

Review of the contemporary literature on how children report sexual abuse to others: Findings, methodological issues, and implications for forensic interviewers

Kamala London

University of Toledo, OH, USA

Maggie Bruck

Johns Hopkins University, Baltimore, MD, USA

Daniel B. Wright

University of Sussex, UK

Stephen J. Ceci

Cornell University

Methods used during forensic interviews with children are driven by beliefs about how children recall and report child sexual abuse (CSA) to others. Summit (1983) proposed a theory (*Child Sexual Abuse Accommodation Syndrome*) contending that, due to the specific traumatic characteristics of CSA, children will often delay disclosing abuse or altogether fail to disclose during childhood, deny abuse when asked, and often recant abuse allegations. His theory has had a tremendous impact on the field of CSA forensic evaluations, despite its dearth of empirical support. In this paper, we review and critique the contemporary literature from two main sources: retrospective accounts from adults reporting CSA experiences and studies of children undergoing forensic evaluation for CSA. We conclude that data support the notion that children often delay abuse disclosure, but that among valid abuse cases undergoing forensic evaluation, denial and recantation are not common. Methodological issues and implications for forensic interviewers are discussed.

Child sexual abuse (CSA) is a major societal problem that presents an array of difficult decisions for those involved in its investigation and substantiation. In cases that come before authorities, investigative interviewers face the weighty task of evaluating the veracity of children's allegations. Errors in judgement either allow perpetrators to be free to commit further abuse or, at the other extreme, lead to the break-up of families or imprisonment of innocent people. In

the absence of reliable medical evidence or corroborative eyewitness testimony, the diagnosis of CSA is complicated because psychological and medical profiles do not reliably differentiate abused and non-abused children. Psychological findings are inconclusive because many behaviours that might result from abuse (e.g., anxiety, bedwetting, sexual play) are also present in many non-abused children (Kendall-Tackett, Williams, & Finkelhor, 1993; see Poole & Lindsay, 1998;

Address correspondence to: Kamala London, Department of Psychology/ MS948, University of Toledo, Toledo, OH 43606, USA.
E-mail: kamala.london@utoledo.edu

J. Wood & Wright, 1995). Medical findings are often inconclusive or simply not present because many types of sexual abuse, such as fondling, do not leave physical evidence. Even when there is some medical evidence it is most often inconclusive of abuse in that many non-abused children show similar findings (e.g., Berenson et al., 2000; Heger, Ticson, Velasquez, & Bernier, 2002; McCann, Wells, Simon, & Voris, 1990). Thus, in most cases the child's statement is the sole evidence by which fact-finders can evaluate the validity or likelihood of the allegations.

This reliance on children's statements has raised concerns due to two related factors. First, there is a general belief that a majority of CSA victims do not disclose abuse even in formal interviews. Consequently, when suspicion is high, investigators often feel it necessary to use an array of techniques to elicit the allegations. This leads to the second concern that the use of such techniques is suggestive and associated with a risk of eliciting false disclosures and false memories (see Bruck, Ceci, & Principe, 2006). The critical issue thus focuses on the need to use such suggestive techniques given the risk of false reports. In order to address this issue, however, one must first examine the validity of the belief that CSA victims do not disclose abuse, as well as the characteristics of victim, perpetrator, and crime that are associated with nondisclosure. This paper focuses on these issues.

CHILD SEXUAL ABUSE ACCOMMODATION SYNDROME

The major influence in formulating the issues concerning nondisclosure in CSA victims was Roland Summit's Child Sexual Abuse Accommodation Syndrome (CSAAS; Summit, 1983). Summit stated that, due to the nature of child sexual abuse, certain psychological factors (shame, embarrassment, sense of responsibility, allegiance to the perpetrator) often result in the behavioural sequelae of delayed disclosure, denial of abuse, and recantation of abuse. Summit's 1983 paper has exerted a tremendous influence on forensic interview practices.

However, models such as CSAAS were theoretical in nature and were not based on systematic observations or scientific studies. Due to concerns about the misuse of CSAAS as a CSA diagnostic tool, Summit (1992) later emphasised that his 1983 theory "... is a clinical opinion, not a

scientific instrument" (p. 156). However, his plea for caution seems to have been less influential than his original paper. A citation count from PSYCHINFO (1 November 2006) reveals that 1983 paper was cited 139 times in other articles in the PSYCHINFO database; whereas the 1992 cautionary paper was only cited 9 times.

Given the non-empirical basis of the assumptions of CSAAS, London and colleagues (London, Bruck, Ceci, & Shuman, 2005, 2007) reviewed the evidence for CSAAS. They concluded that despite the widespread beliefs among clinicians and researchers, there was relatively little scientific examination of the theory, and either the evidence, such as there was, was methodologically problematic or the findings were equivocal. In this paper we update that review by adding new studies and by focusing on some major methodological issues that have posed barriers to the field of research examining disclosure patterns of sexually abused children and that must be seriously considered to advance knowledge in this field.

We focus on the two major sources of data that provide information about disclosure patterns. One source comes from studies of adults who report histories of sexual abuse. In one set of studies adults with histories of CSA were asked whether and when they disclosed the abuse to others; these results have been used to estimate delays of disclosure of CSA. The results of these studies are reported in the first major section of this paper. The second source comes from studies of children undergoing assessment of abuse. These studies are typically case reviews of children undergoing forensic evaluation or psychological/medical treatment; these data have primarily been used to provide estimates of denial and of recantation of abuse. The results of these studies are presented in the second major section. Within each section we focus on two main methodological issues that affect interpretation of the results: the reliability of retrospective recall of events surrounding CSA, and sampling procedures. We also discuss studies that did not present childhood disclosure rates, but do shed light on other important factors related to disclosure patterns. We limit our review to studies published since 1990, due to the many changes that have taken place in educating children about abuse and to major reforms in best practice guidelines for forensic interviewers.

DELAY OF DISCLOSURE: ADULTS' RETROSPECTIVE REPORTS OF CSA

Retrospective studies of CSA disclosure provide information on delay of disclosure during childhood as reported by adults who indicate they experienced CSA. We identified 13 studies that provide relevant information about rates of disclosure and delay of disclosure in childhood and one additional study that only includes data of disclosure rates to authorities only (see Table 1). In all these studies adults with childhood histories of abuse were identified and were asked details of the abuse, including whether they had told an adult about the abuse and if so at what time period relative to the abuse.

Major findings

As can be seen from Table 1, the sampling techniques and definitions of abuse varied across studies. Most studies employed convenience samples (e.g., college students, adults at sexual abuse support groups, respondents to magazine solicitations). Some studies only included victims of intrafamilial abuse, and some only included female participants. Some studies defined "abuse" generally, such as any unwanted sexual experience before age 18, contact or no contact, including by peers. Others defined abuse narrowly, such as incidents involving forcible penetration occurring before age 14 by someone at least 5 years older. There are also differences in the time windows used to define time of disclosure (e.g., "within 1 year of the abuse" vs "by age 14" or "by age 18").

Despite these methodological variations, some consistent findings emerge from the retrospective literature. First, most adults reported they delayed disclosure or altogether failed to disclose the abuse to anyone during childhood. Table 1 shows that, excluding two outliers (Fergusson, Lynskey, & Horwood, 1996; Fleming, 1997), the estimate of the frequency of childhood disclosure ranged from 31% to 45%. Stated another way, 55–69% of adults indicated that they never told anyone about the sexual abuse during childhood. Considering the range of definitions of abuse, sampling methods, sampling characteristics, and age cutoffs for "childhood disclosure" across these studies, these rates are remarkably consistent. A second consistent finding (see column 9 of

Table 1) was the low frequency of reports to the authorities; the range was from 5% to 13%. Finally, a sizable minority of participants reported that the first and only time they had ever reported CSA was during the survey (see last column of Table 1).

These data indicate that, indeed, many childhood victims of sexual abuse do not readily report the abuse, and a fair number of them never report the abuse. These data are consistent with the CSAAS position that many CSA victims do not immediately report abuse.

Although delayed disclosure of abuse seems common, it is difficult to estimate length of delay because of between-study differences in measurement of delay (e.g., from the onset versus offset of abuse; number of months vs number of years) and because most of the statistics are limited to means and standard deviations. From a closer examination of the few studies that do report more detailed information, it appears that distribution of delay of reporting is positively skewed; many children disclosed within a month of abuse and then many waited 1 year or more to disclose. Hence, the mean length of disclosure provides a longer estimated length of delay compared with the median length to disclosure (e.g., see Kellogg & Huston, 1995). For example, Smith et al. (2000) found 34% of women who were victims of childhood rape disclosed within 6 months of the abuse; 18% disclosed between 6 months and 60 months; and 48% waited 60 or more months to disclose. Similar trends with different time periods were obtained in Finkelhor, Hotaling, Lewis, and Smith's (1990) telephone survey. Of those with histories of CSA, 42% reported having disclosed abuse within 1 year of the incident, 20% told someone of the event later, and 38% never told anyone of the abuse prior to the telephone interview.

