

What can subjective forgetting tell us about memory for childhood trauma?

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In the present study, we examined the prevalence and predictors of subjective forgetting (i.e., self-reported amnesia) of child sexual abuse (CSA). Adults who, as children, were involved as victims in legal prosecutions were questioned about their CSA experiences, which had been documented in the 1980s, and about lost and recovered memory of those experiences. Males and individuals who experienced more severe abuse were more likely to report forgetting. The majority of individuals attributed their forgetting to active attempts to avoid thinking about the abuse. In contrast, when predictors of subjective forgetting were used to predict objective memory of abuse, more severe abuse and more extended legal involvement were associated with fewer memory errors. The differences between subjective and objective memory underscore the risks of using subjective measures to assess lost memory of abuse.

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In recent years, the debate over memory for childhood trauma has received extensive scientific and public attention (e.g., McNally, 2003; Read & Lindsay, 1997; Williams & Banyard, 1999). Particularly contentious is the extent to which allegedly recovered memories of trauma result from mere fabrication, or whether they are, in fact, memories of actual traumatic events that had been previously repressed (or had otherwise become temporarily inaccessible) and then later recovered.

Many laboratory studies illustrate that, under certain conditions, small to sizable percentages of children and adults report memories of entirely false events (e.g., Ceci, Huffman, Smith, & Loftus, 1994; Hyman, Husband, & Billings, 1995; Loftus & Pickrell, 1995; Pezdek, Finger, & Hodge, 1997), even of rather emotional and stressful incidents (e.g., Ghetti & Alexander, 2004; Porter, Yuille, & Lehman, 1999; Quas et al., 1999). These findings have been used to argue that recovered memories of child abuse may actually be *false* memories, stemming from repeated attempts to retrieve past experiences, perhaps at the instruction of psychotherapists eager to bring lost memories back into consciousness (e.g., Dawes, 1994; Lindsay & Read, 1995; Loftus, 1993; Qin, Goodman, Bottoms, & Shaver, 1998).

Although these studies clearly indicate that false memory is possible (Bottoms, Shaver, & Goodman, 1995), they do not address the fate of *real* memories of childhood trauma—that is, whether such memories can be lost and later recovered. Because only a few researchers have examined memories of documented childhood trauma prospectively (Goodman et al., 2003; Widom & Morris, 1997; Williams, 1994, 1995), professionals and researchers have relied mainly on retrospective assessments of subjective forgetting (i.e., self-reported amnesia) to investigate the occurrence of lost memory of trauma in clinical and non-clinical samples. The extent to which retrospective reports reflect *actual* forgetting, however, is largely unknown.

In the present article, we report the results of a study of former victims of documented child sexual abuse (CSA) who were involved in criminal prosecutions in the mid-1980s and who participated in previous research on the emotional consequences of testifying in criminal court (Goodman et al., 1992). Twelve to 14 years after their initial participation (12 to 19 years after the target CSA experience), we interviewed these individuals about their victimization and legal experiences. The vast majority of them—81% to 88%, depending on the phase of the study—disclosed the documented CSA (Goodman et al., 2003). Whereas Goodman et al. (2003) focused on the prevalence and predictors of abuse *disclosure*, the present study focuses on self-reported experiences of forgetting and memory accuracy among disclosers.

Upon disclosing the CSA, individuals were prompted for details about the abuse and subsequent legal involvement. The disclosers were also asked about their subjective experiences of forgetting of the CSA incident(s). Thus, we were able to investigate the prevalence of self-reported forgetting of documented CSA, individuals' characterizations of their forgetting experiences, and factors predicting such experiences. We also examined whether objective memory of CSA (operationally defined as the discrepancy between current descriptions of CSA and our documentation) differed for individuals who reported previous forgetting of the CSA, in comparison with those who did not, and the extent to which predictors of subjective forgetting also predict objective memory. This comparison is crucial for determining whether subjective reports of forgetting can be used as a proxy for actual experiences of lost memory of CSA.

Prevalence of Subjective Forgetting

Support for the idea that traumatic memories may be repressed and later recovered has come primarily from retrospective studies (i.e., CSA was reported by participants in adulthood, but the abusive incidents were not documented at the time they had allegedly occurred). In these studies, sizable percentages of self-reported CSA victims indicated that they had forgotten their abusive experiences for some period of time (e.g., Briere & Conte, 1993; Freyd, DePrince, & Zurbriggen, 2001). In retrospective studies of clinical samples, forgetting rates have been found to vary between 19% and 77% (e.g., Briere & Conte, 1993; Herman & Schatzow, 1987; Loftus, Polonsky, & Fullilove,

1994; Roe & Schwartz, 1996); in studies of nonclinical samples, such rates vary between 13% and 42% (Elliott, 1997; Elliott & Briere, 1995; Wilsnack, Wonderlich, Kristjanson, Vogeltanz-Holm, & Wilsnack, 2002).

Retrospective studies are limited in that there is no substantiated evidence that the alleged abuse occurred. To the extent that it is unknown how many of the participants in these studies actually experienced CSA, estimates of forgetting may differ from those obtained among actual CSA victims. In addition, the very nature of retrospective memory assessments may undermine the quality of the information obtained. For example, Henry and colleagues (Henry, Moffitt, Caspi, Langley, & Silva, 1994) demonstrated that the agreement between retrospective and prospective measures was low when reports about psychological states (e.g., behavior problems) were examined.

With respect to subjective forgetting, Read and Lindsay (2000) illustrated that self-reported forgetting increases after active attempts to retrieve details about an event. Participants were asked to remember a number of childhood events (e.g., trips to summer camp) and then rate whether they had ever been unable to recall each event. The participants were then assigned to either a control condition or one of two experimental conditions—*reminiscence* or *enhanced*—both of which, in comparison with the control condition, involved mental activities designed to increase the number of details retrieved about the childhood event. For weeks later, participants in the experimental conditions as opposed to those in the control condition reported more details about the events but were also more likely to report prior periods of amnesia for the events. These results suggest that subjective memory measures can be influenced by deliberate retrieval attempts and, thus, may reflect the operation of processes other than actual forgetting (see also Winkielman, Schwarz, & Belli, 1998). These results are especially relevant if subjective measures are used as evidence of amnesia.

Concerns about the validity of findings from retrospective studies are substantiated by the only other published prospective study (i.e., CSA was documented through official records shortly after the abuse was reported) on adults' rates of self-reported forgetting: Williams (1995) found that only 16% of the participants who disclosed the abuse reported that there was a time when they did not remember the event. This percentage is much lower than that typically reported in retrospective studies (for a review, see Epstein & Bottoms, 1998). Given their far-reaching implications, it is imperative to replicate these results with other samples of documented CSA victims. This is particularly relevant in consideration of some of the characteristics of Williams's sample: All the participants in her study were female, and the majority were African-American (86%). As will be described later, both gender and ethnicity may be important to consider in relation to forgetting.

Predictors of Subjective Forgetting

Extant research, relying primarily on retrospective accounts, is inconsistent regarding predictors of subjective forgetting of CSA. In the following paragraphs, we

discuss potential predictors of this phenomenon. We also discuss predictors of lack of CSA disclosure: Although individuals may elect not to disclose CSA for reasons other than forgetting, failure to disclose documented CSA has been used to indicate a lack of memory for abusive experiences (Goodman et al., 2003; Widom & Morris, 1997; Williams, 1994). When relevant, we also describe predictors identified in our investigation of the impact of post-traumatic stress symptoms and subjective appraisals of abuse on CSA memory accuracy (Alexander et al., 2005). This research was conducted with a subsample of participants from the present study who completed an extensive, in-person interview 12 to 21 years after CSA ended. The interview probed for numerous verifiable details about the abuse incidents.

