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IN MEMORIAM:
BERNARD W. NEWTON, 1917-2001

Bernard W. “Fig” Newton died quietly at home on March 23, 2001 of acute leukemia, which complicated his long battle with myelofibrosis. He was 83 years old. He had time to prepare for his end, and, being typically aware of the feelings of those who loved him deeply, he made every effort to support and counsel his family and write his many friends and colleagues to say good-bye and prepare them for his passing.

What kind of man was this? The first part is easy. Fig, as he was so affectionately known, attended St. Lawrence University, receiving his Bachelor of Science degree in biology, psychology, and physics in 1939 and his Master of Education in 1940. Eleven years later in 1951, he received his Ph.D. in psychology at the University of California, Los Angeles. Predoctoral work included student health services and research projects at UCLA, and, after his doctoral degree, he became a staff psychologist at the Veterans Administration Hospital in Los Angeles while beginning his private practice. During these early years, he developed an interest in hypnosis and then served as president of the California Society of Clinical Hypnosis from 1977 to 1979 and as president of the Society for Clinical and Experimental Hypnosis (SCEH) from 1983 to 1985.

He was a Fellow of the American Psychological Association (APA), Division 30, the American Society of Clinical Hypnosis (ASCH), and SCEH. In 1959, he was one of the very early Diplomates of the American Board of Psychological Hypnosis (ABPH). His papers and chapters were numerous, reflecting his early interest in Multiple Personality Disorder (now termed Dissociative Identity Disorder), forensic hypnosis, and the “Hypnotherapist and the Cancer Patient,” his 1984 SCEH presidential address. In 1983, he received the Morton Prince Award given by SCEH and awarded “for distinguished contributions to the development of hypnosis in the science and profession of psychology,” and in the same year he received the Milton H. Erickson Award given by ASCH, “for excellence in scientific writing.” He retired in 1989 and moved with his family to Bozeman, Montana. After his wife, Brownie, died in 1998, he married Patti in 1999, who cared for him until his own death this year.

This next part is not so easy. How to capture the essence of the man himself? Perhaps we can discover the answer by looking at some of his own utterances since his move to Bozeman 12 years ago. Within the last decade, Fig began reviewing his own professional life in psychology. He then wondered what his colleagues found when they examined their own experiences.
So, a few years ago, Fig began asking a number of friends who shared his love for therapy and hypnosis to describe what they did in therapy and how they understood their role as therapists. I was fortunate to be included in some of these discussions. Whether at ASCH or SCEH annual meetings, he would schedule these “conversations” for an hour or so in his hotel suite in front of a professional video camera and recording device. In the beginning, his good friend, Charlie Pace, helped with the organizational aspects and camera work; then, more recently, Patti became involved. So it happened that at the ASCH meeting in Atlanta in March 1999, I found myself comfortably seated with him in front of the camera, unrehearsed, and with no topic at hand. We began talking. His ability to ask the right question and his sensitivity that allowed us to feel comfortable was and is legendary.

During this particular conversation, our third or fourth over the years, I decided to reverse the process and interview him. He readily agreed. Although I was aware of his interests, his years of teaching basic principles of hypnosis and psychotherapy, and his scholarly contributions to the literature, I wanted to balance these aspects of his professional life with a more personal look at the man himself. With this in mind, I asked him what was sacred to him and what contributed to his search for and attainment of authenticity as a person and therapist. Here is what he said. I am quoting from the videotape of that Sunday morning in Atlanta and have paraphrased and condensed various portions of our conversation to fit the format of this memoriam. (My remarks during our discussion are in italics.)

I have always loved my work, and believe that hypnosis has made it possible for me to open myself more easily to the emerging openness of my patient. I wasn’t only satisfied seeing them get well, but it was being in that moment of connection that became meaningful and heralded change. Why are these moments special? People struggle throughout their lives to get some connection with another human being. Most people don’t experience this very often.

Is it important in therapy for a patient and therapist to learn how to develop deep contacts with other human beings? Yes, very much so, and it is as important for the therapist as it is for the patient. I believe it is these moments that provide the core for change in those seeking our help. It is sacred to me.

Have you always felt this way about therapy? No, I had to learn it. Early on when I was a graduate student in psychology immediately after World War II, I had studied psychoanalysis and tried very hard to be a good didactic patient in my own psychoanalytic endeavor. But I never found it satisfying in my practice. I tried hard to follow these principles in my work, but I felt little satisfaction that I was actually being helpful. Gradually and yet suddenly, I learned from my patients that I had something to offer just being myself. It was an exciting time of change for me,
because it seemed to indicate that being there with each patient, connected in a therapeutic relationship, was more important than using the theories I had been learning in actual practice. Georg Groddek describes how the therapist must allow the patient to change the therapist so that the therapist will be more useful to him or her. Do you agree? Yes, that is how it felt. In letting go of the way I had learned to do therapy, I became more present in each session. By the way, I think my gradual attraction to hypnosis allowed me to experience more freedom to be spontaneous in therapy and in trance work and was another essential element to becoming more authentic as a person and therapist.

Why do you think your colleagues feel encouraged and eager to open themselves up to you in these conversations? What qualities do you have that allow this for us? I like to believe that I have the same qualities that we all do: being present in the relationship, being intuitive and trusting the feelings, and having the courage to be real. I convey that in many ways, by what I say, my body language, and my facial expressions. I know when I begin to feel it, but if each of these ways of communicating is not in concert with each other, something is wrong. Have you always known at some level that when you sit down you can create that kind of deep connectedness? Yes, I have known that for a long time, but it was hard in the beginning to let it happen. Now it comes more easily to me, and I think it makes me a better therapist. I guess that has to do with striving and becoming authentic. I hope so.

In closing, there is an old saying, “A man’s wealth is the sum of his relationships.” Fig was one of the wealthiest men I knew. Although we will miss him greatly, we will surely continue to celebrate his life, his wisdom, and his love.

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POSTHYPNOTIC AMNESIA FOR MATERIAL LEARNED BEFORE OR DURING HYPNOSIS:
Explicit and Implicit Memory Effects

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Abstract: This article focuses on dissociations between explicit and implicit expressions of memory during posthypnotic amnesia (PHA). Despite evidence of such dissociations, experimental design in this area has not always been consistent with contemporary memory research. Within a paradigm that aimed for conceptual and methodological clarity, we presented 40 high and 38 low hypnotizable individuals with a word list either before or during hypnosis, gave them a PHA suggestion for the word list, and tested them on explicit and implicit memory tasks. In the absence of conscious recollection, highs showed equivalent levels of priming (perceptual and semantic) to lows. However, when analysis focused only on those highs who remained amnesic after the implicit memory tasks, we confirmed perceptual, but not semantic, priming. These findings highlight the impact of methodological choices on theoretical interpretations of memory performance following a suggestion for PHA.

Posthypnotic amnesia (PHA) involves suggesting to a hypnotized individual that following hypnosis they will be unable to recall designated information or events until a specific cue is given that cancels the suggested effect. Theoretical and empirical accounts have characterized PHA in terms of a major discrepancy between explicit and implicit expressions of memory (Bryant, Barnier, Mallard, & Tibbits, 1999; David, Brown, Pojoga, & David, 2000; Kihlstrom, 1980, 1985, 1995; Kihlstrom & Evans, 1979), where explicit memory refers to the conscious recollection of past events or material (as indexed typically by recall or recognition), and implicit memory refers to the effect of past events or material on task
performance (such as word-stem or fragment completion, word identification, and lexical decision) in the absence of conscious recollection (Graf & Schacter, 1985; Schacter, 1987, 1989).

Research has indicated that whereas high hypnotizable individuals are unable to recall material covered by a suggestion for PHA, it can influence their performance on implicit memory tasks (Bryant et al., 1999; David et al., 2000; Kihlstrom, 1980; Kinnunen & Zamansky, 1996; Spanos, Radtke, & Dubreuil, 1982). For instance, Kihlstrom (1980, Experiment 1) asked low, medium, high, and very high hypnotizable participants to learn a word list and then administered a suggestion for PHA of the list. Although very high hypnotizable participants showed a dense amnesia for the words on an initial recall test, they were more likely to provide responses on a word-association task that were primed by the words covered by PHA. That is, their memory performance indicated a dissociation between explicit and implicit memory. In an attempt to index the influence of PHA on material learned before hypnosis, Bryant et al. (1999, Experiment 1) asked low, high, and very high hypnotizable participants to learn a word list either before or during hypnosis and then administered a suggestion for PHA of the word list. Consistent with Kihlstrom, very high, rather than high or low, hypnotizable participants displayed significant impairment in recall of the words but performed similarly to highs and lows (and without impairment) on a word-fragment completion task.

It is because of this dissociation between explicit and implicit expressions of memory that PHA has been widely accepted as an analogue of “pathological” functional amnesia (which also involves impaired explicit memory and spared implicit memory; Barnier & McConkey, 1999; Kihlstrom, 1985; Kihlstrom, 1995; Kihlstrom & Schacter, 1995; Neisser, 1967). However, J. F. Kihlstrom (personal communication, October 17, 1997; Dorfman & Kihlstrom, 1994) argued that the methodologies used in the PHA literature have not always been entirely consistent with contemporary research on explicit and implicit memory and thus may not have appropriately compared the two expressions of memory. Kihlstrom highlighted four issues in particular. First, not all experiments have matched the presentation and test formats of the target stimuli, although implicit memory performance may be susceptible to study-test modality shifts (Berry, Banbury, & Henry, 1997; Challis et al., 1993; Schacter & Graf, 1989). Second, the memory tasks used in experiments on PHA have not always equated the informational value of the cues presented in the explicit and implicit tests (e.g., Bryant et al., 1999; Kihlstrom, 1980; Spanos et al., 1982). For instance, the cues used in a word-fragment or word-stem completion test are more

PHA is also characterized by its reversibility, which marks it as a phenomenon of memory accessibility rather than normal forgetting (Bryant et al., 1999; Kihlstrom, 1985, 1995; Kihlstrom & Evans, 1979).
informative than the simple instruction to recall in a free-recall test. Thus, differences in performance on these tasks may reflect differences in the "cue environment" rather than in memory (Dorfman & Kihlstrom). Third, some experiments have used very small sets of stimuli and have tested the same items in the explicit and implicit tasks (e.g., Bryant et al.; Kihlstrom, 1980; Spanos et al.), which may introduce unexpected priming or learning effects across the memory tests. Finally, whereas some studies have used implicit tasks that involve repetition priming (e.g., Bryant et al.; David et al., 2000), others have used tasks that involve semantic priming (e.g., Dorfman & Kihlstrom, Experiment 1; Kihlstrom, 1980; Kinnunen & Zamansky, 1996; Spanos et al.), and virtually none have compared performance across both kinds of tasks. In repetition priming, the cue item at test is the same as the target item presented at study (e.g., perceptual identification, word-fragment completion), and performance is mediated by perceptual representations (or data-driven processing; Roediger, 1990). In semantic priming, the cue item at test is different from, but semantically related to, the target item presented at study (e.g., word association, category generation), and performance is mediated by semantic representations (or conceptually driven; Roediger).

Based on J. F. Kihlstrom’s (personal communication, October 17, 1997; Dorfman & Kihlstrom, 1994) critique, a clearer understanding of dissociations between explicit and implicit memory would be provided by experiments that: (a) match presentation and test modality, (b) equate the information value of the retrieval cues across explicit and implicit measures, (c) test different sets of items in the explicit and implicit measures, and (d) compare performance on semantically based and perceptually based implicit memory tests. Dorfman and Kihlstrom (Experiment 1) met most of these conditions when they asked hypnotized and nonhypnotized (control) participants to learn a list of orally presented words and then administered a suggestion for PHA. They tested memory performance using a free-recall test, a word-association test (i.e., a semantically based implicit memory task), and a cued-recall test; all tests were presented orally. They reported that on the initial free-recall test the hypnotized participants recalled virtually nothing, whereas the control participants recalled virtually everything. Similarly, on the cued-recall test, hypnotized and control participants recalled 13% and 84%, respectively, of the learned words. However, on the word-association test, hypnotized individuals showed substantial priming, but controls did not. Dorfman and Kihlstrom interpreted these findings as a double dissociation (i.e., where a manipulation has opposite effects on performance on two tests) between explicit and implicit memory and highlighted that semantic priming is preserved in PHA.

The present experiment aimed to extend these findings by indexing the impact of PHA on explicit and implicit memory within the
methodological controls outlined above (viz., we matched presentation-test modality, matched information value of the retrieval cues, tested different sets of items on the memory tasks, and compared performance on semantically and perceptually based implicit memory tasks). Also, to confirm and extend our previous findings, we compared the effect of PHA on material learned before or during hypnosis (Bryant et al., 1999). This comparison was motivated by both theoretical and instrumental reasons. Theoretically, because PHA is argued to involve a retrieval-based disruption in episodic memory (Kihlstrom, 1985, 1995), the time at which the information is encoded should make no difference to its impact. Instrumentally, PHA for material learned before hypnosis may permit experimental investigation of processes associated with functional amnesia (Barnier & McConkey, 1999). We visually presented 40 high and 38 low hypnotizable individuals with a list of 30 words either before or during hypnosis and then administered a 30-item cued-recall task to index learning of the word list. During hypnosis, we gave all participants a PHA suggestion for the word list. Following deinduction, participants completed a word-association task, a word-fragment task (in counterbalanced order), and a cued-recall task. Each task was visually presented and contained 10 words that were either learned (word fragment) or related to items learned (word association and cued recall) before or during hypnosis, and 10 words neither learned nor related to items learned. Following this, we canceled PHA and administered a final 30-item cued-recall task for the entire word list.

We expected that high rather than low hypnotizable participants would experience PHA and display impaired explicit memory but that this effect would be reversed following cancellation of the PHA suggestion (Bryant et al., 1999; Dorfman & Kihlstrom, 1994; Kihlstrom, 1980). We also expected that, whereas lows would perform better than highs on the explicit memory task, highs and lows would perform similarly on the implicit tasks. In other words, in the absence of conscious recollection, highs would show preserved semantic and perceptual priming (Bryant et al.; David et al., 2000; Dorfman & Kihlstrom; Kihlstrom). Finally, consistent with Bryant et al., we expected little or no difference in the performance of individuals who learned the words before or during hypnosis.

**Method**

**Participants**

Forty (11 male and 29 female) high hypnotizable individuals and 38 (13 male and 25 female) low hypnotizable individuals (age $M = 20.26$; $SD = 4.59$; range, 17-42) who were undergraduate students at the University of New South Wales participated in this experiment in return for research credit. They were selected on the basis of their extreme scores on
a 10-item version of the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962). Then, in the present study, the subjects were classified as high or low hypnotizable on the basis of their scores on a 10-item tailored version of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962), which included the posthypnotic item of interest. Highs scored 7 to 10 ($M = 8.25, SD = 0.78$) on the HGSHS:A and 8 to 10 ($M = 8.48, SD = 0.60$) on the SHSS:C. Lows scored 0 to 3 ($M = 1.97, SD = 0.93$) on the HGSHS:A and 0 to 3 ($M = 1.95, SD = 0.60$) on the SHSS:C.

