Psychotherapy and Memories of Childhood Sexual Abuse: A Cognitive Perspective

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SUMMARY

Cognitive psychological research on the fallibility of human memory is reviewed, focusing on evidence of memory distortions and illusions, with the aim of sharing research on memory with clinical psychologists and practitioners who use memory recovery techniques to help clients recover suspected memories of childhood sexual abuse. The memory literature suggests that incautious use of memory recovery techniques may lead some adult clients who were not abused to come to believe that they were. Considerations relevant to assessing whether or not clients have repressed memories of childhood sexual abuse are discussed, as are suggestions for minimizing the risk of leading clients to create illusory memories or beliefs of childhood sexual abuse.

As cognitive psychologists specializing in research on human memory, we are concerned that the approaches to psychotherapies advocated by certain self-help books and by some clinical practitioners may inadvertently lead some adult clients to create illusory memories of childhood sexual abuse (i.e. to come to believe that they had been abused as children when in fact they had not been). There is no doubt that many children are sexually abused, and that this is a tragedy. Furthermore, survivors of childhood sexual abuse often suffer long-lasting harm, and may be helped by competent therapists. Although cognitive researchers have differing views about the mechanisms underlying loss of memory (e.g. repression, dissociation, or normal forgetting; see Loftus, 1993; Singer, 1990), all would agree that it is possible that some adult survivors of childhood abuse would not remember the abusive events, and that memories might be recovered given appropriate cues. Thus we accept that some
clients may recover accurate memories of childhood sexual abuse during careful, non-leading, non-suggestive therapies. But there is no doubt in our minds that extensive use of techniques such as hypnosis, dream interpretation, and guided imagery (which are advocated in some self-help books and by some clinical psychologists, psychiatrists, clinical social workers, therapists, and counsellors) can create compelling illusory memories of childhood sexual abuse among people who were not abused. This too is a tragedy.

Throughout our paper the discussion focuses on clients who come to remember childhood sexual abuse (generally incestuous) during the course of therapy that focuses on the recovery of suspected repressed memories of childhood sexual abuse. Indeed, our comments are directed only to recollections of abuse that are the products of extensive use of memory recovery techniques and ancillary practices. People who have always remembered being sexually abused as children, or who spontaneously come to remember previously-forgotten abuse, are on those bases different from clients who require months of guidance and memory recovery techniques prior to their first recollection of abuse (Braver, Bumberry, Green, and Rawson, 1992). For clients presenting with a variety of symptoms who do not initially remember being abused, guidance for the recovery of memories of childhood sexual abuse is explicitly recommended by many practitioners (Bass and Davis, 1988; Blume, 1990; Claridge, 1992; Courtois, 1988, 1991, 1992; Dolan, 1991; Ellenson, 1985, 1986; Engel, 1989; Gelinas, 1983; Herman and Schatzow, 1987; Maltz, 1990; Olivo, 1989). Most of these writers accept the validity of Gelinas’s (1983) notion of ‘disguised presentation’, in which an individual shows many of the hypothesized sequelae of childhood sexual abuse (e.g. depression, low self-esteem, substance abuse, eating disorders) but is unaware of having been abused. For such clients the current view among some practitioners appears to be that abuse did occur but memories of it have been repressed, and that successful treatment relies on the recovery of those memories; hence, the recommended use of memory recovery techniques. Although there are many differences between these writers, they share an emphasis on the idea that abused clients often do not remember their abuse and that in such cases helping clients recover memories of abuse is an important part of therapy. Without meaning to imply the existence of a single unified theory, we will refer to such approaches collectively as ‘memory recovery therapies’.

We suspect that memory recovery therapy is analogous to a powerful medicine that may be helpful to victims of a disease but that can cause great harm when given to people who do not have that disease. Our fear is that these powerful techniques are being used in ways that are damaging the lives of many clients and their families. We believe that clinicians whose work focuses on trauma resolution must appreciate not only the dynamics of abuse and its sequelae but also the nature of memory and remembering. Our aim is to increase practitioners’ awareness of the potential for memory errors and illusions, and of the conditions that contribute to these phenomena. We do not intend to impugn all, or even most, memories that are recovered in therapy, but rather to help practitioners reduce the likelihood that their clients will create false memories.

This paper is not the first to argue that memory recovery therapies may lead some clients to create illusory memories. A number of articles criticizing incest-focused memory recovery therapies have been published in the last two years, some by clinical psychologists (Coleman, 1992; Frankel, 1993; Haaken and Schlaps, 1991;
Lief, 1992; Wakefield and Underwager, 1992), some by cognitive/experimental psychologists (Dawes, 1991, 1994; Loftus, 1993), and many in the popular press (Goleman, 1992; Tavris, 1993; Toufexis, 1991; Watters, 1993; Whitely, 1991). Our arguments draw on these critiques, but differ from them in two ways. First, some critics of therapists’ use of memory recovery techniques have, in our view, used an overly confrontational tone that has added to rather than reduced the polarization of discussion of this issue, and has hampered rather than fostered dialogue between practitioners and researchers (e.g., Gardner, 1992; Ofshe and Watters, 1993). We have taken a more moderate stance, and have focused our efforts on informing practitioners about relevant research by cognitive psychologists rather than on attacking the entire therapeutic approach. Second, we have attempted to provide practitioners with some practical suggestions about ways to reduce the risk of creating illusory memories. Those suggestions are fewer and less substantiated than we would like them to be, partly because of a paucity of directly relevant research and partly because many of the factors known to increase illusory memories are inevitable characteristics of situations in which therapists attempt to help clients remember particular kinds of childhood events. None the less, we believe these suggestions may be of use to mental health care providers working in this area.

The paper consists of six major sections. The first section reviews, in some detail, evidence of the fallibility and suggestibility of autobiographical memory. Our aim in reviewing this cognitive literature is not merely to show that human memory is susceptible to distortion and error, but also to examine the factors that have been shown to affect the likelihood of memory errors. The second section applies research from cognitive psychology to a critical examination of approaches to psychotherapy that emphasize memory recovery, focusing first on pop psychology and then turning to clinical practice. We argue that many of the factors that cognitive research has shown increase the likelihood of memory errors are typical of memory recovery therapies. In the third section, we discuss reasons why we think practitioners should view their own introspections and impressions drawn from clinical experience with a certain degree of caution. The fourth section discusses the ‘diagnosis’ or clinical assessment of repressed memories within the context of research on human memory and decision making. Accurate clinical judgements about whether or not clients have repressed a history of childhood sexual abuse are particularly important in view of the evidence of the risks attendant upon applying incest-focused memory recovery techniques to clients who were not sexually abused as children. Our discussion of diagnosis focuses on reasons to suspect that there is a fairly high rate of false diagnoses of repressed memories by memory recovery therapists, but we also offer some suggestions about ways to improve such clinical assessments. In the fifth section, we present reasons for fearing that large numbers of North Americans have been led to create illusory memories of childhood sexual abuse. Finally, in the sixth section we suggest some courses of action that would reduce the likelihood of inadvertently leading clients to create illusory memories and beliefs about childhood abuse.1

Although this paper focuses on the issue of illusory memories of childhood sexual abuse, we wish to emphasize at the outset that real sexual abuse of children is a

1 Although the arguments presented in this paper are applicable to both male and female clients, the majority of research studies on the prevalence, causes, effects, and recollection of childhood sexual abuse focus on females. This paper too focuses primarily on women, because of this paucity of research on male victims of incest.
larger problem than therapy-induced illusory memories of abuse. Real abuse has affected the lives of more people than have therapy-induced illusory memories, and real abuse has a longer history and is more deeply embedded in our culture than the therapies that concern us. Throughout our work on this paper, we have struggled with the issue of how to do the most good (i.e. help memory recovery therapists understand the malleability of memory and therefore be cautious in their use of certain memory recovery techniques) while doing the least harm (i.e. not undermining concern about and support for victims of abuse; cf. Lief, 1992). Our sincere belief is that certain psychotherapeutic theories and practices have inadvertently harmed many clients by leading them to believe falsely that they were sexually abused as children. Our aim is to convince memory recovery therapists to curb their use of these techniques so as to reduce the risks. We hope to do so without in any way detracting from the importance of supporting real victims of abuse.

Proponents of therapeutic approaches that focus on the recovery of repressed memories of childhood abuse have a great motivation to dismiss the concerns we raise in this paper. How difficult it would be even to consider the possibility that one had put clients through the pain and suffering of coming to terms with incestuous abuse when no such abuse had actually occurred. We ask that practitioners who use memory recovery techniques acknowledge this powerful motivation to deny the possibility of illusory memories, and weigh their beliefs against the wealth of evidence demonstrating that memory is fallible and that suggestions can sometimes lead people to ‘remember’ things that never happened.

THE FALLIBILITY OF HUMAN MEMORY

Errors in everyday memory

Lay people often think of memory as a sort of video library of their personal histories, and of remembering as akin to replaying a video of the past. One implication of this metaphor is that memory is perfect and complete, requiring only the proper cues to allow people to retrieve accurate records of past experiences. By our reading, many proponents of memory recovery therapies subscribe to this view of memory. For example, memory recovery writers often emphasize the need to search for and find the appropriate ‘triggers’ or retrieval cues that will enable clients to recover accurate memories that ‘otherwise seem completely out of their reach’ (Claridge, 1992: p. 243). Suggested ‘triggers’ include childhood pictures and memorabilia, bibliography, films and videos (sometimes depicting sexual abuse; Dolan, 1991), guided imagery, hypnosis, age regression, dreamwork, bodywork, and group work with other survivors (Blume, 1990; Courtois, 1991; Maltz, 1990; Olio, 1989). Although Olio expressly discussed the reconstructive nature of remembering, the underlying assumption made by most of these writers appears to be that, given the proper triggers, accurate records of the past will be located and replayed.

From a historical perspective, this conceptualization of memory as infallible is relatively new and may have been inspired in part by recent technologies, such as photography, which provide concrete metaphors for the operation of memory (Roo-}

diger, 1980). Years of memory research and clinical practice make it clear that memories are not perfect records of past events and that remembering involves inference-like

There are many well-known anecdotes describing errors in autobiographical memory (Johnson, 1988; Linton, 1975; Loftus, 1993; Neisser, 1982; Piaget, 1945/1962; Read, Tollestrup, Hammersley, McFadzen, and Christensen, 1990). Perhaps the most frequently cited is Piaget’s vivid and detailed memory of an incident in which someone attempted to kidnap him as a young child—an incident that, it turns out, never occurred. Similarly, the eighteenth century English lexicographer Samuel Johnson (1805/1958) said of his memory of a childhood medical operation, ‘Having been told of this operation, I always imagined that I remembered it, but I laid the scene in the wrong house. Such confusions of memory I suspect to be common’ (p. 4). In a similar vein, Mark Twain once said, ‘It isn’t as astonishing the number of things I can remember, as the number of things I can remember that aren’t so’ (quoted in Ronan, 1993: p. 88).

A more recent anecdote was reported by memory researcher Marcia Johnson (1985). Johnson once told some friends, in the presence of her parents, about a childhood incident in which her family had a flat tire while driving through central California. According to her memory, her father hitch-hiked to a gas station to get the tire patched and, because everyone in the car was very thirsty, her sister walked to a nearby farmhouse with some empty pop bottles and asked for some water. The woman at the farmhouse explained that it was drought season and that she only had a small amount of bottled water left. She poured and set aside a glass of water for her little boy, who would soon be home from school, before filling Johnson’s sister’s bottles. Johnson’s sister brought the precious bottles to the car and they all shared them. Upon hearing this story, her parents laughed and said that it was wrong—no one went for water, they just sat in the car feeling thirsty until the father returned with the patched tire. Johnson (personal communication, May 27 1993) subsequently noted the contradiction in her recollection: Her memory for this imagined event included perceptual details about the appearance of the farmhouse kitchen (a general sense of the spatial layout, the bottled water cooler, the glass of water sitting on the tile counter) and of the woman (that she was wearing a house dress and had brown hair of medium length)—even though her recollection was that it was her sister, not herself, who went to the farmhouse.

A final anecdotal example is drawn from a family friend of one of the authors. In an angry confrontation, 30-year-old Laurel accused her mother of having said a hurtful thing to her many years earlier when she was a child. Laurel had been carrying the hurt and anger about this offence for years. Her sister Penny, who was present when Laurel unburdened herself of this painful memory, immediately said, ‘Laurel, that wasn’t you! That was me!’ Evidently, Laurel had witnessed or heard about the remark years ago, identified with her sister, and eventually came to believe that she was the victim of the hurtful remark.

We could fill the rest of this paper with such anecdotes, drawing them from works

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2 Penfield’s (1952) work on electrical stimulation of cortical cells, which is sometimes cited as evidence of the recording-like quality of human memory, provides very little support for that idea. A small proportion of Penfield's subjects reported recollections of past events when he stimulated particular brain areas, but most did not, the responses of individuals who did report recollections were not consistent across trials, and there was no attempt to verify the accuracy of the reported recollections (Loftus and Loftus, 1980).
of literature, autobiographies, and films, as well as from the psychological literature. But that should be unnecessary, because most readers can likely recall everyday experiences in which past events were misremembered. For example, it is commonplace that different witnesses to an event often have wildly different accounts of what transpired, that family members frequently argue about what happened where, and that scientists often disagree about who came up with which ideas.

These anecdotes are supported by dozens of published experiments demonstrating that people's expectations and beliefs can distort their recollections (Bartlett, 1932; Dawes, 1991, 1992; Hertel, 1982; Johnson, Bransford, and Solomon, 1973; Nisbett and Ross, 1980; M. Ross, 1989; Snyder and Uranowitz, 1978; Spiro, 1977; Sulin and Dooling, 1974). Furthermore, many studies have demonstrated memory errors and distortions in recollections of specific autobiographical events (Barclay, 1988; Brewer, 1986, Linton, 1982; M. Ross, 1989; Rubin, 1986; Wagenaar, 1988; Wagenaar and Groeneweg, 1990).

It is striking that people can be very confident about recollections that are inaccurate, especially if the remembered events happened long ago. Even the very vivid memories people sometimes have of emotionally charged events (so-called 'flashbulb' memories, such as remembering all sorts of details about the moment one heard of JFK's assassination) often include gross inaccuracies (for a review, see Winograd and Neisser, 1992). For example, memory researcher Marigold Linton (1975) reported that one of her subjects described a flashbulb memory of Linton breaking the news to him about the JFK assassination. This recollection was not correct; a variety of documented facts proved that Linton and the subject were not in the same place when the subject learned of the assassination. Weaver (1993) has argued that the defining feature of flashbulb memories is "the undue confidence with which these memories are held" (p. 39).

People who have recovered memories of childhood sexual abuse through therapy sometimes report that they always knew that something bad had happened to them during childhood. This feeling of having 'always known' is taken as evidence of the accuracy of the newly recovered memories. This may well be true in many cases, but the claim of having 'always known' is reminiscent of hindsight bias (Fischhoff, 1975), the knew-it-all-along effect (Wood, 1978), and other effects that demonstrate that people's current knowledge and beliefs can colour and distort their recollections of their prior knowledge, beliefs, and attitudes (M. Ross, 1989).

Many clinical practitioners have suggested that poor memory for early childhood events is diagnostic of early childhood sexual abuse (Blume, 1990; Courtois, 1988; Ellenson, 1985; Maltz, 1990). The assumption appears to be that people would have detailed recollections of their early childhoods unless they were repressing those memories. But psychologists have long known that few people report memories of events before the age of two or three years, and that most people can recall only scattered scenes and moments of childhood before age five or six years (Howe and Courage, 1993; Kihlstrom and Harackiewicz, 1982; Rubin, Wetzler, and Nebes, 1986; Usher and Neisser, 1993; Waldfogel, 1948/1982). This inability to recall events from the first few years of life is called 'infantile amnesia' (see Fivush and Hamond, 1990, for a recent review of research and theories on this topic). For example, Sheingold and Tenney (1982) found that people remember virtually nothing about the birth of a sibling if they were under four years of age when the sibling was born. Claims that very early childhood memories can be retrieved through the use of special tech-
niques such as hypnotic age regression (i.e. suggestions to mentally reinstate the memories, thoughts, and emotional states of an earlier age) have not been supported by scientific research (Nash, 1987). Because infantile amnesia is demonstrable in non-human species such as rats (Spear, 1979), its causes appear to be more related to developmental changes in brain structure and function than to specific life experiences. Poor memory for the first few years of life is not a symptom of abuse during those years, it is simply a fact of life. (Problems associated with assessing and interpreting memory for later childhood are discussed in our section on diagnosing repressed memories.)