In sum, many abuse victims fail to report the abuse in childhood. Even when childhood disclosures occur, there often is a considerable time lag between the abuse and disclosure. Based on limited data we hypothesize that many children disclose shortly after the CSA, with many more waiting a considerable time to disclose. Because of the right skew of the data the mean length of delay to disclosure does not provide a fair measure of central tendency. As a result, researchers should report more information about the distribution of this variable, including the median.

TABLE 1
Frequency of disclosure of child abuse recalled in retrospective studies

Study	Survey sample (n=)	Survey sample CSA (%)	Sample source ^a	Mean age (yrs) at abuse	Mean age (yrs) at survey	Definition of CSA	Childhood disclosure rates	CSA reported to authorities	First disclosure at survey
1. Fleming (1997)	710 (f)	20%	Australia electoral register Over-sampled those with an alcohol problem	10	39	Contact & non-contact abuse < age 17 by someone ≥ 5 years older	21% in first year 38% in 1-10 years	5%	10%
2. Arata (1998)	860 (f)	24%	College sample	8.5	23	Unwanted contact before 14 yrs	31% (at time of abuse)	10%	
3. Smith et al. (2000)	3220 (f)	9%	National probability sample	10.9	45	Rape	34% (within 6 months of abuse)	12%	28%
4. Roesler & Wind (1994)	286 (f)	100%	CSA hotline callers	6	41	Intra-familial before 16 yrs	36% (by age 13)		
5. Lamb & Edgar-Smith (1994)	48(f) 121(m) ^c	100%	Newspaper ad	8.15	30	Not specified			
6. Mullen et al. (1993)	298 (f)	100%	Random sample of women in a New Zealand town	<16	Ages 18-65	Sexual abuse in some form before age 16	37% within 1 year of abuse	7.5%	
7. Roesler (1994)	168 (f) 80(m)	100%	Abuse centre	<16	41	Genital contact before 16 yrs	37%		
8. Tang (2002)	1151 (f) 887 (m)	6%	Hong Kong Chinese college students	11	21	Unwanted sexual experiences before age 18	38%		
9. Finkelhor et al. (1990)	1481(f) 1145 (m)	27% (f) 16% (m)	National probability sample	Median = 9.7	30-39	Before 18 yrs	42% within 1 year of abuse		38%
10. Somer & Szwarberg (2001)	41(f)	100%	Israeli abuse centre	7.11	32	CSA survivors	45% (by age 17)		
11. Ullman & Filipas (2005)	733 (m & f)	22.8%	College students	<14	20	Contact & non-contact abuse < age 14 by someone ≥ 5 years older	45% < age 14 66.5% < age 21	13%	
12. Ussher & Dewberry 1995	775 (f)	100%	Magazine survey	8.5	38	Unwanted sexual attention	54% ^d	18%	46%
12. Fergusson et al. (1996)	1019 (m&f)	10%	New Zealand longitudinal study	<16	18	Unwanted experience before 16 yrs	87% (by age 18)		
13. Hanson et al. (1999)	4008(f)	8.5%	National probability sample	<18	37.5	Non-consensual penetration assaults before age 18		13%	

Studies are listed in ascending order by rates of disclosure in childhood.

^aUnless noted, all studies were conducted in the United States.

^bFemale.

^cMale.

^dThe age by which disclosures were made in this sample was unclear but reactions to disclosing participants implies during childhood (see Ussher & Dewberry, 1995, p. 183).

Characteristics of disclosers versus non-disclosers

Some of the retrospective studies examined whether certain characteristics associated with abuse predicted delay of disclosure. We focus our review on analyses that test some of the assumptions of the CSAAS theory concerning the potential causes of children's silence. These include the child-perpetrator relationship, the use of threats, and the severity of abuse.

Relationship to perpetrator. The CSAAS was initially formulated to explain children's silence concerning intrafamilial abuse (Summit, 1983) although later it was extended to include abuse from a variety of perpetrators. Children abused by a family member, according to CSAAS, often delay disclosure because of feelings of guilt, loyalty to the perpetrator, fear of not being believed, and worry of the consequences to the family of such a disclosure.

The existing studies are equivocal regarding this hypothesis. Consistent with the hypothesis, Ussher and Dewberry (1995) and Wyatt and Newcomb (1990) reported longer delays to disclosure among familial versus non-familial abuse. However, the more common finding is that there is no significant association between relationship to perpetrator and CSA disclosure/delay (Arata, 1998; Kellogg & Hoffman, 1995; Kellogg & Huston, 1995; Lamb & Edgar-Smith, 1994; Roesler, 1994). We urge caution in accepting these null findings because of the relatively small sample sizes.

Threats. One explanation for children's failure to disclose abuse is that they were threatened by the perpetrator of the consequences of telling (e.g., "Your family will be hurt"; "Nobody will believe you"). There are few relevant data to test this explanation and the existing data are contradictory. Ussher and Dewberry (1995) found decreased disclosure rates among intra-familial abuse cases that involved violence and threats. However, others (Hanson, Resnick, Saunders, Kilpatrick, & Best, 1999; Kellogg & Hoffman, 1995) found the opposite; higher disclosure rates were associated with incidents that involved threat of physical injury. One study found no relationship between the reported presence of threats and disclosure of CSA (Roesler, 1994).

The major shortcoming of these data concerns the researchers' failure to define threats to their

readers and presumably to the participants. Thus, it is not clear if threats were construed as force used to engender silence (e.g., "If you tell, I will kill your dog") or to gain compliance during the commission of abuse (e.g., "I have a knife and will kill you if you fail to comply"). At this time, there is insufficient evidence from the retrospective studies to determine whether the use of threats to gain compliance or silence affects disclosure patterns. Of course, the null and contradictory findings could be masking individual differences where some children view threat as a reason to disclose to prevent a possibly violent assault and others view threat as a reason not to disclose to avoid such an assault. The present data do not allow us to differentiate this from simple null effects.

Severity of abuse. Research to examine severity of abuse/use of force and disclosure has also yielded inconsistent results. Two studies (Arata, 1998; Ussher & Dewberry, 1995) reported longer delays until disclosure among more severe cases. Most researchers have either found the opposite pattern—that is, higher disclosure rates are associated with incidents that are life threatening and involve physical injury (Hanson et al., 1999; Kellogg & Hoffman, 1995), or there is no significant relationship between severity and method of coercion with disclosure (Lamb & Edgar-Smith, 1994; Roesler, 1994; Smith et al., 2000). However, investigators employ a variety of definitions for severity of abuse (e.g., use of force to gain compliance, abuse involving penetration), which could contribute to these null findings.

We just provided summaries of individual differences involving only three variables. However, the general pattern of inconsistency also holds for a variety of other psychological and demographic factors (e.g., gender, race), thus providing no strong evidence to support CSAAS or any other theory regarding children's disclosures of CSA. Further, even when adults in these studies (see Kellogg & Huston, 1995; Lamb & Edgar-Smith, 1994; Roesler & Wind, 1994; Ussher & Dewberry, 1995; Wyatt & Newcomb, 1990) provided CSAAS-consistent explanations of delay or of non-disclosure of abuse (e.g., fear, shame, embarrassment, guilt, fear of not being believed), when independently tested, these factors tend not to significantly predict who discloses and who delays. As described below, some methodological shortcomings of retrospective

studies may have rendered the data too unreliable to produce any significant associations.

Shortcomings of retrospective studies on disclosure patterns

The first issue concerns the reliability of the reports concerning disclosure and the timing of disclosure; in more general terms, this is an issue that is common to all retrospective studies (Wright & Gaskell, 1998). In most of the studies in Table 1, adults were asked to recall details surrounding their abuse that occurred in their childhood. Given the long period of time between the abuse and the study survey, it is certainly possible that these adults have forgotten that they may indeed have disclosed abuse (to a family member for example). One would predict, therefore, that memories of disclosure would occur more often in samples of young adults and adolescents than in a sample of older adults. The youngest sample of participants (18 years) was surveyed by Fergusson et al. (1996). This was the one study that had a very high rate of reported disclosure, perhaps because the participants had not yet forgotten the details surrounding and following the abuse itself (also see Kellogg & Hoffman, 1995; Kellogg & Huston, 1995).

There is also a rich cognitive literature to support the hypothesis that one could forget telling someone about abuse regardless of the time interval. In their investigation of flashbulb memories, Schooler and colleagues (Schooler, Ambadar, & Bendiksen, 1997a; Schooler, Bendiksen, & Ambadar, 1997b) coined the term “forgot-it-all-along-effect” to describe the finding that people sometimes inaccurately recall to whom, when, and whether they reported an important life event.

There is also another literature on the accuracy of “dating” past events. A general finding is that “dating” errors increase as a function of the retention interval. Usually, the tendency is to “forward telescope” the event; which means to place it closer to the survey interview and further from the victimisation than was the actual case (Janssen, Chessa, & Murre, 2006; Prohaska, Brown, & Belli, 1998). In terms of the retrospective studies in Table 1, the problem is compounded by the fact that the participants

recalled events from their childhood, a period during which their sense of time and accurate dating is still developing (see Friedman, 1993, for a review). For example, Friedman and Lyon (2005) staged two events for 4- to 13-year-olds, and then 3 months later examined their abilities to estimate the timing of these events. Although the ability to reconstruct the relative timing of events developed considerably during middle childhood, even 13-year-olds inaccurately estimated the time of events that took place 3 months earlier. Returning to the retrospective studies, if the adult did not have accurate temporal representations of the event as a child, their accuracy in recreating periods of abuse and disclosure is highly compromised when questioned in the survey.

