

Accuracy of Adult Recollections of Childhood Victimization: Part 2. Childhood Sexual Abuse

Cathy Spatz Widom and Suzanne Morris
The University at Albany, State University of New York

Questions have been raised about the accuracy of retrospective self-reported information about childhood sexual abuse. Using data from a prospective-cohorts-design study, a large group of children who were sexually and physically abused or neglected approximately 20 years ago were followed up and compared with a matched control group. Accuracy of adult recollections of childhood sexual abuse was assessed using 4 different measures, completed in the context of a 2-hr in-person interview in young adulthood ($N = 1,196$). Results indicate gender differences in reporting and accuracy, substantial underreporting by sexually abused respondents in general, good discriminant validity and predictive efficiency of self-report measures for women, and some support for the construct validity of the measures. Implications for researchers and practitioners are discussed.

Over the last two decades, there has been a dramatic increase in the number of reports retrospectively linking childhood sexual abuse to a variety of short- and long-term effects. Typically, adolescents or adults are asked about a history of childhood sexual abuse in an interview or on a questionnaire designed to elicit this information retrospectively. Indeed, most researchers are dependent on retrospective information about earlier childhood victimization.

However, considerable controversy exists about the validity of information obtained from retrospective self-reports (Berliner & Williams, 1994; Briere & Conte, 1993; Herman & Schatzow, 1987; Lindsay & Read, 1994; Loftus, 1993; Widom, 1989b; Williams, 1994). Few longitudinal studies exist that follow up victims of childhood sexual abuse and assess the extent to which they manifest psychopathology. Recently, researchers have begun to focus research efforts on increasing the reliability and validity of these measures (Martin, Anderson, Romans, Mulen, & O'Shea, 1993).

Although debates about the accuracy of autobiographical recall have a long history, there seems to be general acceptance that memory is at least partly reconstructive (Fivush, 1993; Neisser, 1967; Yarrow, Campbell, & Burton, 1970). As Fivush

(1993) has pointed out, "it becomes difficult to determine whether an individual is recalling the actual details of a particular experience or reconstructing what must have occurred based on general event knowledge" (p. 2).

Thus, a significant risk of distortion and loss of information is associated with the recollection of events from a prior time period. If asked to recall childhood events, it is possible that respondents forget or redefine their behaviors in accordance with later life circumstances or their current situation. It is also possible that a person might redefine someone else's behavior in light of current knowledge. Unconscious denial (or repression of childhood traumatic events) may also be at work in preventing the recollection of severe cases of childhood abuse. Furthermore, given society's disapproval of various forms of family violence, a person may be embarrassed to report such experiences or unwilling to reveal such private information in the context of an interview setting. Thus, for a variety of reasons, there may be considerable slippage in accuracy in retrospective reporting. As Brewin, Andrews, and Gotlib (1993) pointed out,

Obtaining the retrospective recall of childhood events appears, therefore, to be a flawed process that can be shaped by both internal and external factors. Social influences, childhood amnesia, and the simple fallibility of memory all impose limitations on the accuracy of recall, and fear of the consequences of disclosure may further disadvantage this process." (p. 94)

Studies of adults' memories of childhood sexual abuse (Briere & Conte, 1993; Herman & Schatzow, 1987) have typically relied on retrospective accounts of clinical samples of persons who now remember the abuse. For example, Herman and Schatzow (1987) reported "severe memory deficits" for abuse in 28% of their clinical sample of women in group therapy for incest survivors, although the majority of their clients (74%) were also able to obtain independent corroboration of the sexual assault experience. Briere and Conte (1993) found that 59% of 450 women and men in treatment for sexual abuse reported that at some point prior to age 18 they had forgotten the sexual abuse they suffered during childhood. Using a prospective de-

Cathy Spatz Widom and Suzanne Morris, School of Criminal Justice, the University at Albany, State University of New York.

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Correspondence concerning this article should be addressed to Cathy Spatz Widom, School of Criminal Justice, the University at Albany, State University of New York, 135 Western Avenue, Albany, New York 12222.

sign, Williams (1994) found that a large proportion of women (38%) with documented histories of sexual victimization in childhood who were followed up approximately 17 years later did not recall the abuse. What are some of the factors that may affect the accuracy of retrospective reporting?

Empirical findings suggest that a person's cognitive appraisal of life events strongly influences his or her response (Lazarus & Launier, 1978). The same event may be perceived by different individuals as irrelevant, benign, positive, or threatening and harmful. It is likely that a child's cognitive appraisal of early childhood events will also determine at least in part whether they are experienced as neutral, negative, or harmful. The child's perception might reflect events occurring subsequent to the abuse experience as well as the child's perception of the experience. Theoretically, this is also important because long-term consequences may depend on the person's awareness or memory of the earlier abusive experience or experiences. Considering Lazarus and Folkman's (1984) discussion of the role of cognitive appraisal in mediating one's response to stress, it may be that children who do not define their early childhood experiences as abusive will show better outcomes.

There may also be gender differences in reporting or willingness to report childhood sexual abuse for a variety of reasons. Female psychiatric patients have been found more likely than male patients to report histories of sexual abuse (Brown & Anderson, 1991; Carmen, Rieker, & Mills, 1984), female patients have been found more likely than male patients to reveal childhood sexual assault experiences to therapists (Jacobson & Richardson, 1987), and women have reported greater likelihood than men of being a victim of sexual assault (Burnam et al., 1988). Social pressures against reporting early childhood sexual experiences and embarrassment may lead to greater reluctance among men to report, whereas it may be socially more acceptable for women to report such histories. On the other hand, some of the apparent underreporting may be associated with the small number of male victims of sexual abuse in most studies (Finkelhor, 1990).

Researchers have also speculated that age at the time of the abuse experience may affect the accuracy of memory and the likelihood of recall or reporting. For example, Herman and Schatzow (1987) reported a strong association between degree of reported amnesia and age of onset and duration of the abuse. Women who reported no memory deficits were generally those whose abuse had begun or continued well into adolescence. The most severe deficits were usually associated with abuse that began in early childhood, often in the preschool years, and ended before adolescence. Williams (1994), in one of the few prospective studies, reported that women who were younger (ages 0–6 years) at the time of the abuse were more likely to have no recall of their earlier experiences than were children who were older at the time (ages 7–12 years). On the other hand, Loftus (1993) and others (Wakefield & Underwager, 1992) have suggested that to have no recall of earlier abuse is uncommon and that unless the event occurred before the age of 3, it is unlikely that a child would forget a truly traumatic event. Leippe, Romanczyk, and Manion, (1991) designed a laboratory situation in which the experimenter engaged in interpersonal "touching" with a group of children who were later asked to recall the details of the event. It is noteworthy that memory errors of 5–

6 year olds were primarily restricted to failure to report touches that did occur rather than reporting of touches that did not occur.

