

# RECOVERED MEMORIES

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■ **Abstract** The issues surrounding repressed, recovered, or false memories have sparked one of the greatest controversies in the mental health profession in the twentieth century. We review evidence concerning the existence of the repression and recovery of autobiographical memories of traumatic events and research on the development of false autobiographical memories, how specific therapeutic procedures can lead to false memories, and individual vulnerability to resisting false memories. These findings have implications for therapeutic practice, for forensic practice, for research and training in psychology, and for public policy.

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## INTRODUCTION

On November 28, 1989, George Franklin was arrested for the murder of his daughter's childhood playmate—a murder that had allegedly occurred almost 20 years earlier (see MacLean 1993). The evidence against him? Nothing but the recently “recovered” memory of his now 29-year-old daughter, who claimed to have repressed her memory of having witnessed the murder two decades ago. The Franklin case was far from unique. Parents were being accused and convicted of other terrible crimes, primarily childhood sexual abuse, sometimes involving years of horrific abuse that was allegedly repressed in memory. Typically, these accusations arose on the basis of memories that adult children had “recovered” during psychotherapy. Some mental health professionals were even promoting the notion that numerous victims had experienced horrific satanic ritual abuse about which they were harboring repressed memories (Rogers 1992, Wright 1994).

But scholarly analyses (e.g., Holmes 1990) were revealing that there was little in the way of support for widespread assumptions among therapists and in popular folklore that traumatic memories are particularly likely, relative to nontraumatic memories, to be “repressed” and later recovered intact through techniques such as hypnosis, guided imagery, and other suggestive therapeutic procedures. Analyses of how false memories could develop in the therapeutic setting soon followed (e.g., Lindsay & Read 1994, Loftus 1993, Loftus & Ketcham 1994, Ofshe & Watters 1994, Tavis 1993) and sparked a heated response from the therapeutic community (e.g., Alpert 1995, Terr 1994, Whitfield 1995) and alleged survivors of sexual abuse and their supporters that marked the beginning of a controversy that has been among the most vitriolic and emotionally charged in the history of psychology. This debate, known as the memory wars, has been referred to as “psychology’s most fiercely contested ground” (Crews 2004). But underlying a very practical side of the debate—centered on real-life concerns for victims of either true abuse or of false allegations—is another debate surrounding the very nature of memory and how it works: whether memory might work differently for traumatic versus more ordinary events, and whether it might be distorted or confabulated as a result of therapeutic procedures commonly employed by some therapists.

On the one side were primarily practicing therapists who argued that there was and still is overwhelming support for the psychoanalytic notion of repressed memories (sometimes referred to by other terms, such as dissociated memory or traumatic amnesia; e.g., Brown et al. 1998). Traumatic memories such as those of sexual abuse were viewed as fundamentally different from more ordinary memories because they tend to be encoded in ways that render them inaccessible in everyday life. Moreover, suggestive memory recovery procedures and therapeutic

interactions were viewed as necessary to break through the barrier of repression and bring memories into conscious awareness, which was in turn viewed as necessary for the patient to improve. Therapists who supported such a position tended to view the incidence of “repressed” memories of abuse as relatively high, and therefore the frequency with which such memories were “recovered” in therapy as unsurprising. Many such therapists also viewed even extremely bizarre claims such as satanic ritual abuse among children and adults as credible. And finally, they argued that false memories for such events were particularly unlikely.

On the other side were the clinical, social, and cognitive researchers who had long studied the fallibility and suggestibility of memory. Beginning with the assumption that, if anything, memories for trauma are stronger than are those for ordinary events, these researchers viewed traumatic experiences as unlikely to be repressed and as subject to the same sources of distortion and confabulation as memories of other kinds of experiences. These scholars and scientists found no compelling evidence that people massively repress sexual abuse and then reliably recover the memories later (see Piper et al. 2000, Pope et al. 1998). In one survey, 79% said that there was no support for the statement, “Traumatic experiences can be repressed for many years and then recovered,” or that the data were inconclusive (Kassin et al. 2001). Moreover, the repression skeptics worried that suggestive procedures used by some psychotherapists to try to extract allegedly buried trauma memories (such as direct suggestion that the patient was probably abused, guided imagery, hypnosis, age regression, or dream analysis) could lead to false memories—even such seemingly improbable false memories as those of satanic abuse.

In the following sections, we review evidence concerning the existence of recovered memories. We focus upon the controversial sense of this term, which involves memories of abuse that are “recovered” during suggestive psychotherapy. We also review evidence for the existence and mechanisms of creation of false memories and discuss how these processes apply in therapy.

## EVIDENCE FOR REPRESSION AND RECOVERY OF MEMORIES OF TRAUMA

Most fundamentally, to demonstrate that memories can be repressed and later recovered, at least three things must be verified: (a) that the abuse did take place, (b) that it was forgotten and inaccessible for some period of time, and (c) that it was later remembered (see, e.g., Pope & Hudson 1995). Studies used to support repression generally do not meet these criteria.

### Retrospective Studies

In a retrospective memory study, individuals are interviewed today and asked whether they were abused in the past as well as other questions assessing the

continuity of memory over time, such as whether they ever forgot the abuse. In scores of such studies, some individuals will claim that they were abused and that there was a time when they forgot the abuse (see, e.g., Briere & Conte 1993, Melchert 1996), but the inherent common flaws of these studies render them virtually uninterpretable (see, e.g., Brenneis 2000; Kihlstrom 1998, 2005; McNally 2003b, 2004).

Perhaps the most fundamental flaws are lack of validation of the abuse and lack of assessment of the conditions under which the “memory” was retrieved. Though some studies have attempted to validate reported abuse, criteria for validation are often suspect, relying, for example, on participant reports that they had verified the abuse (see, e.g., Herman & Schatzow 1987) or the outcome of legal proceedings (see, e.g., Burgess et al. 1995). Often, researchers fail to report rates of verification separately for those who always remembered the abuse versus those who report periods of amnesia or repression, leaving open the question of the rate of verified “recovered” memories (see, e.g., van der Kolk & Fisler 1995). Still others mix self-reports of verification from patients with apparently more objective verification by police or therapists, but without clear delineation of the frequency of each (see, e.g., Kluft 1997). Nonetheless, although few instances of abuse have been conclusively verified, a number of studies have reported instances of apparent verification of once unrecalled abuse (see McNally 2003b).

Other studies have not attempted to validate the abuse at all, and have used persons whose memories were recovered in suspect circumstances without comparison to those whose memories were recovered more naturally. Incredibly, one of the most influential studies of this type recruited subjects through a national network of therapists specializing in treatment of abuse survivors (Briere & Conte 1993). Of those claiming past abuse, 59% reported experiencing a time when they could not remember the abuse. Given a variety of methodological issues (see McNally 2003a), the claim of past nonmemory is uninterpretable. In other studies, patients claiming recovered memory of abuse appear to have undergone questionable procedures such as hypnosis or guided imagination. Indeed, fully two thirds of those reporting periods of amnesia in Roe & Schwartz’s (1996) study reported first recovery of the memory during hypnosis. In another study, participants who never remembered abuse but who had joined incest survivor groups to help them remember were classified as having repressed abuse (Herman & Schatzow 1987).

