

MEMORY
RECOVERY OF
CHILDHOOD
SEXUAL ABUSE

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ABSTRACT

In this study, no empirical evidence was found for the notion that most patients recover memories of childhood sexual abuse because their therapist had suggested to them that they were abused as children. Instead, our data seem to suggest that memory recovery is a spontaneous phenomenon, triggered by abuse-related stimuli. The issue of traumatic versus ordinary memories was investigated by comparing a group of 97 sexually abused women with a group of 65 matched controls for memory impairments. Having experienced an episode of inability to recall the event (i.e., amnesia) appeared to be extremely rare (1%) in the control group, but rather common (35%) in the traumatized group. Other features of motivated forgetting, like intentionally avoiding to think about the event, just not having thought about it, and having experienced an amnesic turning point were significantly more frequently mentioned by the traumatized than by the control group as well. Characteristics of the abuse, such as early age or violence, did not appear to be predictive of abuse-related amnesia. However, an inverse relation was found between prolonged sexual abuse (extending into adulthood) and amnesia. Women who initially consented to the abuse to get attention from the perpetrator were found to be more amnesic.

INTRODUCTION

Reports of sexual abuse by psychiatric patients have been described in the literature for more than a hundred years. Psychiatrists and psychotherapists found that some patients, who, after having been in treatment for some time, suddenly claimed to have been sexually abused in the past. When a patient makes such a claim, there are two major possibilities: that the claims are not based on memories of real events

or that the claims are based on memories of real events, and that these memories have been repressed for a long period.

1) *The stance that patients' claims are not based on memories of real events.*

The first school of thought has been expounded by those authors whom we will refer to as the "sceptics." This tradition encompasses three trends. The first trend evolved around the end of the nineteenth century, when a large body of literature came into being relating to false accusations of sexual abuse (Gamier, 1903; Bresler, 1907; Turkel, 1903; Birnbaum, 1915; & Placzek, 1919). The English-speaking countries were not widely aware of this development because the cases were published in German and French journals of forensic psychiatry. In Germany and Austria, this phenomenon was called the "sexuelle Falschanschuldigungen" (the false sexual allegations) and in France it was called the phenomenon of the "accusatrices hysteriques" (the hysterical accusers). Many of the case studies were descriptions of women and girls who had reported sexual abuse by family members. The literature indicates that at the end of the nineteenth century the main concern of the authors was in fact to warn the public against such false memories. The women who reported those memories of sexual abuse were considered to be hysterics and a claim itself was considered to be proof of this hysteria.

In this school of thought, hysterical women lie and fantasize by definition. This was called "pseudologia phantastica." Especially when the accused were respectable citizens, such as physicians, it was thought to be highly improbable that the accused could be guilty. In addition, it was argued that hysterical patients were more than likely to make up such stories, in order to get a lot of attention. One can identify several other arguments in the books of this era as to why these accusations could be false: the girl was too ugly (Placzek, 1919; Von Schrenck-Notzing, 1899); the man was a citizen of high repute (Von Schrenck-Notzing, 1899); if the claims were in fact true, the girl would not have kept silent (Gamier, 1903); or she would have run away (Von Schrenck-Notzing, 1899); or even because the so-called abuse happened at night, it was probable that the woman must have been dreaming (Bresler, 1907).

The second sceptic tradition was developed by psycho-

analytic psychiatrists, who argued that patients' claims of molestation were based on so called "Oedipal fantasies." This resulted in the details of the events not being evaluated and the question of the likelihood of the event becoming irrelevant. Instead, attention was concentrated on the intrapsychic processes attributed to the patient herself. In essence, the theory held that these patients secretly longed to have sex with their father, and that out of this longing grew their stories of sexual abuse. The case study of Freud's patient Dora (1905) was the first significant description of such an interpretation. Other authors, like Fromm-Reichmann (1931), Bender and Blau (1937), Probst (1945) and Oliven (1979) further developed this idea.

The third sceptic tradition emerged around 1990, where the main focus was on how patients' claims might have been influenced by their psychotherapist. Neither the likelihood of the event nor the patient's secret wishes were discussed. Instead, the role of the therapist, to whom the patient told her story of sexual abuse, was stressed. It was argued that these patients' reports came about because psychotherapists (often by means of hypnosis) influenced highly suggestible patients into thinking they had been abused as a child and thereby created "false memories" (Loftus, 1993). It was argued that after months of guidance and memory recovery techniques patients produced recollections of the abuse on the basis of a belief that they indeed had been abused as children. But in fact, they only had a combination of bad feelings about their childhoods and vague memories of scenes that did not involve sexual abuse per se (see Read & Lindsay, 1994).