One approach to assessing the power or efficiency of retrospective self-report measures is to calculate the relative improvement over chance (RIOC). Loeber and Dishion (1983) devised this index to represent the improvement over chance as a function of the range of its possible predictive efficiency. Because it is less sensitive to differences in base rates, one of the advantages of this technique is that it makes it possible to compare predictive efficiency of a variety of predictors or over a range of studies. Optimally, this method should identify individuals who were (valid positives) and were not (valid negatives) sexually abused in childhood. Loeber and Dishion argued that the degree that observed values in these cells deviate from random or chance values provides a more accurate assessment of predictive efficiency than is possible by means of a chi-square measure. Errors occur because self-report scales identify individuals who self-report abuse but were not abused (false positives) and individuals who do not report abuse but were abused (false negatives). Depending on one's priorities, the percentage of false positives and false negatives should be low. Although many researchers argue that estimates based on adult retrospective reports are probably underestimates (Finkelhor, 1994), others have argued that retrospective reports may contain many false positives (Nash, 1992).

A second approach to establishing the usefulness of retrospective reports of childhood sexual abuse is based on the construct validation process, one of the techniques used to establish the psychometric qualities of assessment instruments. In addition to establishing the validity of retrospective self-report measures using "known groups," construct validity attempts to assess how these self-report measures theoretically relate to other variables or indexes. That is, there are certain theoretical expectations about the way people who have a history of childhood sexual abuse should behave or should manifest certain outcomes. Based on logical relationships, then, tests of construct validity can offer evidence that these measures do or do not measure childhood sexual abuse, without providing definitive proof.

Early adverse experiences, especially sexual abuse, have been implicated as causal factors in the development of a variety of psychiatric disorders (Widom, in press). For example, clinical and research reports have retrospectively linked child sexual abuse to depression and anxiety (Lipovsky, Saunders, & Murphy, 1989; Peters, 1984; Burnam et al., 1988); alcohol and other substance abuse (Miller, Downs, Gondoli, & Keil, 1987; Ladwig & Anderson, 1989; Root, 1989); and self-destructive behaviors and suicide attempts (DeWilde, Kienhorst, Diekstra, & Wolters, 1992; Walsh & Rosen, 1988).

To validate our retrospective self-report measures of childhood sexual abuse, three outcomes frequently associated with childhood sexual abuse (depression, alcohol problems, and suicide attempts) will be assessed. Ideally, retrospective reports of childhood sexual abuse should relate to subsequent outcomes similar to the way official reports of childhood sexual abuse relate to these outcomes. Although we recognize that not all sexual abuse comes to the attention of the authorities and that there may be unreported sexual abuse in the control group, we would expect the pattern of results using documented cases

of sexual abuse and self-reported sexual abuse to be similar. Nonetheless, if there is no consistency in the findings (and little support for construct validation of the four measures), this knowledge may provide direction for researchers and clinicians in interpreting both sources of information.

In sum, the overall purpose of this article is to describe the accuracy of retrospective reports of childhood sexual abuse using a sample of individuals with officially documented and substantiated cases of childhood victimization (sexual and physical abuse and neglect) and a matched control group. This article follows an earlier one that described the accuracy of adult recollections of childhood physical abuse (see Widom & Shepard, 1996). Following Fivush (1993), we operationally define accuracy of adult recollections of childhood sexual abuse as "agreement between the individual's recall and either an objective record of the event or social consensus from other participants of the event as to what occurred" (p. 2). Here we describe the accuracy of self-report measures of childhood sexual abuse by a "known groups" comparison, the extent to which accuracy varies by the age of the child at the time of the abuse, the predictive efficiency of the measures, and construct validity of the measures.

Four different measures are used to assess a history of childhood sexual abuse, and the accuracy of these four are compared. However, it should be pointed out that not all of the sexually abused respondents and some of the respondents without official records of sexual abuse will answer "yes" to these questions, introducing ambiguity. In many instances, it is likely (and expected) that childhood sexual abuse occurred and was not officially reported. Furthermore, there may be some ambiguity associated with the respondent's cognitive appraisal of these childhood experiences, and some ambiguity will remain simply because of memory problems, denial, or social-desirability pressures not to report.

The current design does not permit determination of the extent of false positives, because it is not possible to determine whether individuals who self-report childhood abuse but do not have an official record of abuse are reporting accurately or not. The working assumption underlying this research is that these self-reports are valid, until some empirical evidence contradicts that assumption. Unfortunately, this is a limitation that affects most research in this field, with the possible exception of some laboratory analogue studies, where behavior and social interactions can be monitored and assessed with more control.

Method

Design

The data used in these analyses are part of a research project based on a cohorts-design study (Leventhal, 1982; Schulsinger, Mednick, & Knop, 1981) in which abused and neglected children were matched with nonabused and nonneglected children and followed prospectively into young adulthood. Characteristics of the design include (a) an unambiguous operationalization of abuse and neglect; (b) a prospective design; (c) separate abused and neglected groups; (d) a large sample; (e) a control group matched as closely as possible for age, sex, race, and approximate social class background; and (f) assessment of the long-term consequences of abuse and neglect beyond adolescence and into adulthood.

The prospective nature of the study disentangles the effects of childhood victimization from other potential confounding effects. Because of the matching procedure, the participants are assumed to differ in the risk factor: that is, having experienced childhood sexual or physical abuse or neglect. Because it is not possible to randomly assign participants to groups (and obviously this could not be done), the assumption of equivalency for the groups is an approximation. The control group may also differ from the abused and neglected individuals on other variables nested with abuse or neglect. (For complete details of the study design and participant selection criteria, see Widom, 1989a.)