**Materials**

Two 30-word lists were used in the word-learning task (adapted from Dorfman & Kihlstrom, 1994). Half of the participants received List A and half received List B (see Appendix) in a counterbalanced design. Thus, for half the participants, List A was the “learned” list and List B was the “not-learned” list; for the other half, List B was the learned list and List A was the not-learned list. A cued-recall task was used after word learning (Total Recall 1) and after cancellation of the PHA suggestion (Total Recall 2). It consisted of a written list of 30 word-associate cues intended to elicit words from the learned list (List A or B).

Each 30-word list contained three 10-item subsets (A1, A2, A3 and B1, B2, B3; see Appendix) that were used for the three (implicit and explicit) memory tasks administered while the PHA suggestion was still in effect: word association, word fragment, and PHA cued recall. The word-association task consisted of a written list of 20 word-associate cues: 10 cues intended to elicit words from the learned list (e.g., A1) and 10 cues intended to elicit words from the not-learned list (e.g., B1). The word-fragment task consisted of a written list of 20 partial words or fragments (e.g., _p_de_is spider, t__nn_r is thinner): 10 fragments of words from the learned list (e.g., A2) and 10 fragments of words from the not-learned list (e.g., B2). The PHA cued-recall task consisted of a written list of 20 word-associate cues: 10 cues intended to elicit words from the learned list (e.g., A3) and 10 cues intended to elicit words from the not-learned list (e.g., B3). Participants were randomly allocated to one of three combinations of the subsets of words used in these tasks; the combinations were counterbalanced across conditions.

The 10-item tailored HGSHS:A included: head falling, eye closure, hand lowering, finger lock, moving hands together, communication inhibition, experiencing of fly, eye catalepsy, posthypnotic suggestion, and posthypnotic amnesia; arm rigidity and arm immobilization items were removed to ensure that the procedure did not exceed the time limits of a 1-hour class. The 10-item tailored SHSS:C included: hand lowering, moving hands apart, mosquito hallucination, taste hallucination, arm rigidity, dream, age regression, arm immobilization, negative visual hallucination, and posthypnotic amnesia; anosmia and auditory hallucination items were removed to allow time for the word-learning task and memory tests.
Procedure

Following informed consent, the experimenter, who was blind to participants’ hypnotizability, told them that they would be hypnotized and asked to experience a number of different suggestions. Half of the participants were administered the word-learning task followed by the standard SHSS:C induction procedure (prehypnotic condition), and half were administered the induction procedure followed by the word-learning task (hypnotic condition).

In the word-learning task, the experimenter handed participants a folder in which words from the allocated list (List A or B) were printed one to a page. The experimenter told participants that they were to learn each word by reading the word aloud and then closing their eyes and picturing the thing represented by the word “in their mind’s eye.” Three seconds after participants read the first word aloud, the experimenter asked them to rate the vividness of the image (1 = hazy, 10 = very clear) and then prompted them to continue with the next word. This cycle was repeated until subjects had read aloud and rated all 30 words. The experimenter then administered a cued-recall task for the entire list (Total Recall 1). She instructed,

Now I want you to read each of the words in the second half of the folder and tell me if it reminds you of one of the words you previously learned. If it does, you should say that word. If it doesn’t or if you’re not sure, just say “pass.”

Following administration of the word-learning task and induction procedure (or induction followed by word-learning task), the experimenter tested participants on the 10 items of the tailored SHSS:C, including PHA. Following Bryant et al. (1999), the PHA suggestion was modified to include an instruction to forget the words learned prior to or during hypnosis. The experimenter then administered the standard SHSS:C deinduction procedure.

Postexperimental inquiry. Immediately after deinduction, the experimenter told participants, “One thing of interest in this study is the relationship between a person’s vocabulary and their ability to be hypnotized.” The implicit memory tasks were then introduced as two “vocabulary” tasks. Half of the participants completed the word-association task first, and half completed the word-fragment task first. For the word-association task, the experimenter told participants, “For this task, I am going to show you a list of words. I would like you to read each word, then write in the space next to it the very first word that comes to mind.” She gave participants 2 minutes to complete the task. The critical data were the number of words generated from the learned and not-learned lists. For the word-fragment task, the experimenter told them: “For this task I am going to show you a list of words. However, each word has several letters missing. I would like you to fill in the gaps by
writing in the letters that will make up whole words.” She gave participants 2 minutes to complete the task. The critical data were the number of words completed from the learned and not-learned lists.

The experimenter then administered the SHSS:C test for PHA. She asked participants to tell her everything they could remember since the experiment began. If they did not mention the word-learning task during this test, the experimenter asked whether they could remember learning any words before (or during) hypnosis. Individuals who had no memory of the word-learning task were told that they had in fact learned some words. The experimenter then administered the PHA cued-recall task. She instructed:

For this task, I am going to show you a list of words. I would like you to read each word, and I want you to think back to those words you learned. Each word on this list may remind you of a word you learned previously. If you can remember that word, write it in the space next to it.

She gave participants 2 minutes to complete the task. The critical data were the number of words recalled from the learned and not-learned lists.

Following this, the experimenter administered the reversibility cue for the PHA suggestion and asked participants if there was anything else they could remember. She then administered a final cued-recall task for the entire list (Total Recall 2). Finally, the experimenter answered any questions and ended the session.

Results

Recall Performance Before, During, and After Amnesia

Initial analyses indicated that the version of the word list that participants received and the order in which they completed the implicit memory tasks had no effect on the pattern of results. Therefore, the data were collapsed across these variables. Figure 1 presents the mean proportion of words from the learned list recalled by lows and highs on Total Recall 1 (after word learning; /30), the PHA cued-recall test (following the PHA suggestion; /10), and Total Recall 2 (after cancellation of PHA; /30). A 2 (hypnotizability) × 2 (word learning) × 3 (tests) mixed model ANOVA yielded a main effect for hypnotizability, $F(1, 74) = 8.48, p < .005$; a main effect for tests, $F(2, 148) = 26.63, p < .001$; an interaction between hypnotizability and tests, $F(2, 148) = 19.03, p < .001$; and an interaction between word learning and tests, $F(2, 148) = 4.31, p < .05$. Whereas lows’ recall remained stable across the tests (Total Recall 1, $M = 0.75, SD = 0.15$; PHA cued recall, $M = 0.73, SD = 0.19$; Total Recall 2, $M = 0.75, SD = 0.13$), highs’ recall was lower on the PHA cued-recall test ($M = 0.51, SD = 0.24$) than after either word learning ($M = 0.72, SD = 0.14$) or cancellation of PHA ($M = 0.72, SD = 0.12$). Also, individuals who learned the words before hypnosis showed a greater impairment following the PHA suggestion.
(M = 0.58, SD = 0.26), relative to their recall before and after PHA, than individuals who learned the words during hypnosis (M = 0.65, SD = 0.22). All other main effects [word learning, F(1, 74) = 0.29, p = .59] and interactions [Hypnotizability × Word Learning, F(1, 74) = 0.001, p = .98; Hypnotizability × Word Learning × Tests, F(2, 148) = 1.65, p = .20] did not reach significance (p < .05). Overall, high hypnotizable individuals performed as well as lows during the word-learning phase and following cancellation of the PHA suggestion, but they recalled fewer words from the learned list while the PHA suggestion was in effect. Also, contrary to the pattern of results reported by Bryant et al. (1999), the word learning condition influenced participants’ performance on the PHA cued-recall task.

Implicit and Explicit Memory Performance During Amnesia

Table 1 presents the mean proportion of words from the learned and not-learned lists produced by lows and highs across the memory tasks. Three separate 2 (hypnotizability) × 2 (word learning) × 2 (word type) mixed model ANOVAs were conducted on these data. For word association, the analysis yielded a main effect for hypnotizability, F(1, 74) = 5.33,
p < .025, and a main effect for word type, F(1, 74) = 51.42, p < .001. Lows (M = 0.44, SD = 0.17) generated more words than highs (M = 0.36, SD = 0.14), and participants generated more words from the learned (M = 0.52, SD = 0.24) than not-learned (M = 0.27, SD = 0.16) list. That is, they showed greater priming for previously presented stimuli. All other main effects [word learning, F(1, 74) = 0.29, p = .59] and interactions [Hypnotizability × Word Learning, F(1, 74) = 0.83, p = .36; Hypnotizability × Word Type, F(1, 74) = 1.35, p = .25; Hypnotizability × Word Learning × Word Type, F(1, 74) = 0.52, p = .47] did not reach significance. For word fragment, the analysis yielded a main effect for hypnotizability, F(1, 74) = 6.33, p < .02, and a main effect for word type, F(1, 74) = 30.01, p < .001. Lows completed more fragments (M = 0.31, SD = 0.12) than highs (M = 0.25, SD = 0.01), and participants completed more fragments of words from the learned (M = 0.37, SD = 0.19) than not-learned (M = 0.19, SD = 0.16) list. All other main effects [word learning, F(1, 74) = 1.27, p = .26] and interactions [Hypnotizability × Word Learning, F(1, 74) = 0.18, p = .67; Hypnotizability × Word Type, F(1, 74) = 0.40, p = .53; Word Learning × Word Type, F(1, 74) = 0.09, p = .77; Hypnotizability × Word Learning × Word Type, F(1, 74) = 3.02, p = .09] did not reach significance. Thus, for both word association and word fragment, participants showed greater priming for previously presented stimuli. For PHA cued recall, the analysis yielded a main effect for hypnotizability, F(1, 74) = 19.40, p < .001, a main effect for word type, F(1, 74) = 599.50, p < .001, and an interaction between hypnotizability and word type, F(1, 74) = 19.67, p < .001. Whereas highs and lows recalled no words from the not-learned list, lows (M = 0.73, SD = 0.19) recalled more words from the learned list.
than highs ($M = 0.51$, $SD = 0.24$). All other main effects [word learning, $F(1, 74) = 3.00$, $p = .09$] and interactions [Hypnotizability × Word Learning, $F(1, 74) = 0.82$, $p = .37$; Word Learning × Word Type, $F(1, 74) = 1.84$, $p = .18$; Hypnotizability × Word Learning × Word Type, $F(1, 74) = 0.34$, $p = .57$] did not reach significance.

Following Dorfman and Kihlstrom’s (1994) procedure, we calculated primingscoresthe implicit memory tasks by subtracting the number of words produced from the not-learned list from the number produced from the learned list. A difference of zero indicates no priming, a significant positive value indicates positive priming, and a significant negative value indicates negative priming. Lows and highs showed comparable levels of positive priming on both tasks. On the word-association task, lows’ priming score (based on paired $t$ tests) was $.26$, $t(37) = 6.78$, $p < .001$, and highs’ score was $.19$, $t(39) = 3.90$, $p < .001$; these scores did not differ, $t(76) = 1.14$, $p = .26$. On the word-fragment task, lows’ priming score was $.15$, $t(37) = 4.16$, $p < .001$, and highs’ score was $.19$, $t(39) = 3.87$, $p < .001$; these scores also did not differ, $t(76) = 0.64$, $p = .53$. A 2 (hypnotizability) × 2 (word learning) × 2 (memory task) ANOVA of mean priming scores across these tasks yielded no significant main effects [hypnotizability, $F(1, 74) = 0.14$, $p = .71$; word learning, $F(1, 74) = 0.95$, $p = .33$; memory task, $F(1, 74) = 1.58$, $p = .21$] or interactions [Hypnotizability × Word Learning, $F(1, 74) = 2.72$, $p = .10$; Hypnotizability × Memory Task, $F(1, 74) = 1.89$, $p = .17$; Word Learning × Memory Task, $F(1, 74) = 0.42$, $p = .52$; Hypnotizability × Word Learning × Memory Task, $F(1, 74) = 0.59$, $p = .45$]. Lows and highs showed similar levels of priming across the word association (semantic) and word fragment (perceptual) implicit memory tasks.

Overall, although lows produced more words (both learned and not-learned) than highs across the implicit and explicit tasks, there was a single dissociation between highs’ explicit and implicit memory performance. Specifically, highs recalled fewer words on the PHA cued-recall task than lows, but they showed identical levels of priming to lows across the implicit memory tasks. Also, highs showed similar levels of semantic and perceptual priming.

Analysis of Lows and Amnesic Highs

The preceding analyses assume that the high hypnotizable participants were amnesic for the words from the learned list and that their responses on the implicit measures reflect priming rather than conscious recollection. Although highs recalled significantly fewer words from the learned list than lows during the PHA cued-recall test, we conducted a second set of analyses to confirm the link between experiencing PHA and memory performance. To do this, we focused on those highs who passed the SHSS:C test of PHA, which followed the implicit memory tasks. Of the 40 highs, 25 passed PHA (14 prehypnotic condition, 11 hypnotic condition). Thus, we reanalyzed the data using these 25 amnesic
highs and the 38 lows used in the previous analyses (none of whom passed the SHSS:C test of PHA). Analysis of the mean proportion of words from the learned list recalled by lows and amnesic highs on Total Recall 1, the PHA cued-recall test, and Total Recall 2 yielded identical findings to the parallel analysis with highs and lows. Specifically, whereas lows’ recall remained stable across the recall tests, amnesic highs’ recall was lower on the PHA cued-recall test than on either Total Recall 1 (after word learning) or Total Recall 2 [after cancellation of PHA; as indicated by the interaction between hypnotizability and tests, $F(2, 118) = 18.38, p < .001$]. Also, individuals who learned the words before hypnosis showed a greater impairment following the PHA suggestion, relative to their recall before or after amnesia, than individuals who learned the words during hypnosis [as indicated by the interaction between word learning and tests, $F(2, 118) = 3.70, p < .05$].

Implicit and explicit memory performance during PHA. Figure 2 presents the mean proportion of words from the learned and not-learned lists produced by lows and amnesic highs across the memory tasks. As with the full sample, we conducted three separate 2 (hypnotizability) × 2 (word learning) × 2 (word type) mixed model ANOVAs on these data. For word association, the analysis yielded a main effect for hypnotizability, $F(1, 59) = 11.15, p < .001$, a main effect for word type, $F(1, 59) = 29.08, p < .001$, and an interaction between hypnotizability and word type, $F(1, 59) = 5.83, p < .02$. Whereas lows generated more words from the learned ($M = 0.57, SD = 0.24$) than not-learned ($M = 0.31, SD = 0.16$) list, amnesic highs showed no difference (learned: $M = 0.35, SD = 0.22$; not-learned: $M = 0.26, SD = 0.14$). All other main effects [word learning, $F(1, 59) = 0.68, p = .41$] and interactions [Hypnotizability × Word Learning, $F(1, 59) = 0.23, p = .63$; Word Learning × Word Type, $F(1, 59) = 1.10, p = .30$; Hypnotizability × Word Learning × Word Type, $F(1, 59) = 0.41, p = .53$] did not reach significance. For word fragment, the analysis yielded a marginal main effect for hypnotizability, $F(1, 59) = 3.24, p < .075$, and a main effect for word type, $F(1, 59) = 21.22, p < .001$. Lows ($M = 0.31, SD = 0.12$) completed slightly more fragments than amnesic highs ($M = 0.26, SD = 0.08$), and participants completed more fragments of words from the learned ($M = 0.34, SD = 0.18$) than not-learned ($M = 0.21, SD = 0.16$) list. All other main effects [word learning, $F(1, 59) = 1.07, p = .31$] and interactions [Hypnotizability × Word Learning, $F(1, 59) = 0.17, p = .69$; Hypnotizability × Word Type, $F(1, 59) = 0.13, p = .72$; Word

5We conducted a similar set of analyses (without the word-learning condition due to unequal subject numbers) comparing the 25 amnesic highs and the 15 remaining nonamnesic highs. The findings were essentially identical to those for lows and amnesic highs, particularly in terms of priming. Whereas nonamnesic highs showed positive semantic and perceptual priming, amnesic highs showed positive perceptual, but not semantic, priming.
Learning × Word Type, $F(1, 59) = 0.05, p = .82$; Hypnotizability × Word Learning × Word Type, $F(1, 59) = 2.24, p = .14$ did not reach significance. Finally, for cued recall, the analysis yielded a main effect for hypnotizability, $F(1, 59) = 18.30, p < .001$, a main effect for word type, $F(1, 59) = 526.04, p < .001$, a main effect for word learning, $F(1, 59) = 4.01, p < .05$, and an interaction between hypnotizability and word type, $F(1, 59) = 17.75, p < .001$. Whereas lows and amnesic highs recalled no words from the not-learned list, lows ($M = 0.73, SD = 0.19$) recalled more words from the learned list than amnesic highs ($M = 0.55, SD = 0.23$). Also, individuals in the hypnotic word learning condition recalled slightly, but significantly, more words ($M = 0.35, SD = 0.09$) than those in the prehypnotic condition ($M = 0.30, SD = 0.14$). All other interactions [Hypnotizability × Word Learning, $F(1, 59) = 1.55, p = .22$; Word Learning × Word Type, $F(1, 59) = 2.94, p = .09$; Hypnotizability × Word Learning × Word Type, $F(1, 59) = 0.97, p = .33$] did not reach significance.

