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## Research Article

A PROSPECTIVE STUDY OF MEMORY FOR CHILD  
SEXUAL ABUSE:

## New Findings Relevant to the Repressed-Memory Controversy

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**Abstract**—Previous research indicates that many adults (nearly 40%) fail to report their own documented child sexual abuse (CSA) when asked about their childhood experiences. These controversial results could reflect lack of consciously accessible recollection, thus bolstering claims that traumatic memories may be repressed. In the present study, 175 individuals with documented CSA histories were interviewed regarding their childhood trauma. Unlike in previous studies, the majority of participants (81%) in our study reported the documented abuse. Older age when the abuse ended, maternal support following disclosure of the abuse, and more severe abuse were associated with an increased likelihood of disclosure. Ethnicity and dissociation also played a role. Failure to report CSA should not necessarily be interpreted as evidence that the abuse is inaccessible to memory, although inaccessibility or forgetting cannot be ruled out in a subset of cases.

Central to the controversy over repressed or lost memory is whether childhood experiences of sexual abuse can become inaccessible to consciousness. Although core features of stressful events are often particularly well retained (Christianson, 1992), debate centers on whether, for highly traumatic events, special memory mechanisms supercede normal memory processes. Some researchers argue that traumatic and benign events are subject to identical cognitive operations (e.g., Loftus, Garry, & Feldman, 1994; Shobe & Kihlstrom, 1997). According to this view, traumatic experiences, like nontraumatic ones, can be forgotten over time, especially if they occurred at a young age; special memory mechanisms to explain forgetting are not needed. Others, however, contend that some events, such as child sexual abuse (CSA), may be so traumatic to the psychological self that they become consciously inaccessible for extended time periods because of special memory mechanisms, such as repression or dissociation (e.g., A. Freud, 1936/1946; S. Freud, 1915/1957; Williams, 1994b; but see Erdelyi, 2001). Proponents of this latter view have relied largely on retrospective studies of CSA (e.g., Briere & Conte, 1993; Elliott & Briere, 1995), which are limited because participants' reports cannot be verified. However, two prospective studies (Widom & Morris, 1997; Williams, 1994a) revealed sizable percentages of individuals who did not report their previously documented CSA.

In her seminal research, Williams (1994a) interviewed 129 women (66% of the original sample), mainly African Americans, who had been seen at a hospital in the early 1970s because of alleged CSA. When questioned 17 years later about a variety of personal topics, in-

cluding CSA, 38% of the women failed to disclose the documented abuse. Of the nondisclosers, 68% described other unwanted sexual experiences, a percentage comparable to that among the women who disclosed the documented case. Findings also revealed that younger victims and those closely related to the perpetrator were less likely to disclose, whereas greater use of force during the abuse was positively related to disclosure. Williams concluded that forgetting of CSA is a relatively common occurrence. She inferred that the high nondisclosure rate for the documented cases was not due solely to reluctance to discuss sensitive topics (given frequent disclosure of other unwanted sexual experiences); rather, many of the women appeared to have forgotten the former CSA, probably because of mechanisms specific to memory for traumatic events.

In another prospective study, Widom and Morris (1997) interviewed 96 men and women with a history of substantiated CSA that occurred 20 years previously, between 1967 and 1971. Participants were prompted four times regarding CSA. Thirty-seven percent of the adults did not report any CSA experiences. However, Widom and Morris did not compare their participants' current reports with the official records to determine whether participants had disclosed the documented cases. Thus, their nondisclosure rate may be an underestimate because cases other than the documented cases may have been included among those disclosed.

Although only two published studies have investigated memory for documented CSA after long delays, the results have far-reaching implications. For instance, findings could be used to support the concept of repression (Kandel & Kandel, 1994; Terr, 1994), as well as statutes of limitation that begin from the time alleged abuse is remembered.

Still, questions remain regarding the methodology, interpretations, and replicability of the two studies. For instance, because Widom and Morris (1997) did not verify whether the documented case was disclosed, their results concerning predictors are uninterpretable; and because Williams's (1994a) sample was restricted in ethnicity, and certain crucial variables (e.g., abuse severity) were missing, the generalizability and interpretation of her findings are open to question. Given the profound implications, it is imperative to extend this body of research.