In the first phase of this research, a large group of children who were abused, neglected, or both approximately 20 years ago were followed up through an examination of official juvenile and criminal records and compared with a matched control group of children (Widom, 1989c). The rationale for identifying the abused and neglected group was that their cases were serious enough to come to the attention of the authorities. Only court-substantiated cases of child abuse and neglect were included here. Cases were drawn from the records of county juvenile and adult criminal courts in a metropolitan area in the Midwest during the years 1967 through 1971. To avoid potential problems with ambiguity in the direction of causality and to ensure that temporal sequence was clear (i.e., child abuse or neglect leads to subsequent outcomes), abuse and neglect cases were restricted to those in which children were less than 11 years of age at the time of the abuse or neglect incident. Thus, these are cases of early childhood abuse, neglect, or both.

Physical abuse cases included injuries such as bruises, welts, burns, abrasions, lacerations, wounds, cuts, bone and skull fractures, and other evidence of physical injury. *Sexual abuse* charges varied from relatively nonspecific charges of "assault and battery with intent to gratify sexual desires" to more specific charges of "fondling or touching in an obscene manner," sodomy, incest, and so forth. *Neglect* cases reflected a judgment that the parents' deficiencies in child care were beyond those found acceptable by community and professional standards at the time. These cases represented extreme failure to provide adequate food, clothing, shelter, and medical attention to children.

A control group was established with children who were matched on age, sex, race, and approximate family social class during the time period of the study (1967–1971). Children who were under school age at the time of the abuse or neglect were matched with children of the same sex, race, date of birth (± 1 week), and hospital of birth through the use of county birth record information. For children of school age, records of more than 100 elementary schools for the same time period were used to find matches with children of the same sex, race, date of birth (± 6 months), class in elementary school during the years 1967 through 1971, and home address, preferably within a five-block radius of the abused or neglected child. Overall, there were matches for 74% of the abused and neglected children.

The second phase of the research involved tracing, locating, and interviewing the abused or neglected individuals (approximately 20 years after their childhood victimization) and controls. The follow-up was designed to document long-term consequences of childhood victimization across a number of outcomes (cognitive and intellectual, emotional, psychiatric, social and interpersonal, occupational, and general health).

Two-hour follow-up interviews were conducted between 1989 and 1995. The interview consisted of a series of structured and semistructured questionnaires and rating scales, and a psychiatric assessment (National Institute of Mental Health Diagnostic Interview Schedule [NIMH DIS-III-R]; Robins, Helzer, Cottler, & Goldring, 1989). The interviewers were unaware of the purpose of the study, of the inclusion of an abused or neglected group, and of the participants' group membership. Similarly, the participants were unaware of the purpose of the study. Participants were told that they had been selected to participate as part of a large group of individuals who grew up in that area in the late

1960s and early 1970s. Those who participated signed a consent form acknowledging that they were participating voluntarily.

The findings described here are based on interviews with 1,196 individuals (110 cases of physical abuse, 96 of sexual abuse, 520 of neglect, and 543 controls). Of the original sample of 1,575, 1,292 participants (82%) have been located and 1,196 interviewed (76%). Of the people not interviewed, 39 were deceased, 9 were incapable of being interviewed, 284 were not found, and 47 refused to participate (a refusal rate of 3%). Comparison of the current follow-up sample with the original sample indicates no significant differences in terms of percentage male, White, abused or neglected, poverty in childhood census tract, or mean current age. The interviewed group (follow-up sample) is significantly more likely to have an official criminal arrest record than the original sample of 1,575 (50% of the current sample versus 45% of the original sample). However, this is not surprising because people with a criminal history are generally easier to find, in part because they have more "institutional footprints" to assist in locating them.

Approximately half the sample is female (48.7%) and about two thirds is White (62.9%). The mean age of the sample at the time of the interview was 28.7 years ($SD = 3.84$). There were no differences between the abused and neglected group and controls in terms of gender, race-ethnicity, or age. The average highest grade of school completed for the sample was 11.47 ($SD = 2.19$), although abused and neglected individuals had completed significantly less school ($M = 10.99$, $SD = 1.99$) than controls ($M = 12.09$, $SD = 2.29$). Although two thirds of the control group had completed high school, less than half (48%) of the abused and neglected children at follow-up had done so. Occupational status of the sample was coded according to the Hollingshead Occupational Coding Index (Hollingshead, 1975). Occupational levels of the participants ranged from 1 (*laborer*) to 9 (*professional*). Median occupational level of the sample was semiskilled workers, and less than 7% of the overall sample was in Levels 7-9 (managers through professionals). More of the controls were in higher occupational levels than were the abused and neglected participants.

The interview was designed with particular awareness of the potential difficulty of obtaining information from participants about sensitive topics. With clinical research, there is always a trade-off between being sensitive to the needs and experiences of the person interviewed and eliciting sufficient information by adequate probing without becoming leading or overly intrusive.

Measures

Four measures were used to assess a history of childhood sexual abuse. The sexual abuse questions are adaptations of the work of a number of other researchers: Finkelhor (1979), Lewis (1985, as cited in Finkelhor, 1986) and Russell (1983). Although the content is similar, the structured interview format used here was developed for this study to permit administration by a trained lay interviewer. The goal was to achieve a balance between sensitivity on the part of the interviewer to elicit highly personal and potentially upsetting information and not being perceived as "leading" the participant into an admission of perhaps questionable reminiscences. The four measures are briefly described next.

1. *Any sex before age 12.* Respondents were presented with a list of explicitly sexual behaviors (ranging from "an invitation or request to do something sexual" to "another person fondling you in a sexual way" to "intercourse") and asked, "Up to the time you finished elementary school (before 6th grade), did you ever have any of the following experiences . . . ?" Responses to individual items are reported here as well as a dichotomous variable that refers to whether the person reported having any of these experiences before they finished elementary school. A positive response to any of these sexual experiences before age 12 is the first measure of self-reported childhood sexual abuse.

2. *Considered sex abuse.* Following the list of sexually explicit questions about early sexual experiences, respondents were asked, "Do you consider any of these experiences to have been sexual abuse?" Responses to this question were considered to reflect the person's cognitive appraisal (or definition) of the event or experience as being childhood sexual abuse rather than a direct question about whether the event occurred.

3. *Sex with older person.* Following Finkelhor (1979, 1986), childhood sexual abuse is defined as having a sexual experience with a person several years older. The approach used here is based on the person's response to a separate set of questions about whether they had "ever had a sexual experience with anyone 10 years older" and how old they were when this happened for the first time. Following Finkelhor (1979), the cutoff of age 12 was used to coincide with the age frame of the cases of childhood sexual abuse in this sample. Thus, this third approach is based on the person's report that they had had sex with a person 10 years older when the event occurred before the age of 12.