A second general set of concerns surrounds the interpretation of forgetting and recovery. Episodes of abuse may not be experienced as traumatic or even labeled as abuse at the time, and hence forgetting cannot be regarded as traumatic repression. Indeed, one study found that women who reported having forgotten their abuse rated it as having been less upsetting when it occurred than those who had never forgotten (Loftus et al. 1994). In other studies, participants’ own interpretations of failures to remember abuse have included failure to understand the experience as abusive until later and deliberate attempts not to think about it. Many reported that they could have remembered if they tried or if they had been reminded or

asked about it. However, since all such reports are either guesses about whether the person could remember or subjective assessments of reasons for failure to remember rather than responses to actual attempts to remember, they are difficult to interpret.

Further, it is well documented that one can fail to remember that one previously remembered the abuse. For some apparently verified instances of recovered memories, it has been shown that the person actually did remember during the alleged amnesic period, but later forgot previously remembering and talking about the abuse to others (see Brenneis 2000). In one study, women who claimed that they had undergone periods of forgetting their abuse said later in the same interview that they had never forgotten (Fivush & Edwards 2004). Finally, studies of memory for real-life traumata of all sorts suffer from additional problems such as misinterpreting general difficulty with everyday memory as reflecting repression of a specific traumatic event or failure to rule out injury and organic causes of amnesia.

## Prospective Studies

In a prospective memory study, individuals with a record of abuse or other trauma in the past are later interviewed to see what they remember. One well-known study (Williams 1994) involved women who had reported sexual abuse that had occurred when they were aged 10 months to 12 years old. In interviews some 17 years later, 38% did not mention the abuse incident. These results are frequently used to support the notion that a significant percentage of women repress their memories of sexual abuse. But numerous critics have questioned this interpretation (Kihlstrom 2005, Loftus et al. 1994, McNally 2003b), noting the myriad reasons other than repression that could cause participants to fail to mention the abuse. Some had experiences as children when they were so young (under age 2) that childhood amnesia would lead us to expect no memory for the abuse. Even if they did remember it, some may have simply not wanted to report the abuse to an interviewer for reasons such as embarrassment or lack of rapport (Della Femina et al. 1990). Moreover, by design, participants were not asked directly about the abuse, and had they been asked, may well have been able to report it. Finally, normal forgetting occurs for all sorts of events, even ones that would have been rather upsetting or traumatic.

Nearly a decade later, Goodman et al. (2003) published a conceptual “replication” of the Williams study. Participants had been involved in a study of the effects of criminal prosecutions on sex abuse victims when they were ages 3–17 and were interviewed by the authors three times 10–16 years later. By the final interview, only 8% did not report the abuse. Although their study has been criticized for using a “prosecution” sample, its results do cast doubt on the claim that large percentages of women have repressed their memories and have no awareness of real past abuse.

## Case Histories

A third source of evidence offered to support the claim of massive repression is anecdotal cases (sometimes called “anecdota”), where a therapist writes an account

of a case history along with an interpretation that the patient has repressed and later reliably recovered the memory. Other reports involve a set of case histories analyzed and possibly “verified” by the researcher. But one problem with case histories is that the therapist/author is typically the only person who has access to the “data,” which are often subjective and not convincingly subjected to objective external verification. Few instances exist where the selectivity has been scrutinized, but one clear example can be found in the 1997 case history of “Jane Doe” (Corwin & Olafson 1997), who was videotaped in 1984 recounting specifics of sexual abuse allegedly committed by her mother. Eleven years later, when Jane was 17, she was videotaped again. This time, she at first did not remember the abuse, and then she did. The therapists published an account of Jane Doe’s life, her allegedly repressed/recovered memory, and the case was cited as verified (e.g., Gleaves et al. 2004).

Loftus & Guyer (2002a,b) used public records and newspaper clippings and eventually located Doe’s family. From court documents and other information, they learned that the case was not even remotely a proven case of repressed memory. In fact, much newly discovered evidence cast doubt on whether abuse had occurred at all and pointed to the very real possibility that the abuse narrative had been planted in Jane’s mind by individuals who wished to remove her from her mother. This scrutinized case is a cautionary tale that raises questions about the role of case histories in medicine, science, and mental health. Case histories can be compelling, but they are bounded by the motivations and interpretations of the storyteller.

Problems with motivational biases characterize many case histories involving litigated events. Claims of repression are sometimes necessary in order to file suit after delays that would normally exceed statutes of limitations. Nor can out-of-court settlements be taken as proof of claims of abuse. Innocents sometimes settle to avoid legal and emotional costs and risks of litigation. Such issues limit the weight of evidence provided by allegedly “corroborated” cases of recovered memories of trauma involved in legal proceedings.

Notwithstanding these problems, there are a large number of case reports, some with better verification than others. Schooler et al. (1997) give the impression that they discovered several case histories for which the necessary three-pronged evidence specified by Pope & Hudson (1995) was obtained: The abuse did occur, it was forgotten for some period of time, and it was later remembered. Unfortunately, even in some of these the “documentation” was merely the subject’s word. Moreover, these cases provided no evidence for repression per se. In fact, most memory recoveries reportedly occurred outside of therapy, and some subjects reported that they had forgotten the event even though it was later discovered that they had discussed it with others during the period of “amnesia.”

Brenneis (2000) analyzed “verified” case histories provided by Schooler et al. (1997) and others, noting that the most adequately verified accounts tend to share several features: (a) the memories were typically not (with one exception) recovered in the context of therapy, and in all cases the moment of recovery was

unrelated to any therapeutic activity, (b) the memories were triggered by external events that “reminded” the person of the original abuse, (c) once prompted, the memories “completely unwound instantly” (Schooler et al. 1997, p. 271) and required no interpretation or deciphering, (d) the memories were mostly for single, not repeated, events, (e) assailants were primarily nonfamily members, and (f) the events dated from age 9 and older. Finally, information from friends and relatives often revealed that despite the person’s claim of amnesia, the event had been discussed with others during the period of claimed amnesia. These features stand in contrast to the typical pattern for memory recovery in therapy, which involves very effortful and gradual recovery through extremely suggestive therapeutic processes and memory recovery procedures. When memories emerge in this context, they tend to begin as vague and lacking detail but to unfold and become more vivid and elaborate over time. Further, Brenneis (2000) noted that “this constellation of features—multiple events over long periods of time, beginning in early childhood, involving bodily penetration, and enacted by male family members—is seldom if ever found among verified recovered memory cases” (p. 75).

Wagenaar & Crombag (2005) provide a devastating analysis of the case of JR—a man Schooler interviewed some nine years after he allegedly recovered memories of abuse by a priest—in which they note that the JR narrative contains innumerable unproven and often suspicious assumptions. Schooler says that JR recovered his memory without a therapist, but JR was in therapy at the time. Schooler implies that JR had no motive, but JR actually did start a lawsuit. Schooler was impressed by a second individual who apparently also implied wrongdoing by the priest, but that second individual was not independent, as he came forth after learning about JR. As Wagenaar & Crombag (2005) note, case histories like that of JR do not meet two of the most important criteria for empirical research: public control and replicability. It is virtually impossible for readers to check most of the details of JR’s story because of the anonymity. We cannot critically question those who provided information nor can we have access to case information. The story is simply hearsay. (See Wagenaar & Crombag 2005, Chapter 5, for an excellent discussion of when case histories can be used successfully to illustrate something important.)

In sum, there is little support for the notion that trauma is commonly banished out of awareness and later reliably recovered by processes beyond ordinary forgetting and remembering. Although there have been some apparent instances of verified lost and recovered memories (see, e.g., Brenneis 2000, Gleaves et al. 2004), it is not clear how much scrutiny has been applied, and crucial questions of the base rate at which such verified instances occur and how it depends upon the circumstances of retrieval (through specific procedures during therapy versus as the result of a retrieval cue that occurred in everyday life) remain essentially unanswered. Yet over the past couple of decades, many persons have reported having experienced massive abuse that was repressed and recovered, which raises the question of whether some or all such “memories” might be false.