## THE PRESENT STUDY

The present study included young adults who, more than a decade earlier, were involved in criminal prosecutions as victims of CSA and participated in a study of court testimony (Goodman et al., 1992). Detailed documentation of the abuse was available for all cases. The research goals were to (a) compare disclosure rates of documented CSA in the current versus former prospective studies and (b) identify predictors of disclosure.

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Several predictors of disclosure were examined. First we considered age. Forgetting is more likely for events that occurred before rather than after the offset of childhood amnesia, at approximately age 3 to 5 years (Pillemer & White, 1989; Quas et al., 1999). Indeed, Williams (1994a) reported that women who were abused before age 7 were significantly less likely to disclose than women who were abused at or after age 7. In contrast, Widom and Morris (1997) found no effect of age at time of abuse. However, because they did not compare current reports with the original cases, it is possible that participants who were abused at an early age, according to documentation, discussed abuse that occurred at a later age (i.e., after the offset of childhood amnesia), thus deflating an age effect.

A second potentially important predictor of CSA disclosure is gender. Previous research suggests that compared with females, males are less likely to disclose (e.g., DeVoe & Faller, 1999; Finkelhor, Hotaling, Lewis, & Smith, 1990; Widom & Morris, 1997). Williams and Banyard (1997) uncovered significant gender differences when they compared disclosure in Williams's (1994a) sample of women with disclosure rates in a sample of men with documented CSA. However, in a regression analysis, only age emerged as a significant predictor of disclosure. Widom and Morris found that men's and women's definitions of sexual abuse differed, which may have led to differential disclosure rates. Specifically, of participants whose responses indicated CSA, 64% of the women labeled their experiences as abusive, whereas only 16% of the men did so. Men's resistance to define certain sexual acts as abuse, perhaps because of shame, embarrassment, or fear of stigmatization, may underlie gender differences in disclosure.

Third, the relation between severity of abuse and disclosure is currently under debate. Several researchers have speculated that memory deteriorates as severity of trauma increases (Terr, 1991; van der Kolk, 1997). Terr (1991), for instance, proposed that repression and dissociation are more common coping reactions in response to long, anticipated, and repeated traumas than in response to single, unanticipated, and short-lived traumas. To the extent that individuals push traumatic memories out of consciousness (i.e., repress the information) or dissociate during a trauma, memory would likely be adversely affected when the trauma is more severe. In fact, Williams (1994a) found that intrafamilial abuse, which tends to be severe, was less likely to be disclosed than other abuse. However, nondisclosure of severe abuse or abuse perpetrated by a family member may be due to factors other than forgetting, such as reluctance or embarrassment.

Nevertheless, because factors like event salience and personal relevance may facilitate memory retention (e.g., Baker-Ward, Hess, & Flannagan, 1990; Bower & Sivers, 1998; Christianson, 1992), severe abuse, which typically includes invasive sexual contact, force, or both, would be more likely to be remembered than less severe abuse. Further, given that severe abuse typically involves recurring assault (Goodman et al., 1992), it is possible that enduring memories are fashioned through script formation (e.g., Hudson, Fivush, & Kuebli, 1992; Nelson, 1986). That is, children who experience repeated abuse by the same perpetrator may develop a script of what usually occurs, which would enhance long-term memory of the gist of the abuse and decrease the likelihood of complete forgetting.

A fourth potential predictor of CSA disclosure is the extent of legal involvement children experience. Within the legal system, child victims are often required to talk repeatedly (e.g., during forensic interviews, while testifying in court) about abuse incidents. Recounting abuse multiple times may result in elaborative rehearsal, strengthening children's event representations and enhancing long-term memory

(e.g., Bahrack, 2000). In both Williams's (1994a) and Widom and Morris's (1997) samples, the CSA came to authorities' attention, suggesting that some of the children were involved in subsequent legal cases. Yet neither study addressed the relation between disclosure and extent of children's legal involvement. Given the importance of elaborative rehearsal for memory, it is of interest to examine whether legal involvement, including being questioned by authorities and testifying, increases the likelihood of adult memory and disclosure of CSA.