A second concern that arises in some of retrospective studies is that a number of the participants claimed that they had repressed memories of CSA and consequently did not disclose abuse. Specifically, Roesler and Wind (1994) found 29% of their participants indicated that they did not disclose in childhood because they had repressed these memories. Arata (1998) found that 42% of the women who did not disclose abuse reported that there was a time where they could not remember the abuse. When asked about the circumstances regarding when they became aware of their CSA, about 6% of Somer and Szwarcberg’s (2001) participants reported they spontaneously became aware of their abuse during psychotherapy. The inclusion of such participants in the retrospective studies raises questions about the reliability of their reports of abuse (and thus of disclosures). As discussed in other papers in this special issue of *Memory*, during the 1980s and 1990s, the dramatic rise of reports of repressed and recovered memories of CSA led to a large research effort to understand the basis of such reports. It seems clear that, in most cases, these reports do not reflect past trauma but are the result of a variety of factors that cause memory distortions. Thus the inclusion of such participants in studies of disclosure of CSA would act to artificially decrease disclosure rate and render these statistics inaccurate. Unfortunately, in most studies listed in Table 1, participants were not asked if they had repressed and/or recovered their memory of the abuse, so accurate estimates of adults reporting

repressed memories across studies are impossible to determine.

A third constraint in the interpretation of the adult retrospective literature is that, although the studies indicate that delayed disclosure or silence is common among sexually abused children, these studies are uninformative as to the frequency with which abused children deny or recant abuse reports. This is because participants in these retrospective surveys were not asked whether as children anyone had ever asked them about abuse, and, if so, what they had replied. Thus, it is not known whether the high rates of childhood silence reflected the fact that survey participants had never been asked about abuse, or whether it reflected denial to abuse-related questions. Of course the memorial limits that affect retrospective questions mean that asking these questions of adults might be uninformative. In order to examine the probability of this latter outcome, the literature on children's patterns of disclosure must be examined.

CHILDHOOD STUDIES OF CSA DISCLOSURE

In this section we review studies of disclosure patterns of children who were specifically assessed or treated for sexual abuse. Thus, in contrast to the adult retrospective studies, all the children in these studies came to the attention of and were interviewed by the authorities. Studies that provided data on children's denials and/or recantations during the interview/investigation process were identified. As with the retrospective studies, we excluded studies published prior to 1990 because of possible cohort effects that could be due to the changes in interviewing practices and prevention programmes (for children) that have occurred during the 1990s. Table 2 includes information on 24 identified studies. When relevant we also provide data from these and other studies on the correlates of disclosure patterns.

Most of the studies presented in this section involved "chart reviews" of children who were interviewed by CPS, mental health, or medical professionals specialising in the assessment and treatment of sexual abuse. Children presented at these clinics or centres for a variety of reasons that included a prior disclosure to an adult, a suspicion of abuse by an adult or an agency, or the

need for a second opinion or more extensive interviewing. Thus, across and within studies, there is great variability in the methods by which children were interviewed, in the information collected, and in the procedures of diagnosing child sexual abuse. Furthermore in some studies, as will be noted, researchers categorised the children according to the likelihood of abuse (e.g., highly probable, unclear, not abused); in other studies only children who met some pre-specified criteria for abuse were included, and in still other studies the certainty of abuse status was not specified. Of course, as with the adult retrospective reports, the diagnosis of sexual abuse, whether as substantiation or unfounded, almost always comes with some degree of uncertainty. Some children may falsely claim to have been abused after undergoing suggestive, coercive interviewing; alternatively, some children may falsely deny abuse for a variety of reasons including pressure from a parent to do so. Substantiation of abuse is a thorny issue, and we return to this issue to discuss its impact on the disclosure data in a subsequent section.

Summary of findings

As shown in Table 2, rates of disclosure in formal interviews ranged from 24% to 96%. Unlike the retrospective studies where childhood disclosure rates clustered around 31–45%, the childhood studies are dispersed in their disclosure rates.

Ten studies included data on recantation rates. As seen in Table 2, these rates ranged from 4% to 27%. Factors that must be considered when interpreting these data are discussed in the next section. However, it is clear from the available data that, although there is inter-study variation, the frequency of recantation is relatively low and only occurs in a minority of children who previously made claims of CSA.

In the remainder of this paper we focus on factors that might account for and reconcile the extreme variation on disclosure rates and, to a lesser degree, recantation rates. First we examine potential individual difference factors that are associated with disclosure. Then we focus on major methodological issues that involve sampling procedures which must be considered in interpreting the existing disclosure and recantation data.

TABLE 2
Disclosure and recantation rates from child clinic studies

<i>Study</i>	<i>N</i>	<i>Ages (mean/range)</i>	<i>Disclosed in interview</i>	<i>Abuse to disclosure delay</i>	<i>Recanted</i>	<i>Type of interview</i>
1. Gonzalez et al. (1993)	63	(2:11–12)	24%		27%	Therapy
2. Sorensen & Snow (1991)	116	mode = 6–9 (3–17)	25%		22%	Therapy
3. Lawson & Chaffin (1992)	28	<i>M</i> = 7 (4–premenarchal)	43%			Social worker
4. Carnes et al. (2001)	147	<i>M</i> = 6 (2–17)	45%			CSA team
5. Wood et al. (1996)	55	<i>M</i> = 5.7 (6–11)	49%			CSA team
6. Sjöberg & Lindblad (2002)	10	<i>M</i> = 6.11 (4–12)	50%	2.2 yrs		Police interviews in Sweden
7. Bybee & Mowbray (1993)	106	<i>M</i> = 5.6 (2–11)	58%		11%	DPS and therapy records
8. Cantlon et al. (1996)	1535	Mode = 4 (2–17)	61%			CSA team
9. Sternberg et al. (2001)	98	<i>M</i> = 8.1 (4–12)	63%			NICHD protocol
10. Gries et al. (1996)	96	<i>M</i> = 8.3 (3–17)	63.5%		15%	
11. Stroud et al. (2000)	1043	<i>M</i> = 8.4 (2–18)	65%			CSA clinic
12. Hershkowitz et al. (2005)	10,988	Mode = 7–10 (3–14)	71%			NICHD protocol
13. DiPietro et al. (1997)	179	<i>M</i> = 7.5 (1.4–22)	76%* (47%)			CSA team
14. Gordon & Jaudes (1996)	141	<i>M</i> = 6.40 (3–14)	77%* ^a (73%)		5%* ^{a b}	CSA team
15. Dubowitz et al. (1992)	132	<i>M</i> = 6 (under 12)	83%* (59%)			CSA clinic
16. Pipe et al. (2007)	397	4–13	83%			NICHD protocol
17. Elliott & Briere (1994)	399	<i>M</i> = 11.03 (8–15)	85%* (57%)		9%*	Clinician
18. DeVoe & Faller (1999)	76	<i>M</i> = 6.8 (5–10)	87%* (62%)			Social worker
19. Ingram et al. (1992)	33	2–12	87%*			APSAC style interviews
20. Keary & Fitzpatrick (1994)	251	Mode = 6–10	91%* (50%)			CSA team
21. Bradley & Wood (1996)	234	<i>M</i> = 10 (1–18)	96%*		4%*	DPS
22. Faller & Henry (2000)	323	<i>M</i> = 11.7 (3–21)			6.5%*	DPS/Police
23. Malloy et al. (2007) children, 257 cases	217	<i>M</i> = 10.3 (2–17)			23%*	Any attempted conversation with child about abuse
24. Kellogg & Menard (2003)	164	<i>M</i> = 12.7 (7–19)	Not reported	Mean = 2.34 years; median = 18 months	5%*	CSA clinic

^aThe criterion for substantiation for our analysis was a classification of indicated by the state.

^bThe 5% recantation rate is among the 108 cases indicated by the state. Among their 6 cases with a sexually transmitted disease, 3 later recanted. Among their entire sample of $n = 141$, 12% recanted. Among any child to disclose ($n = 120$), 14% recanted. These figures must be viewed with caution because the original interview was a short medical evaluation and included as “disclosures” reports made by the parent.

*Denotes statistics based on cases classified as substantiated, high-probability abuse cases; the next figure in parentheses, if available, is the statistic for all children in the sample, regardless of classification of abuse likelihood.

Individual differences/predictors of disclosure rates

In this section we briefly summarise those factors that have most consistently correlated with children’s disclosures of abuse. It is possible that differences in disclosure rates across studies may

reflect the relative presence or absence of these characteristics in the study sample.