## EVIDENCE FOR THE EXISTENCE OF FALSE MEMORIES OF ABUSE

Recovered memory therapy advocates note that no controlled experimental evidence confirms that false memories of traumatic events can be implanted. Indeed, ethics restrict experimentation on the impact of memory recovery procedures on recovery of true traumatic memories or implantation of false ones, making laboratory evidence specific to trauma and abuse for both camps rare. Given such limitations, critics of “recovered memories” offer several kinds of evidence demonstrating that false memories for mundane and relatively traumatic autobiographical events can be implanted.

### False Memories of Real-Life Trauma

For most claims of massive repression and recovery, there is little confirming or disconfirming evidence. But some “memories” can be shown to be factually, psychologically, geographically, or biologically impossible. As with case histories of alleged lost and recovered memories, those of false memory for trauma must also meet stringent criteria of proof: both that the person did have memories for the trauma in question and that the event actually did not happen. Indeed, many such case histories are available for abuse- and nonabuse-related trauma (see reviews in McNally 2003b; Schacter 1996, 2001), such as being kidnapped and held hostage (something that happened to classmates instead of oneself), being gang-raped by Satanists (although one’s hymen remains intact), enduring the surgical removal of one’s clitoris (contradicted by the patient’s gynecologist), witnessing the sacrificial killing of persons later found alive, and even for having committed heinous crimes such as murders or sexual abuse (Henkel & Coffman 2004, Kassin 2006, Wright 1994).

While some claims have been proven factually inaccurate, others are simply impossible, such as detailed narrative memories of events occurring in the first days to six months of life (Arnold 1994, Usher & Neisser 1993). Although children do encode and remember such events during early life, these memories tend to be eventually lost, as adult reports of childhood memories rarely address events that occurred earlier than age 3 (see Bauer 2006).

Among the most frequently reported impossible false memories of trauma are those of abduction by space aliens. Although approximately 17% of Americans believe that aliens have abducted humans (and presumably returned them alive), we assume that memories of such events are clearly false. Nevertheless, large numbers of patients have reported memories of alien abductions that have largely developed in therapy and under hypnosis or while the patient was subject to other methods used in recovered memory therapy (see Mack 1994, McNally 2003b).

A large category of false memories concerns various forms of satanic ritual abuse reported by patients in recovered memory therapy. Alleged acts included gang rape; sacrifice of babies and other ritual murders; consumption of blood and



human waste; forced pregnancies or abortions; dancing, chanting, and other Satan worship activities; and brutal torture designed to cause victims to forget all they endured (see Loftus & Ketcham 1994, Noblitt & Perskin 2000, Ofshe & Watters 1994, Scott 2001). Such cases had so permeated our culture that as of 1991, the American Bar Association reported that 25% of prosecuting attorneys had handled cases involving satanic abuse (Qin et al. 1998). In a 1996 survey of clinicians from the American Psychological Association (Bottoms et al. 1996), 13% had cases involving children and 11% had cases involving adults with claims of satanic ritual abuse (with some therapists reporting more than 100 cases). None had obtained convincing verification of the abuse, nor have subsequent attempts to examine the validity of such claims found reliable evidence (see, e.g., La Fontaine 1998, Lanning 1991, Weir & Wheatcroft 1995). One recent survey found that satanic ritual abuse was reported in 19% of more than 1700 cases involving families who reported false allegations of abuse against a family member (McHugh et al. 2004). Across studies, 95% to 100% of patients had no recollection of abuse prior to therapy (McNally 2003b). Despite vigorous protests from recovered memory therapists (Terr 1994, Whitfield 1995), there are cogent reasons to believe that almost all such claims are false (see McNally 2003a,b).

In summary, although there is disagreement regarding the plausibility of some of the above instances of memory for trauma, there can be no doubt that “memories” for factually false as well as impossible or at least highly improbable horrific traumatic events were developed, particularly among persons subjected to suggestive memory recovery procedures. Some have viewed the prevalence of memories for satanic ritual abuse as the strongest evidence of real-life false memories of trauma (e.g., Ofshe & Watters 1994, Ross 1995).

### Experiences of the “Retractors”

In the 1990s, hundreds of individuals who had been persuaded that they had repressed and recovered memories of abuse began to realize their memories were false, and many sued their former therapists for planting false memories. Scores were studied by psychologists trying to gain insight into the processes by which the patients developed and later retracted their beliefs (see, e.g., De Rivera 1997; Lief & Fetkewicz 1995; Nelson & Simpson 1994; Ost et al. 2001, 2002). These studies revealed that the modal retractor first sought therapy for depression and then recovered “memories” of abuse during therapy, but later came to believe the “memories” were actually products of therapeutic suggestion. More than 90% recovered their memories in therapy; in one study (Lief & Fetkewicz 1995), 48% recovered memories of satanic ritual abuse and 38% recovered memories of witnessing murder. The vast majority had undergone suggestive procedures such as hypnosis. Retractors reported substantial pressure to recover memories, and noted that when they expressed doubts in their new memories, they were told that such doubt is common but not a sign of inaccuracy. Most reported that outside pressure played little to no role in their retractions (see, e.g., Ost et al. 2002). Instead, the retractions appeared to be based primarily on the experiential qualities of the

“memories” themselves. In essence, the memories did not seem truly “real,” being either too clear and vivid (and increasing in vividness over time, rather than declining, as do most memories) or too vague and dreamlike.

Although many retractors have provided some insights into the processes they went through, these are case histories and are therefore subject to many of the limitations of case histories identified earlier (see entire *Psychological Inquiry*, 1997, Vol. 8, #4 for commentaries on the meaning of retractor reports). Not surprisingly, therapists have found these accounts unconvincing, arguing—ironically—that retractors are easily swayed by social pressure or that they are motivated by the potential of lawsuits against their therapists (see, e.g., Blume 1995, Brown et al. 1998). Notwithstanding such criticisms, there is little doubt that at least some people have developed clearly false memories that they later recognize as such.

## Laboratory Research on the Malleability of Autobiographical Memory

EVIDENCE THAT FALSE AUTOBIOGRAPHICAL MEMORIES CAN BE CREATED Research in the past several decades has shown that it is relatively easy to change details of memories for previously experienced events (see reviews in Davis & Loftus 2006; Loftus 2005; entire *Handbook of Eyewitness Psychology*, Vols. I and II), but it is also possible to implant entirely false autobiographical memories, even of highly implausible or even impossible events. Using strong forms of suggestion in a paradigm known as the “familial informant false narrative procedure” or simply the “lost-in-the-mall” technique (Lindsay et al. 2004, Loftus 1993, Loftus & Pickrell 1995), people have been led to believe that, as children, they were lost in a shopping mall for an extended time, had an accident at a family wedding, were the victim of a vicious animal attack, nearly drowned and had to be rescued by a lifeguard, etc. These false memories can be planted by telling individuals that their relatives have provided the information and then suggestively interviewing the individuals to try to elicit memory reports.

Across many studies utilizing the lost-in-the-mall procedure, an average of approximately 30% of subjects have developed partial or complete false beliefs or memories (Lindsay et al. 2004), although these rates can vary from 0% with relatively implausible events (receiving a rectal enema; Pezdek et al. 1997) to more than 50% for more mundane events (a ride in a hot air balloon; Wade et al. 2002). Techniques such as those involving guided imagination (e.g., Libby 2003), suggestive dream interpretation, or exposure to doctored photographs have also led subjects to believe falsely that they experienced events in their distant and even in their recent past (Loftus 2003). Some develop false memories right away, whereas others begin with little memory but after several suggestive interviews begin to recall false events in great detail (Ost et al. 2005).