4. *Sex against will.* At the end of these questions, respondents were asked, "Has anyone ever bothered you sexually or tried to have sex with you against your will?" This question was followed up by a question about the age at which this occurred. This fourth measure of childhood sexual abuse was restricted to events that occurred before age 12, consistent with the age of our participants at the time of their abuse or neglect experience or experiences.

Results

The results are organized into three major sections. The first section presents basic descriptive information on the extent of self-reported childhood sexual abuse using the four different criteria for the sample overall and by gender. The second section focuses on accuracy and describes self-reports of childhood sexual abuse for individuals with official records of childhood sexual abuse compared with individuals with physical abuse or neglect and those with no official records of abuse or neglect (controls). Comparisons are made of self-reported information with information in official case records from the time of the abuse experience. Percentage accuracy of recall is calculated by comparing self-reported retrospective information with official record information from the earlier time period. This section will also report on the extent to which accuracy varies by the age of the child at the time of the abuse experience and on the level of predictive efficiency (relative improvement over chance) for the four approaches to assessing childhood sexual abuse. The final section reports on construct validity through a series of multivariate analyses using the four approaches to assessing childhood sexual abuse retrospectively and three outcomes frequently associated with sexual abuse (depression, alcohol problems, and suicide attempts).

Extent of Self-Reported Childhood Sexual Abuse

Table 1 presents basic descriptive information about the extent to which the sample (overall and women and men separately) reported sexual experiences in childhood. The top portion of Table 1 presents the extent of endorsement for individual items representing explicit sexual experiences and of the dichotomous variable, any sex before age 12. Almost half of the total sample (that is, both men and women) reported having had at least one of these experiences before finishing elementary school. In the total sample, men and women differed on 6 of the 10 items:

Table 1
Percentage Self-Reporting Early Sexual Experiences

Self-report measure	Overall (<i>N</i> = 1,181)	Men (<i>n</i> = 605)	Women (<i>n</i> = 576)	$\chi^2(1, N = 1,181)$
Specific sexual experiences				
Requested to do something sexual	23.6	19.9	27.4	**
Kissed/hugged in sexual way	24.0	28.5	19.3	***
Person showed sex organs	28.5	27.5	29.6	
You showed sex organs	16.2	19.4	12.9	**
Person fondled sexually	21.4	15.7	27.4	***
You fondled another person	11.2	14.7	7.5	***
Person touched organs	20.1	17.7	22.6	
You touched organs	13.6	16.4	10.6	**
Attempted intercourse	14.4	14.2	14.6	
Intercourse	13.5	13.7	13.2	
Any of the above before age 12	47.2	46.4	48.1	
Other measures				
Considered sex abuse	22.2	10.6	34.4	***
Sex with older person	9.7	4.1	15.4	***
Sex against will	17.6	9.3	26.4	***

** $p \leq .01$. *** $p \leq .001$.

More women reported having two of these experiences before finishing elementary school ("being requested to do something sexual" and "being fondled by another person"), and more men reported higher rates for four items ("kissing and hugging someone in a sexual way," "showing your sex organs to another person," "fondling someone," and "touching someone else's sex organs"). Items on which men had higher rates than women involved their behavior toward someone else ("you" [respondent] "showed," "fondled," or "touched" someone).

The bottom portion of Table 1 presents the extent of retrospective self-reports of childhood sexual abuse for the total sample and for women and men separately for the three other measures. For all three, women reported higher rates than did men. More than one third of the women considered any of the experiences to have been sexual abuse, compared with 11% of the men. Almost three times the percentage of women than men in the sample reported that before age 12 someone had bothered them or tried to have sex with them against their will (26% vs. 9%), and about four times more women than men reported having had sex with an older person (15% vs. 4%). These results are consistent with findings from national and community surveys asking women and men about their childhood experiences.

Accuracy: Comparisons of Official Reports With Self-Reports of Sexual Abuse

To determine the accuracy of the four approaches to measuring childhood sexual abuse, self-reports of respondents with official histories of childhood sexual abuse were compared with self-reports from respondents who had experienced other forms of abuse (physical) or neglect and with those with no official record of having been abused or neglected (controls). Table 2 presents the extent to which the three groups, based on official records of childhood victimization (sexual abuse, physical abuse or neglect, and controls), reported having had these childhood sexual experiences. For the total sample, persons with documented cases of sexual abuse reported more often having

been asked to do something sexual, having someone show them their sex organs, being fondled, having their sex organs touched, touching someone else's sex organs, having intercourse attempted, and having intercourse. For these sexual experiences, more of the sexually abused persons reported these experiences than did victims of other forms of abuse or neglect and controls. Overall, 63% of the persons with a documented case of sexual abuse reported having had at least one of these sexual experiences before age 12, in comparison with 47% of persons with documented cases of physical abuse or neglect and 45% of the controls.

Table 2 also compares the extent to which individuals in the total sample with documented cases of childhood sexual abuse self-reported sexual abuse using the three other measures. More of those with official cases of sexual abuse considered their early childhood sexual experiences to have been sexual abuse, and more reported having had sex with an older person and sex against their will than did people with documented histories of physical abuse or neglect and controls. For the total sample, the extent of self-reporting of sexual abuse by controls is much lower than in the two groups of documented sexual abuse and documented physical abuse or neglect. Pairwise comparisons in Table 2 indicate significant differences where they occur.

Tables 3 and 4 present the extent of self-reports of childhood sexual abuse for women and men, respectively, by type of documented abuse (sexual abuse and physical abuse or neglect) or lack of abuse (controls). Because of differences in cell sizes and particularly the small number of documented cases of sexually abused men, Fisher's exact test was used in analyses where cell frequencies were less than 5. Several findings in Table 3 should be noted. First, more than two thirds of the sexually abused women reported having had any of these sexual experiences before age 12, compared with less than half of the physically abused or neglected (46%) and control (45%) women. Of the women with documented cases of sexual abuse, 64% considered the experiences to be sexual abuse, compared with 36% of the