In summary, autobiographical memory is imperfect. People are frequently unable to recall vast portions of their past experience. More important in the present context, memory distortions and memories of things that never happened are far from rare, both in the laboratory and in everyday life. People's current knowledge and beliefs can alter their recollections of past events and of their own prior beliefs. Finally, memories of distant events, and particularly memories of early childhood, appear to be especially susceptible to distortion and error.

The suggestibility of memory

Research on the suggestibility of human memory has a long history (Binet (1900) in France, and Stern (1910) and Whipple (1912) in Germany; see Goodman (1984) and Ceci and Bruck (1993) for the historical reviews from which these citations were drawn). It is noteworthy that the turn-of-the-century German work was sparked in large part by concern about the reliability of child witnesses testifying in sexual abuse cases. In more recent times, the effect of verbal suggestions on children’s and adults’ recollections has been studied extensively (Baxter, 1990; Ceci and Bruck, 1993; Loftus, 1979; Ross, Read, and Toglia, 1994; Wells and Loftus, 1984). In the typical experiment in this area, people witness an event, then receive misleading suggestions concerning details in the event, and later take a memory test concerning the event. People in these experiments often claim to have seen things in the event that were in fact merely suggested to them. For example, subjects in a study by Marin, Holmes, Guth, and Kovac (1979) witnessed a staged argument between two people. Shortly after witnessing the argument, they were asked a number of questions about the event, including one question that included a misleading suggestion. Two weeks later, all of the questions were presented in a non-leading form. Subjects who received the misleading suggestion were significantly more likely to report the suggested information than were others who had not heard it.

There is compelling evidence that in some cases subjects genuinely believe that they are remembering something they witnessed when they retrieve memories of misleading suggestions (Lindsay, 1994; Weingardt, Toland, and Loftus, 1994). In one study, for example, before people took the memory test they were explicitly and emphatically told not to report anything from the verbal material because it was all wrong; none the less, 27 per cent of the time they 'recalled' having seen things in the event that had really only been mentioned in the verbal material (Lindsay, 1990). Furthermore, people are sometimes very confident in illusory memories induced by misleading suggestions. For example, in a study reported by Weingardt et al. (1994), misled people were often willing to bet substantial sums of money on the accuracy of their inaccurate recollections.
Some subjects in studies of eyewitness suggestibility report very vivid and detailed recollections of seeing things that were merely suggested to them (Johnson and Suen
gas, 1989; Schooler, Gerhard, and Loftus, 1986). Furthermore, although most research on illusory memories has used relatively artificial laboratory tasks (e.g. misleading suggestions about details in a film), there are studies that have demonstrated such effects with real-life events. For example, there have been a number of recent studies in which children received misleading suggestions about events that occurred during medical examinations (Bruck, Ceci, Francouer, and Barr, in press; Baker-Ward, Gordon, Ornstein, Larus, and Clubb, 1993). In these studies children were rarely influenced by a single passing suggestion about a dramatic, recent, personally experienced event. For example, Rudy and Goodman (1991) and Saywitz, Goodman, Nicholas, and Moan (1991) found that even young children were rarely influenced by suggestive questions such as ‘He took his clothes off, didn’t he?’ or ‘How many times did the doctor kiss you?’ However, a few children did succumb even to these rather extreme suggestions, and other research shows that less implausible suggestions about medical examinations (e.g. that the doctor had looked into the child’s ear when s/he hadn’t actually done so) can affect some children’s memory performance (Baker-Ward et al., 1993; Oates and Shrimpton, 1991).

Moreover, a recent study using a one-year delay between the event and the memory test, and repeated presentations of suggestions, found robust effects of misleading suggestions on children’s reports of medical examinations (Bruck et al., in press). For example, more than half of the children who had received suggestions that a research assistant (rather than the doctor) had performed various aspects of the examination fell sway to those suggestions.

We have described several recent studies of children’s suggestibility, because these studies have explored the effects of suggestions on memory for highly memorable autobiographical events. Although the evidence indicates that suggestibility effects are greater for young children than for adults (and hence that the absolute rates of suggestion-induced memory errors in studies of young children likely overestimate the likelihood of such errors in adults), effects of suggestions have been demonstrated across the life span.

The literature on eyewitness suggestibility documents effects of several variables that are relevant to the recovery of memories of childhood sexual abuse. First, there is evidence that memory suggestibility increases with delay between the event in question and the attempt to remember that event (Belli, Windschill, McCarthy, and Winfrey, 1992; Hammersley and Read, 1985). Second, suggestibility is heightened by the perceived authority of the source of the misleading information (Toglia, Ross, and Ceci, 1992). Third, repetition of suggestions can increase their impact (Zaragoza and Lane, in press); indeed, merely repeating presentations of false statements tends to increase people’s belief in them (Arkes, Boehm, and Xu, 1991; Begg, Anas, and Farinacci, 1992; Read and Bruce, 1984). Fourth, subjects are more influenced by suggestions that they view as plausible than by suggestions they view as implausible (Read and Bruce, 1984). Similarly, Holst and Pezdek (1992) showed that subjects readily recall information about actions that were only suggested by a stereotypical scenario (e.g. a bank robbery), and that they subsequently hold these erroneous memories with strong conviction. Extrapolating from these findings, it may be that arguments advanced to clients (e.g. that their symptoms are typical of people with repressed memories of childhood sexual abuse) may increase their susceptibility to
suggestions. Fifth, the likelihood of memory confusions is increased by factors that lead people to use lax memory-monitoring criteria when retrieving memories. For example, Lindsay and Johnson (1989) found that people more often claimed that they had seen things in an event that were merely suggested to them if they were simply asked to make a yes/no judgement about whether or not each test item had been seen in the event than if they were asked to specify the sources of their memories of each item on the test. Similarly, Hastie, Landsman, and Loftus (1978) found that encouraging people to guess on a memory test increased errors. More importantly, Hastie et al. also found that the memory errors people initially made as guesses tended to be repeated when they were later asked to make more careful memory judgements, and that confidence in erroneous guesses tended to increase over time (cf. Roediger, Wheeler, and Rajaram, 1993; Schooler, Foster, and Loftus, 1988).

There is also evidence that suggestions can lead people to experience illusory memories of events in their own childhoods. For example, Loftus and Coan (in press; also described in Loftus, 1993) demonstrated that people can be led to create detailed and extended ‘recollections’ of childhood events that never occurred. In this study, five subjects (two children, one 14-year-old, and two adults) were led to believe that a particular event, which other family members reported had not actually occurred, had happened to them when they were five years old (e.g. that they had become lost in a shopping mall). Subjects were asked to work on remembering the details of this incident on several occasions, with the older subjects being instructed to write their recollections in a journal (just as psychotherapy clients are sometimes asked to do). Over this period, four of the subjects came to recollect details of the suggested event. For example, the 14-year-old subject came to remember details about how he came to be separated from his family at the mall, how he was rescued, and so forth. This subject was extremely resistant when later told that, so far as anyone in his family knew, this event had never actually occurred. Loftus (1993) described a number of similar examples of illusory memories of childhood events studied by other researchers.

In a recent study, Hyman, Billings, Husband, Husband, and Smith (1993) surveyed parents of university students regarding events that had happened during the students’ childhoods. The students were then interviewed and asked to remember those events plus one suggested event (e.g. staying overnight in the hospital for an ear operation). Some students reported memories of the suggested event in an initial interview, and these illusory memories became more detailed in a second interview.

In a somewhat similar fashion, Ceci, Leichtman, and White (in press) used a series of repeated suggestions over a 10-week period to show that kindergarten children can come to believe that they witnessed a series of actions by a man they had heard about often, but seen only once, and who did not perform any of the suggested actions, such as ripping pages out of a book, the one time he was seen. Video tapes of these children being interviewed present compelling images of children who appear genuinely to believe that they had seen the man perform the suggested actions. In related work, Ceci, Loftus, Crotteau, and Smith (in press) showed that repeated questioning over multiple interviews led many young children to produce detailed reports of going to the hospital after an injury—even though neither the suggested injury nor the hospital visit had occurred. In this study, the children were simply asked if they had ever experienced particular events (e.g. ‘Did you ever get
your finger caught in a mousetrap and have to go to the hospital to get the trap
off?’). Some of the events had actually happened, and others had not, and each
child was questioned a number of times over a 10-week period. More than half
of the children produced false narratives about at least one fictional event, and
some reports of suggested events were very vivid and detailed. Importantly, the
children’s accounts of the suggested events were not discernible from their accounts
of actual events.

There are also real-life examples in which people mistook memories from other
sources for memories of an experienced event. One particularly striking example
was reported by psychologist Don Thomson (described in Read et al., 1990). Thomson
was once picked up on a rape charge because he very closely fit the description
provided by a rape victim. Thomson was soon released because he had an indisputable
alibi: He had been making a live television appearance shortly before the rape
occurred. Evidently, the rape victim had seen Thomson on the show and subsequently
confused memory information about the appearance of the man on television with
memory information about the rapist’s appearance. A similar confusion between
the appearances of two men who assaulted a woman was reported by Loftus (1986).
Finally, in a dramatic example of the acceptance of false information, a man accused
of sexual abuse apparently fabricated a memory of a specific instance of sexual
abuse against his children that was suggested to him by sociologist Richard Ofshe
(Ofshe, 1992; see also Wright, 1993a, 1993b). Although Olio and Cornell (in press)
have criticized Ofshe’s procedure and his interpretation of this case, Ofshe (1989)
and Coons (1988) described other criminal cases in which innocent people confessed
to crimes because the interrogation process convinced them of their guilt.

Mistaking memories of imagined events for memories of actual events

People sometimes mistake memories of imagined events for memories of actual events.
Marcia Johnson has pioneered research on this type of memory error, which she
refers to as ‘reality monitoring confusions’ (for a recent review, see Johnson, Hash-
troudi, and Lindsay, 1993; for a paper directed to a clinical practitioner audience,
see Johnson, 1988). In one study (Suengas and Johnson, 1988), people experienced
some events (e.g. wrapped a package, met an Indian woman) and imagined other
events (e.g. imagined having tea and cookies). Over a period of days, participants
were asked to review some of the events mentally, focusing on various aspects of
them. Then they were asked to rate their memories for the events along a variety
of dimensions. Mentally rehearsing imagined events made memories of them similar
to memories of non-rehearsed actual events. There was a relationship between what
aspects of the events subjects were instructed to rehearse and their later memory
ratings: rehearsing perceptual characteristics of events made the perceptual qualities
of their recollections more vivid and detailed, regardless of whether the event had
actually happened or merely been imagined. Rehearsing the thoughts and feelings
associated with an event heightened memory for those aspects of the event (especially
if it had merely been imagined) and impaired access to perceptual details—thereby
rendering memories of imagined and actual events more similar. A related finding
reported by Schooler and Engstler-Schooler (1990) is that having witnesses verbally
describe their memory of a person’s face can significantly reduce their ability to
recognize a picture of that person later, even though such rehearsal also significantly
increases their confidence that they will be able to recognize the person (Read and Schoeler, 1993). Presumably, memories of the verbalization (which may include inaccuracies) interfere with memories of seeing the person’s face.

Johnson’s research suggests that people may be especially likely to confuse memories of actual and imagined events if those memories were formed during childhood. In one study, adult subjects were asked to generate memories of an event they were sure had actually occurred and memories of an event they were sure had merely been imagined, with some subjects being asked to remember events from childhood and others to remember events from adulthood (Johnson, Foley, Suengas, and Raye, 1988). Subjects were asked to describe these memories and to rate them on a variety of characteristics (e.g. amount of sensory detail, emotional intensity, etc.). Memories of actual and imagined childhood events were much more similar to one another on these dimensions than were memories of actual and imagined adulthood events, suggesting that it is generally easier to confuse memories of imagined and actual events from one’s childhood than to confuse memories of imagined and actual events from adulthood. This hypothesis is also supported by studies of developmental improvements in children’s ability to discriminate between memories of actual and imagined events (Foley and Johnson, 1985; Lindsay, Johnson and Kwon, 1991).

A convincing simple demonstration of the ease with which people spontaneously confuse memories of imagined events as memories of actual events can be seen in recent work by Read (1994). Adult subjects heard a list of 12 words read aloud. Following a brief delay, they attempted to recall the words and, for each word recalled, rated their confidence that it was a list member and indicated whether they could actually remember hearing the word being spoken. Across different encoding instructions, as many as 80 per cent of the subjects ‘remembered’ a word that was not actually in the list. Remarkably, all of these subjects recalled the identical wrong word—‘sleep’. This illusory memory occurred because many of the words in the list were closely associated to the concept ‘sleep’ (i.e. the list included words such as dream, bed, snore, etc.). Three details of the findings warrant emphasis: (1) subjects’ confidence ratings did not discriminate between their illusory and real memories, each receiving very high confidence ratings; (2) the subjects provided as much perceptual detail about their recollection of hearing the illusory word as for any real list word; and (3) the illusion occurred most frequently when subjects were instructed to think about the meanings of the words during the study phase. In short, a mental association to the studied words became a confidently held perceptual memory of hearing a non-studied word within minutes for most subjects.

**Individual differences in the fallibility of memory**

There has been relatively little research concerning individual differences in memory distortions and reality monitoring errors, but there is evidence that indicates that some psychological and personality variables may affect the likelihood of confusing memories of actual and imagined events. For example, Durso, Reardon, and Jolly (1985) found that ‘field dependent’ individuals—who rely heavily on environmental cues to make perceptual judgements—are more prone than ‘field independent’ people to confuse memories of actual and imagined events, consistent with the idea that field dependent people differentiate self less sharply from non-self than do field independent people. There is also evidence that some forms of psychoses (e.g. schizophrenia,
manic thought disorder) are associated with disrupted memory-source discrimination (e.g., confusion of memories of actual and imagined events; Harvey, 1985). Finally, although we know of no specific tests of this hypothesis, it may be that the memory deficits often associated with depression contribute to poor memory-source discrimination among some depressed individuals (cf. Johnson and Sherman, 1990). The evidence concerning the relationship between psychopathology and memory performance is far from clear (Brewin, Andrews, and Gotlib, 1993), but the studies by Durso et al. and by Harvey mentioned above provide at least some indication that people suffering from various kinds of psychological problems (e.g., clinical depression, schizophrenia) may be particularly vulnerable to memory errors. If so, it may be that some people seeking psychological counselling are highly susceptible to the sorts of memory errors we have described. A related point is that some people are much more hypnotizable than others (Ganaway, 1991; H. Spiegel, 1974) and, by definition, these subjects are particularly vulnerable to suggestions given under hypnosis. Further research on individual differences in suggestibility and memory distortions is needed.

Bases for the subjective experience of remembering

Why would people believe they are remembering accurately when they are not? We know that remembering can be distorted by people’s knowledge and beliefs as well as by externally derived suggestions, but what are the cognitive mechanisms that underlie such errors? The approach to these questions that we favour draws upon work by Jacoby and his colleagues (Jacoby, Kelley, and Dywan, 1989) and by Johnson and her colleagues (Johnson et al., 1993). Jacoby argued that the subjective experience of remembering involves an unconscious attribution process by which current mental events are attributed to particular sources on the basis of their qualitative characteristics. Johnson developed related theoretical ideas in her research on how people identify the origins of their memories. Very briefly, mental events that reflect the use of memory typically have characteristics that usually differentiate them from the products of other cognitive processes (e.g., perception or imagery). For example, visual images based on retrieval of memories of past perceptions are generally more vivid and more easily generated than are visual images generated anew using imagination. Based on these qualitative characteristics, people identify the products of memory as such, hence giving rise to the subjective experience of remembering. Generally, this attribution process is performed very quickly and automatically, without awareness of any decision-making processes. Moreover, most of the time such source attributions are accurate—products of memory are identified as memories, products of imagery or fantasy are identified as such, etc. Sometimes, however, the products of ongoing cognitive processes such as thinking or imagining have qualitative characteristics that are typical of memories. For example, sometimes a newly generated image is unusually vivid, detailed, and easily generated. Such vivid and easily generated products of imagination may be misidentified as memories, particularly if the subject is oriented toward memory when the image is generated. Thus a vivid image that pops to mind during an attempt to remember a past event may give rise to an illusionary feeling of remembering. People’s knowledge and beliefs, and external suggestions presented by others, can be a source of ideas and images
coming readily to mind during attempts to remember, and can thus give rise to illusory experiences of remembering.