2) *The stance that patients' claims are based on memories of real events.*

In the meantime, a second school of thought came into being. We will refer to this school as the "realists." They developed a second body of literature, headed by such authors as Janet (1889); Freud (1896); Herman (1986); Van der Kolk and Van der Hart (1989); Van der Hart (1991); and Whitfield (1995), who became known as "trauma-therapists." They argued that the patient's claims were indeed based on memories of real events, which had been "forgotten" and which were recovered afterwards. Some of them even maintained that successful treatment depended upon the recovery of these memories (Bass & Davis, 1988; Claridge, 1992; Courtois, 1992; Frederickson, 1992; Gelinis, 1983; Olio, 1989). Today there are many psychotherapists who share this idea, and whom the "sceptics" sometimes refer to as the "memory recovery therapists" (Read & Lindsay, 1994).

All these "realists" stressed that the prevalence of sexual abuse was far higher than was previously thought, especially in the population of psychiatric inpatients, and that incidence rates in outpatient clinical populations were even higher (Jacobson, 1989; Briere & Runtz, 1987). It has been established in the Netherlands that the base-rate for father-

daughter incest is around 1-3%. (Ensink & Albach, 1983; Draijer, 1990). The same base-rate was found in the United States. (Russell, 1986; Finkelhor, 1979; Wyatt, 1985). The "realists" also argued that an inability to recall memories of childhood sexual abuse is common in psychiatric patients.

Such views, however, have been attacked by the sceptic colleagues, who hold the opinion that it is highly unlikely for a person to first forget such memories and to remember them later. It is argued that there is little empirical evidence for the existence of the mechanism of repression (Holmes, 1990), or that forgetting can also be explained by other memory theories, such as the idea of infantile amnesia or normal forgetting (Ceci & Loftus, 1994). Another problem is how amnesia is to be defined, because base-rates of amnesia for child sexual abuse depend on this definition. Some studies were done in which it was assessed how common the forgetting of the abuse actually was. This appeared to vary from 59% (Briere & Conte, 1993), 38% (Williams, 1994), to 26% (Herman & Schatzow, 1987) and 19% (Loftus, Polonsky, & Fullilove, 1994).

When it appeared that a substantial portion of sexually abused patients had indeed forgotten about their abuse, and had maintained the amnesia for a considerable time, explanations were sought. In the first place, the relation was studied between amnesia and some characteristics of the abuse. Inconclusive results were found. For instance, in some studies, the use of physical violence was related to the amnesia (Herman & Schatzow, 1987; Briere & Conte, 1993), where in others (Williams, 1994) no such relation was found.

In this study, questions from both the "sceptic" and the "realist" tradition will be studied. In the "sceptic" tradition the idea is that patients recover memories because during psychotherapy the therapist suggests to them that they were abused as a child. Is this indeed the case? Authors from the "realist" tradition, on the other hand, argue that traumatic memories are different from ordinary memories and that robust repression is rather common. Is this true? And finally, which characteristics of the abuse are related to memory impairments? The following research questions are formulated:

1) *Does psychotherapy play a crucial role in the recovery of traumatic memories?*

Some authors (Goldstein, 1992; Loftus, 1993) argue that most patients recover memories of child sexual abuse because during psychotherapy the therapist suggests to them that they were abused as a child. In this argument it is believed that individuals with "dissociative amnesia" often are highly hypnotizable and suggestible (see *DSM-N*, 1994) and therefore would be candidates par excellence to report "false memories," which would result in an "overreporting" of the syndrome. However, if this "overreporting" argument is valid, then it would imply that the prevalence of recovered memories found in women with childhood sexual abuse who do

attend psychotherapy would be significantly higher than that in women with childhood sexual abuse who do not attend psychotherapy. This hypothesis will be tested.

2) *How common is robust repression?*

Because of the conceptual confusion, found everywhere in the literature, on how forgetting in survivors of sexual abuse should be named - some refer to it as repression, others as complete amnesia, psychogenic amnesia, dissociative amnesia, functional or hysterical amnesia -- it was decided to describe (i.e., episodes of inability to recall the traumatic event) instead of labeling this particular memory impairment.

3) *Are traumatic memories different from ordinary memories?*

It is crucial to establish whether only traumatic memories can be forgotten and recovered or whether ordinary memories can be forgotten and recovered as well. This question is highly relevant in the debate as to whether memory models from experimental psychology, based on research in carefully controlled, neutral laboratory settings with only a few parameters involved (most models are too reductionistic; a major criticism concerns the omission of the impact of emotions on memory) can be used as valid explanations for the highly complex memory impairments found in traumatized subjects. This topic will be explored by comparing traumatized subjects with a control group of normal subjects on various memory phenomena. However, there is a serious methodological problem. When one studies a control group, one wants this group to be different from the experimental group. When one studies memory problems in a traumatized group, one chooses this group for their traumatic experiences. A control group is not supposed to have these experiences. But when they lack these experiences, how can they then be asked about these memories? Memories of what? This dilemma was addressed by using a control group where all subjects reported to have experienced some unpleasant ordinary life event as a child. The questions for both the traumatized and control group were exactly the same. For the control group the questions were related to ordinary unpleasant childhood events whereas for the traumatized group they were related to childhood sexual abuse. We differentiated six kinds of memory phenomena. Robust repression (episodes of inability to recall the event), suppression (intentionally avoiding to think about the event), not having thought about the event, still being unable to recall important aspects of the event, knowing more details about the event now than before, and the amnesic turning point (sudden memory recovery which can be very impressive to the person).