Individuals' CSA experiences may have implications for forgetting. For one, severity of CSA may affect the phenomenology of lost memory. However, the relation between abuse severity and forgetting is currently under debate. On the one hand, increased severity of trauma may have detrimental effects on memory (Terr, 1991; van der Kolk, 1997). Several researchers have argued that individuals may dissociate while experiencing severe trauma (e.g., DePrince & Freyd, 1999, 2004; Zoellner, Sacks, & Foa, 2003), may later repress the memory of the traumatic experience (Terr, 1991), or may engage in active cognitive avoidance of traumatic memories (Berliner, Hyman, Thomas, & Fitzgerald, 2003; Epstein & Bottoms, 2002). Although such psychological processes could underlie forgetting of traumatic experiences, all of these processes would (arguably) promote higher levels of forgetting as abuse severity increases. On the other hand, insofar as severe abuse is a salient and personally relevant experience, abuse severity may be positively related to memory retention (e.g., Bower & Sivers, 1998; Christianson, 1992).

The results of Williams's (1995) prospective study are consistent with the notion that abuse severity may promote subjective forgetting: Severity (indexed by degree of force) was positively correlated with subjective forgetting of CSA. However, degree of force failed to emerge as a significant predictor of forgetting when the participants' age, which itself was related to force, was examined concurrently. In our study, we had the possibility of investigating the relation between abuse severity and subjective forgetting with a sample in which abuse severity and age at the time of abuse are not significantly correlated.

Of note, our previous findings concerning predictors of disclosure indicate that the relation between abuse severity and objective memory may be in the opposite direction to that suggested by Williams's analyses of subjective forgetting. Specifically, we found that severity (indexed by a composite score of abuse duration, extent of sexual contact, level of force, and extent of injury) was positively related to disclosure of the CSA incident(s) (Goodman et al., 2003). In addition, severity was negatively related to commission errors but was unrelated to omission errors in abuse memory reports (Alexander et al., 2005). Thus, our previous results are consistent with the idea that the persistence of memory for abuse, like that of memory for other events,

is bolstered by such factors as event duration and personal significance, captured in our composite severity measure. Insofar as subjective forgetting reflects actual amnesia for sexual abuse, abuse severity should be related in the same way to both subjective and objective forgetting.

However, discrepancies between subjective and objective memory measures often emerge in the literature (e.g., Koriat, Sheffer, & Ma'ayan, 2002; Leonesio & Nelson, 1990; Mazzoni & Nelson, 1995; Schwartz, Benjamin, & Bjork, 1997). If individuals are disturbed by their memories of abuse and actively avoid thinking about such experiences, subjective forgetting may reflect individuals' attempts to push traumatic memories out of consciousness. The desire to avoid CSA memories may be stronger as abuse severity increases. Hence, higher rates of subjective forgetting may be found for more severe abuse, even when objective memory measures indicate particularly high levels of retention.

Second, the relation between the victim and the perpetrator may also predict forgetting experiences. Freyd and colleagues (e.g., Freyd, 1996; Freyd et al., 2001) proposed that individuals who had been abused by a close family member—for instance, a biological parent—may experience a conflict between the reality of being betrayed by a loved one and the enduring necessity of loving the betrayer. To cope with such a conflict, the victim may block information about the abuse out of awareness. According to this view, forgetting should be higher among individuals who were abused by a closely related perpetrator than among those who were not abused by a closely related perpetrator. In a retrospective study, Freyd et al. found support for this claim: Individuals who reported being sexually abused by a close family member were more likely to report having forgotten the abuse (see also Sheiman, 1999; Schultz, Passmore, & Yoder, 2003). In Williams's (1995) study, this association was not statistically significant, but a trend in the expected direction was observed. Williams (1995) did not report the association between perpetrator closeness and objective memory for the abuse. In our previous research, relationship to the perpetrator failed to predict either CSA disclosure (Goodman et al., 2003) or memory accuracy (Alexander et al., 2005). Thus, it is unclear whether relationship to the perpetrator *per se* is responsible for potential memory deficits.

Third, maternal support may decrease the likelihood of subjective forgetting of CSA. Maternal support and communication are positively related to memory for stressful experiences (Goodman, Quas, Batterman-Faunce, Riddlesberger, & Kuhn, 1994), maintenance of allegations across interviews (Bradley & Wood, 1996; Sorensen & Snow, 1991), and disclosure of abusive experiences (Goodman et al., 2003). Insofar as supportive mothers legitimate their children's allegations or talk more often with them about the abuse, maternal support may reduce subjective forgetting. Consistent with this claim, Williams (1995) found that individuals who received maternal support were less likely to report forgetting.

The fourth variable relevant to CSA memories concerns involvement in the legal system. Although no study thus

far has examined whether extent of legal involvement is related to subjective forgetting, there are reasons to expect such a relation. Participating in a criminal prosecution (e.g., being interviewed about the crime or testifying in court) may serve as a reminder of the abuse and may, thus, prevent objective memory loss. To the extent that individuals consider that they had the opportunity to think and talk about the abuse within the legal context, a negative relation between extent of legal involvement and subjective forgetting would be expected.

In addition to the aforementioned abuse-related variables, we also examined individual-difference variables that may affect forgetting of childhood trauma. Age was of primary interest. Forgetting is likely for events that occur early in life—specifically, before the offset of childhood amnesia (Pillemer & White, 1989; Quas et al., 1999). Williams (1995) found that women who reported having always recalled their documented CSA experience were older than those who described a period of complete forgetting (i.e., 9.5 vs. 6.5 years; see also, e.g., Epstein & Bottoms, 1998; Freyd et al., 2001). Consistent with the latter finding, in our prospective sample, CSA disclosure was predicted by the target abuse having ended after the offset of infantile amnesia (Goodman et al., 2003).

Another individual-difference characteristic with implications for CSA forgetting is gender. Previous research has, at times, highlighted gender differences in how emotional information is processed and remembered: Females, in comparison with males, show enhanced processing of and, consequently, better memory for emotional, in comparison with nonemotional, information (e.g., Canli, Desmond, Zhao, & Gabrieli, 2002; but see Grinshaw, Bulman-Fleming, & Ngo, 2004). In addition, in a study of alleged child victims, males recounted CSA incidents less consistently than did females across two investigative interviews (Ghetti, Goodman, Eisen, Qin, & Davis, 2002), suggesting a difficulty in retrieving a coherent memory representation, as well as a reluctance to discuss the topic. Furthermore, in a subsample of participants in the present study, males tended to commit more omission errors than did females (Alexander et al., 2005). Thus, males may be more likely than females to report forgetting.

However, retrospective studies of CSA generally show that women are *more* likely to report forgetting than are men (see Epstein & Bottoms, 1998, 2002), possibly reflecting the societal belief that repression and recovery of CSA memories occur primarily among women because women are more negatively impacted than men by CSA (Dawes, 1994). If so, women's increased motivation to distance themselves from the abuse would then lead to higher rates of subjective forgetting. The hypothesis that females may be more likely than males to report forgetting has never been tested in a prospective sample.

Finally, we were interested in examining whether subjective forgetting would differ according to ethnicity. Previously, we found that CSA disclosure tended to be higher among European Americans than among African-Americans (Goodman et al., 2003). This difference was not explained by African-Americans' having experienced

a higher number of other traumas, which could make any one particular incident less memorable. In fact, the African-Americans in our CSA sample were not significantly more likely than the European Americans to have experienced additional traumas. Thus, the ethnic differences obtained may reflect differences in the willingness to disclose abuse or in actual memory for the experience. Nevertheless, these differences are consistent with the proposal that CSA sequelae, including disclosure, may vary according to ethnicity (e.g., Kenny & McEachern, 2000). In the only other prospective study available in which subjective forgetting was examined (Williams, 1995), the vast majority of the sample was African American, and ethnic differences in subjective forgetting were not reported.