This account is supported by a number of laboratory studies demonstrating illusions of remembering. People with certain forms of organic brain damage have a remarkable tendency toward such confabulation (Johnson, 1991), but normal subjects also experience memory illusions. For example, there is evidence that experimental manipulations that cause non-studied items to come easily to mind during a memory test can lead subjects to believe that they remember seeing those items in the study list (Lindsay and Kelley, 1991). Similarly, manipulations that facilitate the perception of non-studied items on a recognition memory test can lead subjects falsely to recognize those items as things presented in the study phase (Jacoby and Whitehouse, 1989; Whittlesea, 1993; Whittlesea, Jacoby, and Girard, 1990).

According to this view, illusory experiences of remembering are most likely to occur when: (1) people are oriented toward attributing current mental events to memory; (2) people use relatively lax memory source-monitoring criteria; and (3) the mental event in question has characteristics that resemble those of memories (e.g. relative ease of generation, vividness, and content that is compatible with the to-be-remembered material). This account accords well with the research on suggestibility, reality monitoring, and the other memory errors and distortions reviewed above.

Summary

There is no question that autobiographical memory is subject to error and distortion, as well as to forgetting. People sometimes confuse memories of suggestions as memories of actual events, and sometimes confuse memories of imagined experiences as memories of actual experiences. Such illusory memories are sometimes very vivid and detailed, and people are sometimes highly confident in the accuracy of illusory memories.

Research suggests that memory errors and distortions are more likely to occur if the to-be-remembered events happened long ago than if they happened recently, and there is reason to suspect that recollections of childhood are especially vulnerable to misleading suggestions and reality monitoring confusions. Also, memory suggestibility is heightened by the perceived authoritative nature of the person giving the suggestions, by repetition of the suggestions across sessions, and by the perceived plausibility of the suggestions. Other findings indicate that mentally rehearsing imagined events can make memories of those imagined events similar to memories of actual events. There is also evidence that lowering one’s criteria increases the likelihood of such memory confusions, and that having previously reported a memory as a guess or conjecture can make it harder to determine later whether the remembered event was imagined or actually occurred.

It is important not to exaggerate the fallibility of human memory. Memory is often wonderfully detailed and accurate. Not all subjects demonstrated memory illusions in the studies referred to above, in some cases the effect sizes are small, and some procedures do not lead to significant memory errors at all. None the less, it is important to appreciate the fact that memory is far from perfect, and that under some conditions people can experience compelling illusory recollections. Ongoing research by cognitive psychologists is refining our understanding of the
mechanisms and conditions that underlie such memory errors. For present purposes, the important point is that many of the factors that memory researchers have found contribute to the likelihood of illusory memories (e.g. perceived authority of the source of suggestions, repetition of suggestions, communication of information that heightens the plausibility of the suggestions, encouragement to form images of suggested events and to reduce criteria for the acceptance of current mental experiences as memories) are typical of memory recovery therapies.

One potential criticism of the evidence for illusory memories and memory distortions is that many of the studies involved memory for relatively innocuous, artificial, non-memorable events. The critic might argue that although people sometimes experience illusory memories of trivial events, they never experience illusory memories of traumatic life experiences. We have two replies to this criticism. One is that although it is true that many demonstrations of illusory memories used rather trivial laboratory events, the same sorts of memory errors have also been demonstrated with relatively rich, complex, naturalistic events, such as the detailed memory of child sexual abuse that Ofshe (1992) apparently produced via suggestions given to a man accused of sexually abusing his children, and several more formal studies of suggestibility and memory errors that used real-life events (Bruck et al., in press; Ceci, Leichtman, and White, in press; Loftus and Coan, in press; Peters, 1991; Poole and Lindsay in press; Pynoos and Nader, 1989; Read et al., 1990). Second, it is difficult to predict a priori whether the results of laboratory studies exaggerate or underestimate memory confusions in everyday life. On the one hand, it is almost certainly true that, all other things being equal, it is easier to lead people to create illusory memories of trivial events than illusory memories of traumatic experiences. On the other hand, laboratory procedures typically involve very short retention intervals, a relatively formal setting for testing memory that emphasizes accuracy, and manipulations that are trivially weak compared to those that occur in the real world that concerns us (e.g. a single passing suggestion about a detail in a recently witnessed event can have a huge effect on accuracy of memory for that event). There is little reason to fear that a few suggestive questions will lead psychotherapy clients to conjure up vivid and compelling illusory memories of childhood sexual abuse. However, as described below, the techniques some authorities advocate for recovering repressed memories of childhood sexual abuse are vastly more powerful than the laboratory procedures, and there is good reason to be concerned about the possibility that they sometimes lead to the creation of illusory memories.

**RECOVERED MEMORIES AND ILLUSORY MEMORIES: POPULAR BOOKS AND POORLY-TRAINED THERAPISTS**

Several popular books on recovering repressed memories of childhood sexual abuse have been published in the last few years (Bass and Davis (1988) *The Courage to

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3 The reconstructive memory processes we have described could also contribute to the creation of illusory beliefs and memories of a non-abusive childhood among people who were in fact sexually abused as children, just as proponents of memory recovery therapies have argued. Our concern in this paper focuses on the possibility that certain forms of therapy may lead to the creation of illusory memories among people who were not abused, but that is not to deny the possibility that similar processes might lead people who were abused to think that they were not.
Heal (since 1993 also available in a pocket-size edition), Davis, (1990) Courage to Heal Workbook, Frederickson (1992) Repressed Memories: A Journey to Recovery from Sexual Abuse, and Blume (1990) Secret Survivors: Uncovering Incest and its Aftereffects in Women. Sales of these and related books are in the hundreds of thousands, and their perspective has been promulgated in a number of television and radio shows and magazine and newspaper articles. Although we believe that the authors of these books are motivated by a sincere desire to help victims of childhood sexual abuse, we also believe that the books inadvertently run a substantial risk of leading some readers to create illusory memories or beliefs of childhood sexual abuse.

Comparison of these books reveals highly similar content and recommendations for treatment of suspected incest survivors, recommendations that appear to be based more upon a consensual acceptance by these writers than upon findings of systematic research. Indeed, the extent to which each author has incorporated the unsubstantiated claims of the others (cf. Tavris, 1993) and the paucity of research in support of these repeated claims is striking. These books start from the assumption that many forms of psychological distress in adult female clients (e.g. poor self-esteem, depression, anxiety, eating disorders, substance abuse, sexual dysfunction, intrusive thoughts, relationship difficulties) are likely symptoms of childhood sexual abuse. They report that at least 33 per cent of North American women were sexually abused as children, and that many victims of childhood sexual abuse totally repress their memories of the abusive events. Readers are told that if they have the symptoms in the checklist of the effects of sexual abuse, they were probably abused. To quote from The Courage to Heal, ‘If you are unable to remember any specific instances like the ones mentioned above but still have a feeling that something abusive happened to you, it probably did’ (p. 21) and ‘If you think you were abused and your life shows the symptoms, then you were’ (p. 22). Readers are encouraged to explore the possibility that they were sexually abused, and told that recovered repressed memories tend to be vague and sketchy, lacking in visual images, and often start out as no more than a vague feeling that abuse may have occurred. As described in the preceding section, these are qualities that memory researchers have found typical of illusory memories, especially in their early stages of development.

The Courage to Heal and Repressed Memories recommend a variety of techniques for recovering repressed memories and filling in their details. One technique is to use a remembered childhood event as a starting point, and then attempt to remember abuse connected with that event, writing down whatever comes to mind in a stream-of-consciousness mode. Another technique is to use family photographs as recall cues and give free reign to the imagination. This allows people to report all sorts of details about the alleged event because those details are provided by the photograph (e.g. I was wearing my dress with yellow flowers on it, and daddy was wearing his brown suit; we were in the backyard and it was a cloudy day . . .). This technique might also work well to fill in the details of illusory memories. Some popular books (e.g. Ryder, 1992) and, allegedly, some therapists (Rybin, 1993) recommend that suspected incest survivors view horror films depicting explicit sexual violence, in the belief that such films may trigger memories of childhood sexual abuse (cf. Dolan, 1991). Once again, such films could also be a source of material for illusory memories. Some books also suggest hypnosis, self-hypnosis, and meditative states for remember-
ing. As discussed below, there is good evidence that these techniques can give rise to confidently held but illusory memories.

Overall, the techniques recommended for remembering childhood sexual abuse in these books are strikingly similar to those recommended for remembering one’s past lives (e.g. Talbot, reviewed in Huston, 1992). Of course, people are free to believe that they remember past lives (or anything else, for that matter), but we think proponents of memory recovery therapies should be cautious in advocating techniques that can lead people to ‘remember’ events for which there is no evidence.

The Courage to Heal also includes numerous accounts by women who have allegedly recovered long-repressed memories of childhood sexual abuse. In many of these accounts, the writers claim to remember abuse from very early childhood (e.g. clear memories of rape at 36 months, and knowledge of abuse from early infancy). Another of the writers claims to have been subjected to satanic ritualistic abuse. This account is introduced by Bass and Davis (1988: p. 417) as follows:

Both her parents were community leaders, active in church affairs. Secretly they were involved with a group that performed ritualized abuse according to a satanic calendar. Town leaders, businesspeople, and church officials were all involved in this cult. From infancy, Annette was abused in rituals that included sexual abuse, torture, murder, pornography, and systematic brainwashing through drugs and electric shock: “I was what they called a ‘breeder’. I was less than twelve years old. They overpowered me and got me pregnant and then took my babies. They killed them right in front of me”.

A number of experts in various fields have questioned the credibility of such claims of wide-spread satanic conspiracies. For example, Lanning (1991), an FBI agent with nearly 18 years of experience working on investigations of childhood sexual abuse, presented compelling arguments for doubting the validity of reports of large-scale satanic cults such as that described above. Lanning claimed that the FBI has vigorously investigated hundreds of allegations of baby breeding and human sacrifices by satanic cults, without producing evidence of such cults. As Lanning argued, it is difficult to credit the claim that there are thousands of satanists committing tens of thousands of ritual murders every year without producing any evidence. For similar reasons, Hicks (1991) and Victor (1991) questioned the plausibility of the idea that there are entire cities in which everyone is a secret satanist, such that people are routinely murdered in group ceremonies and girls are raped and impregnated and their babies sacrificed on a regular basis without anyone outside of the cult taking note of these events. Recent research by Goodman, Qin, Bottoms, and Shaver (1993) provides further grounds for doubting such claims.

A major focus of the popular books on recovering repressed memories of childhood sexual abuse is on assuaging readers’ doubts about the veracity of their recollections. Readers are told that a lack of clear memories should not discourage them, and assured that recollections and beliefs about abusive childhood events are almost certainly real. The implication is that the only reason for doubt is denial. For example, in her preface to The Courage to Heal, co-author Davis quotes the following dialogue between herself and co-author Bass:

Davis: I can’t sleep, and when I do, it’s [incest] all I dream about. I can’t think about anything else. Every child I see on the street reminds me of incest …
My whole life is flashbacks, going to therapy, and talking about incest. Half the time I don’t even believe it happened ...

Bass: It did happen, Laura. Look at what you’re going through. Would anyone willingly choose to go through this torture? Why would you ever want to invent something this bad?

Later in the book readers are told:

Even if your memories are incomplete, even if your family insists nothing ever happened, you still must believe yourself. Even if what you experienced feels too extreme to be possible, or too mild to be abuse, even if you think, ‘I must have made it up’, or ‘no one could have done that to a child’, you have to come to terms with the fact that someone did do those things to you. (Bass and Davis, 1988: p. 87).

This passage captures an important aspect of the complexity of this issue: This is probably good advice for readers who really were victims of childhood abuse, but it is poor advice for readers who were not abused but have been led to suspect that they might have been.

The beliefs and techniques advocated in these self-help books also appear to be popular among therapists or counsellors who have little or no advanced formal training in mental health care. In most parts of North America, all it takes to practice ‘therapy’ or ‘counselling’ is to purchase advertisements in the telephone book and newspaper. Such therapists may read many popular psychology books and attend workshops on recovering repressed memories, but some of them have no graduate-level background in mental health care or related areas, and some have never been directly supervised by a well-qualified, certified clinician. Of course, university degrees are no guarantee of therapeutic skill, but postgraduate programmes in clinical psychology, psychiatry, counselling, and social work are expected to provide a broad perspective and knowledge concerning diagnosis and treatment, which in turn provides practitioners with a variety of hypotheses and treatment plans when working with clients. It is truly frightening to us that there are untrained therapists who believe that they can diagnose repressed memories of childhood sexual abuse in their clients and who prescribe the popular books to them and encourage them to use a variety of memory recovery techniques to remember the alleged abuse (see Goldstein and Farmer, 1992; Loftus, 1993; Wakefield and Underwager, 1992; Watters, 1993; Whitely, 1991). We have seen therapists’ notes, subpoenaed by defence attorneys, in which people with little more than B.A. degrees documented how they helped their clients ‘remember’ childhood sexual abuse. In one case, a therapist diagnosed her client as suffering from repressed memories of childhood sexual abuse at the intake session, in the next 18 months met with her more than 100 times prior to her recollections of abuse and, over the next 100 sessions, helped her remember appalling and horrific events from her first few years of life, ranging from being manacled to the kitchen table while her father and other men raped her to watching her father kill infants and adults.4 The therapy sessions focused on recovering

4 Implausible and unsubstantiated allegations of bizarre forms of abuse have also been made by young children suspected of being victims of sexual abuse who were questioned in leading and suggestive ways (see Ceci and Bruck, 1993). This is not to deny that horrific abuse is sometime perpetrated on children, but merely to note that allegations produced by suggestive interviews surprisingly often include claims about ritualistic abuse.
memories of abuse, and included use of a variety of memory recovery techniques, such as guided imagery, age regression, survivors' groups, and the journalling exercises described in Bass and Davis (1988). Similar examples of very intensive courses of incest-focused memory recovery therapy, conducted by people with little formal training, which culminate in the recovery of memories of bizarre forms of abuse are described by Coleman (1992), Loftus (1993), and by the popular press (e.g. Watters, 1993; Whitely, 1991).

We are not clinical psychologists, so we cannot evaluate these approaches as ways to help people overcome psychological problems. Our hunch is that books such as The Courage to Heal may be helpful and empowering to real victims of childhood sexual abuse, and that they have therefore helped many people. While we are sharply critical of the memory recovery techniques advocated and used by some proponents of memory recovery therapies, we assume that they believe that the use of these techniques is in their clients' best interest. They believe that recovering repressed memories of abuse is an important part of healing a wide range of psychological problems, and so they work hard to help their readers and clients remember such events. Unfortunately, although these techniques could indeed help people recover long-forgotten but genuine memories, we believe that they can also help people create compelling illusory memories. Thus therapists who use these techniques may inadvertently victimize some of the people they aim to serve.

One unfortunate side-effect of the incautious use of memory recovery techniques, pointed out by Loftus (1993), is that publicity about illusory memories that are implausible may lead many people to become sceptical about true memories. For example, we think it is unlikely that the woman described above witnessed her father murdering his neighbours (although her recollections of the alleged murders appear to be horrifyingly vivid), because the base rate of murder is quite low and there was no evidence to suggest that the alleged murders occurred. Furthermore, given what we know about the base rates of various kinds of sexual abuse of children (see below), we think it is unlikely (although not impossible) that she was manacled to the kitchen table and raped by multiple men as an infant (cf. Lanning, 1991; Putnam, 1991). But this woman may well have been sexually abused in other, more common, ways. As Lanning suggested, reports of bizarre abuse may reflect a mixture of accurate and inaccurate memories. Unfortunately, once the waters have been roiled by numerous sessions of hypnosis and other memory recovery techniques, it is impossible to know which memories are of real events and which are not.

**RECOVERED MEMORIES AND ILLUSORY MEMORIES: CLINICAL PRACTICE**

Therapeutic approaches that focus on the recovery of repressed memories of childhood sexual abuse are not confined to pop psychology, but are also used by well-trained professional practitioners. There are reasons for practitioners’ attention to childhood sexual abuse in their treatment approaches. Real sexual abuse of children occurs at a much higher rate than was previously thought (Briere, 1992; Finkelhor, Hotaling, Lewis, and Smith, 1990) and there is clear evidence that childhood sexual abuse is associated with a variety of psychological problems in adulthood (Beitchman, Zucker, Hood, daCosta, and Cassavia, 1992; Briere and Runtz, 1990; Browne and Finkelhor, 1986; Claridge, 1992; Cole and Putnam, 1992; Courtois, 1992; Kendall-Tackett, Williams, and Finkelhor, 1993; Sgroi, 1989; Trickett and Putnam, 1993).
Thus, to the extent that helping abuse survivors recover memories of their abuse is psychologically beneficial, it makes sense that memory recovery techniques would be used by competent practitioners.