4) *Which characteristics of the abuse are related to memory impairments in the group of women who had been the victim of childhood sexual abuse?*

METHOD

Subjects

The *Traumatized Group* consisted of 97 adult victims of sexual abuse from 18 to 55 years of age (mean = 33 years of age). Their sexual abuse had been of an extreme kind. Compared to the subjects of other studies (Finkelhor, 1979; Ensink & Albach, 1983; Russell, 1986; Frenken, 1987; and Draijer, 1988) these women were at the severe end of the abuse-spectrum (sexual harassment: 90%; masturbation by the perpetrator: 81%; attempted penetration: 86%; penetration: 67%; fellatio: 45%; anal sex: 18%). In 90% the abuse had lasted for one year or longer; in 61% the father had been the perpetrator, in 69% the abuse had started before the age of ten; in 64% they had been forced to keep it a secret, and in 43% physical violence had been used. The subjects' accounts were not corroborated with external evidence.

At the time of the interview the majority of the victims of childhood sexual abuse (80%) either had been or still were in psychotherapy (individual and/or group sessions). Different kinds of psychotherapy, such as hypnotherapy (16%), body therapy (24%), and feminist therapy (22%) were involved in the treatment. The remaining 18% were in psychoanalysis or a variety of other psychotherapies. No data were available about the percentage of memories of abuse that had been recovered through psychotherapy.

A *Control Group* of 65 women was studied (mean = 35 years of age), who were matched for age and for level of education. The control group appeared to have experienced incidental unpleasant ordinary childhood events of a great variation. The most frequent reported negative life events were "parents who were constantly quarreling"; "bullying-victim problems at school"; "death of grandfather or grandmother"; "accidents or serious illness of family members"; and "our family had to move to another neighborhood or city." In a few cases "incidental spanking" was mentioned. The other reported unpleasant childhood experiences were more unique in character. One woman reported for example, that when she was six years old, her mother told a friend about a secret she had told her and made her feel ridiculous. Another woman told that as a child of five, she climbed over a fence in order to pick chestnuts in the garden of the neighbor. He was very angry with her and spanked her.

Procedure

The data were gathered through semi-structured in-depth-interviews. Well-trained clinical psychologists took the interviews. The women of the incest group were mainly found through contact persons, such as a woman who had been abused herself and who had organized her own self-help group. A minority of women was referred to us through psychotherapists. When we developed the impression that they were sent by the therapist because he/she suspected that they had been abused, while they themselves were unable to recall

TABLE 1
Percentages Found for the Various Memory Phenomena

Psychotherapy	Yes %	No %	Chi-square	P
Having experienced an episode of inability to recall the event	34	33	(1, N=82) = .01	n.s.
Intentionally avoiding thinking about the event	93	83	(1, N=75) = 1.51	n.s.
Just not having thought about the event	55	63	(1, N=88) = .40	n.s.
Knowing more details about the event now (at the time of the interview) than before	91	79	(1, N=77) = 2.14	n.s.
Still being unable to recall important aspects of the event	64	53	(1, N=85) = .75	n.s.
Having experienced an amnesic turning point	85	67	(1, N=70) = 2.69	.10

Percentages in the left column relate to women with childhood sexual abuse who did attend psychotherapy (YES) and percentages in the right column relate to women with childhood sexual abuse who did not attend psychotherapy (NO). Chi-square values and significance levels are given in the next two columns.

the abuse and were unable to supply answers about the items in the questionnaire which were concerned with the characteristics of the abuse, we rejected the interview data. An example of this was the woman who suffered from sexual problems and whose therapist suspected abuse by the father. The only thing she was able to remember, however, was that she often dreamt of little pieces of ice falling from the sky. The therapist had suggested to her that these might represent white clots of sperm and that her dream might refer to sexual abuse by her father.

The women from the control group were recruited through contact persons as well, such as the owner of a fitness center, through owners of shops, and by asking acquaintances to participate in the research. When during the interview it appeared that one of these controls also had been the victim of childhood abuse, we excluded the interview.