Subjective Characterizations of Forgetting

Researchers have rightly noted that affirmative answers to general questions about forgetting of abuse do not necessarily imply that the memory was *actually* inaccessible (e.g., Epstein & Bottoms, 1998; McNally, Clancy, & Barrett, 2004; Read, 1997). That is, although individuals may report having forgotten abuse for some period of time, it is difficult to verify that memory of the abuse was in fact completely inaccessible. Nevertheless, examining how individuals describe their "amnesia" experiences can provide valuable insight into their perceptions of the nature and characteristics of forgetting. Thus, participants in the present study were asked to evaluate whether, during the time in which they believed that they had experienced forgetting, they could have remembered the abuse if asked about it.

Participants were also asked to describe the reasons why they had forgotten. We provided response options that emphasized either the *content* of their memory (e.g., "It was so horrible that I pushed it out of my mind") or other factors that could influence memory (e.g., "I was too young to remember"). By analyzing these responses, we can learn how individuals characterize their forgetting experiences regarding traumatic events.

Subjective Forgetting and Discrepancy With the Original Documentation

We were also interested in whether memory accuracy for the CSA differed for victims who indicated previous periods of lost memory versus those who said that they had always remembered the CSA. Researchers have rarely had the opportunity to make this comparison (but see Schooler, Bendiksen, & Ambadar, 1997; Williams, 1995). Williams (1995), for instance, compared the extent to which descriptions provided by two groups of former CSA victims—those who did and did not report a period of amnesia for the abuse—matched the information included in the official hospital records of the incidents. The accuracy of the reported information (i.e., age at the time of the abuse, duration of the abuse, and extent of sexual contact) by these groups of participants was comparable. In the present study, we examined whether Williams's (1995) findings replicate. Furthermore, we investigated how predictors of subjective forgetting compare with

those of objective memory (i.e., discrepancies between current statements and information obtained from the original documentation).

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 had participated in a study on the effects of legal involvement (Goodman et al., 1992). Detailed documentation of the abuse was available for all the cases. The present research goals were to (1) examine rates and identify predictors of subjective forgetting of documented CSA, (2) examine subjective characterizations of complete forgetting, (3) identify CSA cases that reflect recovered memory of CSA, (4) compare objective memory for individuals who reported experiences of complete subjective forgetting with that for those who did not, and (5) compare predictors of subjective forgetting with predictors of objective memory.

Method

Participants and sample characteristics. Between 1985 and 1987, 218 children (167 female), 4 to 17 years of age, participated in the original study (Goodman et al., 1992). At that time, detailed information was collected from multiple sources (e.g., prosecutor files, nonoffending caregivers, and child victims) regarding characteristics of the abuse (e.g., perpetrator identity, sexual acts, and abuse duration) and the legal case (e.g., number of times the children testified). None of the cases involved sensational daycare or satanic ritual abuse allegations. Approximately 13 years later (original study to current interview, $M = 13.09$ years, range = 10.66–16.58 years; end of abuse to current interview, $M = 13.86$ years, range = 11.50–19.00 years), the former participants were located and invited to take part in the present research. Of the 218 original participants, 1 was excluded because the perpetrator was not 4 years older. Thus, her case did not meet the legal definition of CSA (i.e., a 4-year child–perpetrator age difference). Of the 217 eligible 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, 142 (81%) disclosed the documented sexual abuse experience (Goodman et al., 2003). Four of the disclosers did not respond to our questions related to forgetting and were thus excluded. The present report is based on the 138 remaining individuals. Of these individuals, 80% were females. With respect to ethnic background, 10.4% were African-American, 64.7% were Caucasian–non-Hispanic, 14.6% were Hispanic, 0.7% were Asian-American, 1.5% were of other ethnicity, and 8.1% had a mixed racial background. The participants' age at the time when the abuse ended ranged from 3 to 16 years ($M = 9.51$, $SD = 3.31$). Abuse severity, indexed by a composite of abuse duration, extent of sexual activity, use of force, and extent of injury to the child ranged from 2 to 9 (on a 12-point scale; $M = 4.93$, $SD = 1.74$). The alleged abuse was perpetrated by a parental figure (i.e., parent or stepparent) in 24% of the cases. The majority (89%) of children received maternal support (on the basis of researchers' ratings at the time of legal involvement) following their disclosure of abuse. Legal involvement was assessed on a 3-point scale (1 = *did not go to court*, 2 = *went to court but did not testify*, 3 = *testified*; $M = 2.01$, $SD = 0.81$).

Procedure. For scientific and ethical reasons, the participants were never told that we knew of their past victimization, legal involvement, or original study participation. The research was described as being concerned with experiences shaping individuals' attitudes toward the legal system. Although the study was conducted

in three phases (i.e., a phone interview, a mailed questionnaire, and an in-person interview), this report concerns data collected during the phone interview, for which we have the most complete sample. In all three phases, information about mental health, victimization, legal experiences, and attitudes toward the legal system was elicited. CSA was defined as exhibitionism, sexual touching, 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 more than 4 years older. Upon disclosure of CSA during the first phase, additional factual information (e.g., age at the beginning and at the end of the abuse or type of sexual acts) was solicited. In addition, the individuals were asked, "Did you ever temporarily forget or have no memory of these sexual experiences?" If they responded affirmatively, they were asked, "During the time you forgot about the sexual events, or had no memory of them, if someone had asked you if these sexual events had ever happened to you, would you have remembered?" The participants were then asked to select, from among a number of options, reasons why they thought that they had experienced forgetting: (1) "I did not think about it and eventually I forgot"; (2) "I felt afraid, and I did not want to think about it"; (3) "I did not think it was important"; (4) "It was so horrible that I pushed it out of my mind"; (5) "It happened so often that I can't remember it all"; (6) "I was too young to remember"; (7) "I don't know why I forgot." The participants could select more than one reason and were also given the opportunity to indicate reasons other than those provided. Finally, the participants were asked to describe how they had recovered their memories.

Discrepancy coding. Information about four core abuse details (i.e., age at the beginning of the abuse, age at the end of the abuse, type of sexual activity, and frequency of abuse) was elicited from the participants during the phone interview. The participants were given response options corresponding to those used for coding information by Goodman et al. (1992), thus allowing for direct comparison between current reports and the original documentation. Age at the beginning and at the end of abuse was reported in years. Type of sexual activity was reported as 1 (exhibitionism), 2 (nongenital contact; e.g., fondling of the child's breasts), 3 (genital contact including oral sex, but no vaginal or anal penetration), or 4 (vaginal or anal penetration/intercourse). Frequency of abuse was reported as 1 (once), 2 (two or three times), or 3 (more than three times).

Discrepancy scores were calculated by a computer program that compared current reported scale scores with information originally documented, using scales analogous to those described in Goodman et al. (1992). For each detail, the computer program was set to assign a score of 0 if the information currently reported corresponded to that in the original documentation (e.g., if abuse frequency was scored as "2" originally and also was scored as "2" now by the victim) and a score equal to 1 if a discrepancy was detected. For each participant, a mean discrepancy score was created by averaging across scores for each detail. This score was used as our measure of *objective* memory.