Gender. Some data indicate that males are more reluctant to disclose than females (e.g., DeVoe & Faller, 1999; Ghetti, Goodman, Eisen, Qin, & Davis 2002; Gries, Goh, & Cavanaugh, 1996; Levesque, 1994; Sas & Cunningham, 1995;

Stroud, Martens, & Barker, 2000; but see Goodman-Brown, Edelstein, Goodman, Jones, & Gordon, 2003; Keary & Fitzpatrick, 1993) although the social and/or psychological reasons for this difference are not clear. These data suggest that differences in gender composition across studies could affect rates of disclosure.

Cultural/ethnic differences. Several studies have examined whether disclosure varies according to race and ethnicity. Some data indicate that there may be more reluctance to disclose among Latina girls (Shaw, Lewis, Loeb, Rosado, & Rodriguez, 2001), Puerto Rican girls (Fontes, 1993), and African American girls (Elliott & Briere, 1994). These data suggest that lower rates of disclosure would be expected in samples that include more non-Caucasians. Unfortunately, such data are rarely available in the studies listed in Table 2. Many theorists have posited that such differences might exist (e.g., Futa, Hsu, & Hansen, 2001; Rao, DiClemente, & Ponton, 1992; Tang, 2002; Toukmanian & Brouwers, 1998; Wong, 1987) and we await further data testing racial/ethnic differences.

When studies include children from areas other than North America there is the potential problem of cultural differences in the reporting of sexual abuse. Although there are no data to support this hypothesis, nonetheless one must be cautious in generalising data from one society to another where there may be differences in attitudes, types of abuse, and supportive facilities, all of which would impact disclosure rates. For example, Hershkowitz, Horowitz, and Lamb (2005) collected data on an Israeli sample of children. Although the results are within range of many others reported in Table 2, this does not necessarily mean that experiences of abuse and the factors that led children to disclose abuse are similar across cultures.

Developmental differences. Rates of delay of disclosure and of reporting increase as a function of age (e.g., Cantlon, Payne, & Erbaugh, 1996; DiPietro, Runyan, & Fredrickson, 1997; Gries et al., 1996; Keary & Fitzpatrick, 1994; Sjöberg & Lindblad, 2002; Lamb et al., 2003; B. Wood, Orsak, Murphy, & Cross, 1996; but see Bradley & J. Wood, 1996; DeVoe & Faller, 1999; Gries et al., 1996). For example, Hershkowitz et al. (2005) divided their sample into three age groups and found the following rates of disclosure: 48% (3–6-year-olds), 72% (7–11-year-olds), and 82% (11–14-year-olds). Using a similar interview protocol

as Hershkowitz et al. (2005), Pipe et al. (2007) reported somewhat higher rates of disclosure as a function of age: 63% (4–6 year olds), 76% (6–8-year-olds), and 85% (9–13-year-olds). These data suggest that studies with relatively older samples of children will produce higher disclosure rates than studies with relatively younger samples.

There are two major interpretations of these age differences. The first is that younger children may not have the linguistic or cognitive abilities necessary to recognise the abuse as abuse, or to recognise the purpose of the forensic interview and convey their experiences during the interview. This is illustrated by Sjöberg and Lindblad (2002), who interviewed 10 children who had been abused by the same perpetrator and whose abuse was documented on videotapes. They report that only 50% of the children admitted to the abuse when interviewed. In a more detailed analysis of the interviews and of the characteristics of the children, Cederborg, Lamb, and Laurell (2007) concluded that four of the children did not report because the event was not memorable and because of their immaturity (three of the children were 3 years of age at the time of the abuse). For example, child 4 was abused once when he was 5.4 years old. He was interviewed 1.8 year later. In the recorded incident, the perpetrator briefly touched the boy's genitals while talking to him in a friendly manner. When interviewed, however, the boy provided little information and did not mention being filmed or touched. This appears as though the child's failure to disclose was not due to a number of psychological factors (e.g., distress, fear, alliance with the perpetrator) but due to the fact that he did not remember the non-salient touching event. A second possibility for age differences in disclosure rates is there is a higher rate of non-abused cases (unfounded cases) among younger children who are brought in for interviews where abuse is suspected. This could occur because younger children often make ambiguous statements that seem to have sexual relevance but are misinterpreted by adults.

Relationship to perpetrator. For the adult retrospective studies we found no consistent relationship between perpetrator relationship and disclosure. The data are a little clearer for the child studies. Specifically, a number of studies indicate that closer relationships are associated with longer delays and lower disclosure rates (e.g., DiPietro et al., 1997; Goodman-Brown

et al., 2003; Hershkowitz et al., 2005; Pipe et al., 2007; Sas et al., 1993; Sjöberg & Lindblad, 2002). For example, among a sample of cases referred for prosecution, Goodman-Brown et al. found longer delays between abuse onset and timing of police report in familial versus non-familial cases. In two studies (DiPietro et al., 1997; Hershkowitz et al., 2005) that reported disclosure rates among all children presenting for abuse evaluation regardless of abuse substantiation, lower disclosure rates were found in cases where the suspected perpetrator was a biological parent or parent figure. Pipe et al. (2007) only examined cases where there was substantiation of abuse; although the absolute levels of disclosure differed from those reported in the above two studies, the patterns of results were similar. In Pipe and colleagues' study, among cases involving non-parent perpetrators, the disclosure rates were 47% (4–5-year-olds), 76% (6–8-year-olds), and 98% (9–13-year-olds). The comparable figures for cases involving parent figures as perpetrators were 38% (4–5-year-olds), 58% (6–8-year-olds), and 84% (9–13-year-olds). Thus studies that include a greater proportion of cases with parent perpetrators (e.g., Hershkowitz et al., 2005) are likely to have lower rates of disclosure.

Following this line of argument one would also predict that recantation rates would be highest for children who have already made disclosures about parental abuse. Data from Malloy, Lyon, and Quas' (2007) study address this prediction. They included children facing dependency court hearings (i.e., removal from the home) as a consequence of their disclosures of abuse. Typically, these cases are also associated with low levels of support from the non-offending parent, who is often emotionally incapable of protecting the welfare of the child and who sometimes rebuffs the child's disclosures, pressing for recantations; low levels of maternal support are associated with lowered disclosure rates (Elliott & Briere, 1994; Lawson & Chaffin, 1992). One would predict that this is just the context in which recantations would occur frequently; in order to absolve themselves of guilt of accusing a parent, of being physically separated from their parents, and of trying to placate the non-offending parent, children would easily recant prior accusations. Also, Malloy et al.'s (2007) sampling method (dependency court cases) and definition of recantation (involving any documented formal or informal conversation with the child over time) might have allowed them to identify cases of

recantation that other studies would have missed (see Malloy et al., 2007, for a discussion of these factors). As it turned out, only 23% of the children did recant. Although this is one of the higher estimates of recantation, one might have predicted much higher rates given the dilemma of this special sample of children.

Summary. Studies that include a higher proportion of boys, certain ethnic minorities, younger children, and parentally abused children with low levels of family support should yield comparatively low disclosure rates. Because most studies do not break down disclosure or recantation rates as a function of these variables, it is not possible to estimate the degree to which a combination of any of these factors can account for the variation of rates that are shown in Table 2. Although these factors might account for some variation, we argue that it is not individual differences but rather methodological features, specifically the sampling methods used, that account for the largest differences. The remainder of this paper focuses on this issue.

Rates of disclosure differ according to sampling methods

In order to obtain reliable estimates of disclosure/recantation, one must first obtain a sample of children who were abused. In studies of children coming to clinics for evaluation of abuse, therefore, it is important to categorise children in terms of the probability of their abuse status; if this is not done, then the resulting statistic is a reflection of the disclosure patterns of abused and non-abused children. Given these conditions, failure to disclose would be appropriate among the non-abused children. As discussed below, a number of the studies listed in Table 2 failed to differentiate abused from non-abused children, thus yielding data that are uninterpretable with regard to the issue of disclosure/recantation rates among abused children per se.

The issue then arises of how to design a study to include substantiated or high-probability cases of sexual abuse. Although a number of suggestions have been provided (e.g., see London, Bruck, Ceci, & Shuman, 2005, 2007; Lyon, 2007), some of these raise a related issue, namely the representativeness of the results.

In order to address problems of substantiation of abuse, some researchers have classified chil-

dren in their sample in terms of the likelihood of abuse. Children meeting one or more of the following criteria (depending on the study) are classified as abused: perpetrator convictions, plea bargains or confessions, medical evidence, other physical evidence, and children's statements. Although the use of such criteria is a good start, it should be noted that there are problems with each of these criteria. First, the accused may be persuaded to accept a plea bargain due to the stress, financial burden, and uncertain outcome of facing trial. There are some accused who have been falsely convicted despite the absence of direct evidence to prove child abuse, and on appeal their convictions have been overturned (Ceci & Bruck, 1995). Although this may not be common, it does happen. Next, medical evidence is not always an accurate indicator of abuse. In the statistically rare case where genital or anal abnormalities are found, similar abnormalities can sometimes be found among non-abused children (Berenson et al., 2000). Finally, using children's statements as indicators of abuse to some extent is tautological in studies of disclosure. Children who make spontaneous disclosures with much elaboration (for example) are categorised in the "high-certainty" group. Then the analysis of the disclosure patterns of the high-certainty group indicates that the children disclosed spontaneously and/or with much elaboration (or did not deny). Clearly, then, there can be no single "standard" for diagnosing abuse in these studies. Rather it is best, as many of the researchers have done, to make the assessment based on a combination of criteria.