In terms of priming scores, lows and amnesic highs showed different levels of priming on the implicit memory tasks. On the word-association task, lows’ priming score (based on paired $t$ tests) was $.26, t(37) = 6.78, p < .001$, and amnesic highs’ score was $.09, t(24) = 1.63, p = .12$. These priming scores differed significantly, $t(61) = 2.53, p < .02$; whereas lows showed
positive priming, amnesic highs showed no priming. On the word-fragment task, lows’ priming score was .15, \( t(37) = 4.16, p < .001 \), and amnesic highs’ score was .17, \( t(24) = 2.52, p < .02 \); these scores did not differ, \( t(61) = 0.22, p = .83 \). A 2 (hypnotizability) \( \times \) 2 (word learning) \( \times \) 2 (memory task) ANOVA of the mean priming scores yielded an interaction between hypnotizability and memory task, \( F(1, 59) = 4.06, p < .05 \). Whereas lows showed similar levels of positive priming on both the word-association (semantic) and word-fragment (perceptual) tasks, amnesic highs showed positive priming only on the word-fragment task. All other main effects [hypnotizability, \( F(1, 59) = 1.76, p = .19 \); word learning, \( F(1, 59) = 0.71, p = .40 \); memory task, \( F(1, 59) = 0.12, p = .73 \)] and interactions [Hypnotizability \( \times \) Word Learning, \( F(1, 59) = 2.12, p = .15 \); Word Learning \( \times \) Memory Task, \( F(1, 59) = 0.34, p = .57 \); Hypnotizability \( \times \) Word Learning \( \times \) Memory Task, \( F(1, 59) = 0.48, p = .49 \)] did not reach significance. Thus, the priming results were different across the two sets of analyses. When all highs were included, they showed similar levels of positive perceptual and semantic priming to lows. However, when only those highs who were still amnesic after the administration of the implicit tasks were compared with lows, they showed positive perceptual, but not semantic, priming.

**DISCUSSION**

Within the context of an overt focus on methodological issues, this experiment examined the effect of PHA on explicit and implicit memory for material learned either before or during hypnosis. In particular, in conducting this analysis we aimed to match presentation and test modality, equate the informational value of the retrieval cues across explicit and implicit measures, test different sets of items in the explicit and implicit measures, and compare performance on semantically based and perceptually based implicit memory tests. As expected, we found that a suggestion for PHA impaired the recall of high, but not low, hypnotizable individuals and that this impairment was reversed following cancellation of the suggestion. This pattern is consistent with previous findings and strongly supports characterizations of PHA as a temporary disruption of explicit retrieval (Bryant et al., 1999; David et al., 2000; Dorfman & Kihlstrom, 1994; Kihlstrom, 1980).

In contrast to Bryant et al. (1999), we found that those who learned the words before hypnosis showed a somewhat greater impairment during the PHA suggestion than individuals who learned the words during hypnosis. This anomaly across experiments may be due to our use of a longer word list (30 items vs. Bryant et al.’s 10 items) and a different form of learning (presentation and imaging vs. Bryant et al.’s learning to criterion). As a result, participants may not have encoded the material optimally, and the longer time period between encoding and retrieval for individuals in the prehypnotic condition may have led to poorer recall
attributable to normal forgetting rather than PHA. Nevertheless, our findings support Bryant et al.’s conclusion that PHA can influence material learned before or during hypnosis. In other words, the time at which material is encoded has no impact on the success of a PHA suggestion.

Whereas highs’ recall was impaired in comparison to lows’, both groups showed a similar level of performance on the two implicit memory tasks. Further, highs showed equivalent levels of priming to lows on both a semantically based task and a perceptually based task. We suggest, however, that the most suitable index of priming in the absence of conscious recollection is the performance of only those high hypnotizable participants who were still amnesic following the implicit memory tasks (defined as passing the SHSS:C amnesia test). Notably, the implicit memory performance of these “genuinely” amnesic highs was different from that of lows (and of nonamnesic highs). Whereas amnesic highs showed positive priming equivalent to that of lows on the perceptually based task (word fragment), they showed no priming on the semantically based task (word association); lows showed significant positive priming. The absence of semantic priming is inconsistent with Dorfman and Kihlstrom’s (1994, Experiment 1) finding that highs do show such priming. The distinction between semantic and perceptual priming is important to an interpretation of PHA’s effect. Kihlstrom (1985, 1995; Dorfman & Kihlstrom) has argued that PHA involves a dissociation between episodic and semantic memory; specifically, a dissociation between explicit and implicit expressions of episodic memory. As such, priming should be preserved, but not just repetition priming, which is mediated by perceptual information about objects and events. Semantic priming, which reflects the activation of preexisting associations between cues and targets in semantic memory, should also be preserved in the absence of conscious recollection (Dorfman & Kihlstrom; Kihlstrom, 1995).

The inconsistency between our semantic priming results and those reported by Dorfman and Kihlstrom (1994, Experiment 1) may reflect different methodological choices. In their experiment, participants memorized a list of target words. After hypnosis and a PHA suggestion for the words, they received explicit and implicit memory tests. Both tests involved the presentation of associative cues selected because of their high probability of eliciting the target words. In the explicit test, participants were instructed to produce an associated word from the study list, and in the implicit test, they were instructed to say the first word that came to mind. Importantly, participants did not encounter the associative cues prior to the posthypnotic memory tests. In contrast, in an attempt to ensure that all of the memory tests involved retrieval cues of equivalent value, we used the same associative cues in the recall test after word learning (Total Recall 1) and in the word association implicit task. For instance, while learning the target list, a participant may have
been presented with the word boy, and during Total Recall 1 been provided with the cue word girl (to elicit boy). Then, during the word-assocation task, they would have received the cue word girl once again (to elicit boy). It is possible that the word-assocation task inadvertently indexed explicit memory of a relationship between target words and their associative cues formed during Total Recall 1, rather than implicit memory. This may explain why amnesic highs failed to show semantic priming on this task, but lows (and nonamnesic highs) did; that is, consistent with their recall performance, amnesic highs failed to recall the link established between target and associative cue words.

Alternatively, amnesic highs’ lack of semantic priming may be due to the fact that rather than learning the words to a specified criterion (Bryant et al., 1999; Dorfman & Kihlstrom, 1994, Experiment 1), we asked participants to imagine the word and to rate the image. Participants may not have processed the words “deeply” enough to produce semantic priming. Laying aside these possibilities, our findings highlight the critical importance not only of designing appropriate methodologies to assess dissociations of memory in PHA but of appreciating the (intended and unintended) consequences of those methodological choices. For instance, future research could provide a more direct test of the relationship between memory expression (explicit/implicit) and type of priming (perceptual/semantic) with a 2 × 2 design that includes a cued-recall test of explicit memory matched with a cued word association test of implicit memory (semantic) and a fragment cued-recall test of explicit memory matched with a fragment completion test of implicit memory (perceptual).

Apart from limiting our second analysis to amnesic highs, we did not formally assess possible contaminations of explicit memory in implicit memory performance. Jacoby’s (1991) process dissociation procedure, which instructs participants to withhold learned items from their responses on implicit memory tasks, may offer one methodological approach to this issue. In a second study, Dorfman and Kihlstrom (1994, Experiment 2) used this procedure and found that, despite impaired recall, high hypnotizable individuals did not show positive priming (as expected) on a semantic priming task. They argued that their amnesic subjects withheld learned items during the implicit memory task, not because they remembered the items but because they experienced a feeling of (priming-based) familiarity for some items, which they interpreted as indicating previous exposure. More recently, David et al. (2000) implemented a modified process dissociation procedure that distinguished among voluntary conscious memory, involuntary conscious memory, and involuntary unconscious memory. PHA influenced highs’ voluntary and involuntary conscious memory but not their involuntary unconscious memory of the target words. Despite such findings, there may not be a totally process-pure test of implicit (and explicit) memory
(Dorfman & Kihlstrom, 1994; Kihlstrom, 1998), which further underscores the degree to which methodological choices can influence interpretations of PHA.

Finally, it is worth noting that this study did not index the influence of demand characteristics, which are critical to an understanding of the social construction of memory in PHA (Spanos, 1986). Delineating the roles of social and cognitive factors, however, requires a more refined understanding of the cognitive processes involved in PHA. Our findings highlight that theoretical advances in PHA depend on the development and application of paradigms that effectively disentangle the types of dissociation between explicit and implicit memory.

**APPENDIX: WORDS LISTS**

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REFERENCES


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**Posthypnotische Amnesie für vor oder während Hypnose gelerntes Material: Explizite und implizite Erinnerungseffekte**

Amanda J. Barnier, Richard A. Bryant und Suzanne Briscoe


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**Amnésie post-hypnotique de matériel appris avant ou après l’hypnose : effects implicites et explicites sur la mémoire**

Amanda J. Barnier, Richard A. Bryant, et Suzanne Briscoe

Résumé: Cet article s’intéresse aux dissociations entre les expressions explicites et implicites de la mémoire lors de l’amnésie post-hypnotique (APH). Malgré la preuve de ces dissociations, l’approche expérimentale n’a pas toujours été cohérente avec la recherche contemporaine sur la mémoire. Dans le cadre d’un paradigme qui a visé la clarté conceptuelle et
méthodologique, nous avons présenté à 40 individus fortement hypnotisables et à 38 faiblement hypnotisables une liste de mots avant ou pendant l’hypnose. Nous leur avons donné une suggestion d’APH concernant la liste et nous les avons testés sur des tâches mémoire explicites et implicites. En l’absence d’un souvenir conscient, les individus fortement hypnotisables ont montré des niveaux d’amorçage (perceptif et sémantique) équivalents à ceux des individus faiblement hypnotisables. Cependant, lorsque l’analyse s’est concentrée sur les individus fortement hypnotisables restés amnésiques après les tâches mémoire implicite, nous avons confirmé l’amorçage perceptif mais pas le sémantique. Cette découverte souligne l’impact des choix méthodologiques lors des interprétations théoriques des performances mémoire suite à une suggestion d’APH.

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Amnesia posthipnótica para material aprendido antes de o durante la hipnosis: Efectos en las memorias implícita y explícita

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Resumen: Este artículo se enfoca en disociaciones entre expresiones de memoria implícita y explícita durante la amnesia posthipnótica (APH). A pesar de la evidencia de tales disociaciones, el diseño experimental en esta área no siempre ha sido consistente con la investigación contemporánea de la memoria. Dentro de un paradigma que buscaba claridad conceptual y metodológica, le presentamos una lista de palabra antes de o durante la hipnosis a 40 individuos con alta y 38 con baja hipnotizabilidad, dimos una sugestión de APH para la lista de palabras, y utilizamos pruebas explícitas e implícitas de memoria. Para las palabras de que no se acordaban conscientemente, los muy hipnotizables mostraron niveles equivalentes de preparación (“priming”) perceptual y semántica a los poco hipnotizables. Sin embargo, cuando el análisis se enfocó sólo en los altamente hipnotizables que mantuvieron la amnesia después de las pruebas de memoria implícita, encontramos una preparación perceptual pero no semántica. Estos resultados confirman el impacto de las técnicas metodológicas en las interpretaciones teóricas de la memoria después de una sugestión de APH.
THE HYPNOTIC DREAMS OF HEALTHY CHILDREN AND CHILDREN WITH CANCER: A Quantitative and Qualitative Analysis

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Abstract: In this study, the Stanford Hypnotic Clinical Scale for Children was administered to 52 healthy children and 47 children and adolescents with cancer. Responses to the dream item of this scale were analyzed for the type and detail of imagery. The hypnotizability scores of both groups were similar. However, children with cancer reported more pleasant than unpleasant fantasy in their hypnotic dreams, and their dream reports tended to contain less fantasy and detail overall. Recoloring the dream item based on extent of fantasy and detail resulted in a lower pass rate for that item, especially for children with cancer. Regardless of health status, older children experienced more self-involvement in their hypnotic dreams compared to younger children.

Therapeutic techniques such as imagery, make-believe, and suggestion have been used frequently in medical settings to reduce distressing symptoms in ill children (Milling & Costantino, 2000). These techniques are all based, to a large extent, on principles of clinical hypnosis. However, little has been done to understand the ability and readiness of ill children to respond to these hypnotic techniques. Further, it is unclear whether there are differences in response between ill versus healthy children, and we are only beginning to understand how individual hypnotic abilities might relate to clinical outcome.

Indeed, in their most recent review of controlled studies on the efficacy of clinical hypnosis in children, Milling and Costantino (2000) found that virtually none assessed the relationship between hypnotic
ability and clinical outcome. Two exceptions were Smith, Barabasz, and Barabasz (1996) and Zeltzer and LeBaron (1982). Both of these studies reported that hypnotic intervention resulted in greater reductions in pain and anxiety for children with high hypnotic ability, compared to those with low ability. Results of these two studies are also consistent with an earlier, uncontrolled study of pain reduction in children (J. R. Hilgard & LeBaron, 1982, 1984). Aside from the problem of pain, however, the role of hypnotic ability in the treatment of other clinical problems in children remains unexplored.

One of the goals in developing the Stanford Hypnotic Clinical Scale for Children (SHCSC; Morgan & Hilgard, 1978/1979) was to develop a tool for guiding hypnotic intervention. Although the initial expectation was that this scale would be used with clinical populations, only two investigations have included it in the evaluation of ill children (J. R. Hilgard & LeBaron, 1982, 1984; Zeltzer & LeBaron, 1982), and none have compared responses of healthy and ill children. Information such as this could help us to understand how ill and healthy children may differ in the ways they respond to suggestion and imagery in the broadest sense.

Therefore, the first goal of this investigation was to compare the hypnotic responsiveness of seriously ill and healthy children based on the SHCSC.