Results

Prevalence and predictors of subjective forgetting. Of the 138 participants who answered the question about forgetting, 15% ($n = 21$) reported a prior period of no memory for the documented case. One individual responded "I don't know" and was, thus, excluded from further analyses, leaving a total of 137 participants. We next performed a logistic regression analysis, in which the dichotomous subjective forgetting variable was regressed on the prespecified predictors: age at end of the abuse, victim gender, abuse severity, maternal support, relationship to the perpetrator, extent of legal involvement, and ethnicity. All of the variables were entered simultaneously. Correlations among these variables are presented

in Table 1. Variance inflation factor (VIF) scores for the correlations among the predictors ranged from 1.03 to 1.19, indicating that collinearity was not a problem in this sample. (VIF scores above 10 are typically considered indicative of serious collinearity; Cohen, Cohen, West, & Aiken, 2003.) The results from the logistic regression are presented in Table 2.

The more severe the abuse, the more likely individuals were to report total forgetting of their CSA experiences. Also, males were more likely than females to report forgetting. The effect of extent of legal involvement approached statistical significance: Total forgetting appeared to be less likely for individuals who had experienced more extensive legal involvement. Victim age, maternal support, relationship to the perpetrator, and ethnicity were not significant predictors of subjective forgetting.¹

Previous research has emphasized that the more victims feel betrayed by the perpetrator, the more likely they should be to experience forgetting of abuse (e.g., Freyd, 1996). Insofar as the relationship to the perpetrator (i.e., parental figure vs. nonparental figure) reflects the victim's closeness to the perpetrator, the lack of association between relationship to the perpetrator and subjective forgetting may have important theoretical implications. One could argue that relationship to the perpetrator failed to emerge as a significant predictor, due to a lack of power. However, the zero-order correlation between this variable and subjective forgetting was close to zero (Table 1), indicating that even with sufficient power to measure this relation, its effect size would be extremely small. Furthermore, when we substituted this measure of relationship with the perpetrator with a measure of relationship betrayal, the zero-order correlation was still close to zero [$r(134) = .06, p = .57$]. We acknowledge that these measures may not capture the complexity of the relationship betrayal construct investigated by Freyd (1996).

The two categorical variables used in the regression analyses, gender and ethnicity, were not distributed with 50/50 proportions on the two possible categories. In fact, only a few observations for African-American males were available. Thus, we conducted additional logistic regres-

sions, alternatively excluding the variables of gender and ethnicity. When we excluded gender, the model was significant [$\chi^2(6) = 16.14, p < .05$; Nagelkerke $R^2 = .21$]. As in the regression presented in Table 2, severity was a significant predictor of subjective forgetting ($\beta = 0.38, p < .05$), and legal involvement closely approached statistical significance ($\beta = -0.67, p = .055$). When we excluded ethnicity, the model was significant [$\chi^2(6) = 19.87, p < .01$; Nagelkerke $R^2 = .25$]. Again, severity was a significant predictor of subjective forgetting ($\beta = 0.38, p < .05$), and legal involvement closely approached statistical significance ($\beta = -0.68, p = .057$). Finally, as in the overall equation, gender significantly predicted subjective forgetting ($\beta = -1.41, p < .05$).

Zero-order correlations between subjective forgetting and several additional variables of theoretical importance were also examined in a subset of participants for whom additional data (from later phases of the study) were available. Most of the results did not show significant relations; however, there were some notable exceptions. First, dissociation ($M = 13.74, SD = 13.55$; Dissociative Experience Scale; Bernstein & Putnam, 1986) was significantly associated with subjective forgetting [$r(97) = -.25, p < .05$]: Individuals with more dissociative symptoms were more likely to report forgetting. Second, individuals with higher scores on the intrusive experiences (flashbacks, nightmares, and intrusive thoughts) subscale of the Trauma Symptoms Inventory (TSI; $M = 7.64, SD = 5.94$), a measure of posttraumatic symptomatology (Briere, Elliott, Harris, & Cotman, 1995), tended to be more likely to report forgetting [$r(101) = .18, p = .08$]. Finally, there was a significant correlation between the participants' estimates of the number of months they had spent in therapy ($M = 43.87, SD = 64.49$) and subjective forgetting [$r(77) = .28, p < .05$], so that individuals who reported more time in therapy were more likely to report forgetting.²

However, these additional variables (dissociation, intrusive experiences, and amount of therapy) were highly interrelated. The correlation between levels of dissociative symptoms and intrusive experiences was quite robust [$r(96) = .51, p < .001$], as was the correlation between

Table 1
Correlation Matrix Among Variables of Interest

	1	2	3	4	5	6	7	8	9
1. Subjective forgetting ^a									
2. Objective memory ^b	-.07								
3. Victim age (in years)	-.04	-.12							
4. Victim gender ^c	-.19*	.02	.00						
5. Abuse severity ^d	.20*	-.15	.08	.03					
6. Maternal support ^e	.14	-.15	-.02	-.06	-.11				
7. Relationship to perpetrator ^f	.05	.03	.15	.24**	.17*	.08			
8. Legal involvement ^g	-.13	-.27**	.07	-.02	.02	.11	-.19*		
9. Ethnicity ^h	.11	.18*	-.00	.11	.05	.11	-.08	.03	

^aSubjective forgetting: 0 = did not forget; 1 = forgot. ^bObjective memory: Higher scores indicate higher proportion of discrepancies between original documentation and current reports (range, 0–1). ^c0 = male, 1 = female. ^dHigher scores indicate more severe abuse (range, 2–10). ^e0 = did not receive support, 1 = received support. ^f0 = nonparental figure, 1 = parental figure. ^g1 = went to court, 2 = went to court but did not testify, 3 = testified. ^h0 = non-African-American, 1 = African-American. * $p < .05$. ** $p < .01$.

Table 2
Logistic Regression Predicting Subjective Forgetting

	β	SE	Wald	df
Victim age (in years)	-0.01	0.09	0.001	1
Victim gender ^a	-1.51*	0.64	5.64	1
Abuse severity ^b	0.38*	0.16	5.75	1
Maternal support ^c	8.24	24.84	0.11	1
Relationship to perpetrator ^d	-0.21	0.73	0.08	1
Legal involvement ^e	-0.69 ^t	0.36	3.67	1
Ethnicity ^f	1.21	0.81	2.23	1

Note— $\chi^2(7) = 21.79, p < .01$; Nagelkerke $R^2 = .27$. Dependent measure: 0 = did not forget; 1 = forgot. ^a0 = male, 1 = female. ^bHigher scores indicate more severe abuse (range, 2–10). ^c0 = did not receive support, 1 = received support. ^d0 = nonparental figure, 1 = parental figure. ^e1 = did not go to court, 2 = went to court but did not testify, 3 = testified. ^f0 = non-African-American, 1 = African-American. ^t $p = .055$. * $p < .05$.

intrusive experiences and time spent in therapy [$r(73) = .43, p < .001$]. Finally, the correlation between dissociative symptoms and time spent in therapy was not negligible [$r(73) = .21, p = .07$]. These correlations raise questions about the independence of their associations with subjective forgetting. Thus, partial correlations were examined. The correlation between time spent in therapy and subjective forgetting was substantially reduced when we controlled for intrusive experiences and dissociative symptoms (i.e., this correlation was reduced to .10 with intrusive experiences partialled and to .17 with dissociative symptoms partialled; neither of these correlations was statistically significant). The correlation between dissociative symptoms and subjective forgetting was also largely reduced when we controlled for the other variables (i.e., this correlation was reduced to .05 with scores for intrusive experiences partialled and to .14 with time spent in therapy partialled; neither of these correlations was significant). In contrast, the correlation between intrusive experiences and subjective forgetting did not decrease when partial correlations were examined [i.e., this correlation was equal to .19 ($p = .11$) with amount of time spent in therapy partialled and was equal to .20 ($p = .10$) with dissociative symptoms partialled].