Table 2
Percentage Self-Reporting Early Sexual Experiences by Type of Abuse

Self-report measure	Group			$\chi^2(2, N = 1,181)$
	Sexual abuse (<i>n</i> = 94)	Physical abuse or neglect (<i>n</i> = 572)	Control (<i>n</i> = 515)	
Specific sexual experiences				
Requested to do something sexual	37.2 _{a,b}	24.5 _a	20.0 _b	***
Kissed/hugged in sexual way	21.3	24.3	24.1	
Person showed sex organs	40.4 _{a,b}	27.6 _a	27.4 _b	*
You showed sex organs	22.3	15.9	15.4	
Person fondled sexually	44.1 _{a,b}	22.5 _{a,c}	16.1 _{b,c}	***
You fondled another person	15.0	11.4	10.3	
Person touched organs	39.4 _{a,b}	21.8 _{a,c}	14.8 _{b,c}	***
You touched organs	22.3 _{a,b}	13.7 _a	11.8 _b	*
Attempted intercourse	24.5 _{a,b}	15.2 _a	11.7 _b	**
Intercourse	28.7 _{a,b}	15.9 _{a,c}	8.0 _{b,c}	***
Any of the above before age 12	62.8 _{a,b}	47.0 _a	44.7 _b	**
Other measures				
Considered sex abuse	54.3 _{a,b}	24.5 _{a,c}	13.8 _{b,c}	***
Sex with older person	31.9 _{a,b}	10.1 _{a,c}	5.0 _{b,c}	***
Sex against will	46.8 _{a,b}	20.1 _{a,c}	9.5 _{b,c}	***

Note. Within rows, means with the same subscripts differ significantly ($p \leq .05$).

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

physically abused or neglected group and 24% of the controls. More of the sexually abused women reported having had sex with an older person (40%) than did physically abused or neglected (15%) and control (8%) women. More than half of the women with documented cases of sexual abuse (55%) reported having had sex against their will, in contrast to significantly fewer of the women with documented cases of physical abuse or neglect (27%) and female controls (17%). Overall, women

with documented cases of sexual abuse have higher rates of self-reported sexual abuse than do women with documented cases of physical abuse or neglect and, in turn, both groups have higher rates than do female controls. In sum, these results (in Table 3) suggest that there is good discriminant validity for the four self-report measures of childhood sexual abuse for women.

Because the number of documented cases of sexually abused

Table 3
Percentage Self-Reporting Early Sexual Experiences by Type of Abuse: Women Only

Self-report measure	Group			$\chi^2(2, N = 576)$
	Sexual abuse (<i>n</i> = 75)	Physical abuse or neglect (<i>n</i> = 259)	Control (<i>n</i> = 242)	
Specific sexual experiences				
Requested to do something sexual	44.0 _{a,b}	29.0 _{a,c}	20.7 _{b,c}	***
Kissed/hugged in sexual way	21.3	21.2	16.5	
Person showed sex organs	45.3 _{a,b}	27.2 _a	27.3 _b	**
You showed sex organs	24.0 _{a,b}	13.5 _a	8.7 _b	**
Person fondled sexually	51.4 _{a,b}	28.3 _{a,c}	19.0 _{b,c}	***
You fondled another person	17.6 _{a,b}	7.8 _a	4.1 _b	***
Person touched organs	44.0 _{a,b}	23.7 _{a,c}	14.9 _{b,c}	***
You touched organs	24.0 _{a,b}	10.8 _a	6.2 _b	***
Attempted intercourse	25.3 _b	16.2 _c	9.5 _{b,c}	**
Intercourse	34.7 _{a,b}	14.7 _{a,c}	5.0 _{b,c}	***
Any of the above before age 12	68.0 _{a,b}	45.6 _a	44.6 _b	***
Other measures				
Considered sex abuse	64.0 _{a,b}	35.5 _{a,c}	24.0 _{b,c}	***
Sex with older person	40.0 _{a,b}	15.4 _{a,c}	7.6 _{b,c}	***
Sex against will	54.7 _{a,b}	27.4 _{a,c}	16.5 _{b,c}	***

Note. Within rows, means with the same subscripts differ significantly ($p \leq .05$).

** $p \leq .01$. *** $p \leq .001$.

Table 4
Percentage Self-Reporting Early Sexual Experiences by Type of Abuse: Men Only

Self-report measure	Group			$\chi^2(2, N = 605)$
	Sexual abuse (<i>n</i> = 19)	Physical abuse or neglect (<i>n</i> = 313)	Control (<i>n</i> = 273)	
Specific sexual experiences				
Requested to do something sexual	10.5	20.8	19.4	
Kissed/hugged in sexual way	21.0	26.9	30.8	
Person showed sex organs	21.0	27.9	27.5	
You showed sex organs	15.8	18.0	21.3	
Person fondled sexually	15.8	17.6	13.6	
You fondled another person	5.3	14.4	15.8	
Person touched organs	21.0	20.2	14.6	
You touched organs	15.8	16.2	16.8	
Attempted intercourse	21.0	14.4	13.6	
Intercourse	5.3	16.9 _b	10.6 _b	*
Any of the above before age 12	42.1	48.2	44.7	
Other measures				
Considered sex abuse	15.8	15.3 _b	4.7 _b	***
Sex with older person	0.0	5.8	2.6	
Sex against will	15.8 _a	14.1 _b	3.0 _{a,b}	***

Note. Within rows, means with the same subscripts differ significantly ($p \leq .05$).

* $p \leq .05$. *** $p \leq .001$.

men in the sample is small ($n = 19$) and the small sample size limits statistical power, these findings should be treated cautiously. However, it is noteworthy that the pattern of results in Table 4 is different from that for sexually abused women. Men with documented cases of sexual abuse do not report a higher incidence of these sexual experiences in childhood (42%) than do physically abused or neglected (48%) or control (45%) men. Men with documented cases of sexual abuse and those with documented cases of physical abuse or neglect both reported higher rates of having considering their experiences to be sexual abuse and of having sex against their will than did controls, but men with documented cases of sexual abuse did not differ from men with documented cases of physical abuse or neglect. It is interesting that less than one fifth (16%) of the men with documented cases of sexual abuse considered their early experiences to have been sexual abuse, compared with 64% of the sexually abused women (Table 3).

Age at the time of abuse. Analyses were conducted to determine whether accuracy of retrospective reports is higher for individuals who were older at the time of the abuse incident. We used 5 years of age at the time of the abuse experience as the cutoff point for the comparisons (cf. Brewin et al., 1993). Table 5 presents these results, revealing no differences in recall by age at the time of the abuse experience.