Implanted memories might be viewed as fleeting and unimportant. But even false beliefs implanted in laboratory studies have repercussions affecting later thoughts, behaviors, and intentions. In several studies, false memories of having

gotten sick after eating particular foods as children led to avoidance of the foods as adults (Bernstein et al. 2005).

Several criticisms have been lodged regarding the autobiographical memory implantation research. Most prominent are (a) that we often cannot know for sure (despite familial reports otherwise) that those who develop “false” memories did *not* experience the target event, and (b) that target events in such experiments are less traumatic and more plausible than those commonly “recovered” in therapy. In response to such criticisms, researchers have endeavored to implant both impossible and highly traumatic or “implausible” autobiographical memories.

To address the criticism of verification, for example, Braun et al. (2002) led subjects to believe the impossible event that they had met Bugs Bunny (a Warner Brothers character) at a Disney resort (after exposure to fake Disney ads featuring Bugs Bunny). These authors found that a single fake ad led 16% of subjects to claim they had met Bugs. Even higher rates of false belief were obtained by Braun-LaTour et al. (2004), and ads containing pictures of Bugs produced more false memories than those with only verbal mention of him. The criticism involving the degree of trauma has been more widely addressed. Although researchers have not attempted to plant memories of abuse, they have attempted to plant memories for relatively unpleasant, and in some cases fairly traumatic, events such as hospitalizations, medical procedures, near drowning, or vicious animal attacks. Finally, researchers have planted highly implausible memories for both mundane (e.g., rubbing chalk on one’s head or kissing a plastic frog) and strange and dramatic (witnessing demonic possession as a child) events (Loftus 2003).

Whereas it may be more difficult (or even sometimes impossible) to plant implausible memories in many circumstances, this difficulty can be overcome by changing the degree of implausibility first (Hyman & Loftus 2002). Just such a strategy was demonstrated by Mazzoni et al. (2001), who first exposed some participants to material designed to enhance the plausibility of demon possession and later attempted to plant memories of having personally witnessed such an event. Those exposed to the plausibility-enhancing manipulation later reported greater likelihood that they had personally witnessed demon possession.

A final criticism of the memory implantation studies is that although false beliefs that one has experienced the event may be planted in many subjects, detailed false memories, particularly for more implausible or more traumatic events, have been planted in relatively few individuals. However, one might argue that given the ease with which false memories can be planted in a short period of time, the rate of false memory development in long-term therapy might be substantially more.

**RECONSTRUCTIVE INFLUENCES OF BELIEFS, GOALS, AND SELF-VIEWS ON AUTOBIOGRAPHICAL MEMORY** Studies concerned with the retrospective bias have shown that reports of our own past attitudes or behaviors are biased by current self-views, goals, and beliefs (and vice versa; Dawes 1991, Wilson & Ross 2003). Similarly, recollections of one’s own behavior tend to change to conform to newly acquired information about how one *should* behave, so that we believe we behaved in a

more consistent, sensible, or desirable way than we actually did. Given this reconstructive bias in autobiographical memory, what direct and indirect reconstructive effects might the sheer belief that one has been abused exert?

Even simply considering the possibility that one has been abused might exert such effects, but some patients may come to adopt a highly elaborate personal identity as an abuse survivor. Kihlstrom (1998) coined the term “false memory syndrome,” which he described as “a condition in which a person’s identity and interpersonal relationships are centered around a memory of traumatic experience which is objectively false but in which the person strongly believes . . . the syndrome may be diagnosed when the memory is so deeply ingrained that it orients the person’s entire personality and lifestyle” (p. 16). Though some have objected to the use of the term “syndrome” (Pope 1996), clearly many patients do experience their status as abuse victims as the central or even the primary aspect of their identity. Self-definition as an abuse survivor is likely to exert reconstructive influence on autobiographical memory, which in turn is presumed to serve essentially as the basis of one’s identity. Pressures exist to conform memories to current identity as well as to conform current identity to memories [see entire issue 11, no. 2, of *Memory* (2003) on autobiographical memory; Tafarodi et al. 2003 on self-esteem and memory].

## Summary

There is little doubt that abuse can be forgotten and later remembered, although ordinary forgetting and remembering seem more than adequate to account for this. Nor can there be doubt that false memories of abuse or other trauma can be confabulated. Doubt remains, however, regarding the base rates at which each occurs and the circumstances and persons for which each is most likely. Why do some people, and not others, develop false memories? How does this depend upon the social context in which memories are triggered? And fundamentally, how—if at all—are encoding, storage, and retrieval for traumatic or highly emotional content different? When traumatic material is inaccessible for a period of time, what are the processes responsible? Although progress has been made with respect to each question, much remains to be learned.

## THERAPEUTIC PROCESS AND FALSE MEMORIES OF ABUSE

Bearing in mind that false memories can be created, we consider below how this occurs and what might be done to minimize the likelihood.

### A Priori Assumptions Regarding Abuse

As most accounts of the “recovered memory” controversy have documented, a dramatic increase in awareness of sexual abuse began in the 1980s, accompanied by widespread media coverage of abuse and recovered memories as well as a number

of popular books on the topic. This situation has essentially “primed” the notion of abuse, including repressed memories of abuse, in the general population, and elevated awareness among therapists already acquainted with concepts of trauma and repression. Among the effects of priming particular “schemas” are selective attention to relevant information, biased interpretation of relevant information, and constructive and reconstructive memory processes that generally consist of confabulation of schema-consistent (but false) memories and distortion of memories of past events toward consistency with currently activated schemas (Davis & Follette 2001, Davis & Loftus 2006, Kunda 1999). A patient that has been exposed to accounts of repressed abuse, and with abuse fully primed in her mind, may present with a pre-existing idea that she may have been abused. Likewise, the therapist may expect a high rate of repressed abuse among patients, or particular types of patients, thereby setting in motion a biased assessment process—often followed with vigorous suggestive efforts to test and verify the abuse hypothesis.

### Confirmation Biases and the Dangers of Specific Hypothesis Testing

Confirmatory biases are likely to manifest in initial interview and assessment processes, possibly in both patient and therapist. A patient already considering or convinced of abuse may offer information she perceives as relevant to abuse, perhaps even arguing its significance in terms of abuse. A therapist who perceives abuse as prevalent or likely may inquire about symptoms and facts seen as diagnostic, and if the patient has already brought up the possibility of abuse, rather than engage in a systematic differential diagnosis to examine and rule out alternatives, the therapist may jump directly to the conclusion that the patient in fact was abused. Such “premature cognitive commitment” (Pope & Brown 1996) is among common errors of clinical judgment that some clinicians warn of. Rather than conducting objective hypothesis testing, the therapist may embark upon a quest to discover abuse-consistent evidence (including reports of consistent information and memories from the patient), discounting any inconsistent evidence and doggedly pursuing the presumption of abuse notwithstanding protests and inconsistent evidence from the patient.