Subjective characterization of forgetting. What reasons did the victims provide for temporarily forget-

ting the documented CSA? Among the individuals who reported periods of complete forgetting ($n = 21$), the most frequently endorsed options were “I felt afraid, and I did not want to think about it” and “It was so horrible that I pushed it out of my mind” (86% and 81%, respectively). These responses clearly reflect individuals’ active attempts to avoid thinking about the trauma. Each of the options “I did not think about it and eventually I forgot” and “It happened so often that I cannot remember it all” was endorsed by 57% of the participants. Each of the options “I was too young to remember” and “I don’t know why I forgot” was endorsed by 38% of the participants. Finally, 14% of the participants endorsed the option “I did not think it was important.”

We were also interested in how these reasons for forgetting related to the victims’ actual experiences regarding the documented CSA. We thus examined (1) the extent to which these reasons (e.g., “It was so horrible that I pushed it out of my mind”) were related to the previously documented abuse characteristics and (2) whether the individuals’ reasons better reflected the abuse characteristics as documented in the original case or as currently described. As is evident from Table 3, endorsement of these options was often significantly correlated with abuse characteristics. These correlations validate, to a certain extent, the victims’ self-report of the reasons why they tried to forget.³ For example, the individuals who experienced more frequent CSA were significantly more likely to endorse the option “It happened so often that I cannot remember it all.” Furthermore, both frequency and extent of sexual contact (at the time of the original study and as currently reported) were significantly associated with increased likelihood of endorsing the option “It was so horrible that I pushed it out of my mind”: The participants who experienced more frequent and invasive sexual abuse were more likely to actively try to forget the abuse. Of note, the magnitude of these correlations was large for both current reports of abuse characteristics and previously documented abuse characteristics but was generally larger for the former than for the latter. There are several possible interpretations of this pattern of correlations. For example, discussing the abuse with the interviewer and having described it with certain characteristics may have influenced the reasons

Table 3
Correlation (r) of Each Reason for Forgetting With Abuse-Related Variables, According to Current Description (Curr) and Previous Documentation (Prev)

Reasons for Forgetting	Age at the End of Abuse		Frequency of Abuse		Extent of Sexual Contacts	
	Curr	Prev	Curr	Prev	Curr	Prev
I did not think about it and eventually I forgot	.09	.07	.30	.10	.09	.12
I felt afraid, and I did not want to think about it	-.17	.06	.54*	.22	.03	.10
It was so horrible that I pushed it out of my mind	-.18	-.07	.65**	.41 ^t	.73**	.47*
I did not think it was important	-.02	-.04	-.24	-.48*	-.51*	-.60*
It happened so often that I can’t remember it all	-.05	-.18	.85*	.47*	.09	.12
I was too young to remember	-.31	-.30	-.07	.16	-.22	-.20
I don’t know why I forgot	-.06	-.17	.04	-.30	-.30	-.31

Note—Options are not mutually exclusive (0 = reason does not apply; 1 = reason applies); $n = 21$. ^t $p = .05$. * $p < .05$. ** $p < .001$.

that individuals provided for forgetting. However, it also is possible that the children's initial reports of the abuse may have somewhat underestimated or overestimated some of the CSA characteristics (e.g., abuse frequency).

Subjective characterization of recovery. To argue that memories of CSA are temporarily *repressed*, one should ideally have proof that these memories were truly lost in the first place. When respondents indicated subjective forgetting (i.e., that there was a time during which they had no memory for the documented CSA), their responses rested on their interpretation of the word *forgetting*. To clarify what the respondents meant, we asked them if they would have remembered the CSA if someone had asked them directly about it. Of the individuals who reported complete forgetting, 24% ($n = 5$; 3 male) indicated that they would not have remembered the forgotten abuse even if someone had asked them directly about it. This self-reported inability to retrieve CSA memories, even when prompted, may be considered the signature of *repressed* CSA memory. Thus, these 5 individuals' explanations of memory recovery are of particular interest, because such explanations may provide information about whether these memories were recovered after long delays (i.e., in early adulthood), as in some of the cases that have captured public and media attention. We will describe these individuals' responses next.

Case 1. This individual (who did not endorse any of the forgetting options we provided) explained that he was sleeping when he was assaulted and that, thus, his memory never fully came back. An eyewitness confirmed the events, and two other children reported being molested by the same man. The perpetrator, a stranger to the child but acquainted with the family, was incarcerated as a result of his acts.

Case 2. This participant reported that he recovered his memory when the perpetrator called his parents to confess; his parents reported the offense to the police (a few years after the last offense) and involved their son in a CSA therapy center. On the basis of the original documentation, the perpetrator, a close family friend, abused the child for several years, ending when the child was 5, whereas the report to the authorities occurred when he was 7, following the perpetrator's admission. The perpetrator, a known child molester, was sentenced to the Department of Corrections. As an adult, the victim reported that participating in the therapy center activities as a child helped him remember and cope with the experience.

Case 3. This individual disclosed the CSA at age 13 while in a residential facility for children with emotional problems. The alleged perpetrator was a female staff member of the facility. The participant attempted suicide after disclosing. He told us that it was after the suicide attempt that he forgot the CSA experience. The memory came back, he explained, when, in court as an adolescent, he saw the perpetrator again. Although implicating testimony was offered at trial (another staff member reported the suspicious nature of the relationship between the victim and the staff member), the defendant was found not guilty.

Case 4. This participant, whose abuse by her mother's live-in partner ended at age 4 according to the original

documentation, currently reported that she remembered details about the abuse when she was about 6 but does not remember those details now, despite her evident awareness of being a CSA victim. Although penetration was alleged, there was no corroborative evidence, and the case was dismissed because the child refused to testify.

Case 5. This final participant did not provide any information about memory recovery. According to our records, the abuse occurred once when she was 8. The perpetrator was her biological father, who had a past record of committing CSA. There was circumstantial evidence in this case, and the perpetrator received probation.

Overall, these case examples indicate that if CSA was forgotten in childhood, it was also likely to be recovered in childhood, rather than later on in adulthood. Thus, we found no evidence of adult recovery of CSA memories. However, recovery descriptions were not fully available for all five cases.

Objective memory: Discrepancy with original documentation. To understand whether subjective forgetting has implications for the accuracy of CSA memory, we entered our measure of objective memory (i.e., mean discrepancy score) as a dependent measure in an ANOVA, with subjective forgetting broken down into three groups. No significant differences in objective memory accuracy emerged: individuals who reported complete forgetting and responded that they would *not* have remembered the abuse even if they had been asked about it during the time of forgetting, $M = .47$, $n = 5$; individuals who reported complete forgetting but responded that they would have remembered the abuse during that time if they had been asked, $M = .47$, $n = 15$; and individuals who did not report forgetting, $M = .50$, $n = 117$ [$F(2,134) = 0.09$, $p = .92$]. Thus, having reportedly experienced complete forgetting does not appear to hinder objective memory for abuse. However, the report of subjective forgetting may not necessarily mean that actual forgetting occurred.

Predictors of objective memory. Finally, we were interested in investigating the extent to which predictors of objective memory corresponded to those of subjective forgetting. Mean discrepancy scores were regressed on the same variables as those used previously to predict subjective forgetting. All of the variables were entered simultaneously in the linear regression model. As is evident from Table 4, abuse severity significantly predicted discrepancy, so that the more severe the abuse, the fewer the discrepancies observed. This finding stands in sharp contrast to that for subjective forgetting: Although individuals who experienced more severe abuse were more likely to report having forgotten CSA, they nevertheless described their target CSA experience more accurately with respect to the original documentation.