Familial characteristics, particularly maternal support, may influence long-term memory for abuse. Maternal support and communication are positively related to children's emotional and psychological adjustment following CSA disclosure (Everson, Hunter, Runyan, Edelsohn, & Coulter, 1989; Sas, 1993), to their memory for stressful experiences (Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1994), and to their maintenance of allegations across interviews (Bradley & Wood, 1996; Rieser, 1991; Sorenson & Snow, 1991). To the extent that supportive mothers legitimate their children's allegations or talk more often with their children about the abuse, maternal support may enhance long-term memory for, or at least individuals' willingness to discuss, the abuse.

Ethnicity could also play a role in disclosure. CSA sequelae, including disclosure, may differ according to ethnicity (e.g., Kenny & McEachern, 2000). Moreover, ethnicity may be correlated with other factors that could affect memory for CSA (e.g., additional life traumas, number of CSA experiences).

Finally, our longitudinal study afforded the opportunity to examine several additional potential predictors of long-term memory for abuse that are of substantial theoretical importance. These included mental health (e.g., current dissociative tendencies), relationship betrayal, self-blame for the abuse, and number of other traumas or abuse experiences. Dissociation is believed to create holes in autobiographical memory (Briere & Conte, 1993); betrayal of attachment relations is said to underlie lost memory for abuse (Freyd, 1996); self-blame should contribute to repression (S. Freud, 1915/1957); and other traumas or abuse experiences could interfere with memory access to the documented (target) case. The degree to which these factors contribute to loss of CSA memory provides insight into whether special memory mechanisms underlie nonreporting by adults of childhood trauma.

## METHOD

### Participants and Sample Characteristics

Between 1985 and 1987, 217 children (51 male, 166 female), ages 4 to 17 years, participated in the original study.<sup>1</sup> At that time, detailed information was collected from multiple sources (i.e., prosecutor files, nonoffending caregivers, child victims) regarding characteristics of the abuse (e.g., perpetrator's identity, sexual acts, abuse duration) and legal case (e.g., number of times the child testified). None of the cases involved sensational allegations of day-care or satanic ritual abuse. Approximately 13 years later (original study to current interview,  $M = 13.09$  years, range: 10.66–16.58; end of abuse to current interview,

1. In the questionnaires for the current study, CSA was defined based on state law, specifying a 4-year child-perpetrator age difference. One participant from the original study is not included in the present report because the perpetrator was not 4 years older. On that basis, the court dismissed the case.

$M = 13.86$  years, range: 11.50–19.00), the former participants were located and invited to take part in a study of legal attitudes and experiences. Of the 217 original participants, 186 (85.7%) were located and 175 (80.6%) were interviewed. Of those located but not interviewed, 10 (4.6% of the original sample) declined to participate, and 1 was deceased.

Of the 175 participants interviewed, 141 (80.6%) were female. Participants' age at time of interview ranged from 16.7 to 30.3 years ( $M = 23.0$ ). Sixty-two percent of the sample was Caucasian non-Hispanic, 11% was African American, 16% was Hispanic, and 11% indicated that they had "other" racial-ethnic backgrounds. Participants' age when the documented abuse began ranged from 2 to 16 years ( $M = 8.7$  years), and age when the abuse ended ranged from 3 to 16 years ( $M = 9.2$ ). Mean age at the start of the legal case (when involvement in the original study began) was 9.5 years. The alleged perpetrator was classified as a parent (24%), person in trust position (i.e., teacher, relative; 40%), acquaintance (29%), or stranger (7.4%). Of the cases, 89% involved genital contact and 42% involved penetration. The results of  $t$  tests comparing participants who did and did not take part in the current study failed to reveal any significant differences in age when abuse began or ended, severity of abuse, and extent of legal involvement,  $t(199 \text{ to } 216) = -1.08 \text{ to } 1.60$ ,  $ps > .11$ , although females were more likely than males to participate in the current research,  $\chi^2(1, N = 217) = 8.1$ ,  $p < .01$ .