The second goal was to begin exploration of the content of imagery elicited by the scale. We decided to pay special attention to the dream item on the SHCSC for two reasons: In our prior clinical experience this item appeared to stimulate a greater amount of imagery than other items on the scale; and psychodynamic theory would predict that this item would be especially likely to elicit images that reflect wishes or fears relevant to important events in the child’s life, such as family vacations or a serious illness. Because dream content presumably reflects unconscious or primary process material to some extent, qualitative analyses of children’s responses to the hypnotic dream suggestion would appear to be ideal not only to provide insights into the images and fantasies produced by children in everyday life but also to provide clinically relevant information regarding the use of hypnosis with sick children. We chose first to compare the content of hypnotic dreams of healthy and ill children and then to examine possible developmental differences in their dreams. This latter comparison was suggested by developmental differences found in night dreams of children (Foulkes, 1982). J. R. Hilgard and LeBaron (1984) predicted that, similar to night dreams, hypnotic dreams of older children would contain greater self-inclusion than would dreams of younger children.

A third goal was to explore ways that the criteria for passing the dream item could be made more challenging and, perhaps eventually, more discriminating as a result. Previous clinical investigations that used the SHCSC (J. R. Hilgard & LeBaron, 1984) found that the majority
of children scored high on the scale. Similar results were obtained by Cooper and London (1978/1979) on their scale. If scoring criteria for the dream required a more detailed response, such criteria could make the entire scale more predictive of how a child might respond to various suggestions (especially those that require imagery) in the clinical setting. A revision of the SHCSC scoring criteria was beyond the scope of this investigation; we hoped only to take the first step in exploring that possibility.

To summarize, the purposes of this investigation were: (a) to compare healthy and ill children in terms of their overall scores on a standardized hypnotic assessment scale; (b) to begin an initial exploration of the content of imagery elicited by the dream item of the SHCSC, with special attention to possible differences between healthy and ill children and between young and older children; and (c) to explore ways that the criteria for passing the dream item might be adjusted to render the item more challenging.

**METHOD**

**Subjects**

The SHCSC was administered to a sample of healthy children and one of children with cancer as part of a larger investigation (Zeltzer & LeBaron, 1982). Children participated with the written informed consent of their parents and their own individual assent. The healthy sample consisted of 52 children (21 females/31 males), ranging in age from 6 to 12 years old \( (M = 8.5) \) and who were enrolled in a private school. The ill sample consisted of 25 children with cancer (16 females/9 males), ranging in age from 6 to 12 years \( (M = 9.2 \text{ years}) \), and 22 adolescents with cancer (11 females/11 males), ranging in age from 13 to 18 years \( (M = 15 \text{ years}) \), all of whom were receiving care in one pediatric oncology clinic. Although the children’s scale was developed for use up to the age of 16 years, it was administered to seven 17-year-olds and one 18-year-old in the adolescent sample, using a relaxation and eye-closure induction similar to that used in the Stanford scales for adults (E. R. Hilgard, 1965).

**Procedure**

Informed written consent was obtained from all participants and their parents. The hypnotic ability of children in the healthy sample was tested individually in a quiet conference room in the school, during a regular school day. The children and adolescents with cancer were tested in a private room in the clinic during a routine clinic visit when no stressful procedures were planned and when they were not experiencing any acute physical symptoms. Administration of the SHCSC begins by inviting the subject to use his or her imagination and concludes by
encouraging the subject to feel wide-awake and alert. The full text of the induction and test items can be found in Morgan and Hilgard (1978/1979).

The SHCSC is a seven-item scale developed by Morgan and Hilgard (1978/1979) for measuring hypnotic responsiveness in children. The scale was administered individually to each child by either a pediatric psychologist (male) or pediatrician (female) trained in its administration. A total hypnotic susceptibility score was obtained for each child by adding up the number of items on the scale each child passed.

The hypnotic dream is the fifth item on the scale. It was presented, according to the standard instructions, as follows:

Do you dream at night when you are asleep? I’d like you to think about how you feel when you are just ready to go to sleep at night, and imagine that you are about to have a dream... just let a dream come into your mind, a dream just like the dreams that you have when you are asleep... When I stop talking, in just a moment, you will have a dream, a very pleasant dream, just like the dreams you have when you are asleep at night... Now a dream is coming into your mind...

At the end of 20 seconds, the child was asked to tell about the dream, and the response was recorded verbatim. According to the criteria developed by Morgan and Hilgard (1978/1979), the dream was scored a pass if an image or images were seen together with a sequence of action. The item was failed if an isolated image was seen without any action or movement or if nothing at all was visualized.

Qualitative Analysis

To explore qualitative aspects of the dream, two raters who were blind to the child’s age, sex, and medical status independently reviewed transcripts of the dreams to develop nonoverlapping content categories. The raters began by summarizing independently each dream according to its primary event or activity (e.g., “I saw a monster,” “I watched a parade,” or “I was sailing with my family”). The raters then listed all the major content categories (e.g., sports, make-believe games, fights, travel) that were represented by these imagined activities. Eight separate content categories were generated by the first rater and ten by the second rater. Through discussion and consensus, the raters then combined these themes into four broad content categories.

1. Unpleasant imagery. This category consisted of imagery which contained any mood or content that was potentially threatening (e.g., fear, danger, embarrassment), dysphoric (e.g., sadness, gloom), or aggressive (e.g., destruction, hostility). This type of imagery commonly included monsters.

2. Pleasant, but unrealistic imagery. An example of this imagery would be, “I was flying through the air like a bird.” Unrealistic imagery was
characterized by being very unlikely to occur in everyday life, such as winning 10 million dollars, and magical events, such as flying or talking with a fairy.

3. Pleasant, realistic images involving nature or travel. This imagery included trips and natural scenery such as woods, lakes, and flowers. An example would be, “I was walking through a beautiful forest . . .”

4. Pleasant, realistic images involving social or sporting activities. An example of this might be, “I dreamed I went to the park with my Dad and we played with a Frisbee.” A birthday party or scenes of swimming were typical of the social/sports category.

Following development of these dream categories, two researchers then independently reviewed and assigned each dream to a category. The kappa coefficient for agreement on category assignment between these two researchers was .72. The two researchers then discussed the dreams on which they disagreed and jointly assigned those dreams to one of the four content categories. Three dreams (two from the healthy group and one from the child cancer group) were not categorized. One child described geometric figures in action; another reported that she saw her “cat licking himself”; and a third child reported finding out that his family did not have to move. Although these dream reports met criteria for a pass on the susceptibility scale, they did not clearly fit into one of the four derived categories.

To explore ways in which criteria for passing the dream could be made more challenging, we decided to evaluate each dream in reference to two dimensions: “fantasy” and “detail.” As we studied the responses, we realized that there was wide variation in the extent to which they represented everyday activity (e.g., playing softball with friends) versus imaginative activity that exists only in fantasy (e.g., flying through the air like a bird). We asked our independent raters to assign each dream a fantasy score ranging from 1 to 5. To assist them in scoring, the following guidelines were utilized: 1 = realistic simple events (e.g., playing softball); 2 = realistic with some fantasy component (e.g., watching a movie or television show with action or a story unfolding); 3 = mixture of reality and make-believe (e.g., a realistic adventure, such as a hike, but with an imaginary friend); 4 = unlikely to happen but within bounds of reality (e.g., climbing Mt. Everest); and 5 = fantastical (e.g., killing a dragon, living inside a whale). We also asked the raters to assess the amount of detail in each dream, using scores that ranged from 1 (paucity of detail) to 5 (extremely detailed).

Weighted kappa coefficients, used to assess agreement between the two raters for scoring fantasy and detail, were .69 and .73, respectively. Examples of scoring of dreams based on fantasy and detail are presented in Table 1.
RESULTS

Hypnotic Susceptibility

Hypnotic susceptibility (HS) scores tended to be near the high end of the scale. The mean HS score was 5.0 (from a possible total score of 7) for the healthy children; 5.1 for the children with cancer; and 5.0 for the adolescents with cancer. The mean HS scores for all the 6- to 12-year-old children (groups combined) was 5.0. These group scores were not significantly different from each other.

Responses to the Dream Suggestion

Ninety-two percent of children in the healthy group passed the hypnotic dream suggestion compared to 83% for the cancer group (84% for the 6- to 12-year-olds and 82% for the 13- to 18-year-olds). A test of proportions revealed no significant difference between the ill and healthy groups for rate of passing the dream item (z = 1.50, ns). When analyzed by age (combining the healthy children and those with cancer), the rate of passing the dream item was 86% for the 6- to 8-year-olds, 93% for the 9- to 12-year-olds, and 83% for the adolescents (this group comprised only

<table>
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<td>Examples of Dreams Scored for Fantasy and Detail</td>
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<th>Fantasy Score</th>
<th>Detail Score</th>
<th>Dream Content</th>
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<tr>
<td>High Fantasy/High Detail</td>
<td>(5)</td>
<td>“I had this dream that there was a big scorpion hurting everybody. I had a knife. It was real big, 20, 30 feet. I start wrestling it with my knife and I kill it. Somebody takes a piece out of it and says ‘It’s good’. I could make a business out of it, but there’s only one so we could use it for research. Give it to scientists. I’m one of those scientists and found a stone in it, like nobody’s seen in the world. So, I dive down the ocean real deep and find a lot of these stones.”</td>
</tr>
<tr>
<td>High Fantasy/Low Detail</td>
<td>(5)</td>
<td>“I found some wings in the street and started to fly.”</td>
</tr>
<tr>
<td>Low Fantasy/High Detail</td>
<td>(1)</td>
<td>“We were on a flight to Philadelphia. I took off my shoes away. My mother and I went to sleep. When I woke up we left and rented a car and then I fell asleep in the car.”</td>
</tr>
<tr>
<td>Low Fantasy/Low Detail</td>
<td>(1)</td>
<td>“I’m in Clovis with my cousin, driving around.”</td>
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* 1-5 scale; 5 = high fantasy
** 1-5 scale; 5 = high detail
The overall proportion of male and female children passing the dream item was identical (88%).

Content categories for each group are summarized in Table 2. Two of the healthy group reported dreams that could not be categorized, and four children did not report any dreams. In the cancer group, one dream could not be categorized, and 8 subjects did not report a dream. Inspection of Table 2 suggests that subjects with cancer tended more than healthy subjects to avoid unpleasant imagery. A possible relationship between disease status (healthy vs. cancer) and pleasant versus unpleasant imagery was explored further, as shown in Table 3. Although the dreams of healthy subjects were almost evenly divided between pleasant and unpleasant, the dreams of those with cancer were significantly more likely ($\chi^2 = 15.7; p < .001$) to be pleasant (95%) rather than unpleasant (5%).

These data appear consistent with some additional observations: First, several of the children and adolescents with cancer hesitated initially when the dream suggestion was given and stated that they usually had bad dreams. Most of these patients recovered from this initial hesitation and were able to continue without any further evidence of anxiety. However, 3 of the children with cancer reported an unwillingness to have any dream at all because of anticipation that it would be a scary or bad dream. In the healthy sample, none of the children expressed such a fear.

Further analysis of the data on unpleasant dream imagery in the healthy group revealed that males were significantly more likely ($z = 2.02, p < .05$) to report unpleasant imagery (56%), compared to females (26%). Although the propensity for unpleasant dream content seemed
greater among healthy children ages 6 to 8 years (56%) compared to healthy children ages 9 to 12 years (32%), this difference was not statistically significant. Healthy children who reported unpleasant dreams did not express any overt anxiety or adverse reactions either during the hypnotic dream experience or when relating it afterwards. In fact, many of these children appeared to relish the telling of the dream and did so with dramatic and cheerful affect.

Developmental Differences in Self-Involvement

An analysis of contents suggested that older children included themselves in their hypnotic dreams more frequently than did younger children. Only 44% of the 6-year-olds described themselves in their dreams, compared to 75% of the 7-year-olds, 75% of the 8-year-olds, 88% of the 9-year-olds, 100% of the 10-year-olds, 90% of the 11-year-olds, 83% of the 12-year-olds, and 95% of the adolescents. Because all but one of the adolescents included themselves as an actor in their dreams, this group could not be included in a chi-square analysis. However, a comparison of younger (6- to 8-year-old) with older (9- to 12-year-old) children in terms of self-involvement was statistically significant ($\chi^2 = 5.26; p < .04$, two-tailed).

This apparent relationship between age and self-inclusion in a hypnotic dream is similar to the study of night dreaming reported by Foulkes (1982), where younger children reported themselves as being in their dreams much less frequently than older children. In the present study, dreams that did not include the child as an actor frequently involved the viewing of a television program. For example, a 6-year-old in the healthy group reported dreaming about a “program that a baby has a hard time going to sleep, so the sandman takes him to Candyland.” Another 6-year-old with cancer reported dreaming about “Bugs Bunny standing on his head . . . he fell and conked his head . . . then he fell asleep.” No differences in self-involvement were noted between healthy children and those with cancer.

Table 3
Comparison of Unpleasant vs. Pleasant Dreams in Healthy Subjects vs. Subjects With Cancer

<table>
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<tr>
<th>Content Category</th>
<th>Healthy subjects $n = 46$</th>
<th>Cancer subjects $n = 38$</th>
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<tr>
<td></td>
<td>$n$ (%)</td>
<td>$n$ (%)</td>
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<tr>
<td>Unpleasant dreams</td>
<td>20 (43)</td>
<td>2 (5)</td>
</tr>
<tr>
<td>Pleasant dreams</td>
<td>26 (57)</td>
<td>36 (95)</td>
</tr>
</tbody>
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$\chi^2 = 15.71; p < .001.$
The mean scores for fantasy and detail ratings were 3.65 and 3.42, respectively, for the healthy children and 2.60 and 2.44 for children with cancer. A Wilcoxon Test revealed that children with cancer had significantly lower scores on both fantasy ($z = -3.20, p < .002$) and detail ($z = -3.35, p < .001$) than healthy children. Examination of the data from another perspective shows that only 31% of the children with cancer had dreams that scored high (4 or 5) for fantasy, compared to 65% of healthy children. Similarly, scores of 4 or 5 for detail could only be found in 18% of the children with cancer, compared to 46% of the healthy group. The correlations (Spearman rho) between fantasy and detail were .50 ($p < .001$) for the healthy group and .42 ($p < .001$) for the cancer group.

To evaluate the degree to which detail and fantasy could make the criteria for the dream suggestion more challenging, the dream item was rescored taking into account fantasy and detail ratings. Ratings of 1 or 2 on both fantasy and detail were considered a “fail,” because such a restricted response appeared to represent a smaller degree of imaginative involvement and elaboration than high scores on both these dimensions. As shown in Table 4, the percentage of healthy patients who passed the dream item with the new scoring criteria drops from 92% to 77%, and from 82% to 48% in the cancer group. The proportion of healthy children who passed the dream item with the new scoring criteria was significantly higher than the proportion of children and adolescents with cancer ($z = 3.22, p < .002$).

No age differences were found for either the healthy or cancer groups in fantasy, detail, or in passing the dream item with the original or new scoring criteria.

**DISCUSSION**

This preliminary investigation compared hypnotic susceptibility and the content of hypnotic dreams in healthy children and in children and adolescents with cancer. No significant differences in hypnosis scores were found between healthy and ill children. Consistent with previous
research (Cooper & London, 1978/1979; J. R. Hilgard & LeBaron, 1982, 1984; Zeltzer & LeBaron, 1982), average scores were quite high. The proportion of children who passed the dream item was also similar to previous studies. For example, London (1963) and Cooper and London (1978/1979) reported that the rate of passing the dream item on his Children’s Scales was approximately 66% for children 6 to 8 years old, 90% for children 9 to 12 years old, and 88% for adolescents. In comparison to reports of a 45% pass rate for adult college students (E. R. Hilgard, 1965), children appear to have a much higher rate of passing the hypnotic dream suggestion.