None the less, because of the ease with which false memories have been produced in cognitive psychology experiments, we are concerned that even in the hands of skilled professionals memory recovery techniques and therapeutic approaches may sometimes lead to the creation of illusory memories. Specifically, for reasons elaborated below, we have reservations about the use of the following techniques for helping clients recover childhood memories: hypnosis (with or without age regression), guided imagery, some forms of ‘journaling’, interpreting current physical symptoms as ‘body memories’ of childhood events, and interpreting dreams as accurate memories of childhood events. We also have concerns about several ancillary approaches used to promote the recovery of memories, such as recommending that clients read popular books on memory recovery, suggesting that they join incest survivor groups, and countering their doubts about the accuracy of their memories.

Before elaborating upon the basis for our concerns, we touch upon the theoretical rationale for the use of memory recovery techniques in memory recovery therapies. It appears that some clinicians believe with such great conviction that certain symptoms (e.g. low self-esteem, depression, eating disorders) are reliable indicators of repressed memories of childhood sexual abuse that they think it unethical to do anything but convince clients with those symptoms that abuse is the basis of their difficulties and distress. For example, Courtois (1991: p. 54) argued, ‘Even if abuse is denied, the therapist who continues to have suspicions must ethically continue to explore its possibility and, whether acknowledged or not, connect abuse with its associated symptoms’. We are concerned that, from the client’s perspective, the therapist may be understood as saying ‘You were abused and it is time for you to recognize it’. Although Courtois (1992) later argued that it is unethical to tell clients that they were abused unless there is conclusive evidence of the abuse, other therapists (e.g. Ellenson, 1985, 1986) have gone on record as having done so, as early as the first session (other examples are described by Loftus, 1993).

Only some of the therapists who use memory recovery techniques do so with the aim of helping clients retrieve accurate memories. Others make a distinction between ‘historical truth’ (events that actually occurred in a client’s past) and ‘narrative truth’ (events that may or may not have happened, but that are ‘true’ in some psychological sense for the client) (Bonanno, 1990; Ganaway, 1989; Howard, 1991; Spence, 1984). As we understand it, the idea is that whether or not something actually happened in the client’s past is irrelevant if the event forms part of the client’s narrative truth. For example, Bonanno (1990: p. 177) argued that ‘The task of the therapist, then, is not to help the patients retrieve lost memories (historical truth) but to foster the development of a more advanced conceptual understanding in which to perceive and revise their life stories (narrative truth)’. We are not qualified to evaluate the clinical soundness of this idea, but we assume that even its proponents would agree that therapists should not co-author clients’ narratives of childhood traumas. As clinical psychologists Campbell (1992), Haaken and Schlaps (1991), O’Donohue, Fisher, Plaud, and Curtis (1990), and Yapko (in press) have argued, it may be difficult for therapists to avoid imposing their theoretical perspectives and beliefs onto the construction of clients’ narratives.
Hypnosis

Although hypnosis can increase the amount of information people report about past events, there is a wealth of evidence documenting that the increase is often as great—and sometimes greater—for inaccurate recollections as for accurate ones. One mechanism by which inaccurate memories are produced under hypnosis is through the lowering of people’s criteria for what kinds of mental events they will report as memories (i.e. vague or weak images that people would not rely on in the waking state may be reported as confident memories by hypnotized subjects). There is also clear evidence that hypnosis often enhances subjects’ confidence in the ‘memories’ produced, right or wrong, and that inaccurate memories produced under hypnosis are often later accepted as accurate in the waking state. Whitehouse, Orne, Orne, and Dinges (1991) have demonstrated that subjects who had attempted recall both during the waking state and then during a hypnotic state were subsequently unable to distinguish memories retrieved prior to hypnosis and those that occurred during hypnosis. These effects of hypnosis are well documented matters of fact (AMA Council on Scientific Affairs, 1985; Coons, 1993; Dywan and Bowers, 1983; Smith, 1983; Spanos, Quigley, Gwynn, Glatt, and Perlini, 1991). Such effects are especially great among highly hypnotizable (‘Grade 5’) people (Spiegel, 1974).

Most of the laboratory studies that have demonstrated the problems and limitations of hypnosis as a memory recovery technique have assessed memory for relatively bland materials (e.g. word lists or stories), but some have involved more naturalistic events. Spanos and his colleagues have conducted a number of studies of hypnosis that are directly relevant to the current issue (Spanos, Burgess, and Burgess, in press). In a study that illustrates his recent work, Spanos found that many hypnotized undergraduate subjects reported remembering past lives, and that mild suggestions concerning their past lives had a marked effect on their reports (e.g. telling subjects that children in past times were often abused led to a significant increase in the likelihood that under hypnosis they would report remembering past selves who had been abused as children).

Despite the general problems of hypnosis described above, and despite age regression’s failure as a technique for overcoming infantile amnesia (Nash, 1987), hypnosis and hypnotic age regression are frequently used in memory recovery therapies (Claridge, 1992; Courtois, 1991; Gilligan and Kennedy, 1989; Spiegel, 1989). Hypnosis may be an effective therapeutic tool, but it is a poor tool for recovering accurate memories. Even some ardent proponents of memory recovery therapies caution therapists that hypnosis can produce false memories. For example, hypnotherapist David Calof (1993: p. 44), whose approach to therapy emphasizes memory recovery, cautioned therapists about the use of hypnosis:

This complex interplay between memory and hypnosis can create memory distortion, and there is no way to distinguish this from true recall without corroboration.

We do need to be careful. Clients under hypnosis are highly suggestible and their ‘memories’ can be altered by unwitting suggestions or leading questions.

Frankel (1993) has made the same point specifically in regard to the accuracy of memories of childhood sexual abuse recovered during hypnosis.
Guided imagery

In guided imagery, clients are asked to close their eyes and relax and to let their imaginations play out scenarios suggested to them by the therapist. Using guided imagery to help clients build a clear memory from something that is initially little more than a feeling or suspicion (Edwards, 1990) may be heir to many of the shortcomings of hypnosis (e.g. heightened suggestibility, lowered memory-monitoring criteria). In recent years a number of forensic psychologists (Gudjonsson, 1985; Perry and Nograd, 1985) have concluded that guided imagery, despite the absence of a hypnotic induction phase, promotes a dissociative state similar to that produced by hypnosis and, as a result, may be equally unreliable as a tool for recovering memories. Furthermore, as described above, Read (1994) demonstrated that illusory memories of a non-studied word occurred frequently when subjects mentally rehearsed a set of words that were close associated to that word. Apparently, simply thinking about the studied words produced spontaneous associations that very quickly became confidently held memories of actually hearing the non-studied word. This is an example of the way imagined events based on people’s knowledge and beliefs can later be mistaken as memories of actual events. The conditions of guided imagery are likely to increase the likelihood of such illusory memories.

Journalling

In journal writing exercises, suspected abuse survivors are instructed to work at recovering memories of childhood sexual abuse, writing them down and reading them aloud ‘to make them more real’ (Bass and Davis, 1988: p. 28). This strikes us as a risky exercise, in view of Loftus’s (1993) research in which subjects who were asked to work on remembering a suggested event came to ‘recall’ an incident that never happened. We are particularly concerned about cases in which the instructions for journalling suggest that writers should strive for a non-critical, stream-of-consciousness flow, writing down whatever comes to mind without stopping to evaluate it. As with all of these techniques, the possibility that journalling will lead non-abused clients to create false memories and beliefs is compounded when it is accompanied by the use of other techniques and by expressions of the therapist’s beliefs about incest resolution and memory recovery (e.g. telling the client that current symptoms reflect childhood sexual abuse, that healing depends upon recovering memories of abuse, and that accurate memories are likely to emerge from journal-writing exercises).

Dream interpretation

In contrast to clinical uses (Edwards, 1987), we know of no evidence to suggest that dreams can reliably be interpreted as accurate recollections of long-forgotten childhood events. In fact, the best documented source of dream material is ‘daily residue’, that is, the concerns and events of current everyday life (Nielsen and Powell, 1992). It is not surprising, then, that clients receiving incest-focused memory recovery therapies often dream about abuse-related events. Furthermore, therapists’ interpretations of dreams may reflect their own biases and beliefs at least as much as they reflect clients’ underlying psychological problems. No one would be surprised to
find that therapists with different theoretical perspectives interpret the same dream in different ways. Yet we suspect that many clients are likely to accept their therapist’s interpretations; if the therapist confidently says that a dream is a direct message from the unconscious about repressed childhood sexual abuse, some clients may find this compelling evidence that they were abused (Haaken and Schlaps, 1991).

**Body memories**

Some clinicians believe that a variety of physical symptoms (e.g. gagging, rashes, dry mouth, etc.) can be interpreted as unconscious memories of childhood sexual abuse (disguised presentations). For example, Frederickson (1992: p. 43) claimed that ‘Extraordinary fear of dental visits is quite often a signal of oral sexual abuse’. Two rather obvious points are worth making. The first is that coincidence may easily play a role in such phenomena—that is, people have various symptoms at various rates, and these sometimes co-occur with therapy by chance. As we will discuss in the next section, human reasoners are prone to a ‘confirmatory bias’ that can lead them to perceive correlations where none exist. This propensity is exaggerated when any of a large number of symptoms may be viewed as confirming evidence (e.g. if there is a 1 in 100 chance of each of 50 physical maladies, then there is a 50 per cent chance that any given client will have at least one of those symptoms). Second, if it is possible for unconscious memories of remote events to cause physical symptoms, then it should also be possible for current conscious fixations to cause such symptoms. There is, reportedly, evidence that religious fixations can give rise to physical stigmata (e.g. bleeding from the palms and feet; Early and Lifschutz, 1974; Rogo, 1982). Presumably stigmatics are not revealing unconscious memories of being crucified as young children, but rather are demonstrating a fascinating psychogenic anomaly that springs from their conscious fixation on the suffering of Christ. Similarly, it is possible that conscious fixation on the idea that one was sexually abused might increase the frequency of some physical symptoms, regardless of whether or not the abuse really occurred. It is not clear to us how therapists could discriminate between psychogenic symptoms caused by repressed memories and those caused by overzealous use of memory recovery therapy. Thus although it is possible that unconscious memories sometimes cause physical symptoms (and there is evidence that unconscious memories can influence behaviour; e.g. Jacoby, Lindsay, and Toth, 1992), it would be difficult to determine in any particular case whether physical symptoms should be attributed to unconscious memories, current conscious fixations, or chance.

**Popular books**

Another source of concern is that memory recovery therapists often prescribe popular books on recovering repressed memories to their clients (see Haaken and Schlaps, 1991). Although such books may be an important source of support and guidance for survivors of abuse, they recommend many of the above techniques (such as guided imagery and journalling), provide workbook exercises to record one’s success at memory recovery, and lend credibility to similar prescriptions made by the therapist. Therefore we believe that therapists should be cautious about recommending
these books unless there are solid grounds for believing that the client was indeed abused as a child.

**Survivors’ groups**

Many clinicians and self-help books extol the virtues of attending groups for incest survivors (e.g. Survivors of Incest Anonymous). Although such groups may be useful for survivors of childhood sexual abuse, some of them may be hazardous for people who were not actually sexually abused but are ‘exploring the possibility’ that they were. The social dynamics of some groups may increase the likelihood of illusory memories of abuse, both because reports of memories of abuse are frequently modelled in such groups (Loftus, 1993) and because the groups may create social incentives for reporting memories of abuse and for identifying oneself as a ‘survivor’ (Haaken and Schlaps, 1992). For example, Herman and Schatzow (1987: p. 8) reported for their group of outpatients that:

Participation in a group proved to be a powerful stimulus for recovery of memory in patients with severe amnesia. Almost all of the women who entered the group complaining of major memory deficits and who defined a goal of recovering childhood memories were able to retrieve previously repressed memories during treatment.

Similarly, Courtois (1991) argued for the use of group therapeutic approaches because they serve as a catalyst for exploring memories and encourage disclosure. The problem is that such groups may be all too effective. With respect to workshops on sexual abuse, ritual abuse, and memory recovery, Mulhern (1991), has described the ways unsubstantiated information circulates within and across workshops and workshop participants. From her description, it would appear that critical perspectives are quickly discouraged among the attendees, and proselytizing activities increase the number of believers. Loftus’s (1993) accounts of experiences reported by journalists and clients in such support groups are consistent with this description of the dynamics of some support groups (Kaminer, 1992).

It would be absurd to suggest that all clients should be debarred from the benefits and support of such groups, but we think that they should be prescribed with some caution. Practitioners might consider the nature of the group, the training and orientation of its facilitators or leaders, and the appropriateness of the group for individual clients. We suggest that practitioners should be especially cautious about sending clients who have no memories of childhood abuse to survivors’ groups.

**Countering clients’ doubts**

A frequent recommendation found in memory recovery literature is that therapists should avoid all expressions of doubt, and, in fact, attempt to allay clients’ doubts concerning the accuracy of recovered memories of childhood events (Blume, 1990; Courtois, 1988, 1992; Olio, 1989). It is easy to appreciate that one would want to avoid expressing doubt when a vulnerable client is exploring painful memories. However, uniformly supporting and reinforcing all reports of childhood sexual abuse produced with memory recovery techniques, and countering clients’ doubts about their veracity, may increase the likelihood of leading clients to create illusory memor-
ies and false beliefs, which harm rather than help the client (Haaken and Schlaps, 1991; Yapko, 1993).

Summary

Some clinicians recommend and use a variety of memory recovery techniques to help clients recollect traumatic childhood events. Some of these techniques may be effective in helping people recover accurate memories of long-forgotten events. For example, asking clients to work on remembering their childhoods, using family photographs and other materials as memory cues, is likely to help them remember childhood events that they have not thought of in years. Therefore, to the extent that remembering traumatic childhood events is therapeutic, these techniques may be appropriate when working with survivors of abuse. However, the cognitive literature suggests that these techniques can also lead to the creation of illusory memories and false beliefs. This is especially likely when several of these techniques are used in concert.

We suspect that one of the most compelling reasons that memory recovery therapists often accept recovered memories of childhood sexual abuse as accurate accounts is the tremendous emotional intensity and pain their clients experience when recovering such memories (Loftus, 1993). How could one be sceptical of a sobbing, grief-stricken client when she comes to remember being raped by her father? As Wylie (1993 p. 26) noted, ‘The unendurable and impossible-to-fake agony of the clients is the most powerful evidence for the truth of their experiences’. From our perspective, however, the experience of coming to believe that such events occurred would be tremendously traumatic regardless of whether the remembered events actually happened or are the product of suggestive questioning and other memory recovery techniques. The experience of remembering or believing is not ‘fake’, even in cases when it is based on factors other than retrieval of accurate memories. Our point here is not to suggest that all or even most memories recovered in therapy are illusory, but rather to emphasize that there are good reasons to believe that: (1) some recollections produced by intensive memory recovery therapy may be false; and (2) when such techniques are used it is very difficult to discriminate between clients who are remembering accurately and clients who believe they are remembering accurately but are not.

LIMITATIONS ON PRACTITIONERS’ INTROSPECTIONS

We expect that some memory recovery therapists will doubt our arguments for two reasons. First, their clinical experience may provide them with innumerable examples of cases in which patients presenting with certain symptoms subsequently came to report recovered memories of childhood sexual abuse. Second, they may be confident that they do not use suggestive techniques with their clients, and hence that many clients come to remember childhood sexual abuse quite spontaneously in the course of non-suggestive therapy. While such introspections may be accurate, there are several cognitive processes that sometimes lead to inaccurate introspections. Indeed, there are sometimes substantial discrepancies between what therapists apparently
believe they do in therapy (indexed by self-report measures) and what they actually do in therapy (indexed by videotapes of therapy sessions) (Loftus, 1993).

Confirmatory bias and illusory correlations

Research on judgement and decision making has shown that people—including health care professionals—demonstrate a powerful 'confirmatory bias' when evaluating data; cases that fit a hypothesized relationship between two factors (e.g. a particular constellation of presenting symptoms and a particular type of history) tend to be weighted more heavily than disconfirming cases, thereby giving rise to an 'illusory correlation' even when there is no real relationship at all (Chapman and Chapman, 1967; Dawes, 1989, 1994; Tversky and Kahneman, 1974). For example, in the classic work by Chapman and Chapman (1967), draw-a-Person drawings were obtained from patients in a state mental hospital, and paired at random with various symptoms. These materials were then given to college students, who were later asked if they had noticed correlations between features of the drawings and symptoms. The college students reported the same kinds of correlations that psychologists often report (e.g. that people suffering from paranoia tended to draw faces with large eyes) even though there were no such relationships. Similar illusory correlations have been demonstrated in a variety of psychodiagnostic domains. For example, Dowling and Graham (1976) found that graduate students in a clinical psychology program who had just completed a course on the Minnesota Multi-Phasic Personality Inventory (MMPI) reported very strong correlations between scores on MMPI scales and psychiatric symptoms when in fact none existed.