Instrument

For the interview the following memory questions were used:

- 1) Some individuals who have experienced an unpleasant event as a child (or sexual abuse) have forgotten this for a long time. It may happen that after years, they start to remember this

because they read about it, because they see a movie, or because of other causes. Did you experience that too? (*having experienced episodes of inability to recall the event/robust repression*)

- 2) If so, how long had you forgotten it? (*duration*)
- 3) Did you really forget it or did you just not think about it? (*just not having thought about the event*)
- 4) Some women still rather tend to avoid thinking of their unpleasant childhood events. Is that the case with you too? (*intentionally avoiding thinking about the event/suppression*)
- 5) Do you still have the idea that you don't remember certain details of this event? (*still being unable to recall important aspects of the event*)
- 6) Did you recover more details of the event during the last few years? (*knowing more details about the event now (at the time of the interview) than before*)

- 7) For some individuals who recover their memories, this can happen very suddenly and it can be very dramatic to the person. Was this the case with you? (*having experienced an amnesic turning point*)
- 8) Was there a cause for your memory recovery, and if so, which was this cause? (*triggers*) Furthermore the relationship between episodes of inability to recall the event and ambivalent feelings towards the abuse was explored by asking the traumatized subjects.
- 9) Did you originally consent to the abuse in the hope that you would get some attention from the perpetrator? (*having consented to the abuse*)

RESULTS

From the results presented in Table 1 it can be concluded that in our study no empirical evidence has been found for the notion that most patients recover memories of childhood sexual abuse, because during psychotherapy the therapist suggested to them that they were abused as a child. Hence, there is no overreporting of the "syndrome of recovered memories" in the group of women with psychotherapy. Moreover, on none of the other memory variables significant differences were found between victims of child sexual abuse who did, versus those who did not attend psychotherapy.

Regarding the question whether the therapy and non-therapy group were comparable on other dimensions it should be noted that no significant differences were found between the therapy and non-therapy groups on age (M non-therapy = 33.9, M therapy = 33.2), age of onset of the abuse (M non-therapy = 7.61, M therapy = 7.20), and age when the abuse stopped (M non-therapy = 14.33, M therapy = 15.66). Furthermore the two groups did not significantly differ from each other, either on level of education (low, middle, and high), or on the kinds of perpetrator (father, stepfather, mother, grandfather, uncle, other close relative, friend of the family, and perpetrator unknown). However, there was one exception: The women in the non-therapy group significantly more often reported that they had been abused by their brother (Chi-square [1, N = 96] = 10.39, $p = .001$). The therapy and non-therapy group did not significantly differ from each other on the characteristics of the abuse, except regarding masturbation (was reported significantly more in the therapy group. (Chi-square [1, N = 68] = 4.57, $p = .04$).

From the above it is concluded that the therapy and non-therapy group did match quite well on age, level of education, and characteristics of the abuse.

Another of our research questions was whether robust repression (or episodes of inability to recall the traumatic event) is a common phenomenon. In Table 2 we can see

that only 1% of the control group reported having suffered an episode of inability to recall the traumatic event (in this case only one woman, who had forgotten that she had been teased for having red hair). But 35% of the abused women now knew of at least one episode in which they had been unable to recall the event.

We also wondered whether traumatic memories are different from ordinary memories. This was indeed the case. The impact of traumatic experiences such as childhood sexual abuse on current memory functions is great, and leads to a considerable amount of serious memory impairments. As can be seen in Table 2 the results of all the chi-squares are highly significant. In control subjects these memory problems are either almost non-existent or they have quite a low prevalence. This leads us to conclude that traumatic memories are indeed different from ordinary memories.

The next analyses only apply to the traumatized group. We explored whether there was a relationship between the characteristics of the sexual abuse and episodes of inability to recall the traumatic event. It appeared that none of the characteristics of the abuse (age of onset, age at which the incest stopped, duration, frequency, kinds of perpetrator, kinds of sexual acts, kinds of force, resistance, secrecy) had any relationship to having experienced an episode of inability to recall the traumatic event. However, it was found that women who had suffered from an episode of inability to recall the traumatic event significantly more often reported that they originally consented to the abuse, because they had hoped to get some attention from the man, than did women without such a temporary memory impairment. (chi-square 1, [N=53] = 9.97, $p = .0016$).

Another interesting result concerns the effect of prolonged sexual abuse (it went on after the age of 21) on having experienced an episode of inability to recall the traumatic event. It is often supposed that perpetrators of incest leave their victim in peace once she has reached adulthood. From our research, however, it appears that this is not always the case. Thirteen women were abused by their perpetrators after the age of 21. The abuse had continued for a long time (the mean duration for this group was 17 years). We wanted to know whether these women had suffered less from amnesia than those women, whose incest had stopped before the age of twenty-one. This appeared indeed to be the case (Chi-square [1, N=80]=6.49, $p=.01$).

Qualitative Result: Triggers Preceding the Memory Recovery

In order to find out more about the phenomenon of memory recovery of sexually abused women, an inventory was made of the triggers preceding memory recoveries. It appeared that becoming very emotional can act as a trigger for a sudden memory recovery.

