

Recalling more childhood events leads to judgments of poorer memory: Implications for the recovered/false memory debate

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Dissociative disorders that are believed to develop from childhood sexual abuse are often considered to include amnesia for childhood events, particularly the events that involve the abuse itself. One unresolved issue is the extent to which memory recovery attempts can contribute to claims of having amnesiac symptoms. Experiments with undergraduate subjects reveal that requiring more reports of childhood events will increase judgments of having poorer memory of one's childhood. The results are consistent with the use of heuristics when one is reasoning under conditions of uncertainty, as experienced difficulty in remembering more experiences is attributed to the incompleteness of childhood memory. The findings challenge the validity of reports of childhood amnesia that follow memory recovery attempts.

Adults claiming to have recovered hidden memories of being sexually abused as children have raised considerable controversy regarding whether any particular claim is genuine or is rather the result of suggestions introduced through the course of psychotherapy or by reading self-help books (Belli & Loftus, 1994, 1996; Berliner & Williams, 1994; Lindsay & Read, 1994). One facet of this debate has focused on the extent to which amnesia for childhood events is a valid predictor of one's having been sexually abused during childhood. Specialists of *dissociative identity disorder* (DID), formerly referred to as *multiple personality disorder* (MPD), often consider a history of childhood sexual abuse to be a major factor in the onset of the disorder and argue that amnesia for episodes of the childhood abuse is one likely symptom (Coons, 1994; Putnam, Guroff, Silberman, Barban, & Post, 1986; Ross et al., 1991). Some psychotherapists encourage the use of memory recovery techniques, such as hypnosis,

dream interpretation, and other therapeutic techniques, to reveal hidden memories that are repressed as a result of suspected abuse (Bass & Davis, 1988; Courtois, 1991; Edwards, 1987). Claims regarding the relationship between amnesia and childhood sexual abuse are open to criticism, however. Although amnesia for traumatic events such as childhood sexual abuse clearly can occur (Briere & Conte, 1993; Freyd, 1996; Schefflin & Brown, 1996), it is questionable whether such amnesia cannot be accounted for in terms of normal mechanisms of forgetting (see Shobe & Kihlstrom, 1997). Furthermore, the determination of the presence of amnesia does not appear to be based on any firm, objective criteria (Read, 1997; Read & Lindsay, 1994).

One difficulty is that there exist no clearly established norms for determining the degree of autobiographical memory loss that is to be expected in those who suffer amnesia from childhood sexual abuse. There is work which indicates that memory for childhood events is impaired in persons who suffer organic amnesia from physical trauma, but these amnesic individuals remember the more remote childhood events even better than more recent events, a pattern that is opposite to that of normal controls who remember the more recent events best (Kopelman, Wilson, & Baddeley, 1989; Zola-Morgan, Cohen, & Squire, 1983). Importantly, the pattern for psychogenic amnesia that is hypothesized to result from childhood

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trauma has never been fully investigated, with any distinctions regarding the extent of autobiographical memory content between persons hypothesized to suffer from childhood trauma induced amnesia and normal controls yet to be drawn. Further, the clinical determination of childhood amnesia is typically not based on an attempt to systematically measure the degree to which events from childhood can be remembered, but rather based on clinical judgments whose criteria of assessment are less than clear (Read, 1997), and for some clinicians, such judgments may depend on patients' self-reports of having a poor memory for childhood. In addition, checklists in the self-help literature, which consider the inability to remember childhood events to be one of the symptoms associated with childhood sexual abuse, encourage individuals to rely on their own self-assessments of the completeness of their childhood memory to determine the likelihood of their victimization (see, e.g., Blume, 1990, p. xix; Fredrickson, 1992, p. 51).

Clinical scales of dissociative disorders which include an indication of self-reported amnesia have also been somewhat crude in the determination of the amnesia. For example, Ross's (1989, p. 325) Dissociative Disorders Interview Schedule (DDIS) has one question dealing with amnesia for childhood events (answered "yes," "no," or "unsure"): "Are there large parts of your childhood after age 5 which you can't remember?" Interestingly, the responses to this question have been used to confirm amnesia with MPD patients in certain studies (Anderson, Yassenik, & Ross, 1993; Ross et al., 1991; Ross et al., 1990), although these studies lacked a normal control group for comparison.