The tendency for children to score high on the SHCSC presents a problem in conducting research (or clinical intervention) intended to compare clinical outcomes to performance on the SHCSC. The greatest difficulty is not in differentiating between the few children who have very low scores versus those who pass every item with a high degree of involvement. Rather, the real problem seems to be in sorting out differences between the most highly imaginative, involved children who pass all the items versus those children who score 5 or 6 (and would therefore be considered high scorers on the scale as it is now constructed) but who are less involved in the experience. In other words, the SHCSC appears to have a “ceiling effect”—there is not enough room at the high end of the scale to differentiate exceptional from just moderately-good subjects.

Further research regarding the effects of increasing the difficulty for a “pass” on some of the items would be helpful. In this investigation, we explored that approach with the dream item, but any of the items on the scale that explicitly evoke imagery (i.e., watching television, having a dream, or age regression) appear to be potentially available to similar changes in scoring. For example, inquiring as to the child’s subjective experience following each item (e.g., what was imagined and in what detail) may provide information for a more discriminative assessment of hypnotic involvement. Future research could focus on the development of a scoring method for all items that would more accurately reflect a child’s intensity of involvement in the hypnotic experience. This new scoring method for hypnotic responsiveness scales might be useful in both clinical treatment and research to predict treatment outcome.

A related question is whether, and how, a hypnotic susceptibility scale has any practical clinical use. In adult populations, hypnotic susceptibility has been frequently evaluated in relation to clinical outcome (Lynn, Kirsch, Barabasz, Patterson, & Cardeña, 2000; Montgomery, DuHamel, & Redd, 2000; Pinnell & Covino, 2000), but there is less empirical validation of the role of hypnotic susceptibility in treatment outcome with children. Although it is generally concluded that children and adolescents are more responsive to hypnotic suggestions than adults, some controversy remains over whether there is value in assessing the level of hypnotic susceptibility of these young clinical patients (Plotnick & O’Grady,
One reason why research evaluating hypnotic susceptibility and outcome with children has been scarce and inconclusive may be the tendency for scores to cluster near the upper end of the scale. For example, one study reported a modest relationship between hypnotic susceptibility and clinical outcome but noted that analyses were hampered by the small number of low hypnotic susceptibility scores (J. R. Hilgard & LeBaron, 1982, 1984). LeBaron, Zeltzer, and Fanurik (1988) also concluded that the scale does not contain enough items of varying difficulty and that the present criteria for passing require a minimum of detail. Therefore, scales of hypnotic susceptibility have not yet been able to distinguish between children who are truly the most imaginative and involved, compared to those who are only moderately able to respond to these kinds of suggestions yet who receive the same “pass” for their responses as the highly responsive child.

When scoring criteria for the dream included degrees of fantasy and detail, this seemed to result in a more challenging item for the children and adolescents with cancer. The possibility of developing a more discriminating scale by including revisions such as those made in this study should be seen as preliminary and speculative at this point. Larger samples will be needed in a study designed specifically to evaluate the discriminant validity of this proposed scoring system.

Interestingly, the more stringent criteria revealed a difference between healthy and ill children, suggesting that more than half of the dreams of children with cancer were relatively lacking in imaginative detail and spontaneity. The dreams of the cancer group were virtually all pleasant, in contrast to those of the healthy children. Many of the dream reports of the cancer group seemed to contain less fantasy and detail, even for those with high total hypnotic susceptibility scores. Although there were no differences between the two groups in the rate of passing the dream suggestion, children and adolescents with cancer appeared less likely than healthy children to pass the dream item when the extent of fantasy and detail of the dream report was utilized to revise the scoring criteria.

The hypnotic dream suggestion instructs children to experience a “pleasant” dream; however, a considerable number of healthy children described dreams with unpleasant fantasy content. For example, a healthy 9-year-old boy reported, “I was going up a slide. I went real high and fell onto a metal jungle gym, and I was in a big block of metal, and someone lit a match, and it was melted and I was getting caught.” Healthy children did not seem to fear their imagery as did children with cancer. In fact, children from the healthy group who reported unpleasant dreams appeared to enjoy the narration of these dreams. Conversely, the responses of children with cancer appeared to be more constricted overall. They seemed to place conscious—or unconscious—controls on their dreams to insure that the dreams would be pleasant. Perhaps they were
more concerned than healthy children that potentially overwhelming fears and anxieties might “break through” during the hypnotic dream. The only children who declined to experience a hypnotic dream due to the expressed fear that it would be a “bad” one were children with cancer.

The hypnotic dream content of the children with cancer illustrates how potential illness-related issues may emerge through hypnotic fantasy or imagery, even in an apparently pleasant context. For example, concerns about mortality seem to have been manifested by an 11-year-old girl with cancer who reported, “I dreamed that my family was having a party. We went up in the air, and we went to heaven.” Similarly, optimism or wishes regarding the future seem to be revealed in the dream of a 6-year-old girl with cancer, “My mother went to the store ’cause it was my birthday. She went to buy me some presents. She got a cake... I was 26, so she put 26 candles on it...” The unpleasant dream content of a 10-year-old boy with cancer appears indicative of concerns related to the invasive and painful procedures associated with treatment. He reported, “I’m a little baby. There are sharks around me, and I’m being eaten up by sharks.” Thus, attention to dream content on scales of hypnotic susceptibility or to imagery content during hypnotherapy may provide a treasure of clinically relevant information regarding ill children’s fears and concerns. Other examples of how fears regarding treatment and death are expressed in children’s imagery may be found in J. R. Hilgard and LeBaron (1984) and LeBaron and Zeltzer (1985). It may well be that the dreams of children suffering from cancer are more uniformly pleasant, because they serve a defensive function in enabling the child to avoid an encounter with troubling affect. These same dreams are then less rich in fantasy detail precisely because they are more guarded, reflecting an understandable inhibition of genuinely free association.

If, as these data suggest, there is a general restriction of primary process in children with cancer, this would be consistent with a view that some precautions should be taken with patients suffering from a medical illness. For example, possible problems in the use of hypnosis for children with hemophilia were described by LeBaron and Zeltzer (1984), who advised that hypnosis be used cautiously because of the potential for increasing the risk of morbidity related to bleeding. Also, Baker (1983) described potential resistance to hypnosis by pediatric cancer patients due to apprehension or the “internal significance of the symptoms and the role as patient” (p. 248). These cautions are based on clinical experience but have not yet been investigated empirically. In any case, the point is not that hypnosis per se should be considered a dangerous therapy; rather, it is the lack of training and awareness on the clinician’s part that seems most likely to lead to complications, whether medical or psychological. For example, the use of hypnosis by clinicians who are
not sensitive to common fears and conflicts faced by chronically or terminally ill children (and their families) would be harmful if these children feel coerced, or if primary process material or unpleasant fantasy with dysphoric affect was inappropriately elicited in the therapeutic context (e.g., LeBaron, 1983; LeBaron & Zeltzer, 1984; J. R. Hilgard & LeBaron, 1984).

Developmental differences in hypnotic dream content can also provide clinically useful information. Adolescents’ hypnotic dreams tended to be more focused on sports and recreational activities. This preoccupation with physical and social activity in the dreams of the adolescent sample represents normal types of activities for that age group. Although a comparison group of healthy adolescents is not available in this study, these themes appear to be age-appropriate. This age-related finding, and that of younger children reporting themselves in their dreams less frequently than do older children, is consistent with clinical experience using hypnotherapy. That is, it is not uncommon for adolescents to imagine themselves engaged actively in competitive sports or family activities, whereas younger children often prefer imagery with less emphasis on self-involvement, such as watching a favorite television show or movie. The gradual self-inclusion of children in their hypnotic dreams, similar to an investigation of night-dream content in children (Foulkes, 1982), reminds us that the development of imaginative activities begins with children observing and simply copying others and that they only gradually develop an ability to visualize themselves as actors in a drama (J. R. Hilgard & LeBaron, 1984).

This investigation, based on relatively small samples, poses more questions than it answers. Larger samples of healthy and ill children, perhaps including children with other chronic illnesses, could help to expand and illuminate these preliminary findings and questions.

REFERENCES


**Die hypnotischen Träume von gesunden Kindern und krebskranken Kindern: eine quantitative und qualitative Analyse**

**Samuel LeBaron, Debra Fanurik und Lonnie K. Zeltzer**

Les rêves hypnotiques d’enfants en bonne santé et d’enfants cancéreux :
une analyse qualitative et quantitative

Samuel LeBaron, Debra Fanurik, et Lonnie K. Zeltzer

Résumé: Dans cette étude, la Stanford Hypnotic Clinical Scale for Children a été administrée à 52 enfants en bonne santé et 47 enfants ou adolescents cancéreux. Les réponses aux rêves de cette échelle ont été analysées en fonction du type et du détail de l’imagery. L’hypnotisabilité des deux groupes ont été similaires. Cependant, les enfants cancéreux ont signalé davantage d’images agréables que désagréables dans leurs rêves, et le récit de leurs rêves ont globalement eu tendance à contenir moins d’images et de détail. La réévaluation des rêves selon l’étendue des images et du niveau de détail a entraîné un niveau de succès inférieur, particulièrement pour les enfants cancéreux. Indépendamment de leur santé, les enfants les plus jeunes ont ressenti une implication inférieure dans leurs rêves hypnotiques que les enfants plus âgés.

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Los sueños hipnóticos de niños saludables y niños con cáncer:
Un análisis cualitativo y cuantitativo

Samuel LeBaron, Debra Fanurik, y Lonnie K. Zeltzer

Resumen: En este estudio administramos la Escala Clínica Hipnótica para Niños de Stanford a 52 niños saludables y 47 niños y adolescentes con cáncer. Analizamos las respuestas al ítem de sueño de esta escala en relación el tipo y detalle de las imágenes. Las puntuaciones en hipnotizabilidad de ambos grupos fueron similares. Sin embargo, los niños con cáncer mencionaron más fantasías placenteras que disfóricas en sus sueños hipnóticos, y sus reportes de sueños en general contenían menos fantasía y detalles. Cuando puntuamos el ítem de sueño en base al grado de fantasía y detalle, menos niños, especialmente los cancerosos, pasaron el ítem. Independientemente del estado de salud, en comparación con los niños de más edad los más jóvenes se involucraron menos en sus sueños hipnóticos.

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FRONTAL LOBE CONTRIBUTIONS TO HYPNOTIC SUSCEPTIBILITY: A Neuropsychological Screening of Executive Functioning

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Abstract: Current theory on the cognitive mechanisms of hypnotic experience suggests that hypnosis is mediated by a dissociation between contention-scheduling mechanisms and a supervisory attention system. This theory is based on neuropsychological research with frontal lobe dysfunction patients, who show performance deficits similar in executive functioning to hypnotized individuals. To test an extension of this theory, high hypnotically susceptible (n = 9) and low hypnotically susceptible (n = 7) participants were given four tests of executive functioning. In a baseline condition, high susceptible individuals performed significantly better on one of the four tests (the Wisconsin Card Sorting Test). The role of increased cognitive flexibility in hypnotic susceptibility is considered as a possible component of the dissociated control model of hypnosis.

What are the cognitive mechanisms underlying hypnotic experience? Although there has been a great deal of debate over the nature of hypnosis either as a discrete state or as an individual difference, there has been little explicit discussion of the mechanisms by which hypnosis occurs (see Kirsch & Lynn, 1998, for review). Neo-dissociation theory (Hilgard, 1986) posited a dissociation in consciousness as the mechanism for hypnotic experience, whereas socially oriented theories (e.g., Spanos, 1986) have focused on the participant’s ability to detect social cues and willingness to respond to hypnotic suggestions (see Kirsch & Lynn, 1995, for review). Another alternative is the dissociated-control model, which uses an information-processing model of hypnosis based on dissociations of executive functioning (Woody & Bowers, 1994).

The dissociated-control model (Bowers, 1992; Woody & Bowers, 1994; Woody & Sadler, 1998) characterizes the inability to monitor or govern
basic motor and perceptual functions associated with hypnotic suggestion as breakdowns between contention-scheduling mechanisms and a supervisory attentional system. Contention-scheduling mechanisms are responsible for initiating and carrying out basic motor and cognitive functions. The supervisory attentional system is responsible for directing goals and intentions in addition to monitoring and indirectly modulating the contention-scheduling processes. According to the authors, hypnotic experiences occur when hypnotic suggestions inhibit the supervisory attentional system, thereby weakening the connections to the contention-scheduling mechanisms. This weakening allows the contention-scheduling mechanisms to originate some degree of direct motor and information-processing activity. The preservation of independent activity at the level of contention scheduling during a hypnotic experience would be consistent with clinical observations that, while hypnotized, many basic tasks may still be carried out, whereas more complicated and goal-directed tasks are inhibited. The area of the brain most associated with planning, organization, selective attention, and inhibitory control is that of the frontal lobes (Stuss & Benson, 1984).

The dissociated-control model of hypnosis originated from cognitive research with frontal lobe dysfunction patients (Norman & Shallice, 1986). Woody and Sadler (1998) suggest that hypnotic behavior can be likened to these pathological conditions in a functional but not a structural sense. Patients with frontal lobe dysfunction often appear quite capable of initiating and performing several tasks individually, while unable to coordinate and successfully prioritize the execution of multiple tasks simultaneously. This ability has been traditionally referred to in neuropsychological theory and research as “executive functioning” (Lezak, 1995). According to the dissociated-control model, executive-functioning deficits found in frontal lobe dysfunction are the result of a damaged supervisory-attentional system that no longer governs the contention-scheduling mechanisms necessary for complex and goal-directed behaviors. Indeed, frontal lobe dysfunction patients perform poorly on tests designed to measure aspects of the supervisory-attentional system, such as volition, planning, and cognitive flexibility (e.g., Norman & Shallice, 1986; Shallice & Burgess, 1991).

Contemporary hypnosis theorists noted the performance deficit similarities with hypnotized participants and suggested that the dissociated-control model may be able to elucidate the cognitive mechanisms for hypnosis as well. Indeed, Gruzelier and Warren (1993) used tests of verbal and spatial fluency prior to and during hypnosis. The results supported a pattern of decreased executive functioning during the hypnosis condition consistent with the dissociated-control model. Interestingly, highly susceptible participants have demonstrated decreased ability on tests of memory that are sensitive to frontal lobe damage, both within
and outside of the context of hypnosis (Woody & Farvolden, 1998). The authors interpreted the decreased baseline performance as evidence for possible information-processing differences related to hypnotic susceptibility beyond the hypnotic condition itself.

Decreased executive functioning, both with and without the hypnotic context, leads to an interesting extension of the dissociated-control model of hypnosis, namely the process by which the supervisory-attentional mechanism is loosened in the hypnotically susceptible individuals. The cognitive impairments of frontal lobe dysfunction are markedly severe and often refractory to treatment (Stuss & Benson, 1984). Whereas hypnotic experience may appear functionally similar to frontal lobe dysfunction, highly susceptible individuals maintain the ability to resume normal levels of cognitive operation. This suggests there may be additional cognitive processing mechanisms that can allow the supervisory-attentional system to regain control over the contention-scheduling mechanisms’ independent operations in hypnotically susceptible individuals. There may be several variations in cognitive processing by which this is achieved. The first is a deficit model of hypnotic susceptibility in which highly susceptible individuals have particularly poor supervisory-attentional abilities that are magnified during the hypnotic context. Another possibility is that, as suggested by Gruzelier and Warren (1993), highly susceptible individuals are more flexible in their cognitive processes. In this case, the supervisory-attentional and contention-scheduling mechanisms are working so efficiently to allow for periods in which contention scheduling is carried out on a time-limited “auto-pilot” during hypnosis.