The following quotation comes from a 23-year-old woman who was raped at the age of 12 by her grandfather. When she was 21 she saw a TV-movie about incest, and she

TABLE 2
Percentages Found for the Various Memory Phenomena

Psychotherapy	Trauma Control		Chi-square	p
	Trauma	Control		
Having experienced an episode of inability to recall the event	35	1	(1, N=146) = 24.40	p < .001
Intentionally avoiding thinking about the event	89	5	(1, N=i32) = 91.78	p <.001
Just not having thought about the event	56	26	(1,N=151)=13.70	p<.001
Knowing more details about the event now (at the time of the interview) than before	88	19	(1, N=141) = 68.69	p < .001
Still being unable to recall important aspects of the event	60	24	(1, N=149) = 19.74	p < .001
Having experienced an amnesic turning point.	80	5	(1, N=133) = 76.08	p < .001

Percentages in the left column relate to women with childhood sexual abuse (Trauma) and percentages in the right column relate to women with ordinary unpleasant childhood experiences (Control). Chi-square values and significance levels are given in the next two columns.

spoke about it to her mother for the first time:

It was as if someone tore away a black curtain. I talked and talked. We sat there for hours, and at first I did nothing but cry. I was so upset. Suddenly I understood things and it hurt so much. All at once I realized what I had experienced and what changed my life. And that this difficult part of my life wouldn't have been necessary if certain things just wouldn't have happened.

It also appeared that there had been specific situations (which had a high emotional tone) which had been a trigger for this memory recovery. Psychotherapeutic interventions were not often mentioned. Some women remembered the abuse after they had discovered that their own daughter had been a victim of incest as well. Some women had themselves again been the victim of sexual abuse or rape as an adult. Other women had been present at the sick- or deathbed of the perpetrator, where they were again alone with him in a bedroom. One woman recovered her memories after she stopped using tranquilizers. Memories also returned when women got into contact with specific triggers

at a moment during which they were physically and emotionally exhausted. These triggers were sometimes of a tactile nature, such as suddenly being touched on one's back. Sometimes they were of an olfactory nature, such as a man's breath which smelled of tobacco or alcohol, male sweat, men smelling of specific soaps or after-shave, or sperm. Sometimes triggers were auditory, like hearing panting noises, or hearing footsteps on the stairs. And sometimes they were visual, like seeing one's husband going to the shower in the morning with an erect penis, seeing dirty hands, specific kinds of masculine pajamas, a handkerchief, or white substances, such as yogurt and coconut juice. Also, reading newspaper articles about incest or seeing special TV programs about incest were mentioned. It is interesting to note that all modalities of human memory were involved at the moment of the memory recovery. For most women, verbal cues were not the most important modality, but olfactory, sensorimotor, auditory and visual cues had played a much greater role in retrieving the memories.

DISCUSSION

In this study, no empirical basis was found for the idea from the "sceptic" tradition, that most patients recover memories of childhood sexual abuse because during psychotherapy it is suggested to them that they were abused as a child. There is no overreporting of the "syndrome of recovered memories" in the group of women with psychotherapy we studied, compared to those who did not attend psychotherapy. This result is comprehensible, when we look at the Dutch situation of psychotherapy for victims of child sexual abuse. From a study of Loeve-Gronefeld (1993) with 70 incest therapists it appeared that only 26% reported to have helped incest victims to recover memories of childhood sexual abuse in the course of therapy. This is a much lower percentage than was found in the study by Poole et al. (1995) who ascertained that 71% of a group of American and English therapists had as their aim to recover suspected memories of childhood sexual abuse. Most Dutch therapists who treated victims of child sexual abuse did not pay attention to the (recovery of the) trauma at all. This was found by both Boland (1988), who studied 250 therapists who treated victims of sexual abuse, and Frenken and Van Stolk (1987), who interviewed another 130 psychotherapists. Frenken and Van Stolk found that the therapists only worked on the psychiatric sequelae of the trauma and did not discuss the trauma itself, because they were doubtful about their own expertise on this subject.

When memory recovery of the victims of childhood sexual abuse is not related to therapeutic interventions, it must be a spontaneous phenomenon. This was suggested by Pezdek (1994), who meant that a significant number of people recover lost memories of child sexual abuse without any exposure to therapy. In our study, many abuse-related stimuli were mentioned for this spontaneous recovery, such as being raped again as an adult, having to sit at the deathbed of the perpetrator, having had to witness the victimization of one's own daughter, etc. When we look at the way human memory works, this is not at all surprising. Remembering events after having been confronted with event-related stimuli is the normal way of remembering (see Mishkin & Appenzeller, 1987). An example of such a spontaneous recovery (i.e., an amnesic turning point) is the following quotation from one of our respondents, who from age ten till age fourteen had been forced by her stepfather, a busdriver, to orally satisfy him in a bus parked at a bus station in the Zuiderpark.