This paper questions the validity with which individuals can assess the completeness of their childhood memory, by demonstrating that the self-reported determination of amnesia can be dramatically influenced simply by the act of searching for childhood memories. The search for childhood memories is one of the milder aspects of memory recovery techniques that have often been encouraged to be used to discover repressed memories of abuse (Bass & Davis, 1988; Courtois, 1991; Edwards, 1987). Even if such techniques are not used, there is no doubt that people who suspect themselves to be victims of childhood abuse, both within and outside the context of therapy, will engage in some search of childhood events. One possible factor that can influence judgments of whether one is amnesic for childhood events is the feeling of effort accompanying retrieval of childhood memories. Tversky and Kahneman's (1973) availability heuristic holds that people estimate the frequency of events on the basis of the subjectively experienced ease with which examples can be brought to mind. Drawing on this research, we propose that individuals estimate the extent to which they can remember childhood events by drawing on their subjective experience of ease or difficulty of recall. Given that recall becomes increasingly difficult as one tries to remember additional events, this conjecture predicts that attempts to recall a larger num-

ber of childhood events result in judgments of poorer childhood memory than do attempts to recall fewer events. Hence, even when individuals are able to recollect many childhood events, the effort expended by remembering the past may have the non-obvious consequence of decreasing one's belief in the completeness of one's memory.

A number of studies have shown relationships between the subjective experience of recall and knowledge judgments about the environment and the self (see Jacoby, Kelley, & Dywan, 1989; Schwarz & Clore, 1996; Tversky & Kahneman, 1973, for reviews). For example, Kelley and Lindsay (1993) found that subjects' confidence in answers to general knowledge questions increased when the answers, regardless of being correct or incorrect, had been made easier to retrieve by being unobtrusively presented in a previous task (see also Lindsay & Kelley, 1996). In related work, Schwarz et al. (1991) found that people form judgments of their own attributes on the basis of the ease or difficulty with which relevant information comes to mind. Subjects were asked to report either 6 or 12 examples of situations in which they behaved assertively, and following these reports, subjects had to evaluate their own assertiveness. Schwarz et al. found that subjects reported higher assertiveness after recalling 6 rather than 12 examples, in contrast to what one would expect if subjects were basing their self-judgments on the number of events recalled. In support of the conclusion that experiencing the difficulty of bringing more examples to mind reduced judgments of assertiveness, Schwarz et al. found that subjects did rate themselves as more assertive in the 12-events condition than in the 6-events condition when given information designed to discount the diagnosticity of their subjective experiences.

Similarly, the subjective experience of recalling childhood events may influence judgments concerning the completeness of childhood memory. Here we report on two experiments in which we introduced an analogue to the processes of remembering childhood events that would occur in attempts at determining whether one is a victim of childhood sexual abuse. Specifically, we asked subjects to report either a few or many childhood events from a relatively narrow period of childhood (5–10 years of age). Following this, subjects were asked to judge the completeness of their childhood memory by answering a question taken from Ross (1989): "Are there are large parts of your childhood after age 5 which you can't remember?" Consistent with the ease-of-retrieval hypothesis, we predicted that subjects would rate their memory as worse after successfully retrieving many rather than a few childhood events, and that they would not base their memory ratings on the actual number of events that were recalled.

EXPERIMENTS 1 AND 2

To assess the role of recall experiences in judgments of childhood memory, we asked subjects to recall 4, 8, or

12 childhood events. Subsequently, they rated the completeness of their childhood memory in response to the question cited above (Ross, 1989). In both experiments, we employed highly similar procedures, so the two experiments will be presented together.

Method

Subjects. One hundred fifty-two University of Michigan undergraduates (55% women, 45% men; average age 19 years) participated in Experiment 1. One hundred fifty-nine undergraduates (66% women, 34% men; average age 19.7 years) of the University of Lethbridge participated in Experiment 2.

Procedure. The subjects in Experiment 1 responded to different versions of a memory questionnaire in individual cubicles, which ensured privacy.¹ The subjects in Experiment 2 responded in a classroom setting, prior to a lecture. The subjects in both experiments worked at their own pace.