The purpose of the current study is to explore further the complex relationship between hypnotic susceptibility and executive functioning. We selected four tests that previously have been demonstrated to assess executive-functioning deficits in frontal lobe dysfunction: The Controlled Oral Word Association Test (FAS) (Benton & Hamsher, 1989); the Stroop Color Naming Test (Stroop, 1935); the Towers of Hanoi (Shallice, 1982); and the Wisconsin Card Sorting Task (Heaton, 1981). These tests also reflect a diversity along verbal and visual-spatial modalities to test the range of potential differences in executive functioning (as suggested by Lezak, 1995). To the extent that highly susceptible individuals are predisposed to an inhibiting of the supervisory-attentional system by cognitive mechanisms similar to those seen in frontal lobe dysfunction, we expect performance decrements on a test battery of executive functioning previously used with frontal lobe dysfunction patients. Alternatively, it is also possible that the process of inhibiting the supervisory-attentional system during hypnotic contexts requires improved baseline executive functioning, in which case performance on the frontal lobe tests should be superior for high susceptible participants.
METHOD

Participants were chosen from introductory psychology classes offered at The Pennsylvania State University. In an initial group screening procedure, the Harvard Group Scale of Hypnotic Susceptibility (HGSHS; Shor & Orne, 1962) was administered to approximately 400 undergraduates. Nine high susceptible (hypnotic susceptibility score of 10 or more) and 7 low susceptible (hypnotic susceptibility score of 3 or less) individuals were chosen to participate in this study for extra credit. To better determine the extent to which differences in executive functioning are related to hypnotic experience as an individual difference, all participants remained blind to this study’s inclusion criterion.

Participants were brought individually into the lab where they were given a written explanation of the study and an informed consent form. Following the completion of these forms, the participants were seated in front of a PC computer. The instructions for each part of the experimental protocol were then provided. The entire testing session lasted approximately 1 hour.

Controlled Oral Word Association Test (FAS). Participants were instructed to generate as many words that began with the target letters F, A, and S. They were told that responding with proper nouns, numbers, and the same word with different endings (e.g., plays, player, playing) would be considered an error. Participants were given 60 seconds to complete each of the three trials. The total number of correct words and number of errors were recorded for each trial by the experimenters.

The Stroop Color Naming Test. A computer program generated screens of 50 words (five columns of 10 words each) consisting of the names of colors (e.g., blue, red, green, and yellow), which were presented on a black background in a variety of colors but one always incongruous to the named color (the word red would never appear in the color red). Participants were instructed to quickly read aloud the color each word was presented in, not the word itself, and then press the return key to advance to the next screen. Five screens of words were presented. The response time to press the return key was recorded for each screen and an average response time was then computed.

The Towers of Hanoi. A computer program generated a graphic representation of three pegs with three blocks of different sizes stacked on the left peg. Participants were instructed to move all three blocks to the right peg with the following rules: (1) only one block could be moved at a time; (2) only the top block on a peg could be moved; and (3) the larger blocks could never be placed on top of a smaller block. Participants would first select the peg they wanted to move a block from and then select the peg they wanted to move a block to. If a move would violate one of the three rules, the phrase “illegal move” appeared across the screen. The
computer scored total number of moves and total number of illegal moves attempted.

The Wisconsin Card Sorting Test (WCST). The WCST was computer administered according to standardized criteria (Heaton, 1981). Briefly, four stimulus cards with symbols differing in color, shape, and number were presented at the top of the screen, and response cards were presented individually at the bottom. The participant was instructed to place each response card below one of the four top stimuli cards and was told by the computer and the experimenter whether the pairing criterion was right or wrong. Guided by the feedback, the participant was to try to get as many cards as possible right. After pairing 10 consecutive cards by the first criterion (color), he or she was to shift to the second one (shape), and then to the third one (number). This procedure was repeated twice or until all 128 response cards had been used. The indices considered for this experiment were: total number of correct trials, total number of errors, total number of perseverative errors (those errors where the participant continues to sort the cards to a criterion after the experimenter has changed it), and number of trials to complete the first criterion.

Patients with frontal lobe damage typically show a great deal of difficulty with these tasks. They are unable to generate multiple responses to the FAS. On the Stroop, these patients often show increased latencies to respond. Frontal lobe patients often find the Towers of Hanoi and the Wisconsin Card Sorting Test particularly frustrating due to the task demands for abstract reasoning and flexible planning. These patients usually are unable to generate a strategy for the Towers task and frequently break Rules 2 and 3. Patients often are unable to maintain a response set on the WCST long enough to meet criterion and have difficulty shifting set criterion once achieved, thereby creating numerous perseverative errors (Lezak, 1995).

Following the completion of the experimental protocol, all participants were asked to guess the primary hypothesis. None of the participants correctly identified the link between hypnotic susceptibility and performance on the test battery. An alpha level of .05 was used to determine statistically significant group differences. All comparisons were made with independent group $t$ tests using the SAS software package.

**RESULTS**

Highly susceptible participants were able to complete the WCST with fewer trials, $t(14) = 2.21, p < .04$, suggestive of increased cognitive flexibility, including the ability to detect relevant abstract information and shift cognitive set. However, there were no additional significant group differences in performances (see Tables 1 and 2).

To examine the relationships between tests, indices from each were correlated using Pearson’s $r$ (see Table 3). Hypnotic susceptibility was also included as a binomial variable reflecting the high and low groups.
A nonsignificant positive correlation was found between the total number of moves on the Towers of Hanoi and the total number of correct moves on the Wisconsin Card Sort, perhaps reflecting similar visual-spatial processing abilities that both tests measure. Both tests show weaker, nonsignificant correlations to the FAS total words and Stroop average reading time, in keeping with the inferred relative independence between these measures as mentioned by Gruzelier & Warren (1993).

**DISCUSSION**

The purpose of the present research was to evaluate the cognitive mechanisms that underlie hypnotic susceptibility in a baseline condition. The dissociated-control theory suggests that hypnotic experience may be explained through the dissociation of a supervisory-attentional system and contention-scheduling mechanisms. The current study found no evidence to suggest that highly susceptible individuals demonstrate a predisposition for executive functioning deficits. Rather, the
single significant finding obtained suggests that hypnotic susceptibility is associated with superior cognitive flexibility (consistent with Crawford & Gruzelier, 1992; Gruzelier, 1998). Specifically, the highly susceptible participants were able to complete the WCST with fewer trials, thereby demonstrating an increased ability for abstract thinking, set shifting, and inhibition of perseverative responses. The word fluency and attention scores for highly susceptible participants were higher than for low, but these differences were not significant. A similar nonsignificant trend was reported on measures of word fluency by Gruzelier and Warren (1993). Clearly, the findings from the present study must be interpreted with caution, because the sample sizes were quite small, and the chances of missing a real group difference are relatively high. However, nothing in these findings suggests that hypnotic susceptibility is associated with baseline frontal lobe dysfunction.

The results of our study suggest that cognitive flexibility may be an important qualitative feature that contributes to hypnotic susceptibility. Additional research in hypnosis and source memory indicates that hypnotized participants provide less detail in their recall of material and remember the “gist” of information rather than details (Brainerd, Reyna, & Brandse, 1995). With regard to dissociated-control theory, this may indicate that highly hypnotizable people process information in a more fluid manner which then mediates any differences in executive functioning. Future theorizing and research should address cognitive flexibility as a possible cognitive mechanism in hypnotic susceptibility in addition to executive functioning deficits as related to hypnotic experience, perhaps by including measures such as the Cognitive Flexibility Scale (Martin & Rubin, 1995) and the Alternate Uses Test (Lezak, 1995).

The current study addressed only hypnotic susceptibility and not hypnotic experiences. Thus, there is the possibility that the hypnotic situation itself brings forth a condition associated with less executive or frontal lobe functioning independent of baseline functioning. One intriguing model was presented by Woody and Szechtman (2000) in discussing hypnotic hallucinations. Such a possibility suggests that
hypnosis involves limbic system processes that bring forth processes similar to fixed action patterns that result in a dissociation between the normal relationship involving the “feeling of knowing” and sensory feedback as described by Damasio (1999). In such a situation, hypnosis would invoke processes that work below the level of awareness as with fixed-action patterns and leave the individual without the feeling of willed action. In the context of the present study, it may be the high susceptible individual with the greater cognitive and emotional flexibility that allows the appropriate condition to evoke these evolutionary-based fixed-action patterns.

References


Beitrag der Frontallappen zu Hypnose-Suggestibilität: neuropsychologisches Screening der Exekutivfunktion

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Contributions du lobe frontal à la susceptibilité hypnotique: un filtrage neuropsychologique des fonctions exécutives

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Résumé: La théorie actuelle sur les mécanismes cognitifs de l’expérience hypnotique suggère que l’hypnose est induite par une dissociation entre la gestion de l’ordonnancement des contraintes et le système attentionnel de supervision. Cette théorie est basée sur des recherches neuropsychologiques effectuées sur des patients atteints de dysfonctionnements du lobe frontal, qui ont manifesté un déficit de performance similaire au fonctionnement...
exécutif d’individus hypnotisés. Afin de tester une extension de cette théorie, des participants hautement susceptibles ($n = 9$) et faiblement susceptibles ($n = 7$) ont été soumis à 4 tests de fonctionnement exécutif. Dans l’état normal, les individus hautement susceptibles ont obtenu des résultats significativement meilleurs dans l’un des 4 tests (le Wisconsin Card Sorting). Le rôle d’une flexibilité cognitive accrue dans la susceptibilité hypnotique est considéré comme une composant possible du modèle de contrôle dissocié de l’hypnose.

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Las contribuciones de los lóbulos frontales a la susceptibilidad hipnótica:
Una prueba neuropsicológica de funcionamiento ejecutivo

Deane Aikins y William J. Ray

Resumen: La teoría actual sobre los mecanismos cognitivos de la experiencia hipnótica mantiene que la hipnosis depende de una disociación entre los mecanismos de contención y un sistema supervisor de atención. Esta teoría se basa en la investigación neuropsicológica con pacientes con disfunción en los lóbulos frontales, quienes muestran déficits en funciones ejecutivas similares a los de los individuos hipnotizados. Para investigar una extensión de esta teoría, administramos cuatro pruebas de funciones ejecutivas a individuos con alta ($n = 9$) y baja ($n = 7$) susceptibilidad hipnótica. En una condición de línea base, los individuos muy susceptibles se desempeñaron significativamente mejor en una de las cuatro pruebas (la Prueba de Clasificación de Cartas de Wisconsin). Consideramos al aumento de flexibilidad cognitiva en la susceptibilidad hipnótica como un posible factor en el modelo de hipnosis de control disociado.

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HYPNOTIC COLOR BLINDNESS AND PERFORMANCE ON THE STROOP TEST\textsuperscript{1}

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Abstract: A suggestion for hypnotic color blindness was investigated by administering a reverse Stroop color-naming task. Prior to the suggestion for color blindness, participants learned associations between color names and shapes. Following the color blindness suggestion, participants were required to name the shapes when they appeared in colors that were either congruent or incongruent with the learned associations. The 18 high hypnotizable participants who passed the suggestion were slower to name (a) shapes in which the color name was incongruent with the color in which it was printed, (b) “unseen” rather than “seen” shapes, and (c) color-incongruent shapes that were printed in the color in which they were “color-blind.” These patterns are discussed in terms of potential cognitive and social mechanisms that may mediate responses to hypnotic color blindness.

Hypnotic blindness has traditionally been regarded as one of the classic examples of the alleged division of awareness that occurs in hypnosis (Charcot, 1890, Hilgard, 1977). Many of the studies that investigated hypnotic blindness have found that hypnotized participants report a subjectively compelling experience of not seeing some aspect of their visual field (for a review, see Bryant & McConkey, 1999). Many of these studies have also found that hypnotically blind participants perform as if they are processing visual information despite their reported phenomenal experience of blindness (Bryant & McConkey, 1989a, 1989b, 1991). These findings are consistent with proposals that hypnotic blindness can be described as a division of implicit and explicit perception of the visual information (Kihlstrom, Barnhardt, & Tataryn, 1992).

One form of suggestion that lends itself to testing the proposal that visual information is processed normally during hypnotic blindness is color blindness. A number of earlier studies investigated hypnotically induced color blindness (Blum & Porter, 1973; Blum, Porter, & Geiwitz, 1978; Cunningham & Blum, 1982; Harvey & Sipprelle, 1978; Miller, Lundy, & Galbraith, 1970). In a series of studies, Blum and colleagues

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reported that a suggestion for visual blurring of either color or form of consonants resulted in poorer identification of the features of tachistoscopically presented letters (Blum & Porter, 1973; Blum et al., 1978). In contrast, Miller et al. (1970) reported that the hallucination of a color filter with physical features that should have allowed perception of a number within a stimulus did not result in participants reporting that number. Similarly, other findings have indicated that suggested color blindness does not influence participants' responses on complex tests of color perception (Cunningham & Blum, 1982; Harvey & Sipprelle, 1978), despite participants reporting appropriate alterations in visual experience. Overall, these findings suggest that a distinction exists between phenomenal experience of color blindness and behavioral performance on indirect measures of visual perception.

This study reports a further investigation of the influence of a hypnotic suggestion for color blindness through performance of a modification of the Stroop Color Interference Test (Stroop, 1935). The Stroop Test was developed as a measure of cognitive interference, because it requires participants to name the color in which a word is printed; a proportion of the words, however, are the names of colors that are printed in colors that are incongruent with the color name (e.g., the word blue may be printed in red). Many studies have reported an interference effect in which color-incongruent words are named much slower than color-congruent words (see MacLeod, 1991). This form of the Stroop Test is inappropriate for the study of hypnotic color blindness, however, because of the salient demands of asking "color-blind" hypnotic participants to name colors. That is, it is inappropriate to suggest to a participant that they cannot see a specific color and then ask the participant to name the "unseen" color. An alternate form of the Stroop Test has adopted a procedure in which participants learn to associate a color with a word or picture and then name the word or picture when they are presented in colors that are either congruent or incongruent with the initial learning. This paradigm has resulted in a robust Stroop interference effect (Dunbar & MacLeod, 1984; Dyer & Severance, 1972; Gumenik & Glass, 1970; MacLeod & Dunbar, 1988) and is suited to testing information processing in hypnotic color blindness, because it requires participants to name objects (rather than colors) as an index of interference caused by perception of the color of the object. Accordingly, we adopted MacLeod and Dunbar's paradigm and required participants to learn an association between color names and specific shapes. We then asked participants to name these shapes when they appeared in colors that were either congruent or incongruent with the initial associations.