In recognition of these processes, critics of recovered memory therapy point to scientific literature documenting the dangers of the confirmation bias (the tendency to affirm the diagnosis one is considering) in clinical diagnosis and judgment (see, e.g., Garb 1998). Indeed, even clinicians largely in the recovered memory camp of the debate have warned of the dangers of the confirmation bias in diagnosis (e.g., Pope & Brown 1996). This bias has been documented even under circumstances in which clinicians are asked to review an unknown patient’s file to evaluate whether the patient suffers a particular disorder without any contact with the patient, without any reason to favor the designated diagnosis, and in an effort to provide an unbiased assessment (e.g., Copeland & Snyder 1995; see Kassin & Gudjonsson 2004 and Meissner & Kassin 2004 for discussion of confirmation biases among interrogators).

The tendency to confirm clinical hypotheses results in part from biases in interpretation. However, consistent with the vast literature documenting expectancy confirmation processes in social interaction (e.g., Kirsch 1999), biased interviewing procedures also contribute in that questions are typically asked in a manner that tends to elicit apparently confirming information from the patient or interviewee (see, e.g., Fazio et al. 1981, Snyder 1984, Snyder & Thomsen 1988). The therapist may also suggest activities to the patient that would likewise tend to elicit (apparently) confirmatory information, such as reading survivor literature, completing various “homework” activities focused on abuse, or participating in survivor groups. These activities may serve to elicit more apparently abuse-consistent information from the patient. Furthermore, some therapists instruct patients to avoid exposure to contradictory information and those who might provide it rather than objectively testing the abuse hypothesis by seeking, and encouraging patients to seek, informative abuse-inconsistent information as well.

**THE ROLE OF MOTIVATED COGNITION** Many, if not most, patients enter therapy in search of an explanation for their problems. This very need for explanation may render patients vulnerable to accepting seemingly plausible potential causes. Believing a patient was abused, a therapist might directly suggest this hypothesis, as well as provide apparently confirmatory “evidence,” such as the extent to which the patient’s symptoms conform to those thought to be associated with abuse. Particularly when combined with other “evidence” gleaned from survivor literature, survivor groups, media, and other sources, the abuse hypothesis may seem a compelling explanation to patients who fail to realize their symptoms may be better explained in other ways. The very existence of a potential explanation may motivate some patients to prematurely seize and freeze on the abuse hypothesis, thereby causing them to engage in a strongly biased search for and interpretation of information and to defend against doubt. Some therapists may also be driven by motives—ranging from fierce victim advocacy to potential financial rewards of prolonged therapy—that tend to encourage confirmatory strategies.

### Plausibility-Enhancing “Evidence”

Biased hypothesis-testing strategies are likely to elicit apparently confirmatory evidence. The therapist faced with any set of evidence (even were it not selective and biased) can succumb to a number of heuristic and other fallacies of reasoning that result in a tendency to confirm the abuse hypothesis (see Garb 1998), as can patients. Schematic processing can result in selective attention to abuse-relevant information, disregard for abuse-irrelevant information, and interpretative biases toward consistency with the abuse hypothesis, including explaining away apparently inconsistent information. This includes retrospective biases of interpretation such as the “hindsight” bias (Fischhoff 1975), whereby the past is interpreted as consistent with current knowledge.

Therapists may also fall prey to the “representativeness” heuristic (Kahneman & Tversky 1972), assuming that if a patient’s symptoms fit those viewed as consistent with abuse, the patient must have been abused. This, of course, is the message of much of the survivor literature (e.g., Bass & Davis 1988). Such logic is fallacious, in that “If Abuse, then Symptom” does not logically imply “If Symptom, then Abuse.” Abuse-related symptoms can result from abuse as well as from many other causes.

The problem is further complicated by a questionable assumption regarding the true association of various symptoms with abuse. “The phenomenon of recovered memories has been greatly confounded by the assumption made by some clinicians that repetitive behavioral patterns, special sensory reactivities, and unbidden ideation in the form of flashbacks or nightmares necessarily reflect implicit memory for unremembered events. . . . In short, without a corresponding explicit memory, the existence of past trauma cannot be conclusively inferred from any repetitive behaviors or intrusive ideation” (Brenneis 2000, p. 67). Notwithstanding these and other misunderstandings of what constitutes (or does not constitute) valid indicators of abuse, therapist and patient may each offer “evidence” to the other, in support of their own hypotheses. If the patient has not yet adopted the abuse hypothesis, the therapist may proceed with a number of leading and even coercive procedures designed to elicit confirmation, including persistent persuasion and efforts to elicit consistent information and failure to believe inconsistent information at all or to interpret it as actually inconsistent with repressed abuse.

**PLAUSIBILITY, BELIEF, AND MEMORY** Just as the memory implantation research reveals, information that serves to render previously implausible information subjectively more plausible can smooth the way for the development of false memories. Suggestive influences inside and outside of therapy are likely to enhance the plausibility of abuse, notwithstanding the absence of memories. Persuasive information can come from the media, survivor literature, survivor groups, therapist suggestions, and other sources. When apparently authoritative sources state unequivocally that particular symptoms are pathognomic of abuse, the plausibility that a person suffering from such symptoms could have been abused is enhanced.

## Adopting and Confirming the Belief in Abuse

If a patient comes to believe that she may have been abused, efforts by both therapist and patient may ensue to confirm and defend the new survivor identity. These may include memory recovery procedures in and outside of therapy, participation in survivor groups, solicitation of consistent information from family, witnesses, and others—all with significant potential both to bias construction of historical narratives and to lead to confabulation of false memories.

**MEMORY RECOVERY PROCEDURES** Whether the patient has yet adopted the survivor identity or not, the therapist may suggest a variety of memory recovery procedures, both in and outside of therapy, such as hypnosis, age regression, dream

interpretation, guided abuse-related imagery, use of photographs to trigger memories, instructions to work at remembering (including through journaling or other homework), and interpreting physical symptoms as implicit memories (see, e.g., Poole et al. 1995). These and other procedures, and their potential to cause false memories, have been extensively discussed (e.g., Brainerd & Reyna 2005, Loftus & Ketcham 1994, McNally 2003a,b).

**HYPNOSIS** Prominent in the memory recovery arsenal is hypnosis. Interestingly, however, as reviewed by Mazzoni et al. (2006), both memory-enhancing and memory-distorting functions of hypnosis have been recognized and employed by therapists beginning with Freud, Janet, and other early psychotherapists. Therapists have used hypnotic memory retrieval in two opposite ways, without any apparent awareness of the implications that one use had for the other. That is, while they viewed hypnosis as an excellent memory recovery tool to recover accurate memories, they also deliberately used hypnosis as a suggestive memory confabulation tool to create “healing” positive pseudomemories to replace “true” traumatic memories previously “recovered” through hypnosis. Indeed, modern research has verified both functions. Hypnosis can lead to retrieval of greater numbers of or increased detail for accurate memories as well as to greater production of false memories. Persons under hypnosis have developed a number of bizarre or impossible memories, such as memories of satanic ritual abuse (described above), impossible memories from infancy (Spanos et al. 1999), memories from previous lives, sexual abuse during past lives (Stevenson 1994, Spanos et al. 1991), and even memories from one’s own future (see reviews by Kihlstrom 1997, Mazzoni et al. 2006, McNally 2003b). Hypnotic age-regression, a procedure commonly employed by recovered memory therapists (see Poole et al. 1995), is subject to the same distortions as hypnotic memories of recent events (see Nash 1987). As Mazzoni et al. (2006) point out, if hypnosis is not a reliable means of recovering memories of recent events, there is no reason to expect it to be more effective for memories of the distant past or childhood. Nor is there any reason to expect that it can facilitate retrieval of memories beyond the veil of infantile amnesia.