The subjects in Experiment 1 were asked to report specific events that they had experienced while they were 5–7 and 8–10 years old. They had to recall either two or six specific events for each age period (on two or six numbered lines), resulting in a total request for 4 or 12 events.

Experiment 2 followed the same procedures but included an 8-events condition (4 events each for ages 5–7 and 8–10), in addition to a replication of the 4-events and 12-events conditions described above.

Following the recall task, the subjects were asked, "Regarding childhood memory, are there large parts of your childhood after age 5 which you can't remember?" ("yes," "no," "unsure"; taken from Ross, 1989). In addition, the subjects in Experiment 1 rated their recall experience after completion of all other questions: "Now we want you to think back to the task where you had to write down several different childhood events. How difficult was this task for you?" (1 = *very easy*; 7 = *very difficult*).

Results

Manipulation checks. Overall, compliance with instructions was good. In Experiment 1, all subjects assigned to the 4-events condition listed 4 childhood events. The subjects assigned to the 12-events condition listed an average of 11.54 events, with 86% reporting 12 events, the remaining 14% reporting an average of 8.75 events, and no subject retrieving less than 4 events. Moreover, subjects experienced it as easier to recall 4 ($M = 3.66$) rather than 12 events ($M = 4.27$) [$t(148) = 2.21, p < .03$].

In Experiment 2, the subjects in the 4-events condition retrieved a mean of 3.81 events, with 91% retrieving all 4 events. In the 8-events condition the subjects retrieved an average of 7.76 events, with 91% retrieving all 8 events and no subject retrieving less than 5 events. In the 12-events condition, the subjects retrieved an average of 11.13 events, with 69% retrieving all 12 events and no subject retrieving less than 6 events.

Judgments of childhood memory. Because our hypotheses with judgments of childhood memory were directional, we report one-tailed probabilities in all significance tests. Table 1 shows the results of Experiment 1. As predicted, reports of incomplete childhood memory increased with the number of events recalled. Specifically, 35% of the subjects who had to recall 4 events reported that there were large parts of their childhood after age 5 that they could not remember. This percentage increased to 51% for the subjects who had to report 12 events, al-

Table 1
Percentage of Subjects Endorsing Each Response Category as a Function of Recall Task in Experiments 1 and 2

No. Events	Response Category (%)			
	Yes	Unsure	No	<i>N</i> (100%)
Experiment 1				
4	35	33	32	66
12	51	25	25	86
Experiment 2				
4	26	34	40	53
8	33	30	37	54
12	44	19	37	52

Note—Subjects were responding to the question "Regarding childhood memory, are there large parts of your childhood after age 5 which you can't remember?"

though they had retrieved three times as many events. The difference between conditions was significant for a comparison of the "yes" and the combined "unsure" and "no" responses [$\chi^2(1, N = 152) = 4.03, p = .02$].

These findings were replicated in Experiment 2, as is also shown in Table 1. Again, the percentage of respondents who reported incomplete childhood memory increased with the number of childhood memories requested, from 26% in the 4-events condition to 33% in the 8-events condition and 44% in the 12-events condition. The difference in the number of "yes" responses compared with the combined "unsure" and "no" responses was significant between the 12-events and 4-events conditions [$\chi^2(1, N = 105) = 3.65, p < .03$]. As predicted, the responses of subjects in the 8-events condition fell between the other two and did not significantly differ from the responses in the 4-events condition [$\chi^2(1, N = 107) = 0.61, n.s.$], or in the 12-events condition [$\chi^2(1, N = 106) = 1.33, n.s.$].²

Analyses of completions. These results are somewhat ambiguous, in that the effects might have been totally driven by subjects who did not completely recall all of the requested events. To rule out this possibility, analyses were conducted on the data of only the subjects who did complete the requested number of events. Table 2 provides the frequencies for both Experiments 1 and 2. As can be seen, the trends remained consistent: More subjects said "yes" in the 12-events condition (49% in Experiment 1; 33% in Experiment 2) than in the 4-events condition (35% in Experiment 1; 23% in Experiment 2). Although the trend was nonsignificant with the data from Experiment 2, the difference in the number of "yes" responses as compared with the combined "unsure" and "no" responses was significant between the 12-events and 4-events conditions in Experiment 1 [$\chi^2(1, N = 141) = 3.01, p < .05$]. When the data from both experiments were combined, the significant finding of a greater number of "yes" responses in the 12-events than in the 4-events conditions persisted [$\chi^2(1, N = 225) = 4.95, p = .02$].