People have a general tendency to focus on cases that confirm a hypothesis and to disregard disconfirming cases (Wason and Johnson-Laird, 1972). This general tendency is exaggerated when people make retrospective judgements about correlations. The belief that two variables are correlated makes cases that meet this expectation relatively salient and memorable, compared to disconfirming cases, thereby giving rise to illusory correlations. This well-established bias in decision making, coupled with the possibility that memory recovery techniques may inadvertently lead some clients to experience illusory memories (thereby providing therapists with ill-founded but compelling support for their beliefs), makes it difficult to draw confident conclusions about causal relationships by introspecting about clinical experience. The problem is especially great in this case because of the large number of symptoms that memory recovery therapists believe are indicators of repressed memories, and because the co-occurrence of several of these symptoms may be construed as providing convincing evidence of repressed memories. If the symptoms were independent of each other this would be a reasonable assumption, but usually they are not. For example, depressed mood and lethargy are often accompanied by low self-esteem, relationship difficulties, and eating disorders. However, because clinical depression also predicts all of these symptoms, their co-occurrence should not increase confidence in a diagnosis of repressed memories. Thus clinical introspections may exaggerate the evidence for the relationship between presenting symptoms and recovered memories of sexual abuse.
Lack of awareness of suggestions

There is a wealth of evidence that people's beliefs and expectations can influence the behaviour of people with whom they interact. Interviewers' beliefs about what happened in an event can influence children's reports of that event (Ceci, Leichtman, and White, in press; Clarke-Stewart, Thompson, and Lepore, 1989, cited in Ceci and Bruck, 1993; Pettit, Fegan, and Howie, 1990, cited in Ceci and Bruck, 1993); people's beliefs about the physical attractiveness of another person with whom they have a telephone conversation can influence that other person's behaviour (Snyder, Tanke, and Berschien, 1977); and teachers' expectations about children's academic potential can influence the children's actual academic performance (Rosenthal and Jacobson, 1968). Moreover, there is also evidence that people are often unaware of the degree to which their behaviour influences others. For example, in the Pettit et al. study adults were given inaccurate information about an event that children had witnessed, and were then asked to interview the children with the aim of learning as much about that event as they could. The interviewers were expressly instructed to avoid using any suggestive or leading questions. Despite this instruction, 30 per cent of the questions were classified as leading, and the children agreed to 41 per cent of the inaccurate leading questions.

The possibility that therapists may be suggestive without any awareness or intent of doing so is dramatically illustrated in work on 'facilitated communication' with autistic children. This controversial technique purports to allow an autistic, or generally non-communicative, person to learn to communicate with a special keyboard device via the assistance of a facilitator who helps control or initiate hand movements on the keyboard (Biklen, 1991, 1992). There is now convincing evidence that facilitators unwittingly influence what the person types (Wheeler, Jacobson, Paglieri, and Schwartz, 1993). What is important for our discussion is that the facilitators themselves are adamant that they do not influence the autistic person's message. Yet Wheeler et al.'s research shows that when the facilitator is aware of the information presented to the autistic person, he or she often types out a message that is clearly related to that information, but when the facilitator is blind to the information then what the autistic person types reveals no relation to that information. Facilitators have dismissed these results in a way that Wheeler et al. characterized as denial. As Wheeler et al. pointed out, the facilitators' role does not allow them to make an objective assessment of the technique. For the reasons given above, we believe that the therapeutic environment similarly makes it difficult for practitioners to assess the degree to which they influence clients.

People are also often unaware of the extent to which suggestions influence their behaviour. This is nicely illustrated by work by Bowers (1984) on the effects of subtle reinforcement. In one study, people were shown a series of pairs of pictures and asked to indicate which picture in each pair they preferred. Each pair consisted of one landscape and one portrait. The experimenter provided mild verbal positive reinforcement each time the person picked a portrait (or, for other people, each time they picked a landscape). Not surprisingly, people in this study came to show a marked preference for the type of picture the experimenter reinforced. Interestingly, in debriefing people often reported that they had noticed that the experimenter had been selectively reinforcing them, but vehemently denied that the reinforcement had any effect on their choices whatsoever. This is but a single example of research
demonstrating that people are often unaware of the extent to which external suggestions influence their behaviour (see Nisbett and Ross, 1980, for many other examples).

Summary

Our point in this section is that practitioners should view their introspections with some degree of caution. Confirmation bias and our human tendency toward illusory correlations may lead practitioners to overestimate the strength of the evidence that supports their beliefs. Furthermore, research suggests that practitioners (like other humans) have limited insight into the extent to which they influence their clients' behaviours, and that clients may also be unaware of the extent to which their experience is influenced by their therapists. We do not mean cavalierly to dismiss all clinical introspection as inaccurate, but merely to caution practitioners against blithely accepting all of their introspections and impressions as fact. Our sentiments were eloquently expressed by clinical psychologist Michael Yapko (1993: p. 37):

If, in our zeal to combat child abuse, we deny our own power to negatively influence clients and unintentionally create the very problem we intend to treat, we are betraying our mission. Nobody—not survivors of genuine abuse nor those who mistakenly believe they were abused, nor the families of either—is helped by therapists who abdicate their responsibility to think critically and who deny the need to make distinctions between truth and falsehood.

DIAGNOSIS AND BASE RATES

One clear implication of the arguments and evidence we have presented is that special memory recovery techniques should be used only when there are good reasons for believing that the client is suffering from repressed memories. That is, given the potential risks of such techniques, they should not be prescribed to clients for whom they are inappropriate. This means that the accuracy of diagnoses of repressed memories of childhood sexual abuse is a critically important issue.

Our use of the term 'diagnosis' is intended to be broad, ranging from a tentative treatment hypothesis to a confident assessment by a clinician of the bases for a client's presenting symptoms. Although no such category exists in formalized diagnostic manuals such as the DSM-III-R, clinicians are frequently advised to select the DSM-III-R category of Post-traumatic Stress Disorder (PTSD) as the appropriate diagnosis for many clients hypothesized to have experienced childhood sexual abuse who have no memories of such abuse (see, for example, Claridge, 1992; Courtois, 1988; Frederickson, 1992). This recommendation is made despite the fact that there is often no independent evidence (indeed, not even the client's report) that the suspected traumatic events actually occurred and precipitated the symptoms listed within the PTSD category. A diagnosis of PTSD in these cases necessarily subsumes an initial assessment or diagnosis of amnesia (or repressed memories) for the hypothesized abuse itself. In some cases, this initial assessment has been described as identifying a unique 'repressed memory syndrome' that incorporates a number of specific presenting symptoms (Frederickson, 1992). In other cases, therapists may not view
themselves as making a formal diagnosis, but rather as simply making a clinical judgement to the effect that the client likely has repressed memories of an abuse history.

Given the problems with introspection as a basis for evaluating diagnostic accuracy, it is important to examine research relevant to the issue of diagnosing repressed memories of childhood sexual abuse. Three important considerations in making diagnoses of repressed memories of childhood sexual abuse are: (1) the actual frequency of clinically relevant childhood sexual abuse; (2) the strength and uniqueness of the relationship between a history of childhood sexual abuse and particular symptoms; and (3) the actual frequency of complete repression of memories of childhood abuse. The actual frequencies of abuse and of amnesia for abuse are important because, as we will show, the likelihood of a diagnosis of repressed memories being correct depends heavily upon these base rates.

As noted previously, we agree with memory recovery therapists that sexual abuse of children occurs, that it contributes to adult psychopathology, and that it is possible that some victims of abuse would have no available memories of the abuse. However, in this section we argue that the base rates of incestuous contact abuse and of complete amnesia for abuse are lower, and that the relationship between adult psychopathological symptoms and childhood sexual abuse is weaker, than some proponents of memory recovery therapies have claimed. It is important to emphasize that our point is not to minimize the problem of incestuous childhood sexual abuse; even if, as we argue, prevalence rates are somewhat lower than proponents of memory recovery therapies claim, it is undeniable that large numbers of North Americans were sexually abused as children. Our point is that prevalence rates are very important in the context of diagnosing repressed memories, in that the lower the base rate, the higher the likelihood of false diagnoses. Furthermore, we show that even if the high base rates claimed by some memory recovery clinicians are accepted, and even if diagnoses are assumed to be very accurate, the probability of false diagnoses of repressed memories remains surprisingly high.

**Base rate of childhood sexual abuse**

In the introduction to *The Courage to Heal*, Bass and Davis (1988) stated that one in three girls is abused by the age of 18 years, citing retrospective surveys of adults as the source of this estimate. Their book goes on to present numerous accounts of women who were repeatedly subjected to contact sexual abuse by their fathers and other family members. The implication some readers may take from this is that research indicates that 33 per cent of women in our culture are victims of repeated physical sexual abuse by older family members during childhood. Given that there is evidence that such abuse is associated with subsequent adult psychopathology in victims, this may lead clinicians to think that an even higher proportion of their clients were subjected to such abuse.

Retrospective surveys of childhood sexual abuse have obtained wildly disparate results, with some estimates higher than the 33 per cent figure Bass and Davis (1988) reported, and some lower. As Peters, Wyatt, and Finkelhor (1986) and Stinson and Hendrick (1992) have pointed out, one of the major sources of this variability is that different surveys have defined childhood sexual abuse in different ways. Generally speaking, studies that define childhood sexual abuse broadly obtain higher prevalence
estimates than do studies that define it narrowly. For example, Burnam (1985, cited in Peters et al., 1986) asked 1623 randomly sampled Los Angeles women whether they had been sexually assaulted (i.e. forced sexual contact) before the age of 16 years, and obtained an estimate of 6 per cent. The 248 Los Angeles women in a study by Wyatt (1985) were asked about a broad range of child sexual abuse experiences (from unwanted verbal solicitations to rape) up to age 18 years, resulting in an overall prevalence estimate of 62 per cent, which is 10 times higher than the Burnam figure.

The importance of how childhood sexual abuse is defined in estimating prevalence is especially clear when responses concerning different types of abuse are compared within a study. For example, in the study by Wyatt, 53 per cent of the women reported that they had been victims of non-contact abuse by an older person by age 18 years (primarily abusers exposing their genitals or masturbating), whereas 12 per cent reported sexual intercourse with an older person by age 18 years. Three-quarters of the abusive incidents reported in the Wyatt study involved a single incident of abuse, 76 per cent involved extra-familial perpetrators, and 43 per cent involved non-contact kinds of abuse; only 1.6 per cent of the reported abuse incidents involved contact abuse by fathers. Based on Finkelhor et al.'s (1990) data, Cole and Putnam (1992) assumed a comparable rate of 1.4 per cent. Similarly, Baker and Duncan (1985) reported that for their sample of 2019 randomly sampled British men and women, 10 per cent reported some type of childhood sexual abuse before age 16, but only 0.25 per cent reported sexual intercourse with a blood relative. Russell (1988), in a representative sample of 930 women in California, found that when a broad definition of sexual abuse was used, 48 per cent of the sample reported abuse before age 14 years, but when the definition of abuse was narrowed to include only abuse involving actual or attempted physical contact of some kind perpetrated by a relative, 12 per cent reported such abuse. Fewer than 5 per cent reported actual or attempted contact sexual abuse by their fathers. It should be noted that Russell used highly trained interviewers who conducted lengthy private interviews with each respondent in an effort to encourage disclosure.

There are several reasons for focusing here on the base rate of incestuous contact abuse, rather than on other kinds of childhood sexual abuse. First, existing evidence suggests that the relationship between abuse and subsequent adult psychopathology is particularly strong for incestuous contact abuse, especially abuse by fathers that involves force. For example, Elliott and Briere (1992) included only cases that involved contact abuse in their study validating the Trauma Symptom Checklist, and reported evidence indicating the especially 'traumagenic nature of molestation at an especially early age, extended and frequent abuse, and incest by a biological parent, as has been found in other studies (Herman, 1981; Meiselman, 1978; Russell, 1988)' (p. 396) (see also Conte and Berliner, 1988, and the review by Finkelhor and Browne, 1988). Second, incestuous contact abuse is the primary focus of memory recovery therapists (Blume, 1990; Courtois, 1991). Third, it appears from the popular literature (Bass and Davis, 1988) and from Wakefield and Underwager's (1992) non-random survey of accused parents that the majority of memories recovered via memory recovery therapies (or at least the majority of memories that culminate in the breakdown of the family) are memories of repeated incestuous contact abuse that started at a young age.

Although most published studies do not break down response categories suffi-
iciently finely for us to hazard a specific estimate, our reading of surveys in which large and representative samples were asked questions about specific kinds of abuse or in which abuse was narrowly defined to include only intrafamilial sexual contact abuse (Peters et al., 1986; Finkelhor et al., 1990; Russell, 1988) suggests that far fewer than 33 per cent of adult women report incestuous contact abuse. The point here is not to dismiss the problem of incestuous contact abuse—after all, even a prevalence rate much lower than 33 per cent would amount to millions of victims of this awful kind of abuse. Rather, our point is that the surveys indicate that the base rate of this kind of abuse is lower than what has sometimes been implied in memory recovery literature.

Retrospective surveys of adults may underestimate the prevalence of incestuous contact sexual abuse because some abused respondents may not remember their abuse or may choose not to report it. It may also be the case that respondents occasionally report incidents that did not actually occur. Thus the results of such surveys must be interpreted with considerable caution (Peters et al., 1986). There is, however, another source of information about the incidence of particular types of childhood sexual abuse. Wakefield and Underwager (1992) noted that people who sexually abuse children are sometimes caught, and there is sometimes unambiguous physical evidence, collaborating eyewitness testimony, or confessions about what they have done. Wakefield and Underwager cited several studies that indicate that the majority of cases of verified sexual abuse of very young children involve exhibition, masturbation, non-genital touching, or genital touching, in that order of frequency.

In summary, it is difficult, if not impossible, to determine the base rate of childhood sexual abuse. It is clear that sexual abuse of children—including incestuous contact abuse—occurs far too often. In our view, however, the evidence suggests that incestuous contact abuse is less common than has sometimes been implied in memory recovery literature. As will be shown, this has important implications for the likelihood of false diagnoses of repressed memories of abuse.

**Relationship between childhood sexual abuse and adult symptoms**

As mentioned earlier, there are both theoretical and empirical reasons for believing that some forms of childhood sexual abuse contribute to adult psychopathology. There are three important points to be made in this regard. First, existing evidence indicates a link between childhood sexual abuse that involves physical contact (e.g. incestuous contact abuse) and adult psychopathology (Beitchman et al., 1992; Braver et al., 1992; Briere, 1988; Cole and Putnam, 1992; Elliott and Briere, 1992; Kendall-Tackett et al. 1993; Nash, Hulsey, Sexton, Harralson, and Lambert, 1993a; Stinson and Hendrick, 1992). To our knowledge there is no evidence to suggest that isolated instances of non-contact sexual abuse (e.g. having once as a teenager seen a stranger expose himself) is likely to make a major contribution to subsequent adult psychopathology. This is important because some studies of the prevalence of childhood sexual abuse include such experiences in their definition of abuse. Second, not all children who are subjected to sexual abuse demonstrate detectable psychopathologies in adulthood (see, for example, the review by Finkelhor and Browne, 1988). This is commonplace in psychology—even very powerful causal factors affect some people but not others. For example, some Vietnam veterans exhibit symptoms of PTSD,
but others who lived through equally harrowing experiences do not. Thus the number of women who develop psychological problems because of childhood sexual abuse is smaller than the number of women who were subjected to such abuse (Kendall-Tacket et al., 1993). Third, even if there is a powerful causal relationship between particular kinds of childhood sexual abuse and particular symptoms, there is no reason to assume that all or most women with those symptoms were victims of childhood sexual abuse. In general terms, knowing that A causes B does not imply that every example of B was caused by A. More specifically, it is known that a number of other factors can contribute to the symptoms sometimes associated with childhood sexual abuse (Cole and Putnam, 1992; Moeller, Bachmann, and Moeller, 1993).