Relative improvement over chance. Table 6 presents the results of analyses to estimate the predictive efficiency of the self-report measures for women only. (Because of the small number of sexually abused men, the results of these analyses are not reported here but are available on request from the authors.) For women, the four self-report measures identify approximately 5–9% of the sample as valid positives, whereas the actual base rate in the follow-up sample is 7.9%. Two self-report measures (any sexual experience before age 12 and considered the event to be sexual abuse) produced somewhat more valid positives

Table 5
Age at Childhood Sexual Abuse and Recall (in Percentages)

Self-report measure	Ages (in years)								
	Overall			Women			Men		
	0–5 (<i>n</i> = 15)	6–8 (<i>n</i> = 29)	9–12 (<i>n</i> = 50)	0–5 (<i>n</i> = 12)	6–8 (<i>n</i> = 23)	9–12 (<i>n</i> = 40)	0–5 (<i>n</i> = 3)	6–8 (<i>n</i> = 6)	9–12 (<i>n</i> = 10)
Any sex before age 12	53.3	65.5	64.0	58.3	73.9	67.5	33.3	33.3	50.0
Considered sex abuse	46.7	55.2	56.0	50.0	69.6	65.0	33.3	0.0	20.0
Sex with older person	26.7	41.4	28.0	33.3	52.2	35.0	0.0	0.0	0.0
Sex against will	40.0	48.3	48.0	41.7	60.9	55.0	33.3	0.0	20.0

Note. Chi-square analyses indicate that none of these differences is significant across the three age groups.

Table 6

Relative Improvement Over Chance: Retrospective Reporting of Sexual Abuse for Women Only (in Percentages)

Self-report measure	Valid positives		False positives		Valid negatives		False negatives		Selection ratio	RIOC	$\chi^2(3)$	Confidence interval range
	n	%	n	%	n	%	n	%				
Any sex before age 12	51	8.9	226	39.2	275	47.7	24	4.2	48.1	38.4	13.7***	18.7–58.0
Considered sex abuse	48	8.3	150	26.0	351	60.9	27	4.7	34.4	45.1	33.5***	29.2–61.1
Sex with older person	30	5.2	59	10.2	442	76.7	45	7.8	15.5	29.0	39.8***	16.7–41.4
Sex against will	41	7.1	111	19.3	390	67.7	34	5.9	26.4	38.4	35.5***	23.8–53.1

Note. RIOC = relative improvement over chance.

*** $p \leq .001$.

than the other two measures. It is noteworthy that the measure with the highest percentage of valid negatives was sex with a person 10 years older (77%) and that two other measures (sex against will before age 12, 68%; considered sexual abuse, 61%) were close. The measure of "any sexual experience before the age of 12" was associated with the highest percentage of false positives (39%), whereas using the measure of "sex with older person" had the lowest percentage of false positives (10%). Overall, the RIOC scores range from 29% (sex with older person) to 45% (considered sexual abuse), meaning that the predictive efficiency is 29–45% better than what would be expected by chance alone.

Construct Validity of Four Self-Report Measures of Childhood Sexual Abuse

To assess the construct validity of the four retrospective measures of childhood sexual abuse used here, we selected three outcomes frequently described to characterize victims of childhood sexual abuse (primarily based on retrospective reports): depression diagnosis, alcohol diagnosis, and suicide attempts. In these analyses, we first examine the relationships between documented cases of sexual abuse and these outcomes, and then we repeat the same analyses using the four retrospective self-report measures about childhood sexual abuse. Because of gender differences in reporting, these analyses are reported separately for women and men (see Table 7).

Logistic regressions were performed, predicting revised third edition of *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987)* depression and alcohol abuse/dependence diagnoses and reports of having made suicide attempts, with controls for race, age, and other types of abuse or neglect. Table 7 shows only the coefficient, significance, and odds ratio for the sexual abuse variable used in the equations. For women, official reports of early childhood sexual abuse predict alcohol diagnosis and suicide attempts in young adulthood but not depression diagnosis. In contrast, self-reported measures of childhood sexual abuse are significant predictors of all three outcomes: depression and alcohol abuse/dependence diagnoses and suicide attempts in women. These findings are consistent with previous literature indicating a strong relationship between retrospective self-reports of childhood sexual abuse and these outcomes in women.

For men, the picture is not as clear. For men, official reports of

childhood sexual abuse do not predict any of the three outcomes (depression, alcohol, or suicide attempts). However, because of the small number of documented cases of sexually abused men, power is very limited, and these results should be treated with caution. For men in this sample, self-reports of having any of these sexual experiences before age 12 (any sex before 12) predict significantly depression diagnosis, alcohol abuse/dependence diagnosis, and suicide attempts. In addition, whether men consider their early childhood sexual experiences sexual abuse and whether they reported having had sex against their will were also associated with depression diagnosis.

The final approach to assessing the usefulness of these retrospective self-report measures to assess childhood sexual abuse involves the creation of a four-category scheme using a 2×2 table, comparing officially reported childhood sexual abuse (yes/no) with self-reported childhood sexual abuse (yes/no). At a minimum, one could hypothesize that individuals who do not report childhood sexual abuse should show outcomes that are less severe or negative, or both, than individuals who define their childhood experiences as sexual abuse. However, combining self-report and official report measures may provide a better understanding of these relationships. For example, one might expect that official reports of childhood sexual abuse (documented cases) would be associated with more serious negative consequences, even if the person did not define or acknowledge that they had been sexually abused in childhood. On the other hand, defining one's childhood experience as sexual abuse and "dealing with one's childhood sexual abuse" might be associated with better subsequent outcomes. Thus, acknowledging these experiences might be seen as a first step toward working through the effects of these traumatic early childhood events in a positive way. So, through this 2×2 analysis, we may be able to learn more about the complicated outcomes associated with childhood sexual abuse experiences (see Table 8).