Correlational analysis. Experiment 1 allows us to analyze the relationship between the judgment of child-

Table 2
Percentages for Only Those Subjects Recalling All Events in Their Respective Conditions for Experiments 1 and 2

No. Events	Response Category (%)			N (100%)
	Yes	Unsure	No	
Panel A: Experiment 1				
4	35	33	32	66
12	49	25	25	75
Panel B: Experiment 2				
4	23	33	44	48
8	31	31	39	49
12	33	22	44	36

Note—Subjects were responding to the question “Regarding childhood memory, are there large parts of your childhood after age 5 which you can’t remember?”

hood memory and reported ease of retrieval. In order to conduct these correlational analyses, the responses to the memory question were recoded (*yes* = 1, *unsure* = 0, *no* = -1). As was expected, there was a direct relationship between judgments of task difficulty and judgments of childhood memory [$r(148) = .42, p < .001$]. This correlation remained of a similar order and was significant when computed separately for each experimental condition [4-event $r(63) = .35, p = .005$; 12-event $r(83) = .44, p < .001$] and when the number of retrieved events was partialled out [$r(145) = .41, p < .001$].

DISCUSSION

Experiments 1 and 2 highlight the malleability of people’s judgments concerning the completeness of their childhood memory. Subjects who had to recall more events from their childhood actually rated their memory of childhood as less complete than did subjects asked to recall fewer memories. Although some of the effect was due to the performance of subjects who were unable to provide the requested number of childhood events, which was more pronounced among subjects who were asked to provide a larger number of childhood events, the effect persisted when we examined only the data from subjects who had been able to provide all of the events that had been requested. In our view, these data have implications regarding the determination of the association between child sexual abuse and being amnesic for childhood events.

A common process among individuals who suspect that they have become victims of childhood sexual abuse is to perform an extensive search of memory to determine whether instances of abuse can be recovered. Our results show that extensive searches within long-term memory for childhood events, and the greater degree of difficulty experienced in remembering more events, will lead one to conclude that there is not much there (see also Winkelman, Schwarz, & Belli, 1998). This, in turn, may lead to unwarranted conclusions that something bad, such as sexual abuse, happened during childhood and led to this paucity of memories.

We recognize that these search processes are not likely to occur in isolation from other social and suggestive influences that can occur in and apart from the psychotherapeutic context. For instance, self-help books, information presented in the media, and therapists’ direct and subtle suggestions and interventions can all convey to individuals that there is a link between present symptoms and a repressed or forgotten history of childhood abuse and trauma.

We can envisage situations in which clients approach therapists to deal with ongoing problems that could include low self-esteem, eating

disorders, suicidal or self-destructive thoughts, depression, sexual dysfunction, and a complex and confusing symptom picture associated with the diagnosis of DID. If therapists or clients assume that such problems are associated with childhood amnesia of trauma, and that memories of sexual abuse, for example, must be retrieved in psychotherapy in order to effect a lasting “cure,” then repeated recall attempts and the apparent difficulty associated with an extensive memory search may reinforce the perception that amnesia is present and that the suspected abuse did in fact occur. If suggestive procedures are used and/or clients simply “recover memories” as a function of what they believe might have happened in a manner consistent with their expectations about the link between their symptoms and a traumatic past, then such recovered memories may constitute an “experience proof” that childhood amnesia was indeed present and that additional memories must be recovered before therapy is truly complete. Because the criteria for amnesia are not well specified, considerable latitude in interpretation regarding what constitutes “amnesia” and when memory recovery is “complete” may render attributions of amnesia particularly vulnerable to suggestive influences and to labeling recall failures as “amnesia” by an authority figure such as a therapist. In an effort to recover additional memories, therapists might be tempted to use increasingly specialized techniques such as hypnosis, self-help books, and guided imagery, with all the pitfalls for suggestibility associated with such recovery attempts (Belli & Loftus, 1994, 1996; Ceci & Loftus, 1994; Garry, Manning, Loftus, & Sherman, 1996; Hyman, Husband, & Billings, 1995; Lindsay & Read, 1994; Lynn, Lock, Myers, & Payne, 1997).³

Such a recursive cycle of suggestive influences and experiential confirmation (see Lynn & McConkey, 1998; Lynn, Stafford, Malinoski, & Pintar, 1997; Spanos, 1996), abetted by the difficulty of retrieving childhood memories, may be associated with instances of the iatrogenic creation of DID as well as false memories of a traumatic past more generally. Survey research indicates that a sizable minority of therapists (Poole, Lindsay, Memon, & Bull, 1995) use specialized memory recovery procedures, so that the impact of subjective experiences of retrieval processes, in concert with social influence and expectation effects, may not be trivial.