In summary, our reading of the clinical literature in this area suggests that it would be foolhardy to diagnose repressed memories of childhood sexual abuse on the basis of presenting symptoms alone. As argued in the preceding section, base rates for the kinds of abuse that have been shown to be strongly associated with psychological problems in adulthood appear to be somewhat lower than claimed by memory recovery therapists (i.e. although there are many victims, they constitute a relatively small percentage of the population), and the relationship between even these kinds of abuse and particular symptoms in adulthood is far from perfect. In fact, in recent reviews of the sequelae of childhood sexual abuse, Beitchman et al. (1992), Beutler and Hill (1992), Cole and Putnam (1992), and Nash et al. (1993a) all failed to find support for a post-sexual-abuse syndrome (i.e. a constellation of symptoms that reliably characterizes adult survivors of childhood sexual abuse) (but see Briere and Elliott, 1992, and Courtois, 1992). Likewise, although multiple personality disorder (MPD) has often been ascribed to severe childhood sexual abuse (Kluit, 1985; Putnam, 1989; C. A. Ross, 1989), Beitchman et al.’s (1992) review of this literature did not find support for a strong link between childhood sexual abuse and MPD. Nash et al. (1993a, b) concluded that high dissociability was as likely linked to pathogenic home environments as to a history of sexual abuse (but see Briere and Elliott, 1993). Similarly, Pope and Hudson (1992) reported that a review of studies of bulimia nervosa and sexual abuse did not support the hypothesis that bulimics have a higher prevalence rate of childhood sexual abuse.

We do not mean to question the claim that childhood sexual abuse can contribute to adult psychopathology, but rather to make it clear that empirical studies indicate that the relationship between the two is weaker, and more complex, than some proponents of memory recovery therapies have argued. Of course, as Briere and Conte (1993) pointed out, the relationship between childhood sexual abuse and adult psychopathology would be obscured in these studies if many abused respondents were completely amnesic for the abuse. However, as argued below, there is reason to suspect that the base rate of total amnesia is relatively low.

**Base rate of total amnesia**

Although many memory recovery therapists believe that ‘children often cope with abuse by forgetting it every happened’ (Bass and Davis, 1988: p. 22; see also Blume,

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5 Parenthetically, Yapko (1993) reported a fascinating case of a young man who demonstrated many symptoms of PTSD caused by traumatic experiences in Vietnam (e.g. flashbacks, obsessions, outbursts of temper caused by Vietnam-related stimuli, etc.). Subsequent investigations indicated that the man had never been in Vietnam.
1990; Briere, 1992; Courtois, 1988; Olio, 1989; Putnam, 1991; Sgroi and Bunk, 1988; Wyatt and Newcomb, 1990), we know of only a few studies that have addressed this issue directly (Briere and Conte, 1993; Femina, Yeager, and Lewis, 1990; Herman and Schatzow, 1987; Loftus, Polonsky, and Fullilove, in press; Williams, in press). What is most striking about these studies is the lack of agreement about what constitutes amnesia and the very modest support for the claim that many adult survivors of abuse are totally amnesic for the abuse. All of these studies used quite non-representative samples. In most of these studies the subjects' simple statements that they did or did not remember were taken at face value. Moreover, even assuming that all claims of abuse in this research were true (an assumption contested by some, e.g. Frankel, 1993; Rich, 1989, 1990), the studies do not support the view that a large percentage of clients are completely amnesic for actual childhood sexual abuse, suffering amnesia so dense that only intense and frequent sessions of memory recovery therapy can break through. For one thing, Martin, Anderson, Romans, Mullen, and O'Shea (1993), have shown that initial negative responses to questions about childhood sexual abuse are often followed by affirmative responses to additional, more specific questions. Such effects of more specific probing can be explained without recourse to the assumption of complete long-term repression. Furthermore, some findings that have been taken as evidence of complete amnesia for childhood abuse may in part reflect the creation of illusory memories rather than the recovery of repressed memories.

Herman and Schatzow (1987) reported that 64 per cent of the 53 clients in a 12-week group therapy program had some degree of memory impairment, and 26 per cent were classified as having severe memory impairment. Unfortunately, 'impairment' was not clearly defined in their report, was not specific to sexual abuse, and was assessed by memory recovery therapists based on clients' retrospective reports. Indeed, part of the criteria for being classified as having severe memory impairment was the reported recovery of repressed memories during treatment. Furthermore, those classified as having severe memory impairment reported recovered memories from a much earlier age than those classified as having little or no memory impairment. One interpretation of this finding is that the initial poor memory for the abuse was due to the fact that the events happened long ago (rather than because the memories were repressed); another explanation is that some of the recovered memories of early childhood abuse were products of suggestion and imagination in the context of the 12-week group therapy programme, rather than accurate recollections. In any case, because all of the clients in this study had initially reported either that they had been abused or that they suspected that they had been abused, their memory impairment could not be characterized as total amnesia for the abuse.

Briere and Conte (1993) asked 450 clients whose therapists were part of a sexual abuse treatment network one rather ambiguous question about memory repression: 'During the period of time between when the first forced sexual experience happened and your eighteenth birthday was there ever a time when you could not remember the forced sexual experience?' Because 59 per cent of the clients responded positively to this question the authors concluded that 'amnesia (partial or otherwise) appears to be a common phenomenon among clinical sexual abuse survivors' (p. 26). Regardless of one's preconceptions about the true incidence of amnesia for abuse, it is clear that this question fails to tap the type of dense amnesia described by Courtois (1992) and Claridge (1992). Briere and Conte also noted relationships between age
at abuse and likelihood of reported amnesia and between violence of abuse and likelihood of reported amnesia. Given that all of the respondents were in therapy for sexual abuse, it may be that therapy-induced illusory memories contributed to these relationships (i.e. it may be that false memories are more likely than veridical memories to involve violent early childhood abuse, a speculation that is consistent with the information about base rates of different kinds of sexual abuse reviewed earlier and with evidence that memories of long-ago events are particularly vulnerable to suggestion).

Loftus et al. (in press) interviewed 105 women clients at a substance-abuse clinic. Of these, 55 per cent reported that they had experienced some kind of sexual abuse as children (ranging from exposure to rape), and most of these (81 per cent) reported that they had always remembered the abuse. As Loftus et al. argued, these data are inconsistent with the idea that total repression is the most common way to deal with memories of childhood sexual abuse.

Femina et al. (1990) reported a longitudinal study in which they questioned women at the age of 15 years and then later at age 24 years. The authors found no evidence of women becoming totally amnesic for their abuse over this period. Moreover, when previously reported abuse was denied or minimized at age 24 but disclosed in a subsequent follow-up interview, subjects indicated that they had earlier denied or minimized their abuse for social, self-protective, and self-esteem reasons, not because they failed to remember it (see also Braver et al., 1992).

Amnesia was not included in the list of sequelae of childhood sexual abuse in either of two recent reviews of the long-term effects of childhood sexual abuse (Beitchman et al., 1992; Cole and Putnam, 1992). Similarly, although the psychiatric diagnosis of PTSD is often considered appropriate for victims of childhood sexual abuse, in part because psychogenic amnesia is included as one of its many criteria (Claridge, 1992; Courtois, 1992; Stinson and Hendrick, 1992), recent research has failed to support a relationship between childhood sexual abuse and PTSD (Beitchman et al., 1992; Cole and Putnam, 1992). The failure to find a link between the two suggests that psychogenic amnesia is not a common consequence of sexual abuse (Gardner, 1992).

Work by Terr (1988, 1991) on children’s memory for traumatic events (including sexual abuse) offers no support for the claim that total repression is a very common way of dealing with traumatic childhood events. Terr described two types of childhood trauma: single events (Type I) versus prolonged multiple events (Type II). Terr argued that children suffering the aftereffects of Type I trauma have remarkably clear and detailed recollections of the event readily available for recall. Children suffering from Type II trauma, in contrast, have memories that ‘appear to be retained in spots, rather than as complete wholes’ (1991: p. 14). The result is that ‘Children who have been repeatedly physically or sexually abused may waver in their accusations of abusers and waver in the completeness and detail of their memories’ (p. 14). Note that complete amnesia is not characteristic of either type of abuse. Also note that the distinction in memory quality for unique versus repeated events fits with what is known about memory in general: With repeated experiences of similar events, access to details about any specific event is reduced, with resultant confusion between the specifics of different events (Linton, 1975; Hudson and Nelson, 1986; Roediger, 1990). This point has been made innumerable times in the cognitive literature on memory, but surfaces only rarely in the literature on memory recovery therapy.
(see Olio, 1989). Thus poor memory for repeated abusive events may not be due to memory repression per se, but rather characteristic of normal memory and forgetting of repeated events.

Loftus (1993) described a study reported by Malmquist (1986) of children who had witnessed their parents being murdered. In that study, not a single child between the ages of 5 and 10 years at the time of the murder repressed the memory. On the contrary, they tended to be obsessed with it. Of course, there is an important difference between known murders and secret sexual abuse: when a murder is known to occur, society focuses attention upon it, whereas when a child is a victim of sexual abuse that is not detected the culture conspires to keep the abuse hidden (e.g. the victim may be forbidden to talk about the abuse, and the rest of the family may be, or pretend to be, unaware of the abuse). None the less, the evidence reported by Malmquist challenges the claim that children typically totally repress memories of traumatic experiences.

The most impressive and persuasive evidence of forgetting of childhood sexual abuse comes from a study by Williams (in press). Williams interviewed 129 women who were known to have been victims of a particular instance of sexual abuse that had been reported to authorities 17 years earlier, with abuse ranging from touching (33 per cent) to intercourse (36 per cent) and age at the time of abuse ranging from infancy to 12 years of age. During a 3-hour interview in which the women were asked numerous questions about their sexual histories, 38 per cent of them did not report the documented instance of abuse. Even when the sample was restricted to women who had been at least 7 years of age when the known abuse occurred, 28 per cent failed to report that incident during the interview. Perhaps more important, in the total sample 12 per cent denied ever having been sexually abused during childhood. Williams presented a number of arguments to support her contention that these women were genuinely unable to remember the abuse rather than merely choosing not to report it.

The Williams study is compelling evidence of forgetting of an instance of physical contact sexual abuse that occurred well beyond the stage of infantile amnesia. However, the findings demonstrate forgetting of a particular instance of abuse rather than forgetting of a history of repeated abuse. Common sense and developmental data on children's script memory (Fivush and Hudson, 1990) suggest that adults are more likely to forget an isolated instance of abuse in childhood than to forget a history of repeated abusive events in childhood. In any case, the important point for present purposes is that the majority (62 per cent) of the women in the Williams study did report the abusive instance in the course of a single interview, and 88 per cent reported some sort of childhood sexual abuse. Only a relatively small percentage (12 per cent) claimed never to have been abused during childhood. This finding supports our contention that total forgetting of a history of childhood sexual abuse is possible but is far from normative.

To summarize, there is unresolved debate about the frequency of amnesia for childhood sexual abuse (see also Briere, 1990; Briere and Zaidi, 1989; Herman, Perry, and van der Kolk, 1989; Rich, 1990). Fortunately, there is now at least agreement that the incidence rate of total amnesia (or any level of memory impairment) for abuse is indeed unknown (Beutler and Hill, 1992; Briere, 1992) and acknowledgement that abuse confabulation cannot be ruled out (Briere, 1992). There is also growing agreement about the need for techniques to assess hypothesized sequelae of childhood
sexual abuse, including memory impairment (Beutler and Hill, 1992; Briere, 1992; Briere and Elliott, 1993; Nash et al., 1993a, b). For example, Beutler and Hill (1992) argued that identification of sexually abused clients in research studies should rely on more than self-reports or reports of clinicians, and Briere (1992) argued that research is needed to assess test–retest reliabilities of reports and the role of interview methods in affecting such estimates.

As in our arguments concerning the role of childhood sexual abuse in causing adult psychopathology, we do not mean to suggest that forgetting of childhood sexual abuse (via 'normal forgetting', repression, or other hypothesized mechanisms) never occurs; on the contrary, it is very likely that some adult victims of childhood abuse have no available memories of the abuse (especially if the abuse terminated at an early age). Our point is merely that the evidence suggests that such forgetting is probably less common than some proponents of memory recovery therapies have claimed, especially if the abuse occurred beyond the age of 4 or 5 years.

**Base rates and diagnosis**

Because: (1) there are debates about the frequency of childhood sexual abuse and about the strength of the relationship between childhood abuse and subsequent symptomatology including amnesia, and these factors affect the likelihood of false diagnoses; (2) it is recognized that clinical diagnoses often reflect theoretical biases (Bonanno, 1990; Putnam, 1991); and (3) we believe that there are risks attendant on falsely diagnosing repressed memories, it is important to consider the likelihood of incorrect clinical diagnoses (or clinical judgements) of repressed memories of childhood sexual abuse. Our arguments hold for diagnosis of any disorder, and we begin by illustrating them by way of an example involving the detection of human immunodeficiency virus (HIV).

Assume that we have a biomedical test with 95 per cent accuracy; that is, the test will correctly diagnosis people with HIV as HIV-positive 95 per cent of the time, and will correctly diagnose those without HIV as HIV-negative 95 per cent of the time. Such a test certainly sounds like something in which we can place great confidence. However, it is less simple if a slightly different question is asked: What is the probability that a particular diagnosis of HIV-positive is correct? To answer this question, the incidence of HIV must be taken into account because the number of true positives must be weighted against the number of false positives. Table 1 provides an easy scheme for understanding these relationships. At the top is the true state of members of the population; they either have HIV or they do not. On the left is the physician's diagnosis; a person is either diagnosed as HIV-positive or as HIV-negative. At the bottom is the base rate for HIV in the population. We have assumed, for this example, a base rate of 2 per cent. Given that base rate, of 1000 people tested for HIV, 20 will have it and 980 will not. Of those with HIV, 19 will be correctly diagnosed and 1 will be missed. On the other hand, of the 980 people without HIV, 931 will be correctly diagnosed as HIV-negative and 49

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6 Our discussion assumes that diagnostic accuracy is equivalent for true positives and true negatives, but this is not necessarily the case (e.g. it is possible that correct diagnoses of true positives are more likely than correct diagnoses of true negatives). This does not, however, weaken the point to our argument, which is that diagnostic accuracy is closely tied to the base rate of the to-be-diagnosed condition (as well as to the strength of the relationship between repressed memories and particular symptoms and the accuracy of diagnostic tools).
will be falsely diagnosed as HIV-positive. The answer to our question about the probability of a diagnosis of HIV-positive being correct is the ratio of true positives (19) to all HIV-positive diagnoses (68). This value is about .28. In other words, even with a test that is 95 per cent accurate, a diagnosis of HIV-positive would be wrong almost three-quarters of the time. With these base rates and such a test, the best advice to someone diagnosed as HIV-positive is to get a second opinion.

Table 1. Base rates, diagnostic accuracy, and false positives in the diagnosis of HIV (hypothetical data)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>HIV-positive</th>
<th>HIV-negative</th>
<th>Marginal</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV-positive</td>
<td>19</td>
<td>49</td>
<td>68</td>
</tr>
<tr>
<td>HIV-negative</td>
<td>1</td>
<td>931</td>
<td>932</td>
</tr>
<tr>
<td>Marginal</td>
<td>20</td>
<td>980</td>
<td>1000</td>
</tr>
</tbody>
</table>

Given that diagnostic accuracy is 95 per cent and that the base rate of HIV-positive in the population is 2 per cent, the likelihood that a positive diagnosis is correct is the proportion of all positive diagnoses that are correct; 19/68 = .28 per cent. Hence nearly three quarters of positive diagnoses will be false.

Now let’s discuss the diagnosis of repressed memories of childhood sexual abuse in the same way. Among a large group of practitioners, we would anticipate a broad range of techniques used to gather information for this diagnosis, including psychometric scales, mental status examinations, symptom checklists, and in-depth interviewing. We will assume 90 per cent accuracy of the procedure used to detect amnesia for childhood sexual abuse, although this figure is wildly optimistic and is not characteristic of any known psychiatric diagnoses. Reliable diagnoses presume, at a minimum, reliable syndromes, but in the case of childhood sexual abuse, no reliable ‘post-sexual abuse syndrome’ has been identified (Beitchman et al., 1992; Beutler and Hill, 1992; Kendall-Tackett et al., 1993; Nash et al., 1993a, b). None the less, for the sake of argument we will assume that the practitioners are extraordinarily accurate at discriminating between abused and non-abused clients.

Table 2. Base rates, diagnostic accuracy, and false positives in the diagnosis of repressed memories (hypothetical data)

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>RM-positive</th>
<th>RM-negative</th>
<th>Marginal</th>
</tr>
</thead>
<tbody>
<tr>
<td>RM-positive</td>
<td>148</td>
<td>67</td>
<td>215</td>
</tr>
<tr>
<td>RM-negative</td>
<td>17</td>
<td>603</td>
<td>620</td>
</tr>
<tr>
<td>Marginal</td>
<td>165</td>
<td>670</td>
<td>835</td>
</tr>
</tbody>
</table>

Given that diagnostic accuracy is 90 per cent and that the base rate of repressed memories of childhood sexual abuse (RM-positive) in the population is 16.5 per cent (i.e. that 33 per cent were abused and that 50 per cent of these have no available memories of the abuse), then among clients who initially report no memories of childhood sexual abuse the likelihood that a positive diagnosis is correct is the proportion of all positive diagnoses that are correct; 148/215 = .69. Hence almost one-third of positive diagnoses will be false.

