & Putnam, 1992; Herman, 1992a; Putnam & Trickett, 1993; Van der Kolk & Fisler, 1994; Reckling & Buirski, 1996). It is postulated that child abuse and neglect (or more specifically the lack of secure attachments) often result in disturbances in social development and in the development of self-regulatory processes, particularly regulation of affect and impulse control. Due to the inability to regulate physiological arousal, persons who were abused or neglected as children are more vulnerable to self-destructive and addictive behaviors in their attempts to control intense emotional states. The dysregulation of affects and impulses is assumed to be evidenced by the long-term effects of child abuse and neglect, such as depression and anxiety, posttraumatic stress symptoms, substance abuse, somatization, dissociation, and borderline personality disorder, since these different diagnostic groups share these psychopathological features. Other more specific explanations in line with the self-medication/self-regulation hypothesis are that substances may be used: (1) to cope with posttraumatic stress symptoms; for instance, reducing increased physiological arousal, and trying to avoid intrusive symptoms (e.g. flashbacks, nightmares) or symptoms of emotional numbing (i.e. by creating a sense of aliveness when feeling a nothingness inside) (Kovach, 1986; Root, 1989; Blume, 1990; Herman, 1992a; Evans & Sullivan, 1995; see also Stewart, 1996); (2) to achieve chemically induced dissociation as a
(chronic) coping strategy for dealing with affects, memories and cognitions associated with
the abuse (Briere & Runtz, 1987; Singer et al., 1989; Herman, 1992a; Roesler & Dafler,
1993; Evans & Sullivan, 1995); (3) to facilitate, rather than repress, memories of abuse, and
to be able to talk about the abuse (Lammers, 1995); (4) to endure compulsive reenactment
of the original trauma (e.g. in the form of promiscuity, prostitution or adult abusive relationships
(Herman, 1992a; Lammers, 1995); (5) to regulate or enhance self-esteem (Dembo et al.,
et al., 1993; Evans & Sullivan, 1995); or (6) to provide an illusion of control in interpersonal
functioning in order to avoid feelings of powerlessness and helplessness associated with the
victimization (Singer et al., 1989; Herman, 1992a).

There are some critical issues surrounding the interpretation of existing findings. First,
since most of the existing studies are cross-sectional, interpretation of findings is complicated
by temporal ambiguity of cause and effect. Also, many of the studies are insufficiently
controlled. Therefore, it is difficult to draw conclusions about the presence of a direct link
between CSA or CPA and later alcoholism in females. In other words, CSA or CPA may
have increased the risk for development of alcohol problems in females, but it cannot be
concluded that this pathway of risk is straight or inevitable. Outcome may also reflect the
interaction of a variety of other causal factors, such as concomitant family dysfunction,
childhood neglect, parental substance abuse problems or adult victimization experiences. In
some of the reviewed studies, these factors have been taken into account. Besides, effects of
abuse on outcome may also be moderated or exacerbated by other factors that have not been
taken into account, such as previous trauma, perception of the child of the abusive events,
whether or not the child or adolescent was forced to use or was using substances while being
abused, support surrounding disclosure, developmental level of the child, the child’s coping
ability and temperament, and intervention or treatment experiences. The need for more study
designs based on multifactorial causation and examining mediating mechanisms is clearly
indicated.

With regard to examining mediating mechanisms in future research, it should be noted
that the relationship between CPA or CSA and psychiatric problems has rarely been
established in alcoholic subjects. However, given the notion that substances may serve as a
form of self-medication to mitigate negative psychological sequelae of the abuse, this seems
an interesting research area. Furthermore, the way in which child abuse interacts with other
etiological factors to produce different psychopathological trajectories should be elucidated. For instance, it is hypothesized that posttraumatic stress disorder may play a role in mediating the child abuse-alcoholism relationship (Kovach, 1986; see also Stewart, 1996). Concerning personality disorders, it could be hypothesized that among part of alcoholic females the relationship between child abuse and borderline personality disorder may turn out to be stronger than the relationship between child abuse and alcohol problems. Alcohol problems, like depression, anxiety and other substance use disorders, are present across borderline personality disorder. In addition, given the complex relationships between child abuse and alcohol problems, a fruitful direction for future research may be to make inquiries about subjects' own perceptions regarding the functional relationship between their abuse histories, psychological symptoms and alcohol use (see also Stewart, 1996). Another intriguing issue is whether there are gender differences with regard to associations between child abuse and later alcohol problems. Unfortunately, existing findings are insufficient to resolve this issue. This also applies to research among adolescents (see for reviews: Watts & Ellis, 1993; Ireland & Widom, 1994; Blood & Cornwall, 1996). Moreover, results of studies on CSA, CPA and alcohol misuse among adolescents are, like the studies among adults, difficult to interpret due to methodological limitations (see Ireland & Widom, 1994). Perhaps the most serious limitation in this research area is the primary reliance on samples of institutionalized youths (i.e. psychiatric patients, substance abuse treatment clients or criminal juvenile system clients) and lack of appropriate comparison or control groups. This focus on samples of “troubled youths” may lead to an overestimation of effect for both genders. On the other hand, effects of childhood maltreatment in terms of alcohol problems may only become apparent or more pronounced beyond the adolescent period, thereby resulting in an underestimation of effect in samples of youths. Thus, on the whole, the question whether there are gender differences with regard to associations between child abuse and later alcohol problems remains unanswered. Clearly, community-based research utilizing mixed samples of females and males is to be encouraged.

In sum, currently there is insufficient evidence on which to base conclusions about relationships between CSA or CPA and alcoholism in males. Among females, there are indications for such a link. However, due to methodological limitations, it is difficult to draw conclusions about the presence of a direct link between CSA or CPA and later alcoholism. The present review indicates some suggestions for future research. First, definitions of crucial
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variables should be explicitly described. Increasing consistency in the choice of instruments to assess alcohol problems and CSA and CPA is of highest importance. To assess alcohol problems, psychometric sound instruments should be used. To assess CSA and CPA, instruments including multiple questions describing specific events should be used; for example, for CPA the CTS (Straus, 1979), and for CSA the methods used in several community-based studies (e.g. Russell, 1983; Draijer, 1988). Besides, Briere (1992b) has suggested that investigators should focus on potential reporting biases (i.e. underreporting or overreporting of abuse experiences), for instance by assessing social desirability, attitudes about disclosure, tendency toward repression, and test-retest reliability of abuse reports (see also Stewart, 1996). Second, in studies on CSA, the nature and severity of the abuse should be taken into account, while in studies on CPA the sex of the perpetrator is of importance. Third, future investigators are especially encouraged to utilize mixed samples of females and males, with adequate sample sizes for both genders. Data should be analyzed separately for each gender, and multivariate approaches should be used to study the relationship between alcohol problems and CSA and CPA, while controlling for possible confounders such as neglect, parental substance use problems, family dysfunction and adult assault experiences.