### Procedure

The study was conducted in three phases: (a) a phone interview ( $n = 175$ ); (b) mailed questionnaires ( $n = 129$ ), including psychometrically sound, standardized questionnaires of psychopathology, such as the Dissociative Experiences Scale (Bernstein & Putnam, 1986) and the Posttraumatic Diagnostic Scale (Foa, Cashman, Jaycox, & Perry, 1997); and (c) an in-person interview ( $n = 107$ ).<sup>2</sup> For scientific and ethical reasons, participants were never told that we knew of their past victimization, legal involvement, or participation in the original study. The current research was described as concerning legal attitudes and experiences. In all three phases, information about mental health, victimization, legal experiences, and attitudes toward the legal system was elicited. For the present report, we examined only data relevant to CSA disclosure, which consisted primarily of data collected during the initial interview. Questions about CSA were interspersed throughout the interview and concerned legal involvement as a result of alleged CSA, as well as experiences of CSA whether or not they were reported to the authorities. CSA was defined as exhibitionism, sexual touching, kissing, rape, oral sex, intercourse, or any type of completed or attempted CSA that occurred when the participant was under age 18 and with a person at least 4 years older. Upon disclosure, additional questions (e.g., "What was the person's name?" "What was his/her relationship to you?") were asked to identify the documented case.

### Target-Case Identification

Several criteria were used to determine whether participants reported the target case (the one documented in the original study). The primary

2. The number of respondents varies across the study's phases because some participants who had completed the first phase declined to participate in the second and third phases (5% and 2%, respectively) or could not be located (21% and 19%, respectively).

criteria were the name or identity of the alleged perpetrator and the participant's age at the time of the legal case. Secondary criteria included type of sexual activity, frequency and duration of the abuse, and outcome of the legal case. Participants' responses were classified, by two raters, into one of the following categories: (a) clear disclosure of target case; (b) no disclosure of target case but clear disclosure of another CSA experience; (c) disclosure of CSA, but unclear whether the disclosure matched the target case; or (d) no disclosure of CSA.

## RESULTS AND DISCUSSION

### Disclosure Rate

During the study's first phase, 142 participants (81.1%) disclosed the target case. Seventeen participants (9.7%) denied ever being victims of CSA. Seven participants (4.0%) reported only cases other than those documented in our records. Two participants (1.1%) indicated that their parent told them that they were victims of CSA, but they had no memory of the abuse. Because of their lack of memory, the latter 2 individuals were classified as nondisclosers. Additionally, 3 individuals (1.7%) provided only sparse and ambiguous information, and 2 other individuals (1.1%) disclosed being victims of CSA but declined to answer further questions, thus preventing us from establishing whether they were referring to the target case. One participant (0.6%) declined to answer any questions about sexual abuse. Finally, the mother of a child under 18 years old (0.6%) requested that we not ask about CSA. These latter 7 participants were excluded from subsequent analyses, leaving 168 individuals for whom it was possible to establish clearly whether or not the documented case was disclosed.

Of these 168 participants, only 15.5% ( $n = 26$ ) did not report the target case in the phone interview,<sup>3</sup> a percentage considerably lower than that reported by both Williams (1994a) and Widom and Morris (1997). There are several potential explanations for this discrepancy. First, the age range at the time of the abuse was smaller in the former studies than in ours (Williams, 10 months–12 years; Widom & Morris, 0–11 years). When our sample was restricted to individuals abused at age 12 years and younger, however, our nondisclosure rate did not change appreciably (17%, 22 out of 131). Second, because the target case was closely followed during the prosecution (Goodman et al., 1992), extensive documentation was available to identify it. Previous studies relied on single sources of information, such as medical records, which may have led to an underestimation of disclosure because of difficulty matching current to past records (Loftus et al., 1994). The percentage of individuals denying ever having been sexually abused as children is comparable in Williams's study (12%, 16 out of 129) and in the current study (10%, 17 out of 168). However, the percentage of individuals who did not disclose the target case but disclosed other cases was greater in Williams's study than the current study (26% and 4%, respectively). Thus, at least some of Williams's cases classified as "other" may have actually been the documented case.

