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Recalling the Unrecallable: Should Hypnosis Be Used to Recover Memories in Psychotherapy?

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Our observations have shown . . . that the memories which have become the determinants of hysterical phenomena persist for a long time with astonishing freshness and with the whole of their affective colouring . . . these experiences are completely absent from the patients' memory when they are in a normal psychological state, or are only present in highly summary form. Not until they have been questioned under hypnosis do these memories emerge with the undiminished vividness of a recent event. (Breuer & Freud, 1893-1895/1955, p. 9)

Recommended Reading

Brown, D., Schefflin, A.W., & Hammond, D.C. (1997). *Memory, trauma treatment, and the law*. New York: Norton.

Kirsch, I., & Lynn, S.J. (1995). The altered state of hypnosis: Changes in the theoretical landscape. *American Psychologist*, 50, 846-858.

Lynn, S.J., Martin, D., & Frauman, D.C. (1996). Does hypnosis pose special risks for negative effects? *International Journal of Clinical and Experimental Hypnosis*, 44, 7-19.

McConkey, K.M., & Sheehan, P.W. (1995). *Hypnosis, memory, and behavior in the forensic setting*. New York: Guilford Press.

Of course, not too long after this famous quote, Freud spurned hypnosis² in favor of other techniques such as free association, dream analysis, and interpretation. But the idea that hypnosis is a royal road to unconscious or suppressed memories lingers to the present day. Survey research (cf. Lynn, Myers, & Malinoski, in press) indicates that between 20% and 34% of modern psychotherapists use hypnosis to help patients "recall the unrecallable" and to establish the historical "truth" or basis of current problems. Hypnosis would be valuable in such instances if it were a reliable technique for recovering accurate memories. However, in this review, we contend this is not the case.

It is worth noting at the outset that a review of the use of hypnosis in forensic situations (see Karlin & Orne, 1996; Schefflin, in press) is beyond the scope of this article, and that when hypnotic procedures are combined with behavioral and psychophysiological procedures, there is a proven benefit for interventions that are not focused on retrieving memories (Kirsch, Montgomery, & Sapirstein, 1995). The

concerns and caveats we present here apply specifically to the use of hypnosis as a technique for unearthing historically accurate memories³ in psychotherapy.

ACCURATE AND INACCURATE MEMORIES IN HYPNOSIS

On the basis of his review of 34 studies, Erdelyi (1994) concluded that hypnosis does not increase recognition of previously presented meaningful stimuli (e.g., poetry, meaningful pictures) or recognition or recall of nonmeaningful stimuli (e.g., nonsense syllables, word lists). Although Erdelyi noted that hypnosis increases recall of meaningful stimuli, it also increases false recollections. Indeed, when hypnotic and nonhypnotic conditions are compared and the sheer volume of responses is controlled, hypnotic recall is no more accurate than nonhypnotic recall (e.g., Erdelyi, 1994).

Support for Erdelyi's conclusions can be found in a meta-analysis reported by Steblay and Bothwell (1994). Their analysis summarized 24 studies, among which were studies that appeared after those included in Erdelyi's review. Steblay and Bothwell found no reliable differences in performance on structured tests of accurate recall⁴ when subjects were hypnotized versus when they were not hypnotized. It is true that three studies in Steblay and Bothwell's analysis did report a superiority of recall in hypnotized subjects when

recall was measured using unstructured free recall tests. However, in four more recent studies conducted in our laboratory (e.g., Abrams & Lynn, 1996), hypnotized subjects either fared no better or performed worse than nonhypnotized subjects on tests of accurate recall whether these tests were unstructured or structured. Furthermore, motivational instructions that urged subjects to "try your best on the recall test" yielded equivalent or superior recall compared with hypnosis.

Thus, the evidence does not seem to support the conclusion that hypnosis improves accurate recall. Whether hypnosis reduces inaccurate recall (e.g., distortions of presented stimuli, intrusions of nonpresented stimuli or events that never occurred) is a separate question. Recall errors are not uncommon. However, Steblay and Bothwell's (1994) analysis of six studies revealed that hypnotized participants, compared with nonhypnotized control subjects, produced more false memories in response to misleading questions or false information. Moreover, Steblay and Bothwell's analysis of five studies of recall revealed that hypnotized participants, compared with control subjects, generated more errors that were not prompted by misleading questions or the stimuli themselves. In short, hypnosis is not a reliable technique for augmenting accurate recall and generally results in a trade-off of errors for accurate remembrances.