Lyon and colleagues (Lyon, 2002, 2007; Malloy et al., 2007) argue that there are critical inherent biases in studies of disclosure that sample children from assessment/treatment clinics and use the examination data as the basis for abuse substantiation. As previously noted, the studies listed in Table 2 include children who were specifically brought to a clinic, mental health professional, or law enforcement agency either because they had previously made a claim of abuse or because there was a suspicion of abuse that required further investigation. Thus, most of the children in each study had been questioned by someone (e.g., teacher, parent) about abuse prior to the formal interviews or therapy sessions. Lyon (2002, 2007) argues that these samples elevate the rate of *suspicion bias*—it was the children's prior disclosures that prompted the investigation. Suspicion bias can act to increase disclosure rates

since the disclosure itself is what launched the investigation. *Substantiation bias* occurs when the disclosure is the reason that abuse is considered substantiated. Both forms of bias, Lyon argues, are likely if the disclosure is the main evidence in the case, which in the real world is generally the case.

Lyon (2007) proposes a solution to avoid problems of suspicion and substantiation bias. He proposes to examine children with validated histories of sexual abuse who have not made disclosures until directly questioned by the authorities. His sample of choice is children with gonorrhoea but who have not made a disclosure. He identified 21 studies from 1965 to 1993 examining gonorrhoea in children—he claims that these data allow one to calculate upper bounds of abuse disclosure (see Lyon, 2007, Table 3.1). Aggregating across studies, he claims that only 43% of all children disclosed abuse. Although the strength of this sampling method is that it lowers suspicion bias and substantiation bias, the sampling strategy has a serious limitation in that such children are not representative of other sexually abused children presenting for evaluation. As we argue, these data at most tell us about disclosure profiles of silent sexually abused children with sexually transmitted diseases (STDs).¹

First, the study of children who have not made a disclosure and where there is low suspicion of abuse automatically removes from study the majority of children who present for evaluation at clinics or agencies. Also, this procedure will necessarily lower the disclosure rates, as reported in Table 2; this is because one of the best predictors of disclosure in formal assessment is previous disclosure (DeVoe & Faller, 1999; DiPietro et al., 1997; Gries et al., 1996; Keary & Fitzpatrick, 1994). Specifically, among children who made prior disclosures, 74–93% maintained the allegation when interviewed. In contrast, only 7–40% of children who made no prior disclosure

¹ In this paper we do not delve into disagreements with Lyon's interpretation or selection of studies. Briefly these include (i) reliance on studies that were conducted in the 1960s and 1970s where there was lower awareness and sensitivity to the problems of child abuse; (ii) ignoring data suggesting a large number of SA children might have been infected due to sexual play with peers (this would not qualify as child abuse as outlined in this paper); (iii) reliance on studies that were not designed to examine disclosure patterns but rather transmission of STDs; consequently disclosure of CSA was often an aside with few details.

disclosed at a later interview; these lower rates of disclosure likely reflect a combination of unfounded cases as well as children who deny valid abuse cases. Importantly, these studies indicate that consistency of response is not only a characteristic of children being assessed for CSA but also probably a marker of the accuracy of their reports. Although children making prior disclosures are not representative of all abused children, they are representative of most children coming before forensic interviewers. By excluding children who have made prior allegations, the notion is that we are examining the large percentage of children who usually do not come to the attention of authorities. As discussed below, this presents serious problems if we seek to generalise findings in order to guide interview procedures used to interview children coming before investigators.

A second problem with Lyon's strategy is the generalisability of data produced from studies of disclosure patterns of children with gonorrhoea. Imagine we were somehow able to randomly sample 1000 children with valid sexual abuse histories, and then only examined the subsample of children with gonorrhoea. This limits our sample to those whose abuse involved genital contact and where the perpetrator had gonorrhoea. Although gonorrhoea rates vary by age, gender, race, region (Centers for Disease Control, CDC, 2004), 2–3% of children brought in for sexual abuse assessment have positive cultures of gonorrhoea (e.g., Ingram, Everett, Lyna, White, & Rockwell, 1992). Assuming that all of these cases involved genital contact with an adult (rather than another child), this reduces the size of our large sample to about 25 children. Next, suppose we wish to select only those children who did not make any disclosures prior to the forensic interview (to be on the liberal side we set this rate at 40% based on the findings of Table 2): we would then end up with a sample size of 10, or 1% of the initial representative sample of children who come to clinic for assessment of sexual abuse.

Another alternative would involve selecting children from STD clinics rather than from sexual abuse clinics. Following Lyon's proposal, we would then interview children who had not made any previous disclosures of abuse. Their responses would provide our estimate of disclosure rates among CSA children. This was the strategy taken by Lawson and Chaffin (1992, see Table 2) who selected 28 participants from a

population of over 800 girls with an STD diagnosis; these 28 girls did not disclose before or during their initial medical evaluation. Given the fact that this sample is only 3.5% of Lawson and Chaffin's entire clinic sample, it suggests that most of the children had in fact disclosed previously. Thus they selected the group of hard-core deniers. The finding that these children continue to have a low disclosure rate when first confronted about the abuse (43%) only supports one of the most established social psychological findings—that past behaviour predicts future behaviour.

Next, those children with gonorrhoea (who did not disclose) are not just the proverbial tip of the iceberg of non-disclosers, but they are also likely to be different from sexually abused children in terms of demographic and abuse/perpetrator characteristics. For example, epidemiological data indicate that children with gonorrhoea are more likely than the others to be abused by a young African American from the Southern US where gonorrhoea rates are high, and to have had repeated penetrative abuse. It is also clear that Lyon's (2007) selected database includes a predominant number of children from inner city or very poor rural neighbourhoods; these are not typical of the backgrounds of sexually abused children but rather abuse cuts across socioeconomic strata (Finkelhor, Ormrod, Turner, & Hamby, 2005; NCCAN report, US Department of Health and Human Services, 2006). Thus, any inference from this sample needs to be made about a very specific subset of children with CSA. Lawson and Chaffin (1992) recognised this limitation in their own data. For this reason (as well as their small sample size) they cautioned readers against over-extending their 1992 findings, stating: "In part because of the epidemiology of gonorrhoea in geographic area studied, the study sample is not ethnically or otherwise representative even of sexually abused children at this single hospital, let alone all sexually abused children" (p. 540).

In summary, different researchers have argued for the use of different sampling methods for examining disclosure patterns among sexually abused children. All the sampling methods have limitations, and ultimately the choice of sampling methods is contingent on the population to which we seek to generalise. Our interest in issues of children's reporting and memory of trauma is spurred by children's reports and memories in forensic settings, where by

definition, there is a prior suspicion of abuse. In fact it is this situation that has generated most of the research in this area. Admittedly and clearly, the results of these studies do not generalise to all CSA victims, specifically to those who never make an allegation or who for a variety of factors never come to the attention of authorities and thus researchers. However, these studies do address the important issues of denial and recantation; namely, how do CSA victims react when directly questioned about abuse by authorities?

In the final section of this paper we return to the studies listed in Table 2. Using the arguments just covered in this section about the consequences of different sampling procedures, we attempt to account for the variability in the rates of disclosure and recantation among these 22 studies. We group these studies into four categories that differ in terms of the reported rates and in terms of the methods used to select the children. As we will show, disclosure and recantation rates directly reflect the sampling methods used in the different studies, as well as the validated abuse status of the children in the sample.

Studies of cases with dubious abuse substantiation and questionable interview methods (studies 1, 2, and 7). The studies with the lowest disclosure rates and highest recantation rates included samples of children from court cases where the abuse status of these children is highly questionable. Children in these studies were involved in cases that involved satanic ritualistic abuse (e.g., studies 1 and 2 in Table 2) and unfounded allegations against day-care workers (studies 1 and 7 in Table 2). The children in these cases initially denied abuse (and hence the low rates of disclosure) and only disclosed after repeated and very suggestive interviewing. For example, children in study 1 from Table 2 (Gonzalez, Waterman, Kelly, McCord, & Oliveri, 1993) were victims of the McMartin investigations—although this case was tried three times there was never a guilty verdict, primarily because the jurors viewed videotaped interviews of the children and their investigators (see London et al., 2005, for details; Nathan & Snedekor, 1995, for details of these cases). Given this background, it is not surprising that rates of recantation were so high; children were renegeing on their previous false suggested accounts of abuse.

Sampling among selected populations or subsamples of nondisclosers (studies 3, 4, & 5). Children in this group of studies were selected from larger samples of children undergoing CSA evaluation because they did not disclose abuse when first questioned during formal interviews. Carnes, Nelson-Gardell, Wilson, and Orgassa (2001) and Wood et al. (1996) reported disclosure rates among children who underwent extended evaluation because they initially did not disclose when first interviewed. In both studies, fewer than half of such children disclosed in extended interviews. These reported rates do not generalise to forensic samples, but only to children who need extended assessment because they do not readily disclose. One of the concerns raised by these studies is the reliability of reports of children who are repeatedly interviewed about abuse. If some of the children in these samples had not been abused, repeated interviews (especially those with a number of suggestive techniques) could result in false reports (see Bruck et al., 2006, for research and cases).