It was quite a coincidence that we rented rolling skates and we went to the Zuiderpark. When we arrived at the parking place, suddenly I couldn't move and I realized that I had often been sexually abused by my stepfather at exactly this parking place. I couldn't move my feet any more. This was the first time I started to

remember it again. It was 18 years after the incest with my stepfather had stopped. At that moment I talked about it for the first time. I didn't feel anything, but I saw myself again in the bus, I saw everything what had happened then, at home, in the bus, at the parking place, everything in a sort of panoramic memory. It was so gripping, I was completely paralyzed, I didn't understand anything any more. My boyfriend immediately dragged me back in the car and drove me home.

Concerning those research questions, which were developed in the "realist tradition," we did find some empirical support. Regarding the question "How common is robust repression?" the answer first seemed to be "very rare." Only 1% of the control group reported to have suffered from an episode of inability to recall the traumatic event (in this case only one woman, who had forgotten that she had been teased for having red hair). However, when we look at the traumatized group a completely different picture emerges: about one-third of the abused women (35%) had known at least one episode in which they were unable to recall the event. Our results are in agreement with the notion of Loftus, Polonsky, and Fullilove (1994) that remembering abuse is more common than forgetting it, but our data also imply, contrary to the suggestion of Read and Lindsay (1994), that temporary complete amnesia is not so rare among people who had been repeatedly abused over a lengthy period of their childhood. This result is in line with many studies of individuals who had been repeatedly traumatized over long periods of time (Sargant & Slater, 1941; Shorvon, 1947; Bastiaans, 1986; Terr, 1991) and with studies of women who had experienced childhood sexual abuse (Herman & Schatzow, 1987; Briere & Conte, 1993; and Williams, 1994).

Furthermore empirical evidence was found for the notion (Whitfield, 1995) that traumatic memories are different from ordinary memories. Significant differences between the two groups were found on all memory variables involved in this study. Suppression (i.e., intentionally avoiding to think about the event) appeared to be very common (89%) among traumatized women. One woman told us:

As a matter of fact I would like to cut the memories away. I wished there were an operation to my head. I would like the doctors to cut the memories out of my brain, because I don't want to think about it.

According to the DSM-IV (1994) suppression is considered to have a high adaptive value, which would result in optimal adaptation in the handling of stressors. Despite its high adaptational value, only 5% of the control women reported a use of suppression. Obviously the latter do not have to suppress as often as traumatized women. Many traumatized women tried to suppress their memories by inten-

tionally avoiding to think about their past. For example, Maria had been raped and maltreated by her brother from age eight till age thirteen. Not before the age of 31 was she ready to acknowledge and accept what happened to her in her childhood. Before, she tried to suppress it:

I just didn't want to have any opportunity at all to think about it. Therefore I managed to be busy all the time, doing sports, playing football, handball, or doing gymnastics, ballet, and taking theatre lessons. Or I went out with my girlfriends, for man-hunting. The more men we could seduce, the better we felt, we thought

Just not having thought about the event is another memory phenomenon frequently mentioned by abused women (56%). Why they just have not thought about the event is unclear. Either it could be a defense (such as repression or dissociation) or coping mechanism, or the appropriate trigger for recall was simply lacking.

Moreover, 88% of the traumatized women report that they have recovered more details during the last few years, which could mean that more defenses against anxiety of re-experiencing the traumatic event have been broken down, probably through psychotherapy. An alternative explanation can be found in studies on "functional amnesia" in experimental psychology, where it is suggested that materials encoded (attended to) under a state of heightened emotional arousal are less susceptible to forgetting than materials encoded under neutral conditions (Christianson & Nilsson, 1984). The state of heightened arousal during a traumatic experience is assumed to lead to more elaborated encoding of the main critical aspects of the trauma aiding reconstruction of the story. Because of this elaborated encoding more time is needed for reconstruction of the traumatic story with all its details. Our finding that more aspects of the trauma are recovered as time goes by is in agreement with Christianson's experimental research (1984) on the relationship between induced emotional arousal and amnesia where delayed recall scores were found to be higher than initial recall scores. Christianson's subjects were presented with a thematic, short story in pictorial form. One version of the story consisted of a traumatic, arousal-inducing event placed between neutral events. A second version of the story contained the same neutral events in the beginning and the end, but also a neutral event in the middle:

Subjects presented with the traumatic version of the story showed a memory deficit at the initial test (retrograde amnesia) and a "recovery" of this deficit at the delayed test such that the performance for these subjects was superior to that of the subjects having been presented with the neutral version of the story. (p. 156)

It is argued that for those subjects presented with the traumatic version of the story, there is a facilitating effect for retrieval at a delayed test interval, interpreted by Christianson as due to more elaborated encoding of the main critical aspects of each picture aiding reconstruction of the story. An important prerequisite for reconstruction of the story is that some kind of outstanding quality or aspect of the event indeed has been encoded. Christianson remarks that such a notion of outstanding qualities is similar to the reasoning by Christianson and Loftus (1990), Bacon (1974), Baddeley (1972), Easterbrook (1959), hockey and Hamilton, (1970), Mandler (1975), and Wachtel (1968) in terms of narrowing the number of cues processed. Easterbrook (1959), for example, suggested that in states of high emotional arousal there is a narrowing of attention and encoding to a smaller proportion of cues. This phenomenon was already described in 1889 by Janet as "le retrecissement du champs de la conscience."