**GUIDED IMAGERY** Therapists commonly employ various imaging activities in their sessions and in homework assignments for clients. Guided imagery, whereby a client is asked to actively try to imagine and create images of past events, is viewed by researchers as dangerous in that these vivid and elaborate images may later become confused with memories. Indeed, memory researchers have shown that imagining events tends to inflate perceptions of the likelihood they had actually occurred—an effect generally referred to as “imagination inflation” (Garry et al. 1996), and a host of studies have shown that active imagination/visualization of events, objects, or persons can lead to false memories of having actually seen, performed, or experienced them. Imagination has produced false memories for simple perceptions, such as having seen or heard objects or sounds, as well as for more complex recent personal actions (such as having said or done something,



both mundane and bizarre) and distant autobiographical memories for a range of events (see reviews by Davis & Loftus 2006; Johnson et al. 1993; Mazzoni & Memon 2003; Schacter 1996, 2001; Thomas & Loftus 2002). Even paraphrasing event descriptions or explaining how an event might have happened can produce inflation (see, e.g., Sharman et al. 2004, 2005). Techniques emphasizing imagination not only can generate false memories, but also can inflate confidence in those memories (see Arbuthnott et al. 2001 on imagery, Mazzoni et al. 2006 on hypnosis, Spanos et al. 1999 on age regression).

Presumably, like other implantation techniques, imagination works in a three-stage process whereby people first come to believe an event is plausible, next come to believe the event did actually occur, and finally reinterpret their narratives and images of the event as actual memories (Mazzoni et al. 2001). Imagery and imagination may contribute to all levels of this process. Imagery is crucial to plausibility and hence persuasion [see Green & Brock (2002) for evidence that narratives are persuasive to the extent they evoke imagery of their contents]. Research from the source-monitoring tradition has shown that images can be confused with real memories, particularly when they have many of the subjective characteristics of real memories. Johnson et al. (1988) reasoned that when real memories are vague and lacking in vivid detail, as when memories are from the distant past or were never encoded richly in the first place, it is easier to confuse imagined and real events.

**DREAM INTERPRETATION** Another common tool of psychotherapy, dream interpretation, can lead some to develop false memories. Mazzoni and her colleagues (see, e.g., Mazzoni et al. 1999) studied direct suggestion in the form of a psychologist's bogus interpretation of dreams. For some participants, these bogus interpretations (i.e., the same interpretation given to all subjects, regardless of the dream reported, and with no reason to believe the interpretation applied to each subject) led to false memories for mildly traumatic suggested events. Dreams themselves may also be confused with actual experiences in some cases (Kemp et al. 2003).

**FAMILY PHOTOS** As an apparently sensible "context reinstatement" procedure, therapists may recommend that patients use family photos to trigger lost memories. But autobiographical memory can be distorted through exposure to photographs (Lindsay et al. 2004). Brainerd & Reyna (2005) suggest that this apparently sensible procedure may backfire because the photos are employed in the context of delayed repeated attempts to recall after previous attempts have failed.

**REPEATED RECALL** When "memories" are difficult to retrieve, a variety of memory recovery techniques may be used repeatedly over a long period. Even in the absence of other suggestive procedures and influences, evidence exists to show that (a) as time passes, both spontaneous false memories and false reports in response to suggestion increase (even for short delays involving hours, days, or weeks), (b) repeated attempts to recall increase the yield of false as well as true information,

(c) information recalled in later attempts is proportionately more likely to be false, (d) the previous two findings are particularly likely when there are long delays between repeated-recall tests and the index experience, and (e) these patterns obtain for autobiographical memory as well as for laboratory tasks (see review by Brainerd & Reyna 2005).

**ABUSE-RELATED IMAGES AND THEIR MISATTRIBUTION AS MEMORIES** As images appear through various efforts to retrieve memories they may combine with related inferences to develop into full narratives of abusive events. The person may then misunderstand the source of these images and narratives [an error of source monitoring (Johnson et al. 1993)], misattributing them to true memories of the abusive events. But how does this process of misattribution occur? Figure 1 depicts a model of this process.

Modern theories of the development of false memories (Brainerd & Reyna 2005) assume that remembering consists of subjectively experienced internal representations of an event combined with judgment criteria for determining whether these representations correspond to a previously experienced index event. Internal representations can be either verbatim traces (i.e., of the exact surface form and other specific information, much like seeing with the mind's eye) or gist traces (i.e., of the essential semantic meaning or generalized physical form of objects and events, for example, "going to the movie" versus specific visual images of the people, objects, and actions involved). Judgment criterion can also vary in specificity. At one extreme, the person may require vivid, elaborate verbatim memory traces (i.e., the ability to fully picture the event in the mind's eye or ear) in order to label the internal representations as a memory. At the other, the person may label even fuzzy, unelaborated fragmented gist traces as memories. Generally, the stronger the person's verbatim and gist traces, and the weaker (or more gist-based) the judgment criterion, the more likely a particular representation is to be judged as a memory. Therefore, therapeutic and nontherapeutic factors that influence the strength of either form of trace or of the nature of the judgment criterion can contribute to source-monitoring errors. To understand how this would occur, we must first address what contributes to the strength of both verbatim and gist traces.

Verbatim traces consist of vivid internal images of the index event. A number of factors influence the strength of such images, including the depth of original encoding, personal memorial abilities, and the passage of time. Unfortunately, vivid images may also be created independent of actual experience, such as through the various guided imagery procedures commonly practiced in recovered memory therapy. These highly elaborated internally generated images would possess the apparent verbatim trace representations of actual events and therefore pass even the stringent verbatim-match judgment criterion for assessing validity. Gist traces, on the other hand, may be created through both overlapping and dissimilar processes. Like verbatim representations, gist traces may be strengthened by depth of encoding or personal memorial abilities. However, whereas verbatim memory becomes relatively weaker over time, gist traces become relatively more dominant.