One study (Lawson & Chaffin, 1992) presented low disclosure rates (43%) in cases that presented with medical evidence (gonorrhoea) where the children had not made prior disclosures and where no prior suspicion of abuse was noted. We spent considerable time at the start of this section discussing the strengths and limitations of such a sampling method. The main strength is that the method minimises suspicion and substantiation biases. The main limitation is that exclusion of all children who readily made abuse disclosures limits the generalisability of these findings to all children with gonorrhoea or other STDs. For example, Ingram et al., (1992; see Table 2 # 19) conducted a similar study at around the same time period. They included all children who tested positive for gonorrhoea; 87% disclosed a history of sexual contact in a formal interview.

Studies that report disclosure/recantation rates without regard to abuse substantiation (studies 8–12, 16). Some studies reported disclosure rates for all children interviewed in a specific assessment centre or clinic (studies 8–12). Disclosure rates vary from 61% to 83%. The lone study to report a recantation rate in this group, 13%, comes from Gries et al. (1996). Because there is no attempt to differentiate abused from non-abused children in these studies, the rates must be viewed as underestimates of disclosure rates; that is, an unknown

number of children who do not disclose do so because they were never abused. Similarly, the recantation rate is difficult to interpret: it could reflect a change from a false allegation to a true denial, or it could reflect the change from a false denial to a true disclosure. To obtain the most accurate estimates of disclosure and recantation, one needs to calculate the number of disclosures as a function of the number of all true abuse cases. In the next section we report disclosure rates in studies that report information on abuse substantiation.

Studies that report disclosure/recantation rates according to abuse substantiation (studies 6, 13–24). Three studies (6, 19, 21) examine disclosure/recantation rates in substantiated cases only. Six studies (13, 14, 15, 17, 18, 20) examine disclosure/recantation rates in samples of children who come to clinic for assessment of CSA and report disclosure rates as a function of the certainty of abuse. Finally, three studies examine only recantation rates in a sample of children who have already made credible disclosures (22, 23, 24).

It should be noted that each study differed in terms of the criteria used for abuse substantiation. These included: “indicated by the state”, medical evidence, presence of STD, and team assessment of abuse probability.

With the exception of one study (Sjöberg & Lindblad, 2002), the rates of disclosure for substantiated cases ranged from 76% to 96%. For example, DeVoe and Faller’s (1999) participants were interviewed at a multidisciplinary clinic, which sometimes entailed several interview sessions. Children referred to their centre included highly complex cases or cases where another opinion was sought from CPS. Although only 62% of the total sample made disclosures, this figure increases to 87% disclosure rate in the first interview when one focuses on the 47 cases with corroborative evidence (e.g., medical findings, material evidence, offender confession, and offender conviction).

The one outlier among this group of studies in this section comes from Sjöberg and Lindblad (2002) who reported disclosure rates among 10 Swedish children for whom abuse was confirmed by videotaped evidence confiscated from the perpetrator. Among the 10 cases there was no prior suspicion and no disclosures. Only 5 out of 10 children disclosed during forensic interviews. However, as detailed in Cederborg et al. (2007),

and already reviewed above, four of the non-disclosing children might not have realised they were sexually abused due to young age or the nature of the abuse. Thus the published rate of 50% does not indicate children’s resistance to disclose, which is generally the interpretation given to denial in all previous studies.

Focusing on recantation rates, with the exception of Malloy et al. (which was discussed above), the rates are very low (4–13%). We conclude that unless there are major external pressures on the child (e.g., removal from the family) most children do not retract previous disclosures when they are true. Even under circumstances of pressure, the recantation rate was less than 25%.

Before leaving this section, we consider the accuracy of the substantiation classifications and the effect of unreliable rates on the main outcome variables. So far we have mostly dwelt on concerns of overestimation of disclosure rates by sampling substantiated cases. But there is also the opposite problem if children who are not abused are classified into the substantiated group, either because they demonstrate ambiguous behaviours that are considered diagnostic of abuse (e.g., suggestive doll play that is not diagnostic) or because they display “soft” medical findings that are also present in non-abused children (see Gordon & Jaudes, 1996). If such children were not abused and deny abuse, disclosure rates will be deflated.

There is one final issue, and this involves the inclusion of children in substantiated samples who may indeed have had sexual contacts, but these were with peers (under 16 years of age who are within 5 years of age of the victim) and not with adults; this is particularly likely to occur in sexually active samples of adolescents. For example, both Dubowitz, Black, and Harrington’s (1992) and Gordon and Jaudes’ (1996) samples included mostly inner-city girls, up to ages 12 and 14, respectively. Data from the Centers for Disease Control indicate that the average age of first sexual intercourse for this sample is age 13 (CDC, 2000). Failure to disclose in these situations may reflect the child protecting him- or herself from illicit activity, and does not reflect feelings such as guilt or fear that may arise when the child is the victim and the adult is the perpetrator. Ideally, these cases should be removed from the analyses.

CONCLUSION

There is disagreement about children's willingness to provide details about sexual abuse. There are strong positions: some argue that most children do not disclose abuse, and for the minority who do provide information many of these will eventually recant this information; others argue that although a significant proportion of children will not willingly disclose abuse, when asked directly they will report relevant details that are not recanted in subsequent interviews unless there are strong outside pressures to do so. At first glance, it seems that each argument stands on firm scientific foundations. However, as we have tried to show in this paper, there are major difficulties for both approaches, but particularly for the view that denial and recantation are common; major problems concern the representativeness of the samples to children who come before forensic interviewers, the actual abuse status of the participants, and the reliability of recall data.

This does not necessarily mean that the alternate view is correct (low rates of denial and recantation) because there are also problems associated with the supporting evidence that primarily concern substantiation bias. In this paper we have attempted to show the types of evidence that have been used to address such issues and, in so doing, to point out the difficulties with any one approach. Given these caveats, we summarise the major conclusions, lessons, or issues that can be gleaned from our analysis.

First it is clear that, although there are many inherent problems in using retrospective studies, retrospective national probability samples provide the best basis for estimating population values of what percentage of children disclose sexual abuse. There is probably considerable error in the estimates, given that some adults may falsely deny abuse (inflating disclosure rates), or some might have problems in recalling disclosure or time of disclosure (deflating childhood disclosure rates). Memory issues also affect childhood disclosure rates: rates would be inflated when people forget experiencing CSA; rates are deflated if people falsely remember experiencing abuse due to exposure to suggestive influences. Despite these methodological difficulties, the overall pattern is that many children simply do not willingly tell.

Having agreed that many children do not disclose willingly, the next issue is whether they will also deny abuse if directly asked. Because we cannot conduct population-based surveys to address this issue (for example, asking several thousand children if they were abused in the last year, and if so did they tell anyone, did anyone ask them, and did they deny), we must rely on samples of children questioned about abuse and whose answers have been systematically recorded. This requires recruiting from centres that question children about sexual abuse. Thus, by definition, because a significant proportion of sexually abused children are not officially interviewed, the clinic samples will not be representative of the whole population, but they will be representative of children who are involved in investigations of CSA. For these reasons, we focus on forensic samples because it is these children's behaviours that have posed the major issues to the legal and scientific community. This is not to say that the plight of the silent children is of no interest, but they present a different set of challenges.

We have argued that, in order to obtain reliable disclosure rates in forensic samples, there must be evidence that the children were actually abused. One important factor in making these decisions should be the quality of the interview itself. Until the late 1990s there were few scientifically acceptable protocols (so the overall quality of interviews among the studies in Table 2 is questionable). However, due to the accumulation of scientific findings on interviewer bias and the effect of suggestive interviewing techniques (e.g., use of anatomically detailed dolls, selective reinforcement, repeated questions, repeated interviews; see Bruck et al., 2006, for a review), a number of these protocols have been developed (e.g., see Lamb et al., 2003; Memorandum of Good Practice, 1992; Poole & Lamb, 1998; Sternberg, Lamb, Esplin, Orbach, & Hershkowitz, 2002). Because these protocols avoid techniques that are known to produce false disclosures, and use techniques that produce high rates of true disclosures even from young children (Lamb et al., 2003), the results of studies using such instruments should be given high prominence in issues dealing with disclosure. Three studies listed in Table 2 (Hershkowitz et al., 2005; Pipe et al., 2007; Sternberg, Lamb, Orbach, & Esplin, 2001) provided disclosure rates of children who were interviewed with the NICDH protocol, due to suspicions of CSA. Since these studies made no efforts to classify

abused and non-abused children, we argue that these rates reflect the lower bounds of disclosure rates among general samples of children who come to the attention of authorities and are interviewed with empirically based forensic methods. The pooled rate of disclosures in the studies reporting disclosure rates on substantiated cases presented in Table 2 is 85%.

These rates will change depending on the composition of the sample. For example, they will be slightly lower if a great proportion of children in the sample include young children (7 years and less), boys, or involve intra-familial abuse, especially with unsupportive non-offending parents. Rates might also be lower when samples include high rates of particular ethnic groups.