Christianson and Nilsson (1984) suggest that factors of encoding (attention) and retrieval (reconstruction) but not of storage (consolidation) play a crucial role in "functional amnesia." The narrowing of attention under heightened arousal may also imply that because this lack of attention to certain cues retrieval will be hampered. How can one reconstruct an event without having attended to some of its most salient features? This line of reasoning might explain why 60% of the traumatized subjects in our study also report that they still are unable to recall important aspects of the trauma. Caroline is one of them. Her mother had been raped by her own father, after which she got pregnant and gave birth to Caroline. Caroline herself, in her turn, had also been raped by her stepfather, the husband of her mother. After many years, she started to wonder whether she could have been abused by her mother's (and her own) father as well.

I remember a situation that two men visited me when I was in the bathroom, at the time we still lived in Rotterdam. They touched me and I was very frightened. I don't remember everything, I can't remember their faces. I have been thinking a lot; who can they have been? Perhaps my father and my grandfather?

The above illustrates that she remembers being touched by two men and that she became very frightened of that. However, she still cannot recall the faces of the two men. The most obvious explanation is that because she was so frightened, she did not dare to look the two men in the eyes. Therefore she still cannot recall their faces. She just did not see them properly. However, the alternative line of reasoning could be that the narrowing of attention would primarily be directed at the sensation of touch. Therefore less information could have been encoded through the visual system, which resulted in an inability to recall the faces of the two men.

The traumatized group also differs from the control group in having experienced significantly more often an amnesic turning point, (i.e., a sudden memory recovery which can be very impressive to the person). In the qualitative results section it is argued, after having done an inventory of triggers just preceding such a sudden memory recovery, that in most cases very intense emotions can be held responsible for this amnesic turning point. In fact such a sudden memory recovery can be explained by the concept of "mood-state-dependent retrieval" (Bower & Cohen, 1982), (i.e., "people's feelings affect what records they can retrieve from memory") (p. 291). From traumatized subjects it is known that they avoid becoming very emotional. As long as they succeed in staying numb or alexithymic painful traumatic memories are not very likely to be triggered successfully. However, if a situation occurs which they have not foreseen, and which instantly makes them very emotional then the prerequisites for a sudden memory recovery seem to be there.

A way to discover more of the dynamics of trauma is to study which aspects of the trauma are related to an episode of inability to recall the event (i.e., amnesia). In some studies, relations were found between amnesia and characteristics of the abuse. Briere and Conte (1993), and Herman and Schatzow (1987) noted relations between age of abuse and amnesia and violence of the abuse and amnesia. Williams (1994) noted a relation between the kind of perpetrator and amnesia for the abuse. In our study we looked at the relation between having known a period of complete amnesia for the traumatic event and the characteristics of the abuse (age of onset, age at which the incest stopped, duration, frequency, kinds of perpetrator, kinds of sexual acts, kinds of force, resistance, secrecy). However, no significant relationships were found, except that the amnesic women reported significantly more often to have consented to the sexual abuse in order to get attention from the man, which seems to indicate that they were troubled by an inner conflict which may explain their later inability to recall. That an inner conflict may hamper recall is in line with the findings of Browne and Finkelhor (1986), who indicated that abuse by fathers or stepfathers has a more negative impact than abuse by other perpetrators. It is also in line with the results of Williams (1994), who noted that sexual abuse by a perpetrator with a close relationship to the child is likely to combine elements of betrayal, fear, and conflict, which may cause the victim to be confused about the nature of the abuse and to experience difficulty with her memory of it.

Another interesting result concerns the finding that women with a history of prolonged sexual abuse (it went on after the age of twenty-one) had significantly less often experienced an episode of inability to recall the traumatic event than did women whose incest had stopped before the age of twenty-one. It is often supposed that perpetrators of incest leave their victim in peace once she has reached adulthood.

Our results do not confirm this notion. Some offenders continue the abuse after the victim has left her family. In these cases the sexual abuse is not a thing of the past at all. It is still part of one's present-day life, so one just does not get a chance to forget it. Similar results have been found in animal studies where the effect of electroconvulsive shock (ECS) on memory in rats has been investigated. The simple view that ECS prevents the storage of the memory trace had to be slightly revised after a study by Zinkin and Miller (1967) who observed that although ECS caused amnesia on the first test trial, animals that were repeatedly tested began to remember.