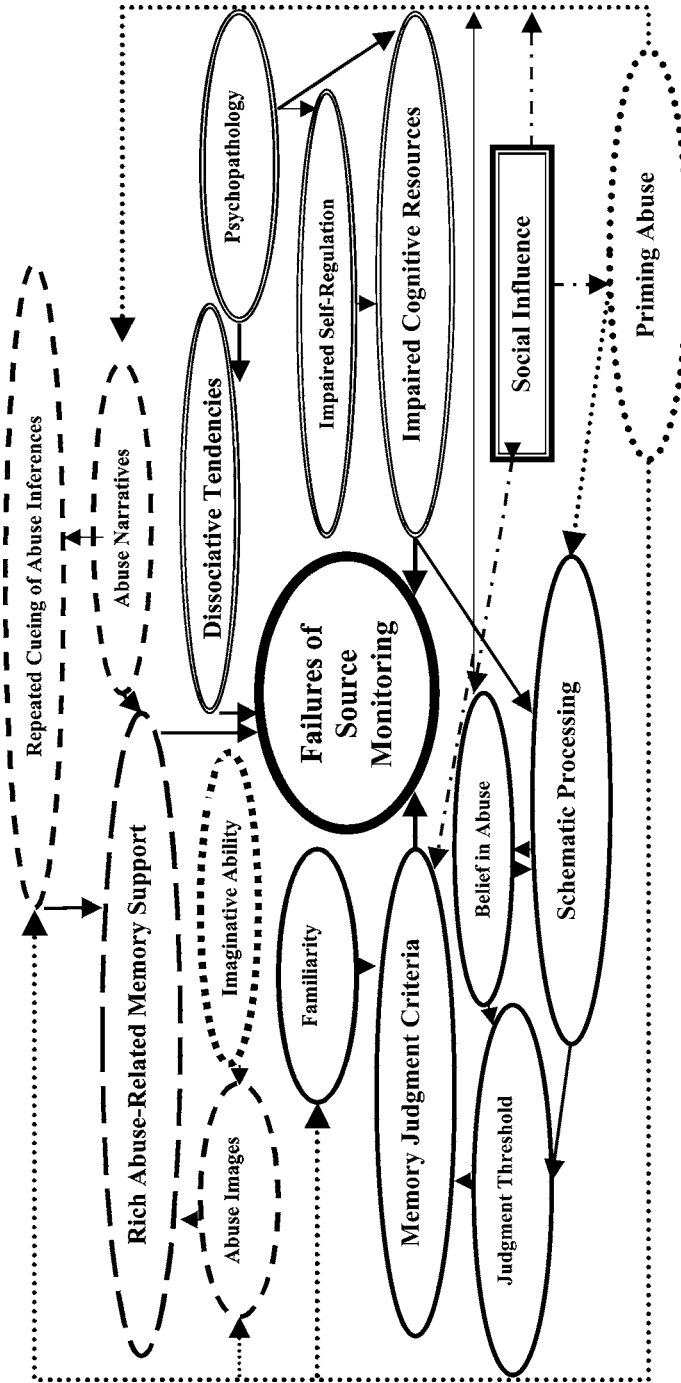


Figure 1 Causes of source monitoring failures/memory misattributions

Also, whereas verbatim memory, by definition, can be contributed to only by the target event, gist memory may come to include overall meanings that represent the combined semantic understanding of the nature of the event. Hence, gist traces may be affected by one's overall event-relevant knowledge structure, such as when memory is affected by schematic processing. Thus, like verbatim traces, gist traces can be artificially created or strengthened through various imaging procedures, but can also be strengthened through other activities serving to develop abuse-related schemas, beliefs, and personal narratives.

When confronted with the need to judge a particular internal trace, the more existing memory support that can be retrieved to "verify" an experience (and the less contradictory information), the more likely the person will label the trace as a true memory. Such support can include the quality of verbatim and gist traces as well as related images, narratives within which the target event resides, semantic knowledge, beliefs, and other relevant traces. In other words, the more information of any kind that is available to increase the subjective likelihood that an internal trace represents an actual event, the more likely it will be judged as a memory. As depicted in Figure 1, repeated cueing of relevant information (such as through priming abuse, developing abuse narratives, discussing abuse) tends to create rich abuse-related memory support. One may also use familiarity as the judgment criteria, whereby things that simply feel sufficiently familiar are judged as memories. The feeling of familiarity may be increased through the same forms of memory "support" discussed above. Familiarity, or gist-based criteria generally, are more lax judgment criteria and are empirically associated with more reported false memories.

Given this background, we can now summarize how therapeutic and associated processes directly and indirectly promote source-monitoring errors. As shown in Figure 1, the social influences that keep abuse primed, promote schematic processing, and support belief in abuse exert persuasive influence on both verbatim and gist memory traces as well as on the judgment criteria applied to those traces. Above, we discussed the way in which verbatim and gist traces can be developed and/or elaborated through therapeutic procedures. Essentially, various imaging activities in and outside of therapy can produce vivid artificial images that resemble verbatim memories (particularly among those with substantial imaginative ability) and also contribute to gist traces. This abuse-related memory support is added to by the various suggestive procedures that develop rich abuse-related narratives, personal abuse-related identities, and abuse-supportive beliefs. These apparent verbatim and gist traces and semantic memory support enhance the plausibility of, and confer a sense of familiarity upon, abuse "memories."

As depicted in Figure 1, therapeutic and nontherapeutic processes also directly and indirectly affect the judgment criteria applied to target internal representations. Generally, the impaired cognitive processes that tend to be characteristic of recovered memory patients (see below) are known to be associated with source-monitoring errors, tendencies toward automatic (e.g., schematic) rather than controlled processing, susceptibility to social influence, and use of gist-based

judgment criteria (see Brainerd & Reyna 2005, Davis & Loftus 2005, Davis & O'Donohue 2004 for reviews). People who are already susceptible are then subject to other influences that affect judgment criteria.

Therapists often directly argue for lax criteria, suggesting that no "memory" should be doubted, and that even bodily sensations and other nonmental reactions should be interpreted as memories. Essentially, familiarity, gist-based, and other unique criteria are promoted. Further, all abuse-supportive beliefs (particularly those supporting specific episodic memories) can directly lower the criteria applied to internal representations. That is, the more the person simply believes an event occurred, the less episode-specific verbatim or gist trace is needed to support a conclusion of verity. The patient's own faith in the effectiveness of memory-recovery procedures can similarly directly lower the criteria. Once interpreted as real, of course, such "memories" serve to reinforce the belief in abuse and solidify the survivor identity, perhaps thereby encouraging development of additional false memories.

## THERAPY AND SOCIAL INFLUENCE

Social influence is, in a sense, the point of therapy. The patient hopes to find solutions to problems with the help of a presumably knowledgeable authority. If the relationship develops as desired, the therapist will possess the primary attributes known to promote social influence: likeability, credibility, and power (control over desired resources) (see Pratkanis & Aronson 2001). The patient is likely to feel strong emotional attachment to, great respect for, and even dependence on, the therapist, feelings which would render her more susceptible to believing information and adopting behavioral suggestions such as joining survivor groups, reading survivor literature, or engaging in memory-recovery activities at home. These same feelings would render the person more susceptible to biasing therapist suggestions in and outside of specific activities such as hypnosis or guided imagery. But influence in therapy is actually bidirectional. The abuse hypothesis neither is always first suggested nor is most strongly promoted by the therapist. Patients' own biases and preconceptions developed outside of therapy can exert a strong influence upon their own hypothesis-testing activities as well as those of their therapists.

## Individual Vulnerability to False Memories

Given that therapeutic procedures possess considerable potential to create false beliefs and memories in some, it is important to consider which patients might be especially susceptible to social influence or memory distortion. Here, we focus upon the issue of social influence. (See Brainerd & Reyna 2005 for a discussion of individual differences in memory distortions.) One might expect patients to be generally more susceptible to influence, and particularly from therapists from

whom they are seeking answers. As Brainerd & Reyna (2005) note, “Confused and uncertain people are looking for information that will shed light in dark corners, and they may believe that it can be found in therapy. To find answers, however, they must adopt attitudes of openness, exploration, and discovery with respect to the events of their lives, and they must trust in the wisdom and experience of their therapists. Obviously, these latter characteristics are not commensurate with a narrow, reality-based perspective on memory. Rather, the perspective is a much broader one that searches for answers and solutions in the events of one’s life, which is not precisely the same thing as searching for autobiographical facts” (pp. 386–387).

Notwithstanding elevated vulnerability within the general patient population, there will be notable individual differences. To understand who might be most vulnerable to social influence, it is first necessary to understand what is needed to resist social influence. Davis & O’Donohue (2004) provide an extensive analysis of the processes and abilities that promote or undermine resistance to influence with regard to resisting powerful influence in police interrogations (see Knowles & Linn 2004 on resistance to influence in other contexts). Sources of resistance that are most relevant here reduce to two general factors: (a) the ability to resist (consisting of the ability to understand and evaluate relevant information and the ability to exert one’s will to refuse to comply) and (b) the motivation to resist.

## Ability to Resist

The immediate antecedents of the ability to resist are the abilities to (a) analyze relevant information and (b) exert one’s will in a particular direction. These two abilities are in turn affected by both chronic and acute individual differences.