What is a reasonable estimate of the base rate of total amnesia for childhood sexual abuse? This, of course, is the point of contention referred to earlier. As noted,
estimates of the frequency of abuse range from as low as 6 per cent to as high as 62 per cent. Estimates of the frequency of total amnesia for abuse among survivors also range widely, from 0 to 50 per cent. For the sake of argument, we will use liberal figures drawn from proponents of memory recovery therapies. Following Bass and Davis (1988) we will assume that 33 per cent of women were sexually abused as children. Following Blume's (1990) speculation, we will assume that 50 per cent of all women who were sexually abused as children have complete amnesia for the abuse. We will further assume that no client entering therapy has illusory memories of abuse. The hypothetical data reflecting these assumptions are shown in Table 2. Of 1000 new clients 16.5 per cent (i.e. 50 per cent of 33 per cent) would have been abused and would remember their abuse; because our interest focuses upon clients who initially do not remember abuse, we will exclude these 165 clients from further consideration. Of the remaining 835 clients, 670 would not have been abused, and 165 would have been abused but have no memory of the abuse. Of the 165 abused clients with no memory of the abuse, our clinicians will correctly diagnose repressed memories for 148, missing 17. Of the 670 who do not have repressed memories of abuse, 603 will be correctly diagnosed as not having been abused and 67 will be falsely judged as having repressed memories for childhood sexual abuse. Given these figures, the probability that a diagnosis of repressed memories will be accurate is the ratio of correct positive diagnoses to total positive diagnoses, which is .69. In other words, even given high base rates for childhood sexual abuse and total amnesia, and even given an optimistically high 90 per cent accuracy rate for the diagnosis, almost one-third of the diagnoses of repressed memories would be false. With reductions of any of our assumed percentages (percentage of clients who were abused, percentage of abuse survivors with amnesia, accuracy of diagnosis), the likelihood of making a false positive diagnosis rises dramatically. For example, if one maintains these high base rates but assumes 80 per cent accuracy of diagnoses (which is still rather generous), 50 per cent of diagnoses of repressed memories would be wrong. Readers are invited to test out false positive rates using various assumed base rates and diagnostic accuracies.

Unfortunately, there is evidence that these diagnostic problems are not as well understood as they might be by many clinicians (Bonanno, 1990; Dawes, 1989, 1992, 1994; Ellenson, 1985; Kleinmuntz, 1990; Meehl, 1954; Nisbett and Ross, 1980). The current view among some memory recovery therapists seems to be that the base rate of repressed memories of childhood sexual abuse is so high, and the strength of the relationship between childhood abuse and adult psychopathology is so strong, that most clients who present with a particular constellation of symptoms probably are amnesic for abuse and will benefit from memory recovery therapy. The point we are trying to make in this section is that even if the base rates of abuse and total amnesia for abuse are very high—just as high as these clinicians have argued—many false diagnoses will occur, especially if diagnostic tools are not highly accurate. In fact, there is good reason to believe that both diagnostic accuracy and the base rate for total amnesia for abuse are lower than assumed in our example, and hence that false diagnoses of repressed memories are quite likely among therapists who have a theoretical bias toward that diagnosis. Such therapists may then feel justified—

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1 The argument we advance here applies equally well to cases in which a client initially remembers some abusive events but the therapist diagnoses them as having repressed memories of other abusive events.
indeed, ethically bound—to help misdiagnosed clients remember abuse that did not occur and, in our view, they are likely to succeed in a substantial percentage of cases.

There are no published data about how often memories of childhood abuse are eventually reported by clients diagnosed as having repressed memories. Bass and Davis (1988) and Herman and Schatzow (1987) reported that it is rare for people who are searching for memories of abuse not to find them. If true, this pattern may partly reflect the inadvertent creation of illusory memories via memory recovery techniques.

THE REALITY OF THE PROBLEM

Thus far, we have argued that human memory is imperfect, that memory recovery techniques advocated in some popular psychology books and by some practitioners may sometimes lead to the creation of illusory memories of childhood sexual abuse, and that rates of false diagnoses of repressed memories by memory recovery therapists are likely to be high. In this section we argue that the creation of illusory memories of childhood sexual abuse is not merely an abstract possibility but rather a tragic reality. Although many allegations of childhood sexual abuse are true, we believe that many people in North America have come to believe that they were sexually abused as children when in fact they were not.

One indication of the extent to which concern about therapy-induced illusory memories of childhood sexual abuse has caught the public and professional eye is that both the American Psychological Association and the British Psychological Society have empanelled groups of experts to analyse this issue and produce useful policy statements. Another is the existence of groups representing parents who claim they have been falsely accused of abusing their children, such as the False Memory Syndrome (FMS) Foundation. As an advocacy group, the FMS Foundation is biased toward the interests of the accused. It is, in fact, premature to claim that there is a false memory 'syndrome'. Furthermore, even the FMS Foundation acknowledges that some of the parents who contact them are probably guilty of abusing their children. None the less, the existence of the foundation testifies to the large increase in the number of delayed allegations of incestuous childhood sexual abuse. Since its inception in March of 1992 to May, 1994, the foundation has received approximately 13,000 contacts from parents who claim they have been falsely accused (FMS Foundation Newsletter, May, 1994). Almost certainly this is a small percentage of the total number of cases, given that information about the existence of the foundation has only recently been disseminated broadly, and given that it is likely that only some people who believe themselves to have been falsely accused contact the FMS Foundation. We suspect that the shame and trauma associated with being accused would lead many parents to avoid talking about the accusations altogether.

According to the FMS Foundation, the typical case involves an educated white woman in her 30s who initially sought therapy for a relatively minor problem; after months of therapy (often with a therapist with little formal training), she accuses her father of having sexually abused her 15 to 30 years ago, then cuts off relations with him. According to Wakefield and Underwager (1992), a survey of 133 parents who had contacted the FMS Foundation indicated that psychotherapy was involved
in most cases, and that many cases involved *The Courage to Heal*, hypnosis, interpretations of dreams and body memories, and other memory recovery techniques. Accusations not infrequently include allegations of bizarre, ritualistic molestation starting at a very early age and continuing for years.

The consequences of such allegations are dire. Goldstein and Farmer (1992) described the reactions of 20 families to these kinds of accusations. The most common consequence is that families are torn asunder. In some cases, reputations are ruined and life savings are lost in legal defences. Legal action against parents may be taken even if the accuser does not remember the alleged abuse but has none the less come to believe that abuse occurred. A number of states in the US have lifted the statute of limitations for adult plaintiffs claiming to have recovered memories of childhood sexual abuse, allowing clients to press criminal charges against their parents for events that allegedly occurred decades ago. In other jurisdictions clients can sue their parents for damages in civil courts (see Loftus, 1993).

Whether or not the abuse actually occurred, the costs of such allegations are as high for the accuser as for the accused. As noted in *The Courage to Heal*:

If you maintained the fantasy that your childhood was ‘happy’, then you have to grieve for the childhood you thought you had … you must give up the idea that your parents had your best interest at heart … You may have to grieve over the fact that you don’t have an extended family for your children, that you’ll never receive an inheritance, that you don’t have family roots. (p. 119).

This grieving and loss may be a difficult but necessary part of the healing process for survivors of incest, as Bass and Davis maintain. But such grief would also be suffered by people who have developed illusory beliefs about childhood sexual abuse.

In summary, there has been a great increase in the frequency with which adults level accusations of childhood sexual abuse against their parents, based on newly recovered memories. It is likely that part of this increase is due to improved awareness of the reality of incestuous sexual abuse and improved support for survivors of abuse. However, some of the increase may be the result of inappropriate use of memory recovery techniques. One basis for this suspicion is that many cases of delayed accusations involve women who had read popular memory recovery books and/or received memory recovery therapy. Other reasons for scepticism about some claims include the facts that in some cases: (1) the allegations include kinds of abuse that research indicates are quite rare; (2) accusers claim to remember events during the first 2 years of life; and (3) accusers claim to have totally repressed memories in ways that available research indicates are unlikely.

An additional ground for suspecting that some allegations are based on therapy-induced illusory memories is that the popular press has published several cases in which former clients who had made accusations of childhood sexual abuse later retracted them (Gavigan, 1992; Rybin, 1993; Watters, 1992; Whitely, 1991; see also Wylie, 1993). The FMS Foundation reports that they are ‘aware of approximately 140 rejections’ (*FMS Foundation Newsletter*, November 1993, p. 2), and there is now an advocacy group for retractors that publishes its own newsletter in support of those who have retracted their earlier allegations of childhood sexual abuse and attributed them to highly suggestive therapies. Proponents of memory recovery therapies may be inclined to dismiss such retractions as instances of ‘survivors in denial’,
but to us they appear to provide compelling and alarming evidence of people recovering from the devastating effects of the inappropriate use of suggestive memory recovery therapies.

How many therapists use incest-focused memory recovery techniques? Poole, Lindsay, Memon, and Bull, 1994 recently conducted a national survey of doctoral psychotherapists, randomly sampled from the National Register of Health Service Providers in Psychology. Of the 86 respondents who returned completed questionnaires and indicated that they had seen at least 10 adult female clients in the last 2 years, 76 per cent reported using at least one memory recovery technique to help clients remember childhood sexual abuse (e.g. 29 per cent used hypnosis, 44 per cent used dream interpretation, and 47 per cent used family photographs as memory cues). Many also indicated that they prescribed The Courage to Heal (Bass and Davis, 1988). Respondents listed a large number of potential indicators of childhood sexual abuse, and reported that an average of 27 per cent of their adult female clients whom they suspected had been abused as children initially denied any such abuse. They estimated, on average, that 43 per cent of these clients eventually recovered memories of childhood sexual abuse through therapy. These findings indicate that many therapists use memory recovery techniques to help clients remember childhood sexual abuse, and that they are often successful at doing so. More important, a substantial minority reported constellations of opinions and practices that are likely to constitute a powerful source of suggestive influence. For example, 25 per cent indicated that: (1) it is important for abuse clients to acknowledge or remember the abuse for therapy to be effective; (2) they had sometimes been 'fairly certain' during their initial session with a client who denied a history of childhood sexual abuse that the client had in fact been abused; and (3) they used two or more memory recovery techniques to help such clients recover suspected memories of abuse. This subgroup of therapists estimated, on average, that 57 per cent of their clients who initially denied any memory of childhood sexual abuse eventually came to remember such abuse during the course of therapy. In evaluating these findings, it is important to keep in mind that all respondents had doctoral degrees and state licensure.

How common are therapy-induced illusory memories? We do not know, but several considerations suggest that the numbers may be large: (1) Poole et al.'s (1994) data indicate that a large percentage of therapists view the recovery of repressed memories of childhood sexual abuse as an important therapeutic goal for many of their adult female clients, and that many therapists use memory recovery techniques in pursuit of that goal; (2) given that the accuracy of diagnoses of repressed memories is almost certainly well below 90 per cent, and given that the base rate of complete amnesia for childhood sexual abuse is probably well below, say, 40 per cent, the rate of false diagnosis is likely to be substantial; and (3) compared to studies in which large and dramatic suggestibility effects have been observed, the overall strength of the suggestiveness of some forms of memory recovery therapy appears to be very high (i.e. the suggestions concern long-ago events, are given by an authority figure, and may be frequently repeated, accompanied by rationales for the plausibility of recovered memories and instructions to give free rein to the imagination and to trust in whatever images of abuse come to mind, supported by interpretations of dreams and current physiological symptoms, enhanced with hypnosis and similar techniques, elaborated through exercises such as using family photographs as recall cues, and supplemented with popular books and support groups).
REDUCING THE RISK OF CREATING ILLUSORY MEMORIES

Both proponents and critics of memory recovery therapies should share a keen interest in minimizing the risk of creating illusory memories of childhood sexual abuse. In this section we briefly suggest some ideas that may help therapists minimize the risk of contributing to the creation of illusory memories in their clients. Our offering here is more limited and more speculative than we would like it to be. Part of the problem is that several factors that increase the likelihood of illusory memories are inherent to the therapeutic situation. For example, the client typically views the therapist as a trusted authority, and the events in question happened long ago during the client's childhood. Another problem is that there is a paucity of research directly relevant to the question of how to help people remember childhood events while minimizing the risk of creating illusory memories. None the less, the literature provides a few promising leads in this direction. We begin with a general argument about the importance of developing a broad theoretical framework for psychotherapy, then turn to some more specific suggestions for minimizing the risk of leading clients to create false memories and beliefs.

General issues

We recommend a broadening of theoretical perspectives, a tempering of certainty about diagnoses and underlying causal relations, and an increased eclecticism in therapeutic techniques and approaches (Beutler and Hill, 1992). No doubt most mental health care practitioners are well aware of the importance of these considerations, but it appears that some are not. Because practitioners are likely to focus their reading and professional interactions upon others who share their perspectives, there is a natural tendency toward specialization and alliance to particular schools of thought. Furthermore, because practitioners rarely have access to control groups, they are vulnerable to a fundamental logical error: post hoc, ergo propter hoc (after this, therefore because of this). That is, therapists are likely to assume that improvements in their clients' well-being are caused by the particular therapeutic techniques they have used, even though it is possible that clients would have improved just as much, or perhaps even more, if other techniques had been used. Recent assessments of a wide variety of insight psychotherapies have emphasized the lack of differences in the effectiveness of these approaches and the considerable frequency of improvement in control groups of clients receiving no therapeutic intervention (Prioleau, Murdock, and Brody, 1983). Misperceptions of the benefits of therapy may be particularly likely in the case of memory recovery therapies because people receiving such therapy are likely to exhibit greatly increased psychological distress as they come to believe they were sexually abused by family members and then gradually recover to some extent. The recovery stage of this process (which, as Bass and Davis, 1988, noted, may take years) may appear to therapists to be dramatic evidence of the effectiveness of their treatment—even if clients end up being worse off than they would have been without treatment. The seductiveness of the post hoc, ergo propter hoc assumption is further heightened by the fact that practitioners are likely to find many cases that confirm their expectations (e.g. incest recovery therapists find that many clients were abused as children, MPD-oriented therapists find that many clients have multiple personalities, etc.). These factors may set up a cycle that reinforces
and strengthens therapists' beliefs and increases their confidence in the accuracy of their diagnoses and the effectiveness of treatment. In the case of memory recovery therapies, this cycle may increase the likelihood of therapy-induced illusory beliefs and memories.

To break the cycle, we encourage practitioners to keep an open mind about potential aetiological factors and to consider an eclectic range of therapeutic approaches and techniques. For example, in addition to insight therapies that emphasize understanding the traumatic basis of current distress, there are alternative approaches such as solution-focused and brief therapeutic interventions (Haley, 1987; Madanes, 1990; Minuchin and Fishman, 1981; Talmon, 1990). Furthermore, we believe that trauma-oriented practitioners—and especially those who use memory recovery techniques—should educate themselves on contemporary memory research. We hope that the review presented in the first section of this paper will introduce practitioners to relevant aspects of this literature, and that in the future clinical psychology journals will encourage submissions that address the relationship between memory research and clinical psychology.

There is also a pressing need for systematic research to assess the effectiveness of memory recovery therapies. To date, recommendations for treatment within this area have been based on clinical reports rather than studies of outcome effectiveness (Courtois, 1991; cf. Beutler and Hill, 1992). In addition to discussing the risk of leading clients to create illusory memories, psychiatrist George Ganaway (1989) argued that a focus on recovering memories of incest may lead therapists to pay inadequate attention to other sources of psychological difficulty and to other therapeutic interventions. Similar arguments were advanced by feminist psychoanalysts Haaken and Schlaps (1991). Given the grounds for believing that memory recovery techniques may harm some clients, it is important to determine whether or not those techniques actually help other clients.

**Diagnosis**

As mentioned above, accurate diagnosis of repressed memories of childhood sexual abuse is critically important if memory recovery techniques are to be used. Introspections and anecdotal reports about the accuracy of clinical judgement must be supplemented with systematic research. Measuring and improving diagnostic accuracy will be difficult, because it is rarely possible to confirm diagnoses. However, because in some cases the truth of allegations can be determined, it would be possible to assess diagnostic accuracy and to compare different diagnostic tools and procedures. It would be informative to compare in great detail known false and known true allegations that have arisen following memory recovery therapy. It would also be valuable (and straightforward) to obtain data about intertherapist reliability in such diagnoses. Likewise, further research examining the relationship between symptoms (measured with reliable and validated indices), diagnoses, and outcomes is sorely needed (cf. Beutler and Hill, 1992). Promising work in this areas has been reported by Briere and his colleagues (Elliott and Briere, 1992).