Note that one of the indicators of abuse severity (i.e., extent of sexual contact) was also one of the units from which discrepancy scores were calculated. One could argue that the relation between severity and discrepancy is partly due to this overlap. However, the correlation between extent of sexual contact and the discrepancy score about extent of sexual contact was nonsignificant and of

small magnitude [$r(141) = .06, p = .48$]. Gender, which was related to subjective forgetting, was not a significant predictor of discrepancy. Finally, extent of legal involvement significantly predicted discrepancy, so that greater involvement (i.e., having testified) was associated with less discrepant reports. This finding is consistent with the observed negative relation between subjective forgetting and extent of legal involvement.⁴

As was done for subjective forgetting, the zero-order correlations between discrepancy and several additional variables of theoretical importance were examined. The results generally did not reveal significant relations. However, some exceptions are noteworthy because they are in the opposite direction from those observed for subjective forgetting. First, individuals with higher scores on the intrusive experiences subscale of the TSI (Briere, 1995) evinced fewer discrepancies in their recounts [$r(101) = -.21, p < .05$]. Second, higher scores on the posttraumatic defensive avoidance scale were also associated with lower discrepancy scores [$r(99) = -.20, p < .05$]. Individuals who attempt to distance themselves from trauma the most may be more likely to forget the abuse and, thus, report more discrepant information. However, the correlation between intrusiveness and defensive avoidance was positive and quite robust [$r(100) = .71, p < .001$]. Thus, the participants who experienced more intrusive thoughts were also more likely to attempt to defensively avoid those thoughts. However, such attempts may not successfully push away the memory of the abuse, as is suggested by the negative correlation between symptomatology and discrepancy. In fact, such attempts are associated with greater memory accuracy. Finally, there was a nonsignificant tendency for the participants who estimated more time spent in therapy to provide less discrepant information scores [$r(77) = -.19, p = .09$].⁵

To address concerns related to the independence of the relations of intrusiveness, defensive avoidance, and time in therapy to objective memory, we performed partial correlations between each of the three variables and objective memory, controlling for each of the other two variables. Although the correlations generally decreased relative to

the zero-order correlations, the magnitude of the decrease was relatively small (reductions ranged from .02 to .06) and was nonsignificant in all cases, on the basis of the Sobel test, with the exception that the relation between avoidance symptoms and objective memory disappeared when we controlled for intrusive symptoms ($r = -.01, p = .9$).

Discussion

The overarching goal of the present study was to learn more about subjective forgetting and the fate of memories of childhood trauma. We investigated the prevalence of self-reported forgetting of documented CSA, the factors predicting such phenomenological experience, and individuals' characterizations of self-reported forgetting and recovery. In addition, we examined whether indicators of objective CSA memory differed between individuals who experienced subjective forgetting and those who did not. Finally, the extent to which predictors of subjective forgetting also predicted objective CSA memory was investigated.

The rates of self-reported complete forgetting obtained in the present study are similar to previous findings published by Williams (1995)—15% and 16%, respectively—thus confirming that retrospective studies may have overestimated subjective forgetting rates, at least for CSA cases that were reported to the authorities. Also consistent with Williams's (1995) study is the finding that individuals were more likely to report forgetting when they experienced more severe abuse (i.e., increased physical force in Williams's sample) and that objective memory for details of the abuse did not significantly differ between those who reported complete forgetting and those who did not. Replicating some core results of the only other relevant prospective study that is available to date bolsters the solidity of research findings on such a controversial topic. The present study, however, afforded the opportunity to extend previous findings, leading to different conclusions from those previously drawn.

Previous retrospective research implied that subjective assessments of forgetting reflected objective memory states (i.e., actual forgetting). In the present study, we found that subjective forgetting was not necessarily pre-

Table 4
Linear Regression Predicting Objective Memory

	Unstandardized β	SE	β	<i>t</i>
Victim age (in years)	-.008	.01	-0.09	-0.92
Victim gender ^a	-.02	.06	-0.04	-0.46
Abuse severity ^b	-.03	.01	-0.17**	-1.97
Maternal support ^c	-.11	.08	-0.12	-1.37
Relationship to perpetrator ^d	.03	.07	0.04	0.46
Legal involvement ^e	-.09	.03	-0.24*	-2.83
Ethnicity ^f	.14	.08	0.15	1.70

Note— $F(7,123) = 2.92, p < .01; R^2 = .14, \text{adjusted } R^2 = .09$. Dependent measure: mean discrepancy score between original documentation and current report, ranging from 0 to 1 (i.e., higher scores indicate greater discrepancy). ^a0 = male, 1 = female. ^bHigher scores indicate more severe abuse (range, 2–10). ^c0 = did not receive support, 1 = received support. ^d0 = nonparental figure, 1 = parental figure. ^e1 = did not go to court, 2 = went to court but did not testify, 3 = testified. ^f0 = non-African-American, 1 = African-American. * $p = .05$. ** $p < .001$.

dicted by the same variables (or in the same direction) as objective memory. First, individuals who experienced more severe abuse were more likely to report complete subjective forgetting. Among those who reported subjective forgetting, those who experienced more severe abuse were also more likely to report that they actively attempted to push the memories out of their mind. These results are consistent with the notion that more extreme forms of trauma are more likely to become unavailable to awareness, perhaps because considerable resources are required to control memory intrusions.

Of interest, however, we also found that abuse severity was negatively related to the discrepancy between original documentation and current reports. That is, individuals who suffered more severe abuse actually had more accurate long-term memories for childhood sexual incidents. Is it plausible to hypothesize that experiencing a lack of memory enhances that memory once it is recovered? Probably not. Recent compelling research on inhibitory processes has demonstrated that active attempts to push memories out of awareness can successfully impair memory for the actively suppressed material (Anderson et al., 2004; Levy & Anderson, 2002). On the basis of this research, we would expect individuals who report complete subjective forgetting to evince lower levels of memory accuracy than do those who do not. In the present study, however, objective memory did not differ according to whether or not the participants reported subjective forgetting. By the same token, if the experience of more severe abuse is associated with higher levels of subjective forgetting, we should expect a similar association between abuse severity and failure to report accurate memories. Our results are also inconsistent with this expectation: Increased severity was associated both with higher probability of reporting forgetting and with lower discrepancy scores.

One viable interpretation of this finding is that the experience of severe abuse is more likely to elicit the *forgot-it-all-along* effect (Schooler et al., 1997). This effect occurs when an individual claims to have completely forgotten an event, although there is evidence (e.g., from family members) that the memory was accessible during the time in which forgetting allegedly occurred. In other words, individuals may forget having previously been able to retrieve a memory (as opposed to forgetting the event entirely), leading to the subjective impression of amnesia. Schooler and colleagues proposed that because memories of abuse are emotionally intense, individuals may assume that recalling such incidents would be a memorable experience in its own right. Thus, they may interpret their failure to recall prior acts of remembering as evidence that the memory had not been retrieved. It is possible that memories of more severe abuse, being more emotionally intense, are more likely than those of less severe abuse to elicit the emotional reaction discussed by Schooler and colleagues, resulting in higher rates of subjective forgetting.