Disclosure rates will also likely vary across communities and over time, according to changing criteria that parents or other concerned reporters use to guide their decisions on whether certain behaviours justify forensic interviews. These sorts of factors ultimately affect the overall rates of true versus false cases to come before forensic interviewers.

Although most of the discussion has focused on disclosure of abuse, there are a handful of studies that examined recantation rates. What can we conclude from these studies? One conclusion is that recantation may stem from false disclosures elicited by highly suggestive interview methods. As already discussed, the highest recantation rates in Table 2 were based on studies of children who made allegations of ritualistic abuse and whose testimony was elicited by highly suggestive methods. Relatively low rates occur in studies that do not have these properties. Of course, this does not mean that children who have been sexually abused never recant; the current data indicate a small minority of these children do recant abuse. Malloy et al. (2007) found a 23% recantation rate among a sample of mostly Latina girls who were facing or had undergone foster placement as a result the abuse and/or had unsupportive non-offending parent—even with this high-risk sample, the number is relatively low. It thus seems that among sexually abused children undergoing forensic interviews, a majority will provide details; and even with repeated interviews, most will continue to provide abuse consistent details (and will not recant).

REFERENCES

- Arata, C. M. (1998). To tell or not to tell: Current functioning of child sexual abuse survivors who disclosed their victimization. *Child Maltreatment, 3*, 63–71.
- Berenson, A. B., Chacko, M. R., Wiemann, C. M., Mishaw, C. O., Friedrich, W. N., & Grady, J. J. (2000). A case-control study of anatomic changes resulting from sexual abuse. *American Journal of Obstetrics and Gynecology, 182*, 820–831.
- Bradley, A. R., & Wood, J. M. (1996). How do children tell? The disclosure process in child sexual abuse. *Child Abuse & Neglect, 20*, 881–891.
- Bruck, M. E., Ceci, S. J., & Principe, G. (2006). The child and the law. In K. A. Renninger, I. E. Sigel, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology* (6th ed.). New York: Wiley.
- Bybee, D., & Mowbray, C. T. (1993). An analysis of allegations of sexual abuse in a multi-victim day care center case. *Child Abuse & Neglect, 17*, 767–783.
- Campis, L. B., Hebden-Curtis, J., & DeMaso, D. R. (1993). Developmental differences in detection and disclosure of sexual abuse. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 920–924.
- Cantlon, J., Payne, G., & Erbaugh, C. (1996). Outcome-based practice: Disclosure rates of child sexual abuse comparing allegation blind and allegation informed structured interviews. *Child Abuse & Neglect, 20*, 1113–1120.
- Carnes, C. N., Nelson-Gardell, D., Wilson, C., & Orgassa, U. C. (2001). Extended forensic evaluation when sexual abuse is suspected: A multisite field study. *Child Maltreatment, 6*, 230–242.
- Ceci, S. J., & Bruck, M. (1995). *Jeopardy in the courtroom: A scientific analysis of children's testimony*. Washington, DC: American Psychological Association.
- Cederborg, A.-C., Lamb, M. E., & Laurell, O. (2007). Delay of disclosure, minimization, and denial when the evidence is unambiguous: A multi-victim case. In M. E. Pipe, M. E. Lamb, Y. Orbach, & A.-C. Cederborg (Eds.), *Child sexual abuse: Disclosure, delay, and denial* (pp. 159–173). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Centers for Disease Control and Prevention. (2000). *HIV/AIDS Surveillance Report, 12*(1).
- Centers for Disease Control and Prevention (2004). *STD Surveillance Report 2004*. Retrieved 15 November 2006, from: <http://www.cdc.gov/std/stats/gonorrhoea.htm>
- DeVoe, E. R., & Faller, K. C. (1999). The characteristics of disclosure among children who may have been sexually abused. *Child Maltreatment, 4*, 217–227.
- DiPietro, E. K., Runyan, D. K., & Fredrickson, D. D. (1997). Predictors of disclosure during medical evaluation for suspected sexual abuse. *Journal of Child Sexual Abuse, 6*, 133–142.
- Dubowitz, H., Black, M., & Harrington, D. (1992). The diagnosis of child sexual abuse. *American Journal of Diseases of Children, 146*, 668–693.

- Elliott, D. M., & Briere, J. (1994). Forensic sexual abuse evaluations of older children: Disclosures and symptomatology. *Behavioural Sciences and the Law, 12*, 261–277.
- Faller, K. C., & Henry, J. (2000). Child sexual abuse: A case study in community collaboration. *Child Abuse & Neglect, 24*, 1215–1225.
- Fergusson, D. M., Lynskey, M. T., & Horwood, L. J. (1996). Childhood sexual abuse and psychiatric disorder in young adulthood: I. Prevalence of sexual abuse and factors associated with sexual abuse. *Journal of the American Academy of Child & Adolescent Psychiatry, 35*, 1355–1364.
- Finkelhor, D., Hotaling, G., Lewis, I. A., & Smith, C. (1990). Sexual abuse in a national survey of adult men and women: Prevalence, characteristics, and risk factors. *Child Abuse & Neglect, 14*, 19–28.
- Finkelhor, D., Ormrod, R., Turner, H., & Hamby, S. L. (2005). The victimization of children and youth: A comprehensive, national survey. *Child Maltreatment, 10*, 5–15.
- Fleming, J. M. (1997). Prevalence of childhood sexual abuse in a community sample of Australian women. *Medical Journal of Australia, 166*, 65–68.
- Fontes, L. A. (1993). Disclosures of sexual abuse by Puerto Rican children: Oppression and cultural barriers. *Journal of Child Sexual Abuse, 2*, 21–35.
- Friedman, W. J. (1993). Memory for the time of past events. *Psychological Bulletin, 113*, 44–66.
- Friedman, W. J., & Lyon, T. D. (2005). Development of temporal-reconstructive abilities. *Child Development, 76*, 1202–1216.
- Futa, K. T., Hsu, E., & Hansen, D. J. (2001). Child sexual abuse in Asian American families: An examination of cultural factors that influence prevalence, identification, and treatment. *Clinical Psychology: Science and Practice, 8*, 189–209.
- Ghetti, S., Goodman, G. S., Eisen, M. L., Qin, J., & Davis, S. L. (2002). Consistency in children's reports of sexual and physical abuse. *Child Abuse & Neglect, 26*, 977–995.
- Gonzalez, L. S., Waterman, J., Kelly, R., McCord, J., & Oliveri, K. (1993). Children's patterns of disclosures and recantations of sexual and ritualistic abuse allegations in psychotherapy. *Child Abuse & Neglect, 17*, 281–289.
- Goodman-Brown, T. B., Edelstein, R. S., Goodman, G. S., Jones, D. P. H., & Gordon, D. S. (2003). Why children tell: A model of children's disclosure of sexual abuse. *Child Abuse & Neglect, 27*, 525–540.
- Gordon, S., & Jaudes, P. K. (1996). Sexual abuse evaluation in the emergency department: Is the history reliable? *Child Abuse & Neglect, 20*, 315–322.
- Gries, L. T., Goh, D. S., & Cavanaugh, J. (1996). Factors associated with disclosure during child sexual abuse assessment. *Journal of Child Sexual Abuse, 5*, 1–20.
- Hanson, R. F., Resnick, H. S., Saunders, B. E., Kilpatrick, D. G., & Best, C. (1999). Factors related to the reporting of childhood rape. *Child Abuse & Neglect, 23*, 559–569.
- Heger, A., Ticson, L., Velasquez, O., & Bernier, R. (2002). Children referred for possible sexual abuse: Medical findings in 2384 children. *Child Abuse & Neglect, 26*, 645–659.
- Hershkowitz, I., Horowitz, D., & Lamb, M. E. (2005). Trends in children's disclosure of abuse in Israel: A national study. *Child Abuse & Neglect, 29*, 1203–1214.
- Ingram, D. L., Everett, V. D., Lyna, P. R., White, S. T., & Rockwell, L. A. (1992). Epidemiology of adult sexually transmitted disease agents in children being evaluated for sexual abuse. *Pediatric Infectious Disease Journal, 11*, 945–950.
- Janssen, S. M. J., Chessa, A. G., & Murre, J. M. J. (2006). Memory for time: How people date events. *Memory & Cognition, 34*, 138–147.
- Keary, K., & Fitzpatrick, C. (1994). Children's disclosure of sexual abuse during formal investigation. *Child Abuse & Neglect, 18*, 543–548.
- Kellogg, N. D., & Hoffman, T. J. (1995). Unwanted and illegal sexual experiences in childhood and adolescence. *Child Abuse & Neglect, 19*, 1457–1468.
- Kellogg, N. D., & Huston, R. L. (1995). Unwanted sexual experiences in adolescents: Patterns of disclosure. *Clinical Pediatrics, 34*, 306–312.
- Kellogg, N. D., & Menard, S. W. (2003). Violence among family members of children and adolescents evaluated for sexual abuse. *Child Abuse & Neglect, 27*, 1367–1376.
- Kendall-Tackett, K. A., Williams, L. M., & Finkelhor, D. (1993). Impact of sexual abuse on children: A review and synthesis of recent empirical studies. *Psychological Bulletin, 113*, 164–180.
- Lamb, S., & Edgar-Smith, S. (1994). Aspects of disclosure: Mediators of outcome of childhood sexual abuse. *Journal of Interpersonal Violence, 9*, 307–326.
- Lamb, M. E., Sternberg, K. J., Orbach, Y., Esplin, P. W., Stewart, H., & Mitchell, S. (2003). Age differences in young children's responses to open-ended invitations in the course of forensic interviews. *Journal of Consulting & Clinical Psychology, 71*, 926–934.
- Lawson, L., & Chaffin, M. (1992). False negatives in sexual abuse disclosure interviews: Incidence and influence of caretaker's belief in abuse in cases of accidental abuse discovery by diagnosis of STD. *Journal of Interpersonal Violence, 7*, 532–542.
- Levesque, J. R. (1994). Sex differences in the experience of child sexual victimization. *Journal of Family Violence, 9*, 357–369.
- London, K., Bruck, M., Ceci, S. J., & Shuman, D. (2005). Children's disclosure of sexual abuse: What does the research tell us about the ways that children tell? *Psychology, Public Policy, the Law, 11*, 194–226.
- London, K., Bruck, M., Ceci, S. J., & Shuman, D. (2007). Disclosure of child sexual abuse: A review of the contemporary empirical literature. In M. E. Pipe, M. E. Lamb, Y. Orbach, & A. C. Cederborg (Eds.), *Child sexual abuse: Disclosure, delay and denial*. Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Lyon, T. D. (2002). Scientific support for expert testimony on Child Sexual Abuse Accommodation. In J. R. Conte (Ed.), *Critical issues in child sexual abuse* (pp. 107–138). Newbury Park, CA: Sage.