**CHRONIC AND ACUTE INTELLECTUAL ABILITIES** To understand and evaluate relevant information adequately, one must possess adequate relevant knowledge and have adequate chronic intellectual abilities. To see flaws in abuse-relevant suggestions, for example, one would be aided both by clear existing autobiographical knowledge and memories and by domain-specific knowledge regarding abuse, therapy, memory, and other relevant facts. Given this knowledge, one would also need to possess the intellectual abilities to analyze incoming suggestions in light of this knowledge and to have the acute capacity to bring relevant knowledge and abilities to bear. The latter requires the intact self-regulatory resources needed to control cognitive processes, including attention (to attend to relevant incoming information, to access relevant information from long-term memory, and to exclude distracting information) and working memory (to hold relevant information in mind while assessing its implications).

Self-regulation is central to these abilities. Although many may think of self-regulation as relevant to control of overt behaviors, substantial research has demonstrated that depletion of self-regulatory resources impairs intellectual performance of all sorts, including resistance to persuasion. Furthermore, self-regulatory capacity varies between individuals and can be easily depleted through such means as

previous exertions of effort or will, physical depletion, emotional stress, difficult social interactions, and resisting temptation (Baumeister & Vohs 2004; see Davis & O'Donohue 2004 for self-regulation and interrogation). Recovered-memory therapy patients are likely to suffer depleted self-regulatory resources due to psychopathology, emotional distress, poor physical condition secondary to distress (and such factors as sleep difficulties), difficult interactions with family, problems at work, and other factors. This depletion would impair intellectual functioning and ability to analyze relevant information as well as the ability to exert one's will.

Substantial evidence supports the importance of intellectual and self-regulatory capacities for suggestibility. Such factors as IQ, age-related intellectual abilities, physical and emotional status, and acute and chronic self-regulatory capacities have been shown to influence suggestibility and persuasion, including development of false memories and other memory distortions (see reviews by Bruck & Melnyk 2004, Davis & Loftus 2005, Davis & O'Donohue 2004, Gudjonsson 2003, Kassin & Gudjonsson 2004). The inclination to use these capacities is also relevant. Some are more inclined to carefully analyze incoming information (referred to as systematic or central route processing) whereas others rely on heuristic cues such as source attractiveness or credibility to assess likely accuracy (referred to as heuristic or peripheral route processing; see Cacioppo et al. 1996). The latter are particularly prone to rely on those seen as credible authorities without careful consideration of the basis of their opinions.

**THE ABILITY TO EXERT ONE'S WILL** The ability to exert one's will in the direction of resistance to suggestion is also crucial. The most coercive form of recovered memory therapy will greatly resemble a coercive interrogation. That is, the suggestion will be relentless. Just as interrogators relentlessly pursue a particular preconceived version of the target crime and the suspect's guilt, the therapist will make many varied and repeated suggestions regarding abuse, will not recognize arguments or evidence provided by the patient against the abuse hypothesis as valid, and will reinterpret apparently inconsistent evidence as actually irrelevant or supportive and all consistent evidence as confirming evidence. In other words, in the strongest form of recovered memory therapy, the patient will be faced with consistent powerful external forces toward acceptance and compliance, thereby requiring strong and intact self-regulatory capacity to resist.

**RESISTANCE IN THE CONTEXT OF STRONG PRIMING AND DIRECTED ATTENTION** Even if a person suffers no impairments of self-regulation, knowledge, or cognitive resources, access to relevant information may be impaired by factors that selectively direct attention to confirming information. If the patient is in a situation where abuse has been suggested, where therapeutic interactions and procedures focus on abuse-related content, where suggestions to read survivor literature or to join survivor discussion groups have been adopted, and there has been a focus on efforts to remember abuse, the full situation will surely selectively direct attention to abuse-consistent content. The therapist is likely to ask questions that will tend to elicit

abuse-consistent content. Hence, even if the patient possesses knowledge (personal historical knowledge or other) that would contradict the abuse hypothesis, abuse and relevant consistent information may be so strongly primed and cognitively available that the contradictory information is effectively kept out of awareness.

**THE ROLE OF DIRECTED INTERPRETATION** The same therapeutic activities that selectively direct attention to abuse-related content will also tend to control the interpretation of information that is considered. As noted by researchers studying influence in the interrogation room, interrogators essentially persuade suspects to confess (including to confess falsely) by controlling both the information that is attended to and considered and the interpretation given to that information (e.g., Davis & O'Donohue 2004, Ofshe & Leo 1997).

### Motivation to Resist

One may see flaws in a suggestion and be able to resist but nevertheless have no desire to do so. Motivation can also affect the inclination to carefully scrutinize suggestions and therefore the initial detection of any flaws. Motivation to resist may be directly diffused by attraction and emotional attachment to the source, by his assumed expertise and authority, and by perceived helplessness in the face of his or her power or excessive dependence on the source (see Pratkanis & Aronson 2001 for reviews regarding source characteristics and influence). Individual differences in tendencies to trust authorities, to view them as credible or powerful, or to depend upon them are associated with greater deference and compliance (see Gudjonson 2003, Kassin & Gudjonson 2004).

Further, as thoroughly documented in the persuasion literature, resistance is fueled by motivated commitment to current beliefs and by pre-existing inconsistent attitudes and beliefs. In the context of therapy, motivation to resist may be undermined by the need to understand the source of one's problems (as discussed above) and by abuse-consistent beliefs developed prior to or in the process of therapy. Finally, external influences such as friends, other accusers, and family may directly encourage or discourage abuse-related assumptions. Generally, however, the therapeutic context is likely to undermine resistance in many patients, often progressively so as more abuse-consistent beliefs develop throughout the process. This is perhaps most likely to occur in dispositionally suggestible people who are also most confused, most motivated to find an explanation for their problems, and who possess pre-existing beliefs concerning themselves, repression, and the accused that would support developing abuse narratives.

### RECOVERED MEMORIES AND PUBLIC POLICY

The controversies surrounding allegedly repressed memories have created unfortunate tensions among professionals. But out of this process have come useful discussions by clinicians and nonclinicians writing together about changes in practices that would minimize the problems that false accusations can bring to all



involved. We found many instances where clinicians and scientists have provided useful advice that stemmed from the research we have reviewed. But we give one of the last words to a clinician, Sarnoff (2001), who has worried that a focus on “believing the victim” (p. 169) has essentially eliminated healthy skepticism as a quality to be encouraged in all who encounter questionable claims. We particularly resonate to her concerns, having learned this truth about memory: Just because a “memory” report is detailed, just because a person expresses it with confidence and emotion, does not mean that the event actually happened. Keeping that truth in mind may help to minimize harm to the many victims of the “memory wars”: the patients who were misdiagnosed, the innocents who were falsely accused, the good therapists who suffered damaged reputations, and the genuine victims of abuse whose experiences were trivialized by the dubious claims of others.

Many clinicians will be aware that prominent professional organizations such as the American Medical Association, the American Psychological Association, the Australian Psychological Society, and the British Royal College of Psychiatrists have issued strong warnings against practices associated with recovered memory therapy (see the collected statements in Brainerd & Reyna 2005). It is our hope that this review will provide greater understanding of the basis of these recommendations and of the processes that contribute to the development of false memories of all kinds. In light of the biasing potential inherent to clinical diagnosis and therapy, it is essential for clinicians of the future to be well trained in the dangers of subjectivity and suggestive procedures such as those covered here.

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