Because of gender differences in these relationships and because of the small number of documented cases of sexual abuse in men, the results in Table 8 are restricted to women only. The first two columns in Table 8 refer to women who self-reported childhood sexual abuse, some of whom had official histories and documented cases of childhood sexual abuse (yes/yes) and some of whom did not (no/yes). The third and fourth columns (yes/no and no/no) refer to women who did not self-report childhood sexual abuse according to the four different measures

Table 7
Childhood Sexual Abuse and Expected Outcomes by Gender

Measure	Women (n = 576)			Men (n = 605)		
	β	SE	Odds ratio	β	SE	Odds ratio
Depression diagnosis						
Official report						
Sexual abuse	-.04	.29	—	-.57	.76	—
Self-report						
Any sex before 12	1.08***	.20	2.94	.75***	.22	2.12
Considered sex abuse	1.10***	.20	3.00	.91**	.30	2.50
Sex with older person	1.09***	.24	2.98	.33	.48	—
Sex against will	1.07***	.20	2.92	.94**	.31	2.57
Alcohol diagnosis						
Official report						
Sexual abuse	.54*	.27	1.72	.07	.54	—
Self-report						
Any sex before 12	.64***	.18	1.89	.56**	.18	1.76
Considered sex abuse	.51**	.19	1.66	.57	.32	—
Sex with older person	.55*	.24	1.73	.31	.46	—
Sex against will	.59**	.20	1.81	.47	.33	—
Suicide attempt						
Official report						
Sexual abuse	1.07***	.31	2.90	.85	.67	—
Self-report						
Any sex before 12	1.26***	.25	3.52	.74**	.28	2.10
Considered sex abuse	1.32***	.24	3.75	.61	.38	—
Sex with older person	1.52***	.26	4.56	.62	.53	—
Sex against will	1.25***	.24	3.50	.45	.40	—

Note. Results based on logistic regressions predicting depression diagnosis, alcohol abuse/dependence diagnosis, or having made a suicide attempt, controlling for race, age, and other types of abuse and neglect. Further details of these analyses are available from the authors.

* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

used here, even though some of these women have official histories of childhood sexual abuse (yes/no) and some do not (no/no). It is clear from inspection of Table 8 that women who self-report childhood sexual abuse have a higher likelihood of having a depression diagnosis than those who do not self-report and that women with official reports of childhood sexual abuse (yes/yes) are not at any increased risk for depression diagnosis. If anything, women with self-reported sexual abuse without official reports (no/yes) have higher rates of depression than women in the yes/yes group. A somewhat different picture emerges for alcohol diagnosis and suicide attempts. For these outcomes, any indicator of childhood sexual abuse (yes/yes, no/yes, and yes/no groups) is associated with increased risk of alcohol problems and suicide attempts for women in this sample.

Discussion

We examined the accuracy of four retrospective self-report measures of childhood sexual abuse. In general, we found that women and men differ in the extent to which they recall or report having experienced childhood sexual abuse. Approximately 16% of men with documented cases of sexual abuse considered their early childhood experiences sexual abuse, compared with 64% of women with documented cases of sexual

abuse. These gender differences may reflect inadequate measurement techniques or an unwillingness on the part of men to disclose this information. They may also reflect differences in the meaning of these behaviors for men and women, particularly viewed in a cultural context. Gender differences in reporting and in perceptions of early childhood experiences may reflect early socialization experiences in which men learn to view these behaviors as nonpredatory and nonabusive. Many of the sexual experiences considered to be sexual abuse (e.g., showing/touching sex organs, kissing in a sexual way) may be seen as developmental rites of passage, part of a learning process. Men reported more sexual experiences in which they touched the other person. Social pressures against reporting certain kinds of early childhood experiences may also lead to greater reluctance among men to report. Future research ought to examine whether the underreporting by men is due to embarrassment or to perceptions about sexual experiences.

In our examination of the validity of retrospective self-report measures of childhood sexual abuse using known groups, we also found gender differences in the discriminant validity of the four measures. Our results indicate good discriminant validity for the self-report measures used here for women but much less so for men. A higher percentage of women with official histories

Table 8

*Comparisons of Official Report and Self-Report (in Percentages): Women Only (n = 576).
Indicators for Depression, Alcohol, and Suicide Attempts*

Expected outcome	Self-report				$\chi^2(1)$
	Yes		No		
	Official report	No official report	Official report	No official report	
Depression diagnosis					
Any sex before 12	33	42	17	18	34.4***
Considered sex abuse	35	48	15	21	41.5***
Sex with older person	40	58	20	25	30.4***
Sex against will	34	52	21	22	39.5***
Alcohol diagnosis					
Any sex before 12	47	48	42	30	17.0***
Considered sex abuse	48	48	41	34	10.1*
Sex with older person	53	49	40	37	6.0
Sex against will	51	50	38	35	10.2*
Suicide attempt					
Any sex before 12	33	22	21	8	34.0***
Considered sex abuse	35	31	19	10	43.1***
Sex with older person	40	44	22	12	48.1***
Sex against will	34	34	24	11	42.1***
Cell sizes					
Any sex before 12	51	226	24	275	
Considered sex abuse	48	150	27	351	
Sex with older person	30	59	45	442	
Sex against will	41	111	34	390	

* $p \leq .05$. *** $p \leq .001$.

of childhood sexual abuse recall or report sexual abuse in young adulthood than do women with histories of physical abuse or neglect, who in turn report higher levels than nonabused and nonneglected controls (Table 3). On the other hand, men in our sample with documented cases of sexual abuse do not report higher levels of sexual experiences (any sex before age 12) than do men with documented cases of physical abuse or neglect or control men. Sexually abused men are significantly more likely to consider that they were sexually abused and to report more often having had sex against their will than are controls, but so are physically abused or neglected men. It is noteworthy that more physically abused or neglected men reported having had sex with an older person than did sexually abused men, none of whom reported having had this experience in childhood.

Overall, we found substantial underreporting of sexual abuse among known victims of childhood sexual abuse. This is particularly impressive because these are court-substantiated (documented) cases of childhood sexual abuse. Much attention has been paid to the lack of recall or failure to report histories of childhood sexual abuse among known victims of abuse. Although this lack of reporting is significant, it may not be surprising when viewed in a somewhat different context. Nonreporting by crime victims in the context of victimization surveys has been studied for a number of years (Garofalo & Hindelang, 1977), and problems with respondent embarrassment about the incident or "protective mechanisms," or simply memory decay or forgetting have been described. Because of these problems, National Crime Survey researchers have conducted reliability

and validity studies for victimization surveys (Garofalo & Hindelang, 1977). Victimization recall has been investigated by comparing crimes disclosed in victimization surveys with crimes found in police records. Using this "reverse-records-check" technique, police records of crimes that have been reported are identified and then victims are interviewed using standard National Crime Survey methods to determine whether respondents recall the known victimizations and report them to the interviewer (Lehnen & Skogan, 1982). One such reverse-records-check study (Turner, 1972) found a relationship between the number of months between the reported incident and the interview and the percentage of incidents reported to the interviewer. Turner investigated 206 cases of robbery, assault, and rape from police records. Overall, only 63% of the incidents were reported to the interviewer, and the percentage reported to the interviewer was strongly related to the time interval: 69% were recalled from 1-3 months prior, 50% from 4-6 months, 46% from 7-9 months, and 30% from 10-12 months earlier. Turner also found that accuracy was a function of the relationship between the victim and the offender: 76% reported when the offender was a stranger, 57% when the offender was known, and 22% reported when the offender was a relative.