An additional rationale for adopting this paradigm was to control for the possibility that hypnotized participants might respond to a suggestion for hypnotic blindness by looking away from the designated object. Social-psychological theorists suggest that in order to meet the
experimenter’s demands for a hypnotic suggestion for blindness, participants might engage in strategies that result in them not looking at the designated event (Spanos, Flynn, & Gabora, 1989). The reverse Stroop Test controls for this possibility, because interference on the test indicates focus on the specific object of the suggested blindness. Accordingly, we propose that indexing performance on the reverse Stroop Test during suggested color blindness represents a more rigorous index of implicit processing during suggested blindness. We hypothesized that participants who reported a subjective experience of color blindness would nonetheless display interference on the Stroop Test.

METHOD

Participants

Thirty-two (25 female and 7 male) high hypnotizable participants of mean age 19.24 years (SD = 5.37), 23 medium hypnotizable participants (13 female and 10 male) of mean age 19.91 years (SD = 4.58), and 30 low hypnotizable participants (22 female and 8 male) of mean age 20.67 years (SD = 5.98), who were first-year psychology students at the University of New South Wales, participated in this experiment in return for research credit. Participants were selected on the basis of their extreme scores on 10-item tailored versions of the Harvard Group Scale of Hypnotic Susceptibility: Form A (HGSHS:A; Shor & Orne, 1962) and the Stanford Hypnotic Susceptibility Scale: Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962). On the HGSHS:A, highs scored in the range of 7 to 10 (M = 7.88, SD = 0.78), mediums scored in the range of 4 to 6 (M = 5.26, SD = 0.96), and lows scored in the range of 0 to 3 (M = 2.10, SD = 0.99). On the SHSS:C, highs scored in the range of 8 to 10 (M = 8.91, SD = 0.80), mediums scored in the range of 4 to 7 (M = 5.91, SD = 1.00), and lows scored in the range of 0 to 3 (M = 1.90, SD = 1.03).

Apparatus

Stimuli were presented on a Toshiba Pentium-based laptop computer running the Inquisit experiment presentation software. A clip-on microphone was connected to the laptop’s microphone port for response recognition. The stimuli were image files representing geometric shapes in white or in color. All stimuli were presented on a black background.

Procedure

An experimenter welcomed participants, explained that they would be hypnotized and given a number of hypnotic suggestions, and obtained informed consent. The experimenter then presented participants with two shapes (a circle and a triangle) and told them that their task was to learn the word that was presented with each shape (circle-red, triangle-blue). Each shape was initially presented twice in a white color, and the associated word was superimposed across the shape until
participants correctly named the word. Participants were then presented with a shape-naming test that comprised four presentations of each shape in which the shape was always colored white. Response latencies were recorded to a file on the laptop, and the experimenter recorded the response for each trial. On these trials, the word was presented for 500 milliseconds after the participant named the word associated with the shape, and there was a 2-second interval between trials. This task was performed to ensure a strong association between the shape and the associated word.

The experimenter then administered a standard hypnotic induction and gave suggestions for hand lowering, moving hands apart, mosquito hallucination, taste hallucination, arm rigidity, dream, age regression, and arm immobilization. The experimenter then instructed participants to open their eyes and placed the laptop in front of them on a small table. The shape-naming task was then administered again, with each shape presented six times in random order with the shapes colored white. The word was presented for 500 milliseconds after the participant named the shape with a 2-second interstimulus interval. Participants were then instructed to close their eyes, and the suggestion for color blindness was administered. The experimenter suggested that participants would not be able to see a target color; half the participants received a suggestion to not see the color red, and half received a suggestion to not see the color blue. Participants were then asked to open their eyes and describe what they saw as a colored square (a red square for those suggested to not see red and a blue square for those suggested to not see blue) was presented on the laptop screen. Participants who reported seeing the color were administered a second suggestion and again asked to describe what they saw. The experimenter then presented a square of a different color and asked participants to describe what they saw.

The experimenter then administered the shape-naming task. Participants were instructed to respond with the word associated with each shape (as they had previously). Each shape was presented 20 times (i.e., 40 trials); on half the trials, each shape was red, and on half the shape was blue. That is, half the trials were presented in the “seen” color and the remaining were presented in the “unseen” color. Further, in half the presentations, the color was congruent with the shape name, and in the other half, the color was incongruent with the shape name. That is, there were four conditions with 10 trials in each condition: “unseen”-congruent, “unseen”-incongruent, “seen”-congruent, and “seen”-incongruent.

**Results**

*Color Blindness Suggestion*

Eighteen (56%) high hypnotizable and no medium or low hypnotizable participants passed the suggestion for color blindness. In terms
of hypnotizability scores, there were no significant differences between highs who passed (HGS: A, M = 8.11, SD = 0.83; SS: C, M = 9.11, SD = 0.83) and those who failed (HGS: A, M = 7.64, SD = 0.83; SS: C, M = 8.64, SD = 0.63) the suggestion. Subsequent analyses focus on those high hypnotizable participants who passed the suggestion for color blindness.

Response Latencies on the Reverse Stroop Test

Table 1 presents the mean response latencies for the reverse Stroop Test. Mean response latencies are based on correct responses and those that occurred within 2 seconds of the stimulus onset. Overall, there were 54 responses (7.5%) excluded from analyses. Participants who received the suggestion to not see the color blue and those instructed to not see the color red did not differ on any dependent variables and, accordingly, were treated as one group. A 2 (color congruence) × 2 (color blindness) repeated measures analysis of variance (ANOVA) of response latencies indicated significant main effects for color congruence, F(1, 17) = 52.17, p < .001, and color blindness, F(1, 17) = 5.01, p < .05. There was no interaction effect for Color Congruence × Color Blindness, F(1, 17) = 1.46, ns. That is, participants named color-incongruent shapes more slowly than color-congruent shapes and named shapes where they were “blind” to the color more slowly than those to which they were not “blind.” In terms of the specific hypothesis of the study, hypnotically blind participants displayed slower responses for color-incongruent shapes than color-congruent shapes to which they were “blind,” t(17) = 2.83, p < .01, and those to which they were not “blind,” t(17) = 3.89, p < .001.

DISCUSSION

Whereas half of the high hypnotizable participants passed the suggestion for color blindness, they nonetheless demonstrated a robust interference effect for shapes to which they were reportedly color-blind. Even though these participants stated that they could not see the specified color of the shapes, they were slower to color name those shapes that were presented in a color that was incongruent with the color-name associated with that shape. This finding is consistent with previous
reports that color blindness does not affect performance on indirect measures of visual performance (Cunningham & Blum, 1982; Harvey & Sipprelle, 1978; Miller et al., 1970). These findings are also consistent with evidence that hypnotically blind participants process visual information (Bryant & McConkey, 1989a, 1989b).

This finding provides further support for the proposal that a division exists between phenomenal awareness during a suggestion for hypnotic blindness and processing of visual information. That is, it appears that although participants reported being able to achieve a sense that they could not see the specified color, they nonetheless demonstrated an interference effect that relies on visual processing of that color. This finding may be considered in terms of Kihlstrom et al.’s (1992) notion of a dissociation between implicit and explicit expressions of visual perception. Alternately, it may be argued from a social psychological perspective that the high hypnotizable participants reported color blindness in response to salient demand characteristics (Spanos, 1986). This view would argue that responding to experimental demands would be difficult on the Reverse Stroop Test, because the automatic interference created by the incongruity of shape name and color cannot be readily overcome by intentional strategies.

The finding that participants had slower color naming on shapes that they were “blind” to than those that they were not “blind” to may be attributed to a number of explanations. It is possible that the cognitive load experienced by maintaining a suggestion for color blindness was heightened when the critical color was presented, and this resulted in reduced cognitive resources available for color naming. Dual task paradigms indicate that maintaining a suggestion for hypnotic blindness is demanding on attentional resources (Bryant & McConkey, 1990). Participants may also have been confused about the appropriate response when they were presented with shapes that they were instructed not to see. This ambiguity about the expected response may have contributed to participants’ deliberating about their response, and this may have been reflected in delayed response time.

This finding argues against the social-psychological view that hypnotic blindness is achieved simply by participants visually avoiding the event that is the focus of the hypnotic blindness. It appears that hypnotically blind participants do report phenomenal blindness when they are focusing on the target event, and this is indicated by the interference of color-incongruent stimuli on participants’ reaction times. Moreover, recent brain imaging research indicates that alterations in subjective experience are accompanied by changes in the activation of perceptual processing areas of the brain (Szechtmann, Woody, Bowers, & Nahmias, 1998; Kosslyn, Thompson, Costantini-Ferrando, Alpert, & Spiegel, 2000). These findings are consistent with the interpretation that reported
visual alterations are not necessarily explained by compliant responding to demand characteristics.

We recognize that the current design does not preclude the possibility that participants were responding simply in terms of demand characteristics. Replication of this study with a real-simulating paradigm (Orne, 1959) would clarify the role of demand characteristics in visual processing in hypnotically induced color blindness. Further, administering suggestions for global (rather than selective) color blindness and suggested blindness of colored objects (rather than the colors themselves) would further delineate the features associated with hypnotically suggested color blindness. More systematic study of color blindness that encompasses contextual and cognitive parameters could provide a useful means to test the utility of prevailing hypnosis theories for understanding information processing in hypnosis.

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**Hypnotische Farbenblindheit und Ausführung des Stroop-Tests**

**David Mallard und Richard A. Bryant**

**Zusammenfassung:** Eine Suggestion von Farbenblindheit in Trance wurde durch Anwendung einer Stroop-Farbenbenennauaufgabe in umgekehrter Reihenfolge untersucht. Vor der Suggestion der Farbenblindheit lernten die Probanden Assoziationen zwischen Farbnamen und [geometrischen] Figuren. Nach der Suggestion der Farbenblindheit mussten die Probanden die Figuren benennen, wenn sie in Farben erschienen, die entweder mit den gelernten Assoziationen kongruent oder inkongruent waren. Achtzehn hochsuggestible Probanden, die die Suggestion ausführten, waren bei folgenden Benennaufgaben langsamer: (a) beim Benennen von Figuren, bei denen der Farbname mit der Farbe, in der er gedruckt war, inkongruent war, (b) beim Benennen von “ungesehenen” im Vergleich zu “gesehenen” Figuren, und (c) bei farb-inkongruenten Figuren, die in der Farbe gedruckt waren, in der die Probanden “farbenblind” waren. Diese Muster werden in bezug auf mögliche kognitive und soziale Mechanismen diskutiert, die Reaktionen auf hypnotische Farbenblindheit beeinflussen könnten.

**Daltonisme hypnotique et performance au test de Stroop**

**David Mallard et Richard A. Bryant**

**Résumé:** Une hypothèse sur le daltonisme hypnotique a été étudiée en administrant un test de Stroop inverse sur le nommage de couleurs. Avant la
suggestion du daltonisme, les participants ont appris des associations entre des formes et des couleurs. Suite à la suggestion de daltonisme, les participants ont dû nommer les formes lorsqu’elles apparaissaient dans une couleur correspondant ou pas aux associations apprises. Les 18 participants hautement hypnotisables qui ont subi la suggestion ont été plus lents à nommer (a) les formes dont le nom de la couleur ne correspondait pas à la couleur dans laquelle il était imprimé, (b) les formes “invisibles” plutôt que les formes “visibles”, (c) les formes d’une couleur ne correspondant pas à une association et affichées dans une couleur à laquelle ils étaient “aveugles”. Ces motifs sont analysés en terme de mécanismes cognitifs et sociaux pouvant potentiellement expliquer le daltonisme hypnotique.

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Ceguera hipnótica de color y desempeño en la prueba Stroop

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Resumen: Investigamos la sugestión de ceguera hipnótica de color en una tarea de Stroop inversa de nombramiento de colores. Antes de la sugestión para la ceguera de color, los participantes aprendieron asociaciones entre colores y formas. Después de la sugestión de ceguera de color, le pedimos a los participantes que nombraran las formas cuando aparecían en colores que eran congruentes o incongruentes con las asociaciones aprendidas. Los 18 participantes muy hipnotizables que pasaron la sugestión mostraron mayor lentitud al nombrar (a) las formas en que el nombre de color era incongruente con el color en que estaban impresas, (b) formas “no vistas” en comparación con las “vistas,” y (c) formas de color incongruente que estaban impresas en el color para el que los participantes tenían “ceguera de color.” Discutimos estos patrones desde el punto de vista de los potenciales cognitivos y los mecanismos sociales que pueden explicar las respuestas a la ceguera hipnótica de color.

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BEING “THE OTHER THERAPIST”:
The Varieties of Adjunctive
Experience With Hypnosis

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Abstract: Clinicians who utilize hypnosis in their practices are frequently approached with requests to participate in the care of patients who are currently in treatment with a primary therapist. Surprisingly, a review of the literature indicated that no research has been done on this common practice. This article provides a discussion of some of the important issues as well as the variables to consider in deciding whether to enter into this arrangement. It will serve as a starting point in generating further research on this crucial topic.

Some patients who are currently engaged in psychotherapy express an interest in using hypnosis for a specific symptom or problem. As a result, practitioners who are known to be experienced in the use of hypnosis are often requested to provide adjunctive hypnosis. Surprisingly, although this is probably a common practice, it is rarely discussed in the literature. We believe it is necessary to work toward developing empirically based guidelines for practitioners with respect to: (a) discriminating legitimate requests from inappropriate ones; (b) identifying the specific challenges that such arrangements can create; (c) determining which variables predict success and satisfaction; and (d) developing ethically and legally compliant strategies for working as an adjunctive therapist.

In reviewing the literature, we found no references to this important topic in the past 30 years. Prior to that, papers by Cohen (1967) and Kaffman (1968) briefly mentioned the practice and simply recommended that adjunctive work should not be started until the primary relationship is firmly established. Spiegel and Linn (1969), in their paper on “the ripple effect,” addressed a number of the difficulties inherent in doing adjunctive work. They support the use of adjunctive therapy...
focused on symptom removal when the primary therapy is at an impasse. Rather than disrupting the “intactness of the primary transfer- ence” and leading to “unfortunate sequelae” (p. 56), alleviating a troubling symptom can actually cause a “ripple effect” that leads to improvements in self-esteem, mastery, skill development, and adaptation. This sequence of positive changes can also serve to dislodge the patient from a therapeutic stalemate by moving beyond the focus on symptoms and permitting a serious examination of deeper issues. Although there are admonitions sprinkled throughout the paper concerning the problems with adjunctive work—for example, that the primary and secondary therapist need to remain in contact—this was not the primary focus of this paper.

A query on the Internet revealed a lack of consensus about how practitioners respond to such requests. Reactions ran the gamut from not accepting such referrals due to past disastrous experiences, accepting only if the patient temporarily refrains from seeing the primary therapist during the course of adjunctive treatment, having both patient and primary therapist present in the adjunctive session, to accepting these referrals with few restrictions. With such a wide variety of responses, this topic is clearly worthy of clinical attention and empirical research. The use of hypnosis should be given serious consideration for several reasons. First of all, there is empirical evidence supporting the effectiveness of hypnosis when used properly for a variety of disorders (Fromm & Nash, 1997). There is also evidence from meta-analyses of research that the addition of hypnosis augments the therapeutic effect of cognitive therapy (Kirsch, Montgomery, & Sapirstein, 1995). Combining hypnosis with cognitive-behavioral techniques appears to be effective in treating obesity, pain, and anxiety disorders (Schoenberger, 2000). Recent reviews of the literature support hypnosis as an efficacious addition in the treatment of pain (Montgomery, DuHamel, & Redd, 2000), as well as numerous medical conditions, including asthma and irritable bowel syndrome (Pinnell & Covino, 2000). It has also been identified as a promising intervention in the treatment of trauma-related disorders (Cardeña, 2000). Further, some clinical therapists believe that inclusion of hypnosis can sometimes lead to more rapid change in psychodynamic therapies (Brown & Fromm, 1986).