Repression is often used as an explanation when abused clients do not remember their abuse anymore. In those cases "memory recovery therapies" can be recommended (Lindsay & Read, 1994). However, Ceci and Loftus (1994) wonder how much of the failure of adult victims of sexual abuse to remember their abuse was due to "ordinary forgetting" as opposed to repression. It is remarkable to observe how careless Ceci and Loftus are when dealing with mechanisms underlying "ordinary forgetting," and how critical they are regarding the mechanisms underlying repression. Forgetting (i.e., failure to remember) is explained through "ordinary forgetting" instead of through repression, but what is "ordinary forgetting" exactly? Which mechanisms account for "ordinary forgetting"?

One theory on forgetting is the "Law of Disuse" (Thorndike, 1913), which states that memories naturally deteriorate over time. This view held considerable popularity until McGeoch (1932) raised two important objections (see Parkin, 1987):

First, in many situations, disuse was shown to have no effect on retention. Second, and more important, even if disuse does lead to forgetting, this does not constitute an explanation. McGeoch drew an analogy with the fact that a nail becomes increasingly rusty over time. However, time is not the cause of the rust, but merely the logical prerequisite for the process of oxidation to occur. Similarly, if a memory fades through disuse, it is not time that has caused the forgetting, but something that has happened during that time. (p. 39)

McGeoch put forward an alternative explanation of forgetting, which led to the development of interference theory (i.e., the tendency of an item to be forgotten because of competition from other information in memory). Two forms of interference (proactive and retroactive) have been demonstrated in a number of ways, but in most cases the experiments have involved either lists of single words or simple binary associations. This has led to the criticism that interference theory lacks external validity because it is derived from experiments with learning tasks that are uncharacter-

istic of everyday life (Parkin, 1987).

The mechanism behind "ordinary forgetting," although not explicitly stated in the discussion on recovered memories probably is decay, considering its implicit meaning, (i.e., information wears off in the course of time, as in Thorndike's "Law of Disuse"). The trace decay hypothesis is based on Ebbinghaus's classical experiment (1885) on the forgetting curve which states that the amount lost is a function of time, which suggests that (Baddeley, 1976): "... the memory trace will spontaneously deteriorate over time, rather as a mark made in a pat of butter will gradually disappear in a warm room." (p. 59)

The description above makes clear that decay is as confusing as repression. Decay (a "fading memory trace") is a metaphor as is repression, and nothing more than that. Furthermore it should be noted that most of the research that supports decay as a cause of forgetting concerns sensory and short-term memory, and decay is only a minor cause of forgetting from long-term memory (Martin, 1991). Furthermore decay is difficult to isolate in research studies because the passage of time is inevitably accompanied by some cognitive activity.

When the above is taken into consideration it is not surprising that our results with traumatized subjects do not support the view that information is lost by the passage of time. According to our data, traumatized women report that they have recovered more details instead of knowing fewer details during the last few years. This result is in contradiction with the notion of a "fading memory trace." The finding that victims of childhood sexual abuse who had been amnesic for the event report a spontaneous memory recovery (i.e., amnesic turning point) also means that a different process than just ordinary decay or disuse is at work here.

Forgetting through decay is per definition irreversible. Therefore recovered memories can never be explained by decay, unless it is argued that "recovered memories" of childhood sexual abuse are no more than "false memories." Hence, in the debate on recovered memories it is extremely important to know which mechanism is used to explain amnesia. If decay is used then all recovered memories inevitably will be false memories.

Until now, in most studies about recovered memories repression or dissociation was introduced as an explanation, while experimentally-oriented psychologists used "normal forgetting" (presumably based on decay) as an explanation for memory impairment found in traumatized individuals. However, it should be noted again that repression, dissociation, and "normal forgetting" are nothing but metaphors. Therefore, "normal forgetting" has nothing more to offer as an explanation for recovered memories than repression

or dissociation. Furthermore, in memory theories from experimental psychology the influence of emotions on memory functions is neglected. Future research should be concentrated on the role of emotions on forgetting, and should focus on neuropsychological explanations of forgetting.

A neurological explanation for a mild form of recovered memories is given by Kolb and Wishaw (1996). According to them, most of us have found ourselves totally unable to recall some answer for an examination; then we suddenly remember one small fact that appears to allow us access to the entire memory. The explanation suggested by Kolb and Wishaw is that memories are likely to be stored in both cortical and subcortical structures. Moreover, it is suggested that different types of information are stored in different places in the brain, and depend upon sensory processing which is carried out in multiple systems. Therefore information (for instance, memories of childhood sexual abuse) can stay covered as long as the person is not confronted with events or specific sensory cues (see the part on triggers preceding memory recovery) which can trigger that specific region in the brain responsible for the storage of that specific kind of information. ■

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