An issue related to diagnosis that is of particular relevance to cognitive psychologists is the belief that one common symptom of repressed memories of childhood sexual abuse is significant gaps in the client's memory for childhood (Bass and Davis, 1988; Courtois, 1988; Dolan, 1990; Ellenson, 1986; Maltz and Holman, 1987; Sgroi,
Whereas it is plausible that poor memory for childhood sometimes reflects repression of traumatic childhood events, there are other more pedestrian explanations that could also account for a relatively poor memory of childhood. For example, some families frequently talk about shared past events and review family photo albums, whereas others do not. As another example, depression has often been linked with memory impairment (Hartlage, Alloy, Vazquez, and Dykman, 1993), suggesting that poor recall of childhood could sometimes be the result of current depression rather than repression (cf. Brewin et al., 1993). Thus it appears unlikely that poor memory for childhood, in and of itself, is a reliable indicator of repressed memories of sexual abuse. Moreover, if poor memory for childhood is to be used as one of several indicators, clinicians will need reliable tools to assess memory of childhood.

For some of the hypothesized sequelae of childhood sexual abuse, there are reliable and standardized objective measures (e.g., Braver et al., 1992; Briere, 1992; Elliott and Briere, 1992; Stinson and Hendrick, 1992). However, to our knowledge nothing comparable has been developed for assessment of memories of childhood. At present, clinical judgement (Reagor, 1991) appears to be the sole basis for assessing clients' memories of childhood. Although Sgroi (1989: p. 112) claimed that the gaps may be 'for months or years, not just for infancy and early childhood (which is normal) but for primary school ages and older', we have been unable to find anything resembling an operational definition of 'significant gaps'. In the absence of an operational definition, practitioners have no standard against which to compare their clients' memory performance.

Unfortunately, there seem to be few relevant measures available from other fields of psychology. For example, neuropsychologists have constructed various scales to measure retrograde amnesia in brain-damaged patients (Squire and Cohen, 1982), but these scales are generally intended to assess decrements in semantic memory (knowledge) rather than autobiographical memory. Research on autobiographical memory has assessed memories of verifiable events for a few specific individuals (either the researchers themselves (Linton, 1982; Wagenaar, 1986), a few volunteer subjects (Barclay, 1988; Brewer, 1988), or specific clinical cases (Schacter, Kihlstrom, Kihlstrom, and Beren, 1989), but, to our knowledge, there is no broad, reliable scale of early memories. Bruhn (1992a, b) has developed a set of projective questions that probe early memories, but it does not provide a basis for contrasting the quantity or quality of autobiographical memories of abused and non-abused adults. Perhaps the most promising technique is that used by Dritschel, Williams, Baddeley, and Nimmo-Smith (1992) to separate personal episodic memories (i.e. recollections of autobiographical experiences) from personal semantic memories (i.e. things about one's childhood that one knows but does not directly remember as past experiences).

In line with earlier suggestions by Briere (1992) and Cole and Putnam (1992), we propose that memory researchers could make a valuable contribution to clinical practice by devising a test of childhood autobiographical memory that is both reliable and age-appropriate (age at the time of testing). It should be recognized, however, that such assessment techniques would not determine the accuracy of clients' autobiographical memories. Instead, comparisons could be made to norms for recall by non-abused controls; if future research indicated that known survivors of childhood abuse do in fact have poorer memories of childhood than do controls, then the assessment techniques could be used in conjunction with other measures and techniques to improve the diagnosis of repressed memories. Kopelman, Wilson, and
Baddeley (1989) have constructed a test of this general type, but its applicability to repressed memories of sexual abuse has not been assessed.

In summary, if memory recovery techniques are to be used, it is important that practitioners be able to make accurate assessments of the presence of repressed memories of childhood sexual abuse. Because the condition to be diagnosed involves memory impairment, cognitive psychology may prove useful in this endeavour.

**Reducing the risk**

In general terms, the risk of creating illusory memories or beliefs about childhood sexual abuse is likely to be lower when therapists do not focus their efforts on trying to get clients to remember such events. That is, when childhood sexual abuse is viewed as one of a number of potential aetiological factors to be explored during the course of therapy, and when it is explored in a non-suggestive, open-minded way, without the use of special memory recovery techniques, there are few grounds for concern about the creation of illusory memories. We appreciate, however, that some clinicians may believe it important, in some cases, to ask their clients to attempt to remember particular childhood events. What insights does cognitive psychology offer for helping clients remember particular kinds of childhood events while minimizing the risk of creating false memories?

There has been considerable research on techniques to help people accurately remember recently witnessed events, and those techniques might be adaptable to clinical use. The aim of such techniques is to increase the amount of accurate information witnesses produce without increasing the amount of inaccurate information. The best known technique is Fisher and Geiselman’s (1988) ‘cognitive interview’, which uses a variety of basic principles from cognitive psychology to improve recall. In research reported so far, this technique has been quite effective, and usually has not increased false recall. However, one of the underlying principles of the cognitive interview is to avoid suggestive questioning, and this may limit its applicability to the problem of helping clients remember particular kinds of childhood events. Furthermore, Beckerian and Dennett (1993) have suggested that the cognitive interview technique may produce unusually high confidence in information recalled; because some errors are made during recall, there may be an increased confidence in erroneous information recalled by people tested with the cognitive interview.

In view of the evidence of the fallibility and suggestibility of human memory, it may be wise for clinicians to develop a set of guidelines that restrict the use of memory recovery therapies to particular types of clients and to those with particular presenting problems. These guidelines might recommend the discontinuation of memory recovery techniques for clients who, having been given reasonable opportunities to recover such memories, have not done so. It may be appropriate in the latter cases to suggest to clients that they are likely not victims of repressed memories of sexual abuse. Although some readers may protest that the most damaging memories are precisely those that are the most deeply repressed, and argue that memory recovery techniques should be used unabated until the client remembers those events, we believe that grounds for this belief must be weighed against those that motivate the concern about creating illusory memories.

It may also be wise to balance various components of memory recovery therapy.
For example, therapists might ask clients to try to remember instances of childhood abuse if there is good reason to suspect that they were abused, but also inform them about the possibility of illusory memories, rather than assure them that everything they remember is true. Clients could be given reading material (such as this paper or Loftus, 1993) about the fallibility of human memory and the ease with which illusory memories can be developed under certain conditions. Beutler and Hill (1992) pointed out the need for treatment manuals for suspected survivors of childhood sexual abuse. Such treatment manuals would be based on the best available research knowledge, and would be vastly more helpful and less risky than popular self-help books.

Practitioners should also help get the word out—to other practitioners and to the public at large—that ‘memories’ recovered through extensive use of memory recovery techniques are not necessarily accurate. One problem we face is that the therapists who are most likely to use memory recovery techniques in reckless ways are likely to confine their reading to sources consistent with their views. Furthermore, this is an emotionally charged and politically sensitive issue in which discussion can easily become polarized. Perhaps professional conferences could provide for the balanced and constructive presentation of relevant information by clinicians and researchers in cognitive psychology and hence be one way of reaching a broad audience. We also believe that improved mechanisms for certifying mental health care practitioners are needed and that an ongoing program of public education regarding the qualifications of different groups of therapists should be undertaken.

**Discriminating between accurate and inaccurate memories**

By now it is probably clear that we know of no technique that would provide for the reliable discrimination of illusory and true memories in clients who have been through extensive memory recovery therapy. Indeed, this has been the overriding theme of our review: illusory memories can look, feel, and sound like real memories. There has been considerable research on techniques for discriminating between accurate and inaccurate eyewitness accounts (such as statement or content validity analysis, e.g. Rogers, 1990; Yille, 1989), but these techniques are more appropriate for discriminating between truth-tellers and liars than for discriminating between people who are remembering accurately and people who believe they are remembering accurately but are not. Yuille (personal communication, June 8 1993) is working on expanding content validity analysis to the problem of discriminating between accurate and illusory recollections. Encouraging this effort, there is evidence that people tend to use slightly different language when describing illusory memories created by misleading suggestions than when describing memories of events they actually witnessed (Schooler *et al.*, 1986; Johnson and Suengas, 1989). A number of researchers have argued that these differences can be used to discriminate between true and false allegations of recent abuse (Raskin and Esplin, 1991). Unfortunately, we suspect that these techniques may prove unreliable when applied to cases in which adults have spent many hours working on recovering and filling in memories of childhood events, because such extensive work on remembering is likely to increase the similarity between accurate and illusory memories. However, such techniques might be useful for evaluating reports that clients produce with relatively little prodding.
SUMMARY

In this paper, we have applied the extensive cognitive psychological literature on the fallibility and suggestibility of human memory to a critical analysis of what we have termed 'memory recovery therapies'. A large number of studies illustrate that remembering is a reconstructive process (rather than simply a matter of retrieving records of past experiences), and that quite mild suggestive influences can lead to distortions and errors in people's recollections of past events. Our central argument is that extreme forms of memory recovery therapy constitute an extraordinarily powerful suggestive influence that may lead some non-abused clients to create illusory memories and beliefs of childhood sexual abuse. The research literature indicates that techniques such as hypnosis and guided imagery run the risk of leading subjects to create illusory memories that are confidently held, and we have argued that other techniques (e.g. bibliotherapy, interpretation of dreams and physical symptoms) and ancillary practices (e.g. suggesting to clients that their symptoms indicate repressed memories and that healing relies in part on the recovery of such memories, countering clients' doubts about the validity of their memories, suggesting that clients join survivors' groups) may similarly lead clients to mistake the products of fantasy and suggestion (perhaps commingled with accurate but vague memories of stressful childhood events that did not involve sexual abuse per se) as memories of childhood sexual abuse. Our greatest concern is with approaches to therapy that combine many of these practices, creating a constellation of suggestive influences.

Memory research indicates that the following factors, among others, increase the likelihood of memory illusions: long delays between the to-be-remembered event and the attempt to remember; suggestions that particular events occurred; the perceived authority of the source of suggestions; the perceived plausibility of suggestions; repetition of suggestions; lax memory-judging criteria (guessing, giving free rein to one's imagination, etc.); mental rehearsal of imagined events; and hypnosis and guided imagery. Because several of these factors are inherent and inescapable aspects of situations in which therapists attempt to help adult clients recover memories of childhood sexual abuse, practitioners should be especially concerned about the use of techniques that may further increase the risk of illusory memories.

We have also discussed the difficulty of determining whether or not clients who do not have any conscious recollection of childhood sexual abuse were in fact abused. In those sections, we explained the relationship between the base rate of complete amnesia of childhood sexual abuse, the accuracy of methods for identifying clients with repressed memories, and the likelihood of falsely deciding that a non-abused client has a repressed history of childhood sexual abuse. We argued that available evidence indicates that the base rate of the kinds of childhood sexual abuse that have been shown often to precipitate adult psychology, and the base rate of complete amnesia for such abuse, are lower than sometimes implied by proponents of memory recovery therapy. We also argued that the relationship between childhood sexual abuse and particular psychopathological symptoms in adulthood is weaker than some memory recovery therapists have suggested. We then showed that even if the base rate of complete amnesia of childhood sexual abuse is assumed to be quite high—just as high as memory recovery proponents have claimed—and even if the relationship between childhood sexual abuse and particular symptoms is very strong (such that therapists are very accurate at discriminating between abused and non-
abused clients), the rate of erroneously identifying non-abused clients as having repressed memories of abuse will be quite high (e.g., 31 per cent under extremely generous assumptions). The point of this argument is that practitioners should be very cautious about deciding that a client has repressed memories, and even more cautious about using such a decision as a rationale for the use of memory recovery techniques, because even among the very best therapists that decision is often likely to be wrong.

Another section presented reasons why, in our view, practitioners should view their own introspections and impressions based on clinical experience with a certain degree of scepticism. For one thing, research on judgement and decision-making demonstrates that human beings are prone to a powerful confirmatory bias (i.e., a tendency to focus on cases that confirm their hypotheses) which can give rise to compelling illusory correlations (i.e., perception of a strong relationship between two variables when in fact there is no relationship between them). This may lead practitioners to believe that the relationship between particular presenting symptoms and subsequent apparent recovery of memories of abuse is stronger than it actually is. Furthermore, we discussed evidence that other people can be greatly influenced by one's expectations and biases, even when one is not aware of wielding any suggestive influence and even when those people are not aware of being influenced. Hence neither therapists nor clients may be aware of the extent to which the therapist's beliefs and expectations influence the client.

The fifth section of our paper presented reasons for believing that large numbers of North American clients have been led to create illusory memories of childhood abuse through incautious use of memory recovery therapies. We discussed three bases for that claim. One is the large increase in delayed accusations of incestuous abuse in the last five years, with many cases involving unsubstantiated allegations of newly recovered histories of repeated, long-term experiences of bizarre, low-frequency kinds of abuse starting during very early childhood. The second basis for our claim is that many clients have been led to form false beliefs or memories of childhood sexual abuse is that a substantial number of such clients have publicly retracted their prior allegations and attributed them to highly suggestive psychotherapy. The third, and perhaps most compelling basis for this argument is evidence from Poole et al.'s (1994) national random survey of doctoral therapists, which indicated that a substantial majority of therapists do indeed sometimes decide that clients have repressed memories of childhood sexual abuse and subsequently use memory recovery techniques in attempts to help those clients recover such memories. Moreover, a substantial minority reported constellations of beliefs, practices, and techniques that, in our view, constitute grave risk for the creation of illusory memories and beliefs in some clients.

Finally, the sixth section of the paper offered some suggestions for ways to reduce the risks of leading clients to create illusory memories and beliefs. We argued for the importance of developing a broad and flexible approach to psychotherapy, rather than a narrow focus on trauma recovery. As noted in that section, we believe that most practitioners are well aware of the importance of maintaining a broad perspective, but it appears that some are not. We also called for systematic research to assess the effectiveness of memory recovery therapies, and for further research on the diagnosis of repressed memories. Finally, we offered some specific suggestions concerning ways to reduce the risks inherent in attempts to help clients remember
particular kinds of childhood events (e.g. developing guidelines that would help therapists determine when memory recovery work is appropriate, what kinds of techniques should be used, and for how long).

CONCLUSION

In light of the evidence of the fallibility and suggestibility of human memory, we have argued that incautious use of memory recovery therapy may lead some clients to develop illusory memories and false beliefs of childhood sexual abuse. Non-abused clients who come to believe that they were sexually abused are likely to suffer greatly, as will their families and loved ones. Therefore we believe that practitioners should be extremely circumspect in their use of memory recovery techniques and ancillary practices.

In the absence of perfect diagnostic procedures for identifying clients with repressed memories of childhood sexual abuse, and lacking techniques that discriminate reliably between accurate and illusory memories, two types of errors will certainly occur. On the one hand, some adult clients who were abused as children but do not remember the abuse will go undetected, perhaps with negative consequences for their psychological health. On the other hand, some clients who were not abused will be misdiagnosed as having repressed memories, and some of these may come to develop illusory memories of abuse through memory recovery therapy. The consequences of this type of error are catastrophic, both for clients and for their families. When diagnostic and discriminatory techniques are imperfect—which they always are—their two types of errors bear a reciprocal relationship to each other: As one increases, the other decreases. Hence, in the pursuit of real cases of childhood sexual abuse, some false allegations will inevitably be made.

Traditionally, our culture has turned a blind eye to childhood sexual abuse, and has only recently begun vigorously defending victims and calling abusers to account. As a society, we may decide to tolerate some level of false accusations in order to pursue real cases of childhood sexual abuse. Furthermore, mental health care providers may determine that in some cases it is appropriate to use special techniques to help clients recollect suspected childhood sexual abuse. But in our view the approaches and techniques advocated by some memory recovery therapists make the risk of illusory memories of childhood sexual abuse much greater than it has to be.

One of the most unnerving implications of the cognitive psychological research reviewed in this paper is that people can be very confident in their memories and beliefs and, at the same time, very wrong. People can believe they are remembering events in their own lives when those events never happened. Experts can believe they are observing powerful correlations when none actually exist. It is difficult to confront this evidence of our fallibility, but that evidence is overwhelmingly clear. We take this cautionary message to heart. Perhaps we are wrong. Perhaps psychotherapy clients receiving memory recovery therapy are very rarely led to create illusory memories. But we believe that our concern about the possibility of illusory memories of childhood sexual abuse is better grounded in reality than the beliefs of people who deny the fallibility of memory and argue for the unqualified acceptance of all reports of recovered memories of childhood events.
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