Unwarranted Recall Confidence

Nonhypnotized persons are often overconfident about the accuracy of their memories (Spanos, 1996). However, hypnotized individuals are often (but not always) more confident about what they recall than nonhypnotized individuals, regardless of whether the infor-

mation is accurate or not (Steblay & Bothwell, 1994). The magnitude of the overconfidence effect associated with hypnosis ranges from small to substantial, when present. An association between hypnotizability and confidence has also been documented, with highly hypnotizable participants particularly prone to what are called confident errors (i.e., being confident of inaccurate memories; Sheehan, 1988).

Hypnosis and Emotional Stimuli

It has been claimed that hypnosis may have particular utility as a memory recovery technique with traumatized persons because trauma blocks memory due to the state-dependent nature of memory. That is, retrieving a traumatic memory may depend on the congruence of the current context and mood with the context and mood at the time the event occurred, and hypnosis has the ability to reinstate those original conditions (Hammond et al., 1995, p. 15). This conclusion is not warranted or is questionable for the following reasons. First, although research has not compared hypnotic versus nonhypnotic recall in the presence of traumatic stimuli, studies with emotional and arousing yet not personally threatening stimuli (e.g., films of shop accidents and fatal stabbings, a mock "live" assassination, and a murder videotaped serendipitously) yield an unambiguous conclusion: Hypnosis does not improve recall of emotionally arousing events, and arousal level does not affect hypnotic recall (Lynn et al., in press). Second, controversy exists (Ofshe & Singer, 1994; Schefflin & Brown, 1996) regarding whether and to what degree emotional trauma can block memory for single, repeated, or prolonged events. And third, as Shobe and Kihlstrom note in this

issue, hypnosis often involves relaxation suggestions that would not be expected to reinstate the traumatic context.

We agree that it is appropriate to question the generalizability of laboratory research to real traumatic situations, and to exhort researchers to devise creative designs that better approximate real-life situations. Nevertheless, the available evidence fails to support the contention that hypnosis has special promise for helping traumatized individuals regain lost memories.

Hypnotic Age Regression

In a review of more than 60 years of research on hypnotic age regression (a technique in which a subject is asked to respond to specific hypnotic suggestions to think, feel, or act like a child at a particular age), Nash (1987) found that the behaviors and experiences of age-regressed adults were often different from those of actual children. No matter how compelling such age-regression experiences appear to observers, they reflect participants' fantasies and beliefs and assumptions about childhood; they rarely, if ever, represent literal reinstatements of childhood experiences, behaviors, and feelings.

In one illustrative study (Nash, Drake, Wiley, Khalsa, & Lynn, 1986), subjects age-regressed to age 3 years reported the identity of their transitional objects (e.g., blankets, teddy bears). Parents of 14 hypnotized subjects and 10 role-playing control subjects were asked to verify this information. The results showed that hypnotized subjects were less accurate than control subjects in identifying the specific transitional objects they had used. Hypnotic subjects' hypnotic recollections, for example, matched their parents' reports only 21% of the time, whereas role-

players' reports were corroborated by their parents 70% of the time. This research, like other studies reported in the age-regression literature (cf. Nash, 1987), indicates that age-regression experiences can be compelling yet inaccurate.

DETERMINANTS OF PSEUDOMEMORIES

In the studies we review in this section, the usual procedure was to provide participants with deliberately misleading suggestions during hypnosis or nonhypnotic control procedures and measure the extent to which the participants accepted the false information as true following hypnosis or the control procedure. When such information is accepted, it is referred to as a pseudomemory. Sometimes people with high hypnotizability scores report more pseudomemories than people with medium hypnotizability scores, but in general, both groups report more pseudomemories than people with low hypnotizability scores. The fact that people with medium and even low hypnotizability scores report pseudomemories indicates that the effect is not limited to a small and highly select segment of the population (Lynn & Nash, 1994; Orne, Whitehouse, Dinges, & Orne, 1996). Interestingly, highly hypnotizable subjects report more pseudomemories than other people in nonhypnotic as well as hypnotic conditions, implicating a general suggestibility factor in the genesis of pseudomemories (see Lynn et al., in press).