Of course, this process need not be exclusive to persons who have no initial memory of childhood abuse prior to the start of therapy. Rather, we can foresee cases in which individuals remember certain instances of sexual abuse and, because of engaging in extensive retrieval attempts, also come to believe they are amnesic for childhood events. Such judgments may confirm the determination that amnesia is a symptom of a traumatic past even among persons in whom abusive events during childhood had been remembered all along. In addition, such individuals would not be immune to the initiation of the recursive process that we have just identified above as leading to the generation of additional, but false, memories.

Admittedly, the simplicity of our experiments raises questions regarding the generalizability of findings to the clinical context. Our effects are based on a single question and a very simple manipulation, and there can be no doubt that the clinical determination of psychogenic amnesia for childhood events is not routinely made on the basis of such a cursory review of the past and the answers to a single question. Whether more extensive clinical assessment can provide a more valid indication of trauma-induced amnesia, and whether persons who suffer from trauma-induced amnesia can be reliably distinguished from other individuals who, for whatever reasons, are suspected by therapists or by themselves of having had a traumatic past, are issues that are yet to be resolved.⁴

In conclusion, we believe that our experiments present a reasonable analogue to processes that may occur in persons searching for memorial evidence of an abusive childhood. Obviously, our findings do not bear on whether people who experienced an abusive childhood repress related memories and are hence likely to report poor childhood memory. Our findings do, however, highlight that these reports may simply reflect that recalling childhood events is more difficult than we think—leading us to infer poorer memory, the more the events that we (successfully) try to recall.

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NOTES

1. In each session, a group of participants was tested at one time, and subjects filled out the questionnaire in individual cubicles. Since subjects would know when others had finished, we randomly assigned the treatment condition to sessions so that subjects within a session received the same treatment and would finish at approximately the same time. Our concern was that the experience of seeing someone finish very quickly could affect the performances of the subjects in the 12-events condition. Since the sessions varied in size in unpredictable ways, owing to scheduled subjects' not showing up for the experiment, this randomization procedure led to unequal numbers of subjects assigned to the conditions.

2. We also analyzed the results for both experiments by testing for potential effects of gender. Our primary interest was to examine whether there was an interaction between gender and condition, which

could suggest that the manipulation affected only one gender. Separate analyses of variance for each experiment were conducted on recoded responses ("yes" = 1, "unsure" = 0, "no" = -1). There was no evidence of an interaction between condition and gender [Experiment 1 $F(1,148) = 0.06$; Experiment 2 $F(2,152) = 0.53$]. Experiment 2 did reveal a main effect of gender [$F(1,152) = 5.32, p = .02$], with men ($M = 0.17$) reporting worse memory than did women ($M = -0.14$). Gender was not significant for Experiment 1, however [$F(1,148) = 0.29$].

3. Some therapists are becoming increasingly aware that memory recovery techniques can promote false memories, as is evidenced by the recent work of Courtois (1997) that espouses guidelines that explicitly recognize the unreliability of memory. Although we support these efforts and are cautiously hopeful that memory recovery practices are changing for the better, we await the presentation of firm data that document changes in clinical practice and the effectiveness of these changes.

4. A related issue is whether the subjects who recalled more events were generally more accurate in their judgments concerning the relative incompleteness of their childhood memories in comparison with the more optimistic judgments of the subjects who retrieved fewer events. Since in these experiments we did not employ an objective metric with which to determine the completeness of childhood memory, this issue cannot be resolved. However, the important point is that the experiential difficulties associated with retrieving many childhood events is a normal consequence of engaging in many retrieval attempts and is not an indication that something traumatic is responsible for such difficulties.

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