Another variable that was differentially associated with subjective forgetting and objective memory provides insight into the mechanisms that may be involved. Specifi-

cally, results concerning intrusive thoughts, as measured with the TSI (Briere, 1995), support the idea that thinking about an experience may, somewhat paradoxically, lead to higher estimates of forgetting: Individuals who suffered from more intrusive trauma thoughts remembered the abuse better but also tended to be more likely to report having experienced forgetting. This finding is consistent with the results obtained in the laboratory by Read and Lindsay (2000). Recall that in Read and Lindsay's (2000) study, after a first retrieval attempt (and assessment of forgetting), participants were asked to spend time thinking about the previously recalled events and trying to remember as much about them as possible. At a later retrieval attempt, the participants were more likely to report forgetting than they had been previously (and in comparison with participants who had not been instructed to recall the events). Read and Lindsay (2000) argued that reports of forgetting are likely to emerge after periods of sustained attempts to recall past experiences: As more details about the past are retrieved, individuals may become more aware of the difficulty of accessing memories (see also Winkelman et al., 1998). Thus, in our study, the individuals who retrieved more information about the past, or at least did so more accurately, might also have been more aware of the difficulties of accessing memories of the CSA experience and, therefore, indicated that they had had periods in the past with no or less memory of the CSA.

However, there may be an additional interpretation of the finding that individuals who suffered from more intrusive trauma thoughts remembered the abuse better but also tended to be more likely to report having experienced forgetting. Specifically, this finding may indicate that for these individuals, forgetting means being able to keep intrusive thoughts out of mind.

Thus, the more individuals gained (even unwilling) access to accurate memory, the more they appeared to believe that they had previously experienced forgetting. This finding raises the issue of how participants interpret questions concerning subjective forgetting. For example, some people might interpret the question "Did you ever temporarily forget or have no memory of these sexual experiences?" to mean, "Was there ever a time when you were not thinking about the abuse?" or "Was there a time when you had less memory than you do now?" Accordingly, some individuals may use a relative, instead of an absolute, judgment when responding; that is, they may respond about periods in which they had less memory for the event than currently or were going about their lives not thinking of the event, instead of periods in which no memory for the abuse was accessible (i.e., periods of amnesia).

Overall, then, it seems possible that subjective forgetting may reflect more than just memory per se, but also other kinds of cognitive processes, such as assessments of attempts to avoid thinking about the abuse, metacognitive evaluations (e.g., "Is this something I could forget?"), and/or appraisals of some other characteristic of the memory (e.g., valence). Moreover, individuals tend to forget past acts of remembering (Padilla-Walker & Poole,

2002; Schooler et al., 1997), especially when the conditions under which retrieval occurs change across occasions (Arnold & Lindsay, 2002, 2005).

In our study, which was procedurally similar to those conducted by other researchers, individuals were first asked to disclose key information about the abuse (e.g., when it happened and the sexual acts involved). They were then asked to evaluate whether they had experienced complete forgetting and, if so, the reasons for forgetting. Reasons for subjective forgetting were more strongly related to current reports of abuse characteristics than to abuse characteristics documented in the original study, although the relations with the latter were notable as well. Thus, simply discussing the abuse may have influenced the reasons individuals provided for forgetting, as well as increasing the probability of reporting subjective forgetting. In addition, current appraisals of the emotional content of the memories may have further influenced the relations found, in that current appraisal of abuse memories (e.g., their emotionality) may have affected evaluations of past attempts to forget (Levine, 1997; Levine, Safer, & Lench, 2006).

Our findings regarding gender are also consistent with the possibility that the tendency to report periods of complete forgetting increases after attempts have been made to avoid discussing abuse. Males were more likely than females to report subjective forgetting, despite no significant gender differences in objective CSA memory (Goodman et al., 2003; but see Alexander et al., 2005). However, males' increased subjective forgetting may reflect their attempts to avoid such memories or, possibly, their reluctance to portray themselves as ruminating about painful thoughts.

Relatedly, males' tendency to report forgetting may be due to gender differences in motivation to report consequences of abuse: Whereas female victims in our society are encouraged to come forward and heal from CSA sequelae, males may be more motivated to distance themselves from their experiences, especially given the purported relation between early CSA and later homosexuality and/or CSA perpetration among males (Grubman-Black, 1990). It should be noted that women are typically more likely than men to report subjective forgetting in retrospective studies (see Epstein & Bottoms, 1998, 2002). Our results contradict these findings, thus emphasizing the potential misrepresentations that may arise from relying on retrospective samples. We cannot exclude the possibility, however, that the males in our sample are not representative of male CSA victims more generally.

In one instance, there was a correspondence between our measures of subjective forgetting and objective memory. Individuals with greater CSA-related legal involvement, who likely had more opportunities to recount details of the abuse and to discuss the abuse with others, were less likely to report subjective forgetting. Individuals typically know that rehearsing and discussing events enhances retention (e.g., Justice, 1986): When past forgetting is evaluated, retrieving salient experiences, such as testifying in court, may provide valuable evidence that the abuse was remembered. Individuals with more extensive legal involvement

also provided more accurate accounts of the abuse. This finding is consistent with our findings regarding disclosure (Goodman et al., 2003) and suggests that rehearsing and discussing the events in court (or in preparation for court) enhances long-term retention of core details.

The victims' age at the end of the abuse, ethnicity, and relationship to the perpetrator, as well as the provision of maternal support, were not significantly related to either subjective or objective memory measures. With respect to maternal support, CSA cases are more likely to be prosecuted when they involve victims who are supported by their mothers (Freyd, 2003; Murphy, 2003). Thus, a higher proportion of the participants in our study may have received maternal support than in the general population of sexually abused children. Furthermore, individuals who did not receive maternal support, as well as those who were younger when the abuse ended and who were African-American, were less likely to disclose abuse (Goodman et al., 2003). Because nondisclosers were not included in this report, the lack of association between maternal support, age, and ethnicity and our memory measures may reflect the unique characteristics of our sample of disclosers: To the extent that the variables above are truncated in this sample, the probability of detecting significant relations with forgetting is reduced.

With respect to relationship to the perpetrator, our results do not confirm the relation with forgetting found in other research (e.g., Freyd, 1996; Freyd et al., 2001). This relation has been observed primarily in retrospective samples. Given that reports of abuse and measures of forgetting are self-reported and obtained concurrently, it is possible that this association is partly an artifact of the methods used. It is of importance, however, that one of our measures reflects the perpetrator's role in the family and does not explicitly measure the emotional closeness experienced by the victim. Our measure of relationship betrayal is also limited in that it was based on observer report. Both of our measures may not fully capture the complexity of Freyd's (1996) relationship closeness/betrayal construct.

Although the results discussed thus far challenge the notion that subjective assessments of forgetting necessarily reflect true lack of memory (or awareness) of being abused, we do not have direct evidence to rule out the possibility that individuals who reported complete forgetting actually lost and later recovered their memory for the abuse. However, if we take subjective assessments of forgetting at face value, we should also take into account subjective assessments that contradict the possibility that memory was truly unavailable during the time of reported forgetting. In this study, when individuals who reported forgetting were asked whether they would have remembered the abuse if asked about it, only 5 responded negatively (i.e., less than 4% of our sample of disclosers). Furthermore, from the descriptions of the *recovery* triggers, we learned that none of the individuals who provided descriptions of their recovery experiences underwent a long-lasting loss of memory (eventually recovered in adulthood over the course of therapy): Two participants

reported that memory recovery occurred in childhood, before or during the legal case, and another participant stated that she still cannot remember the abuse. From a 4th participant's description, we can infer that the abuse was perhaps never truly encoded (i.e., the victim was awakened by the abusive acts perpetrated while he was sleeping). The 5th respondent provided no relevant information. Thus, paradoxically, if subjective assessments were taken at face value, as far as we know, we did not identify any stereotypical adult *repressed/recovery* case, although one may argue that a few participants experienced memory recovery as children, that some individuals who did not disclose CSA in our larger sample (see Goodman et al., 2003) might someday recover CSA memories as adults, and that two of our cases are ambiguous as to when the recovery took place. Most likely, however, as was previously argued, different processes support subjective and objective memory assessments. Subjective assessments may reflect evaluations of memory based on current information, whereas objective assessments may more directly reflect the current status of abuse memory.