The rates at which pseudomemories are reported are influenced by the perceived verifiability and memorability of the to-be-remembered events. Rates for distinctive events (e.g., a telephone ringing in a classroom) that do not often occur in the real world are generally low (12% to 25%) in hyp-

notic contexts. However, when the events are impossible to verify (e.g., whether a person was awakened on a particular night by a noise), or are not particularly memorable (e.g., a door slamming in a hall the previous week), pseudomemory rates are much higher (45% to 80%; Lynn et al., in press).

Situational variables are influential determinants of pseudomemory reports. Pseudomemory rates decrease (but are by no means eliminated) when previously hypnotized subjects are offered a monetary reward for distinguishing between a false suggestion and an actual occurrence, when rapport with the experimenter is degraded, and when subjects are cross-examined (cf. Lynn et al., in press).

Several studies (see Lynn et al., in press) have compared pseudomemory rates of hypnotized subjects with pseudomemory rates of nonhypnotized imagining subjects or of role-playing subjects instructed to respond in terms of their understanding of how hypnotized subjects would respond in the experimental situation. Because these studies used very leading suggestions, it is not surprising that hypnotized and nonhypnotized persons responded comparably. This research indicates that false memories are by no means limited to hypnotic conditions and underscores the role of perceptions of the situation and situational cues in the formation of pseudomemories. However, this research does not mean that hypnotized persons are not genuinely confused or misled with respect to the false information they remember.

In another line of research, McConkey, Labelle, Bibb, and Bryant (1990) found that if testing took place immediately after hypnosis, approximately 50% of hypnotizable subjects reported a pseudomemory. However, when subjects were contacted by telephone at

home 4 to 24 hr later by an experimenter who was not part of the earlier session, the rate decreased dramatically to 2.5%. Barnier and McConkey (1992) found that the pseudomemory rate declined from 60% (for a false suggestion that a thief depicted in a series of slides was wearing a scarf) to 10% when the experimental context shifted to imply that the experiment had ended.

By questioning subjects at their homes by telephone after the formal experiment was completed, and by implying that the experiment was terminated, these studies might have engendered subtle pressure on subjects to reverse their earlier pseudomemory reports. Hence, this program of research does not satisfactorily resolve the issue of whether pseudomemory reports reflect genuine memory alterations or merely alterations in reports in conformance with variations in the situational context.

Although McConkey's research indicates that pseudomemory reports are malleable, other research indicates this is not always the case. For instance, Spanos and McLean (1986) showed that participants reversed their initial hypnotic pseudomemory reports when they were informed they could distinguish "real" and "false" memories if they accessed a "hidden observer" that could discriminate them. However, in three studies, we (see Lynn et al., in press) were unable to reverse pseudomemory reports by informing participants that they would be able to distinguish false and accurate memories. Hence, pseudomemory reports are not invariably sensitive to contextual manipulations and can be obdurate to modification.

The American Society of Clinical Hypnosis (ASCH) recently advanced guidelines (Hammond et al., 1995) intended to define principles of practice in the use of hyp-

nosis for exploring, uncovering, and working through memories. The guidelines refer to the potentially contaminating effects (e.g., increase in volume of information reported and confidence that what is recalled is true) of suggestions and expectations that memory will increase during hypnosis (e.g., "You can and will recall everything") and say that such effects may be controlled considerably "when neutral expectations are created prior to hypnosis and during hypnotic induction and age regression" (p. 28).

The guidelines inspired a recent study of prehypnotic expectancies (Green, Lynn, & Malinoski, *in press*) comparing the pseudomemory rates of highly hypnotizable participants "warned" prior to hypnosis that hypnosis can lead to false memories with pseudomemory rates of highly hypnotizable participants who received no special instructions prior to hypnosis. During hypnosis, all subjects were given the suggestion that they had been awakened by a noise during a night of the previous week.⁵ Prior to hypnosis, all of the participants indicated they had slept through the night.

Participants who were warned were less likely to accept the suggestion during hypnosis: 38% of the warned participants did so, versus 75% of the unwarned participants. Hence, warnings reduced participants' suggestibility during hypnosis. However, an analysis of those persons who accepted the suggestion during hypnosis showed that the warning had no effect on their posthypnotic pseudomemories: Among this group, 75% of those persons who had been warned and 58% of those who had not been warned stated immediately after hypnosis that the noise had occurred in reality (i.e., reported a pseudomemory). After extensive questioning, during a final confidential assessment,

58% of the warned participants who had accepted the noise suggestion during hypnosis reported the pseudomemory, compared with 50% of the unwarned participants. Furthermore, warned participants were just as confident in their false memories as were unwarned participants.