- Lyon, T. D. (2007). False denials: Overcoming methodological biases in abuse disclosure research. In M. E. Pipe, M. E. Lamb, Y. Orbach, & A. C. Cederborg (Eds.), *Child sexual abuse: Disclosure, delay and denial*. Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Malloy, L. C., Lyon, T. D., & Quas, J. A. (2007). Recantation of child sexual abuse allegations. *Journal of the American Academy of Child and Adolescent Psychiatry*, *46*, 162–170.
- McCann, J., Wells, R., Simon, M., & Voris, J. (1990). Genital findings in prepubertal girls selected for nonabuse: A descriptive study. *Pediatrics*, *86*, 428–439.
- Memorandum of Good Practice*. (1992). London: Her Majesty's Stationery Office.
- Mullen, P. E., Martin, J. L., Anderson, J. C., Romans, S. E., & Herbison, G. P. (1993). Child sexual abuse and mental health in adult life. *British Journal of Psychiatry*, *163*, 721–732.
- Nathan, D. & Snedeker, M. (1995). *Satan's silence: Ritualistic abuse and the making of a modern American witch hunt*. New York: Basic Books.
- Poole, D. A., & Lamb, M. E. (1998). *Investigative interviews of children: A guide for helping professionals*. Washington DC: American Psychological Association.
- Pipe, M. E., Lamb, M. E., Orbach, Y., Sternberg, K. J., Stewart, H., & Esplin, P. W. (2007). Factors associated with nondisclosure of suspected abuse during forensic interviews. In M. E. Pipe, M. E. Lamb, Y. Orbach, & A. C. Cederborg (Eds.), *Child sexual abuse: Disclosure, delay and denial* (p. 77–96). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Poole, D. A., & Lindsay, D. S. (1998). Assessing the accuracy of young children's reports: Lessons from the investigation of child sexual abuse. *Applied & Preventative Psychology*, *7*, 1–26.
- Prohaska, V., Brown, N. R., & Belli, R. F. (1998). Forward telescoping: The question matters. *Memory*, *6*, 455–465.
- Rao, K., DiClemente, R., & Ponton, L. E. (1992). Child sexual abuse of Asians compared with other populations. *Journal of the American Academy of Child and Adolescent Psychiatry*, *31*, 880–886.
- Roesler, T. A. (1994). Reactions to disclosure of childhood sexual abuse: The effect on adult symptoms. *The Journal of Nervous and Mental Disease*, *182*, 618–624.
- Roesler, T. A., & Wind, T. W. (1994). Telling the secret: Adult women describe their disclosures of incest. *Journal of Interpersonal Violence*, *9*, 327–338.
- Sas, L. D., & Cunningham, A. H. (1995). *Tipping the balance to tell the secret: The public discovery of child sexual abuse*. London, Ontario: London Family Court Clinic.
- Schooler, J. W., Ambadar, Z., & Bendiksen, M. A. (1997a). A cognitive corroborative case. In J. D. Read & D.S. Lindsay (Eds.), *Recollections of trauma: Scientific research and clinical practice* (pp. 379–388). New York: Plenum.
- Schooler, J. W., Bendiksen, M. A., & Ambadar, Z. (1997b). Taking the middle line: Can we accommodate both fabricated and recovered memories of sexual abuse? In M. A. Conway (Ed.), *Recovered memories and False Memories* (pp. 251–292). Oxford, UK: Oxford University Press.
- Shaw, J. A., Lewis, J. E., Loeb, A., Rosado, J., & Rodriguez, R. A. (2001). A comparison of Hispanic and African-American sexually abused girls and their families. *Child Abuse & Neglect*, *25*, 1363–1379.
- Sjöberg, R. L., & Lindblad, F. (2002). Delayed disclosure and disrupted communication during forensic investigation of child sexual abuse: A study of 47 corroborated cases. *Acta Paediatrica*, *91*, 1391–1396.
- Smith, D., Letourneau, E. J., Saunders, B. E., Kilpatrick, D. G., Resnick, H. S., & Best, C. L. (2000). Delay in disclosure of childhood rape: Results from a national survey. *Child Abuse & Neglect*, *24*, 273–287.
- Somer, E., & Szwarberg, S. (2001). Variables in delayed disclosure of childhood sexual abuse. *American Journal of Orthopsychiatry*, *71*, 332–341.
- Sorensen, T., & Snow, B. (1991). How children tell: The process of disclosure of child sexual abuse. *Child Welfare*, *70*, 3–15.
- Sternberg, K. J., Lamb, M. E., Esplin, P. W., Orbach, Y., & Hershkowitz, I. (2002). Using a structure interview protocol to improve the quality of investigative interviews. In M. Eisen (Ed.), *Memory and suggestibility in the forensic interview* (pp. 409–436). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Sternberg, K. J., Lamb, M. E., Orbach, Y., & Esplin, P. (2001). Use of a structured investigative protocol enhances young children's responses to free-recall prompts in the course of forensic interviews. *Journal of Applied Psychology*, *86*, 997–1005.
- Stroud, D., Martens, S. L., & Barker, J. (2000). Criminal investigation of child sexual abuse: A comparison of cases referred to the prosecutor to those not referred. *Child Abuse & Neglect*, *24*, 689–700.
- Summit, R. C. (1983). The child sexual abuse accommodation syndrome. *Child Abuse & Neglect*, *7*, 177–193.
- Summit, R. (1992). Abuse of the Child Sexual Abuse Accommodation Syndrome. *Journal of Child Sexual Abuse*, *1*, 153–163.
- Tang, C. S. (2002). Childhood experience of sexual abuse among Hong Kong Chinese college students. *Child Abuse & Neglect*, *26*, 23–37.
- Toukmanian, S. G., & Brouwers, M. C. (1998). Cultural aspects of self-disclosure and psychotherapy. In S. S. Kazarian & D. R. Evans (Eds.), *Cultural clinical psychology: Theory, research, and practice* (pp. 106–126). New York: Oxford University Press.
- Ullman, S. E., & Filipas, H. H. (2005). Gender differences in social reactions to abuse disclosures, post-abuse coping, and PTSD of child sexual abuse survivors. *Child Abuse & Neglect*, *29*, 767–782.
- US Department of Health and Human Services, Administration on Children, Youth and Families. (2006). *Child maltreatment 2004*. Washington, DC: US Government Printing Office.
- Ussher, J. M., & Dewberry, C. (1995). The nature and long-term effects of childhood sexual abuse: A survey of women survivors in Britain. *British Journal of Clinical Psychology*, *34*, 177–192.

- Wood, B., Orsak, C., Murphy, M., & Cross, H.J. (1996). Semistructured child sexual abuse interviews: Interview and child characteristics related to credibility of disclosure. *Child Abuse & Neglect, 20*, 81–92.
- Wood, J. M., & Wright, L. (1995). Evaluation of children's sexual behaviours and incorporation of base rates in judgements of sexual abuse. *Child Abuse & Neglect, 19*, 1263–1273.
- Wong, D. (1987). Preventing child sexual assault among Southeast Asian refugee families. *Child Today, 16*, 18–22.
- Wright, D. B., & Gaskell, G. D. (Eds.).(1998). *Surveying memory processes*. Hove, UK: Psychology Press.
- Wyatt, G. E., & Newcomb, M. (1990). Internal and external mediators of women's sexual abuse in childhood. *Journal of Consulting & Clinical Psychology, 58*, 758–767.