3. When the subset of cases (67%) with corroborative evidence (e.g., confession, eyewitness, physical evidence) for the target sexual abuse was considered, the disclosure rate (85.5%) was similar to that reported for the entire sample. These findings indicate that lack of disclosure was not due to the original report of abuse being false. Three individuals now claim that the abuse allegation was false. The basic findings do not differ whether or not these individuals are included.

Remembering Abuse

Third, the majority of Williams's (1994a) sample was African American, whereas the majority of our sample was Caucasian non-Hispanic. CSA sequelae, including disclosure, may differ according to ethnicity (e.g., Kenny & McEachern, 2000). In our study, the disclosure rate was higher for Caucasian non-Hispanics than African Americans: 87.6% and 70.0%, respectively,  $\chi^2(1, N = 166) = 4.07, p < .05$ . In fact, the nondisclosure rate for African Americans (30%) approached that reported by Williams. Memory interference due to a greater number of life traumas or other CSA experiences did not explain the finding ( $r_s = 1.151$ ).

Interestingly, of the 26 nondisclosers, 12 reported the target case during the second (i.e., mailed questionnaire;  $n = 9$ ) or third (i.e., in-person interview;  $n = 3$ ) phase of the present study. Thus, some nondisclosers may have remembered the CSA but omitted that information because of an initial disinclination to report (see della Femina, Yeager, & Lewis, 1990). It is also possible that our questioning spurred participants to ask caretakers about past abuse or served as a retrieval cue for previously inaccessible memories.

**Predictors of Disclosure**

The study's second goal was to identify predictors of disclosure. First, to examine age effects on disclosure, we divided the sample into two groups based on whether abuse ended at age 5 or earlier ( $n = 28$ ) or after age 5 ( $n = 140$ ). Second, we constructed a composite measure of abuse severity consisting of abuse duration, extent of sexual contact, amount of force used, and extent of injury sustained because of the abuse ( $M = 4.84$ , range: 2–10; higher scores indicate more severe abuse). Third, perpetrator identity was coded as a parental figure ( $n = 42$ ) or not a parental figure ( $n = 126$ ). Fourth, participants were identified as having received ( $n = 138$ ) or not having received ( $n = 22$ ; 8 missing) maternal support following the abuse disclosure (see Goodman et al., 1992, for details concerning the original study's measures). Fifth, ethnicity was coded as African American ( $n = 20$ ) versus all others ( $n = 146$ ; 2 missing). Finally, participants' legal involvement was scored as 1, *child never went to courthouse* ( $n = 58$ ); 2, *child went to courthouse but did not testify* ( $n = 59$ ); or 3, *child went to courthouse and testified* ( $n = 51$ ); the mean score for this variable was 1.96.

We performed a logistic regression analysis in which the dichotomous disclosure variable was regressed on dichotomous age at the end of the abuse, victim gender, abuse severity, perpetrator relationship, maternal support, ethnicity, and extent of legal involvement (see Table 1). Age when abuse ended, abuse severity, and maternal support significantly predicted disclosure. The results for ethnicity closely ap-

proached significance. Legal involvement, gender, and perpetrator relationship were not significant predictors.

As in previous research (e.g., Howe, 2000), experiencing CSA in early childhood reduced the likelihood of CSA recall: 87% of the participants whose abuse ended after age 5 disclosed the documented case, compared with 69% of the participants whose abuse ended at age 5 or earlier. Contrary to the notion that abuse severity should be negatively associated with disclosure, victims of more severe abuse were more likely to disclose (mean severity for disclosers = 4.93) than were victims of less severe abuse (mean severity for nondisclosers = 4.37). These results appear consistent with the idea that memory for abuse, like memory for other events, is positively affected by event duration and salience (e.g., extent of sexual contact, level of force, and injury, which were indicators of abuse severity).

Maternal support was also associated with increased disclosure rates. Eighty percent of the individuals who received maternal support disclosed, whereas 68% of those who did not receive maternal support reported the documented case. Individuals who, as children, felt believed, supported, and legitimated when making their allegations may be more willing or able years later to discuss their victimization.