In summary, when participants are warned about the deleterious effects of hypnosis on memory, suggestibility is reduced, but the risk of pseudomemories is by no means eliminated. Future research should evaluate the possibility that this risk will be further reduced when the full ASCH guidelines (e.g., avoiding leading questions and attempting to establish neutral expectations about the effects of hypnosis on memory prior to, during, and after hypnosis) are followed.

CONCLUSIONS

If clinicians were concerned only about accurate information, then hypnosis might be a useful memory recovery technique insofar as it can lower the threshold for reporting both accurate and inaccurate memories. To be sure, hypnosis does not always produce memory errors. Kluft (*in press*), for example, has reported that he was able to corroborate a number of hypnotically evoked memories of sexual abuse reported by patients in his clinical practice diagnosed with dissociative identity disorder (formerly known as multiple personality disorder). In most instances, however, it is not only impractical or inappropriate, but impossible to corroborate memories of patients in psychotherapy. Because clinicians and clients are not, as a rule, able to differentiate accurate and inaccurate memories, the yield of accurate memories must be weighed against the risk of memory errors associated with the hypnotic context. As Steblay and

Bothwell (1994) concluded, "Hypnosis is not necessarily a source of accurate information; at worst it may be a source of inaccurate information provided with confident testimony" (p. 649).

Such concerns raise the question of whether hypnosis should be demonized and banished from the arena of psychotherapies. We contend that to do so would be a serious mistake that would deprive clinicians of a valuable technique that can be used successfully in many contexts outside that of memory recovery, including the treatment of persons who remember traumatic experiences without the use of any special techniques.

The literature on memory recovery and hypnosis is complex, and future research may change our assessment. For instance, if the available evidence indicated that safeguards can eliminate memory errors while preserving a recall advantage for hypnosis, we would acknowledge that hypnosis may have a useful role in improving recall. However, this has not, as yet, been demonstrated.

Nor has it been shown that the memory recovery component of psychotherapies contributes to their efficacy to begin with. Indeed, many nonhypnotic procedures geared toward memory recovery are inherently suggestive in nature (i.e., there is "something" to be recalled that will improve present functioning), and may well carry a pseudomemory risk equal to or greater than that of hypnosis. The attempt to recover suppressed memories is complex and risky business whether hypnosis is used or not. Certainly each clinician must ultimately weigh the costs versus the benefits of any psychotherapeutic technique. In our view, however, the data indicate that the answer to the question of whether hypnosis should be used to recover historically accurate memories in psychotherapy is "no."

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Notes

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2. The term hypnosis refers to a social situation in which a person designated as a hypnotist attempts to influence the experiences and behaviors of a subject or patient. The suggestions administered in the hypnotic situation typically call for changes in sensation, perception, affect, cognition, and control over behavior or psychophysiological processes (e.g., heart rate). Hypnotizability, or hypnotic responsiveness, refers to observed or reported responsiveness to suggestions following a hypnotic induction. Participants range on a continuum of hypnotizability according to how many suggestions they accept, or pass. People who pass 3 or fewer suggestions out of 12 have a score that is conventionally considered low (about 15%–20% of the population), those who pass 4 to 8 suggestions have scores considered medium (about 60%–70% of the population), and those who pass 9 to 12 suggestions are regarded as highly hypnotizable (about 15%–20% of the population).

3. Of course, it could be, and has been, argued that memories retrieved during hypnosis, or any psychotherapeutic technique for that matter, need not be "historically accurate" to have therapeutic value. We acknowledge that all memories produced in psychotherapy and other contexts are not necessarily accurate, that memory is not an unbiased and permanent record of

events as they unfolded in the past, and that it is possible that behavioral change in psychotherapy may come about regardless of the historical truth of memories. However, we agree with Spence (1994) and with Kihlstrom (in press) that, as a rule, "narrative truth is no substitute for historical truth" (Kihlstrom, p. 38), and that when clients place stock in false narratives, they may be diverted from confronting and resolving important issues in therapy.

4. In structured recall tests, subjects are required to respond to specific questions about the to-be-recalled material. Such tests can be contrasted with unstructured recall tests, in which subjects are not cued or questioned about the specific content of the information to be recalled (e.g., "Write down everything you can remember").

5. It is important to emphasize that because this study did not evaluate the full ASCH guidelines, generalization to the complete set of procedures mandated by ASCH may be hazardous.

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