CAVEATS AND CONCLUSIONS

Before concluding, we note four caveats to our research. First, all the CSA cases included in this study were referred for prosecution. Most CSA incidents are not reported to the authorities, and of those that are reported, only a small percentage are ultimately prosecuted (Murphy, 2003). Children in prosecution samples typically receive legitimization of their claims (Freyd, 2003; Goodman et al., 2003) and may be particularly likely to discuss their experiences with others, which may maintain memories over the long term. Furthermore, children whose cases are prosecuted experience more public exposure than do those whose abuse is kept secret (Freyd, 2003). By definition, all individuals whose abuse is not revealed in childhood will be excluded from prospective samples (Cheit, 2003).

Furthermore, some differences between prosecution and nonprosecution samples pertain to criteria used by prosecutors to select cases. For example, cases in which children provide less consistent and detailed allegations are less likely to be prosecuted (Gray, 1993; Putnam, 2003). Selection criteria alone may magnify differences between prosecution and nonprosecution samples with respect to remembering and forgetting of abuse in the long term: Children whose memory displays gaps from the start are less likely to have the opportunity to recount their experiences in court, possibly further hindering memory retention.

Thus, we cannot determine how generalizable our results are to nonreported CSA cases or to cases that are revealed for the first time after long delays (i.e., beyond childhood). Given that individuals in prosecution samples may recount their experiences on numerous occasions, such individuals may generally remember the abuse better than do individuals in nonprosecution samples. It is not clear, however, how and why the variables used in the present research would predict subjective and objective memory measures differently in prosecution and nonpro-

secution samples, assuming that there is some variability on key variables. In our sample, such variability is present. For example, the finding that extent of legal involvement (i.e., one of the main differences between prosecution and nonprosecution samples) is a reliable predictor of both subjective and objective memory measures indicates that there is sufficient variability in our measure of legal involvement for significant associations to be detected.

Moreover, the prevalence of subjective forgetting in our study is comparable to that reported by Williams (1995) with a nonprosecution sample and substantially lower than that found in retrospective studies (e.g., Roe & Schwartz, 1996; Wilsnack et al., 2002). This correspondence suggests that despite the differences, our sample and Williams's may be similar in important ways. In general, trade-offs are common in research involving difficult-to-obtain samples. Although our prosecution sample may be biased in some ways, it afforded the opportunity to document the CSA experience at a level of detail that is not easily matched with other types of research.

A second caveat concerns statistical power. Reduced power may have affected our ability to detect existing associations, such as that of maternal support with forgetting. Furthermore, our sample size limited the number of variables that could be included at one time in regression analyses. However, this problem is reduced by the small correlations among predictors and lack of suppression effects. Also, the results of the regression analyses match those of zero-order correlations for which power concerns are necessarily reduced. Hence, our failure to detect associations between forgetting and some variables of interest cannot be ascribed simply to lack of power. For example, the correlation between relationship to the perpetrator and forgetting not only is nonsignificant, but also closely approaches zero. Thus, even if we had a much larger sample size to obtain a reliable measure of this relation, the effect size would still be small.

A third caveat concerns our measure of subjective forgetting. Like questions used in other studies, our questions may have been interpreted differently by the participants than by the researchers: For researchers, responses to questions about whether individuals completely forgot abuse have been used to address claims that complete amnesia for abuse was experienced. However, as was mentioned earlier, it is not fully clear whether the participants' interpretations agreed with the researchers' interpretations. The participants may have thought that "forgetting" referred to a variety of cognitive experiences (e.g., not thinking about an event, thinking about the event less than currently, or amnesia for being a CSA victim). To reduce this problem, we adopted a method also used in previous work (e.g., Read, 1997); that is, we asked participants whether they would have remembered the abuse if directly asked about it during the period of alleged forgetting. This question provides insight into the perceived accessibility of abuse memories, although we cannot be sure of exactly what the individuals forgot.

Nevertheless, to the extent that our study examined the prevalence and predictors of subjective forgetting and com-

pared such predictors with those of objective memory, we have begun to elucidate the characteristics of subjective forgetting of CSA. Future studies should attempt to replicate these results and further explore similarities and differences in the nature of the factors affecting subjective and objective memory measures. For the time being, although subjective forgetting is of interest in its own right (e.g., to understand how individuals think about and characterize their memory experiences) and measures of subjective forgetting may, at times, resemble those of objective memory, our findings suggest that this is not always the case. Thus, we suggest that it may be problematic to use subjective forgetting as a proxy for actual amnesia when drawing conclusions about the fate of CSA memory.

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NOTES

1. When the same regression was performed only with participants for whom corroborative evidence was originally available ($n = 94$) or only with participants whose perpetrator plea bargained or was recognized guilty in the legal prosecution ($n = 103$), the same pattern of results emerged.

2. We conducted logistic regressions in which the following variables were added to the regression model reported in Table 2: self-reported number of other CSA experiences and self-reported number of childhood traumas (excluding CSA). Memory for these other events could interfere with that of the target event, resulting in higher forgetting rates. Variables were entered one at a time to guarantee that the analyses had sufficient degrees of freedom. From a psychoanalytic perspective, frequency of abuse should be positively related to the probability that defense mechanisms are implemented (Terr, 1991). Thus, one could argue that frequency of abuse should be positively related to forgetting, if repression occurs as a result of frequent abuse. When the two variables were included in the regression, none significantly predicted subjective forgetting, and the relations between the other predictors and forgetting were virtually unchanged. The same was true for other variables of clinical importance: original childhood behavioral adjustment (Child Behavior Checklist internalizing and externalizing scores; Achenbach, 1991), current mental health (Brief Symptom Inventory; Derogatis & Melisaratos, 1983), and originally reported self-blame. These measures were not significantly associated with forgetting even when zero-order correlations were examined. Additional mental health measures of interest (Beck Depression Inventory, Beck & Beamesderfer, 1974; Trauma Symptoms Inventory, Briere, 1995) were available for a subset of the participants. For this reason, we conducted correlations between each measure and subjective forgetting. Except for the relation between the intrusive experiences subscale and subjective forgetting, which ap-

proached statistical significance, all the TSI subscales (Briere, 1995) and diagnosis of posttraumatic stress disorder (PTSD) were not significantly correlated with subjective forgetting [$r_s(\geq 100) \leq .13, p \geq .19$].

3. We did not report correlations between reasons for forgetting and abuse severity, because in the phone interview, information concerning the severity of the abusive acts was not collected in the same fashion as in the original study, so the correlations would not be directly comparable.

4. When the same regression was performed only with participants for whom corroborative evidence was originally available ($n = 94$) or only with participants whose perpetrator plea bargained or was recognized guilty in the legal prosecution ($n = 103$), the same pattern of results emerged, with the exception that the effect of age was significant in the latter equation ($\beta = -.23, p < .001$), so that older participants remembered the abuse more accurately.

5. The same set of additional analyses conducted for subjective forgetting (see note 2) was also conducted with respect to our measure of objective memory. None of the additional predictors (i.e., number of additional CSA experiences, total number of non-CSA childhood traumas, and original and current mental health) significantly predicted discrepancy scores. In addition, none of the correlations between discrepancy and depression, dissociation, TSI subscales (except for the intrusive experiences and defensive avoidance subscales), or PTSD diagnosis was significant [$r_s(\geq 97) \leq |-.13|, p \geq .13$].

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