Significant gender differences in disclosure were not found (15.2% of males and 15.6% of females failed to disclose). It is possible that, as a result of changes in societal attitudes toward sexual abuse, males who experienced CSA in the 1970s rather than 1980s, or who were interviewed nearly a decade before the present study (as in the former prospective research), may have been more reluctant to admit to victimization. Alternatively, males in the present study may be nonrepresentative of male CSA victims.

Legal involvement did not significantly predict disclosure, although disclosure rates tended to be higher among individuals with more extensive legal involvement. Of the 51 participants who testified in court, 8% did not disclose, compared with 17% of the 59 participants who went to the courthouse to testify but never took the stand and 21% of the 58 who never went to the courthouse in the target case. Note that even for the 58 individuals with limited legal involvement, the proportion of nondisclosers was considerably smaller than that in former studies.<sup>4</sup>

Finally, several additional variables were examined because of their theoretical importance. Number of other CSA experiences and other traumas might predict nondisclosure to the extent that interference erodes memory. Frequency of the target abuse should also predict lost memory, according to a psychoanalytic perspective (Terr, 1991), although a general-memory-mechanism perspective suggests that it should strengthen recall. None of these variables was significantly related to disclosure,  $r_s < 1.101, ns < 168$ . Of clinical importance, relationship betrayal (Freyd, 1996), childhood behavior problems (Child Behavior Checklist total *T* score; Achenbach, 1991), and current post-traumatic stress disorder symptoms (Foa et al., 1997) were not significant predictors,  $r_s < 1.111, ns < 168$ . Self-blame,  $r(124) = .21, p < .05$ , was significantly correlated with disclosure, but in a direction opposite to Freudian prediction (more self-blame, more likely to disclose), and it was nonsignificant in logistic regression analysis. Interestingly, dissociation (Dissociative Experiences Scale) was sig-

**Table 1.** Logistic regression predicting disclosure

Variable	B	SE	Wald	df	p
Victim age	1.21	0.58	4.34	1	.04
Victim gender	0.12	0.60	0.04	1	.84
Abuse severity	0.34	0.16	4.35	1	.04
Maternal support	1.38	0.60	5.27	1	.02
Relationship with perpetrator	-0.25	0.58	0.19	1	.66
Legal involvement	0.48	0.31	2.31	1	.13
Ethnicity	-1.18	0.62	3.61	1	.06

Note. Nagelkerke  $R^2 = .201, \chi^2(7, N = 158) = 19.34, p < .01$ .

4. The delay from abuse to interview was longer in previous studies than in ours. When delay (time from the police report to our phone interview) was also considered in the logistic regression analysis, its contribution did not reach significance ( $p = .12$ ), and other relations were virtually unchanged.

nificantly correlated with disclosure,  $r(115) = .24, p < .01$ , and was a significant predictor in a logistic regression analysis: More dissociative individuals were less likely to disclose. However, because the measure was included only in the mailed questionnaires, and the sample was thus smaller and somewhat biased toward participants who already disclosed abuse, dissociation was not included in our main regression analysis.<sup>5</sup>

### Conclusion

Results from this study indicate that forgetting of CSA may not be a common experience, at least not in a prosecution sample. Although African Americans' nondisclosure rate was 30%, lack of willingness to disclose seems the most parsimonious explanation for the difference across racial groups.

Abuse severity and age at which the abuse was experienced were positively related to disclosure, a result consistent with general memory principles. It is well established that salient events are generally remembered over time, provided that they occur after the offset of childhood amnesia. Because severe abuse is often a salient experience, it should be recalled. Further, that maternal support predicted disclosure many years later highlights the importance of social factors in relation to CSA disclosure. These findings do not support the existence of special memory mechanisms unique to traumatic events, but instead imply that normal cognitive operations underlie long-term memory for CSA. The role of dissociation, however, deserves further study. Our results, along with findings that abuse leads to dissociative tendencies (Briere & Runtz, 1988) and that dissociation predicts false memory (Hyman & Billings, 1998), may imply an important role for dissociation in understanding lost and false memory of CSA. A fundamental challenge for future research will be to integrate cognitive, social, and clinical factors into theories of memory for childhood trauma.

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