Given that victims of childhood sexual abuse are often being asked to recall events from experiences that happened as many as 20 or 30 years earlier, it should not be surprising that the extent of recall is not perfect. Indeed, despite the fact that one cannot necessarily generalize from the results of these studies of victims of robbery, assault, and rape, it is noteworthy that

victim recall for a 1-year time period was as low as 30% (Turner, 1972). Williams (1994) reported recall of approximately 60%, and the present findings indicate that recall for female childhood sexual abuse victims varies from 41% to 67%, depending on the measure used.

Although each of the four measures of childhood sexual abuse generally showed reasonable evidence of discriminant validity (Table 6) for women, the "considered sexual abuse" measure showed slightly higher RIOC (45%) than other measures. One question that arises from this research is whether it is necessary to ask the full series of questions about prior sexual experiences or whether it would be as reliable to ask a few critical questions, such as "Do you consider yourself to have been sexually abused as a child?" Could we achieve the same degree of accuracy with a single question or is it necessary to include a "warming up" period or some time "sensitizing" the person to the issues before he or she will recall these early childhood events? Future research might systematically vary different self-report measures of childhood sexual abuse to determine whether different measures elicit the same amount of information solely or only in combination, or whether the order of presentation makes a difference. At this point, we believe the focus of future research should not be on whether reports of childhood sexual abuse are valid or not but on the best way to ask questions to make answers more valid.

Some comment is warranted about what appears to be a relatively high rate of self-report of any of these sexual experiences prior to age 12 among persons with no official record of childhood sexual abuse (Table 2). This measure asks about specific childhood sexual experiences and, for the purposes of this article, this information is restricted to those experiences reported to have occurred before age 12. However, many of these experiences are quite common (as these data suggest) and could reflect normative experiences among playmates. Indeed, because of the ambiguity associated with this measure (any sexual experience before age 12), we do not believe it is appropriate for use by itself as an indicator of childhood sexual abuse. From the findings presented here (including the estimates of relative improvement over chance), we believe a better approach is to ask in detail about these sexual experiences and to follow these questions with one asking whether the person considered the experience or experiences sexual abuse.

The rate of false positives (Table 6) for at least one of the self-report measures is quite high (any sexual experience before 12, 39%). For the other self-report measures, the percentage of women who self-report who do not have official reports ranges from 10–26%. This is well within the estimates of the extent of sexual abuse reported in community surveys (Burnam et al., 1988; Finkelhor, 1994; Russell, 1983). Without additional information, we do not conclude that these are false reports. Despite our use of official court records as the criterion against which to validate these retrospective self-report measures, we recognize that court records capture only a portion of incidents of sexual abuse. For many reasons, cases of sexual abuse will not come to the attention of the courts. And, this may have been particularly true during the time period in which these cases were processed (1967–1971).

This research sought to determine the construct validity of these retrospective self-report measures of childhood sexual

abuse by examining the ways in which these self-report measures are related to other indexes. For these tests of construct validity, we drew on the large clinical literature on outcomes associated with childhood sexual abuse. Our findings indicate that these retrospective self-report measures of childhood sexual abuse have some construct validity, although they do not provide definitive proof. For women, we found strong relationships between retrospective self-report measures of childhood sexual abuse and the three outcomes examined here: *DSM-III-R* diagnoses of depression and alcohol abuse/dependence and suicide attempts. We also found that women with documented cases of childhood sexual abuse who were followed up prospectively into young adulthood were at increased risk for having alcohol abuse/dependence diagnosis and for making suicide attempts. These combined results indicate that the relationship between childhood sexual abuse and subsequent alcohol problems and suicide attempts in women is robust, demonstrated empirically with prospective as well as retrospective data. These findings also reinforce the need for routine inquiry in cases involving women with alcohol problems and those who engage in suicidal behaviors (Widom, Ireland, & Glynn, 1995).

It was surprising that we did not find that women or men with documented cases of childhood sexual abuse were at increased risk of being diagnosed with depression according to *DSM-III-R* criteria, despite the widespread belief that childhood sexual abuse leads to depression. We did, however, find a significant relationship between retrospective self-report measures of childhood sexual abuse and depression diagnosis. Thus, this pattern of findings suggests that the relationship between childhood sexual abuse and depression is complicated and may depend on a person's cognitive appraisal of early life events (cf. Lazarus & Folkman, 1984). Individuals who meet the criteria for a *DSM-III-R* depression diagnosis (current or remitted) are more likely to recall having been sexually abused in childhood than individuals without depression diagnoses, although individuals with documented cases of sexual abuse in childhood who were followed up into young adulthood were not at increased risk of receiving a depression diagnosis. This was true for men as well as women in this sample. Brewin et al. (1993) suggested that "clinical states such as anxiety and depression may have a deleterious effect on all memories, regardless of content, so that psychiatric patients' recall of childhood is likely to be inaccurate" (p. 84). It is possible that depressed individuals will recall fewer positive and more negative life experiences than nondepressed individuals, although Brewin et al. concluded that the evidence available did not support the notion of systematic distortions in recall. We plan to examine the extent to which abused and neglected children in general manifest depression in young adulthood and further explore the role of depression in victims of childhood sexual abuse.

The underreporting we found means that there is a substantial group of people with documented histories of childhood sexual abuse who do not report these experiences when asked in young adulthood to do so. Whether this is due to loss of memory, denial, or embarrassment is not known. However, there are important implications from these findings for other researchers and clinicians. For researchers, the underreporting of childhood sexual abuse poses a serious concern for epidemiological research, especially that which involves a large proportion of men. For

clinicians, these findings reinforce the need to develop more sensitive techniques to elicit this information from men.

Consistent with much of the clinical literature based on retrospective self-reports, the present results indicate that the way people define their early childhood experiences (in this case, childhood sexual abuse) is important and meaningful in terms of understanding their current functioning. Although this article has focused on the accuracy of retrospective recall of childhood sexual abuse, these findings reinforce the importance of considering the patients' perceptions of those early childhood experiences.

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