Adjunctive hypnosis work can range from a simple intervention that involves mostly education of the patient and the primary therapist (which may not even entail a meeting with the patient), to working with a set of symptoms for a few sessions, all the way to a very complicated treatment involving the two therapists working closely together with the patient.

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2Society of Clinical and Experimental Hypnosis research e-mail list, November 1998.
ACCEPT OR REJECT?

The initial contact can help determine the appropriateness of the referral. Although it is not always clear whether a referral should be accepted, there are some clear criteria for rejection. Many patients are referred to find out “what happened” at a certain time in their lives, because the memory of that situation has somehow been compromised. It must be emphasized that there is no way to be certain of the truth about a memory that is uncovered in hypnosis, no matter how vivid and realistic, without independent, corroborating evidence. Consequently, it is best to refuse such referrals while educating both patient and therapist about why you are not accepting and under what circumstances adjunctive hypnosis work can best be practiced.

Another situation that requires education of the patient and therapist is the expressed wish to be “cured” of chronic symptoms in one or two sessions. If the unrealistic expectations persist, it is probably wisest to reject this kind of referral.

On the other hand, adjunctive hypnosis is indicated in the case of symptom removal, where the primary therapist may not be trained to provide the requested services or alternatively may be qualified but nonetheless concerned about the effects of shifting modes in the ongoing treatment. Examples of this would include the patient who is in long-term psychodynamically oriented psychotherapy but wants to give up smoking, needs to get on an airplane in spite of a flying phobia, wants relief from insomnia, or has difficulty tolerating the side effects of essential medical procedures.

SELECTION ISSUES: THE NATURE OF THE REFERRAL, AND SYMPTOM, PATIENT, AND THERAPIST VARIABLES

By being mindful of the pitfalls of working adjunctly and developing adequate selection criteria with respect to relevant referral, symptom, patient, and therapist factors, a therapist can do well with adjunctive treatment. Because it is important to “first do no harm,” if there are serious doubts or concerns, it is advisable to err on the side of denying the request for adjunctive therapy with hypnosis. Thus, for instance, if there is reason to be concerned about undermining the primary ongoing therapy, one should not accept a referral for adjunctive therapy.

Nature of the Referral

It is important to discuss concerns as well as underlying issues with the primary therapist in the referral process. Often, there may be a hidden agenda, such as the therapist’s frustration or the patient’s unspoken desire to change therapists, that can be detected by attending to who initiates the contact and how the idea to seek adjunctive therapy developed. It is useful to approach such requests from therapists as an
opportunity to provide brief (unpaid) consultation about a variety of alternative options. Sometimes these consultations can be very helpful to the primary therapist, by offering ideas or support that can prove productive. It is important to inquire about the primary therapy, including the length of time in treatment, the quality of the therapeutic alliance, and what therapeutic gains have been made thus far. In general, if there are significant problems or conflict in the primary therapy, it is safest to refrain from entering an adjunctive role.

Patient Variables

Research suggests that factors such as suggestibility, expectancies, motivation, and interpersonal dynamic aspects of engagement in the therapy may be important predictors of outcomes using hypnosis (Lynn et al., 2000). Also, previous positive experience with hypnosis makes it more likely that the patient is coming into the treatment with a realistic, hopefully optimistic, view of it. Having two therapists can be complicated, and it is essential that the patient have the ego capacity for the regression that is often part of the treatment.

Therapist Variables

It is most advisable to agree to see a patient when you know and respect the referring therapist. It is important to ask yourself if this is someone with whom you have good communication, a sense of trust, and a capacity to share the patient noncompetitively. The use of a strong collaborative strategy can help to prevent “splitting” and divisiveness. This is a scenario especially common with patients diagnosed with borderline personality disorder, wherein one therapist is viewed as the “good one” and the other as the “inadequate one.” Instead, by means of the collaboration, the therapeutic work as well as both positive and negative responses to treatment are deliberately shared by both therapists. Some patients feel supported by knowing that their two therapists are talking regularly about them and appreciate the fact that they themselves are not responsible for the conveying of information. Further, patients can internalize the adjunctive therapist’s “gratifying care” as a gift from the primary therapist and thus appreciate the therapist for having referred them for treatment. By actively sharing a patient, concurrent treatment can provide a kind of coparenting, and the patient can internalize the best of what is offered in a nonconflictual manner.

Nature of the Clinical Problem

In general, the more simple, circumscribed, and clearly defined the problem, the less likelihood there is of negative effects. It is especially important for an adjunctive therapist to be aware of documented efficacy for hypnosis when treating such circumscribed symptoms. Hypnosis can also be effective with symptoms that are more diffuse or in
helping to resolve an impasse in psychodynamic work. However, it is even more essential to approach the work judiciously, to agree upon treatment goals, and to provide ongoing opportunities to monitor the reactions of both patient and therapist to the sessions.

**ACCEPTING THE CASE**

What may appear to be a simple, straightforward request akin to a medication referral can actually lead to a very complex triangle with problems that none of the participants anticipated. If a case is accepted, the first crucial step is education about hypnosis. It is essential to discuss what hypnosis can and cannot do, and it is advisable to reinforce this by providing some type of written materials to reinforce the information (e.g., Wester, 1997). There is a lot of misinformation about hypnosis, including the erroneous beliefs that hypnosis is sleep and involves a loss of control and of consciousness. Thus, the therapist providing adjunctive therapy must ensure informed consent by all participants.

Another erroneous belief is that a few sessions of intensive hypnosis will eradicate symptoms or dissolve blocks. Symptom removal can occur readily but also can be complicated and require a protracted period to be eliminated or even ameliorated. One cannot assume that in one or two sessions the adjunctive therapist will be able to eliminate the symptom, terminate with the patient, and send him or her back to the referring therapist. It is also important to let the referring therapist know that you would be providing psychotherapy and that the patient would be in a hypnotic state only some of the time. Some change in the primary relationship is likely to result simply by establishing a secondary therapeutic relationship.

Further, it is imperative that the referring therapist understand that with hypnosis there may be an intensification of transference wherein the patient can quickly develop a close attachment to the hypnotherapist (Baker, 2000; Brown & Fromm, 1986). Although we conceptualize from a psychodynamic theoretical perspective, it is essential to understand that these strong feelings develop regardless of the theoretical modality in which the therapist is working. This is not something to be avoided, because “the therapeutic effect of hypnosis is likely to be inextricably linked to the management of the relationship in general, and the transference in particular” (Fromm & Nash, 1997, p. 64). By viewing the adjunctive work as being an extension of the primary therapy and having an impact on it, it is possible to prevent numerous problems and increase the likelihood of positive therapeutic effects. This means both therapists must be attuned to the impact of this expansion of the therapeutic relationship and keep in close contact about the nature and intensity of the transference.

Numerous potential negative effects can develop with the presence of two therapists. To begin with, if the adjunctive therapy with hypnosis
does not produce the desired symptom relief, the patient may hold the primary therapist responsible for the treatment failure. This can be intensified further if the patient has relevant historic issues such as parental failure to provide protection from harm. Alternatively, successful treatment with hypnosis may lead to other types of conflict. If the therapy with hypnosis leads to rapid, demonstrable change, the patient may become disenchanted with the slowness of the primary therapy and may want to terminate that treatment while continuing with the treatment using hypnosis. Also, because using hypnosis often creates a more supportive and gratifying setting, the patient may become frustrated and dissatisfied with the primary therapist’s more neutral stance. Without careful management, this can lead to a situation replete with ethical and interpersonal problems.

There are a variety of ways in which to structure the collaboration. One effective strategy is to invite the primary therapist to be present for the adjunctive sessions. Patients should be informed that this is a novel approach, and the risks and benefits should be enumerated and explored with them. It is especially useful with patients who are excessively anxious about hypnosis and need the perceived protection of their primary therapeutic relationship. It should be clarified that the adjunct therapist is the only one utilizing hypnosis and that the primary therapist is there to observe, provide support, and also serve as a source of information about the patient and his or her therapy up until that time. Although it should be apparent, it is desirable to state explicitly that this in no way serves as hypnosis training for the primary therapist. After one or two such sessions, the patient may no longer need the reassuring presence of the primary therapist. Because scheduling such sessions may be difficult, an alternative is to tape-record the hypnotic segment of the sessions and make the tape available to the primary therapist. Regardless of the structure of the sessions, it is important for the two therapists to have ongoing discussions about the adjunctive therapy in order to make the most positive use of the two ongoing therapies.

**Examples of Adjunctive Work**

To illustrate how such work might be carried out, we describe below six successful referral cases and one unsuccessful case.

**Case 1 (Dr. K.)**. Ericka, age 28, had been seen in therapy for 3 years and was working on developing autonomy from her father. Her therapist referred her for an intractable flying phobia that remained unchanged despite considerable discussion about how conquering the flying phobia would enable her to become more independent from her father. Hypnosis was used to enhance imaginal desensitization and facilitate cognitive restructuring after the desensitization was in place. Dynamic aspects emerged in the hypnosis and were referred back to her primary therapist, whom she continued to see weekly. Finally, rehearsal
techniques and in vivo desensitization completed the adjunctive work, which was terminated after nine sessions with the phobia resolved. She continued to finish working through the dynamic issues for almost 2 more years with her primary therapist. This case illustrates how one can focus on a specific symptom that had dynamic implications, although these dynamics were not addressed in the hypnotherapy.

Case 2 (Dr. K.). Monique, a 24-year-old magazine editor, was referred because of incapacitating headaches. Her primary therapist was an esteemed colleague with whom Dr. K. shared office space; this facilitated collaboration. After eight sessions working directly with the headaches, there was some improvement enabling the patient to work more regularly, manage the pain, and stop some headaches before they developed fully. However, the symptom was only partially ameliorated; severe headaches that could last several days still occurred during these first 2 months. Further, it became evident that psychodynamic issues were related to the headaches. During our sessions, spontaneous images of confrontations with the patient’s mother emerged. In discussing this with the primary therapist, it was decided that these images would be explored only in the concurrent primary therapy. As a result of that exploration, the primary therapist was able to help the patient to work through the fears of confronting her mother and her fear of her own emerging anger. The boundaries between the two therapists were kept clear, and the patient was quite comfortable with this division of labor. After a short hiatus (6 weeks) in our therapy, allowing the primary therapist to work through the dynamic issues, the patient returned to adjunctive work, which included not only working with the headaches but also rehearsal in hypnotic imagery of confronting her mother. The headaches became infrequent, and the patient terminated the adjunctive therapy but continued to work with the primary therapist on other issues. This case involved both symptomatic and dynamic work but with the emphasis on the former.

Case 3 (Dr. S.). Julie, a 40-year-old market researcher, was in psychodynamically oriented psychotherapy for 8 years when she was referred by her primary therapist for hypnosis for colonic dysmobility and pain management. Her symptoms of severe, disabling chronic constipation, pain, and bloating were unresponsive to medical treatment. She described the pain and pressure as feeling “like a migraine in my intestines.” The initial treatment plan was behaviorally oriented and focused on relaxation, safe-place imagery, and ego-strengthening suggestions of intestinal movement. A very positive relationship developed quickly, derived in part from what was perceived as Dr. S.’s gentle, informal, permissive style. Although Julie was very attached to her primary therapist with whom she had made enormous progress, the contrast between the two concurrent therapies created some conflict between her
acceptance of the rules of therapy and her longing for a more gratifying therapeutic environment. After discussing the fact that the greater permissiveness was a function of both the hypnosis and the type of treatment, the patient was able to bring these issues back to her primary therapy. The relaxation and suggestions of self-care were especially helpful, and most meaningful work centered around her spontaneous imagery of herself as a small child dealing with toilet training. Suggestions were offered to utilize her loving and accepting manner as a mother with her own children to interact with this younger version of herself. The treatment lasted 4 months, including regular phone contacts between the two therapists, with Julie bringing her conflicts back into her primary therapy. At the time of termination, she had some improvement in her gastrointestinal symptoms as well as significant reduction in her sense of shame. At a follow-up 2 years later, Julie reported that she was symptom-free. This case illustrates how what appears to be a straightforward focus on a target symptom can lead to more complex interpersonal dynamics.

Case 4 (Dr. S.). Sylvia, a 30-year-old stockbroker with lupus, was referred by her primary male therapist for treatment of insomnia. This short-term treatment lasted eight sessions as she developed self-soothing skills that were useful for both the insomnia and anxiety management. She found the adjunctive work both effective and enjoyable but was troubled by her growing awareness of “how much more comfortable I feel with a female therapist.” Knowing that the primary therapist was a very warm and compassionate psychologist, Dr. S. understood that Sylvia’s experience reflected transference phenomena that related to her issues with men. Sylvia recognized that this was useful material to explore in her primary therapy, and therefore her primary therapy was enhanced rather than disrupted by these troubling feelings. Within the next 2 years, the patient requested some further adjunctive work on three occasions for the specific symptoms of public speaking phobia and test anxiety. She had learned to keep Dr. S. in place as a resource without compromising the integrity of her primary psychotherapy. This case is another example of how adjunctive work can trigger transference issues. It also illustrates how successful adjunctive therapy can become a resource that is called upon as needed over time.

Case 5 (Dr. S.). Joshua, a 46-year-old writer, was being treated for depression. His therapist inquired about adjunctive work to help the patient with writer’s block and enhance his writing. In addition, he hoped that hypnosis could help expand the boundaries of his affective experience. Given the very positive transference that was in place and the richness of the primary work, Dr. S. wanted to add hypnosis as part of their work, rather than in conjunction with it. After discussing some possible treatment formats, all parties agreed to a trial of including Dr. S.
in the patient’s regularly scheduled sessions. Six such sessions took place. Joshua was very receptive to imagery, and the hypnosis was used to intensify his experience and bring together his images from past and present. During the hypnotic experience, his images and verbalizations were highly creative. In the first session, the primary therapist just listened and was present to experience the session together. Over time, as his primary therapist became more comfortable with the hypnosis, he was invited, with the patient’s permission, to speak at designated times in order to offer specific suggestions based on his intimate knowledge of the patient and his history. After six sessions, there was mutual agreement that sufficient therapeutic material had been generated such that the hypnosis was no longer necessary. Follow-up after 1 year indicated that Joshua had overcome the writer’s block and successfully published a book. This case illustrates how having both adjunctive therapist and primary therapist in the room during sessions can optimize and accelerate the effectiveness of the therapy using hypnosis. The therapists were able to focus on dynamic issues without complications and with a smooth transition back to the primary therapy.

Case 6 (Dr. K.). Jenny, a 43-year-old businesswoman, was referred by her female primary therapist, because, after 8 years of therapy, Jenny had been unable to stay in a relationship with a man for more than a month. The subsequent treatment, which lasted one and a half years, illustrates both the potential benefits and pitfalls of two concurrent therapies. Jenny had married at age 21 but divorced after a year because of many conflicts with her husband, who she felt was inattentive and unemotional. Her father died when Jenny was 6 years old, requiring her mother to hold down two jobs while Jenny had increased responsibilities at home. Jenny felt her mother didn’t pay attention to her, because she was always exhausted. Jenny isolated her emotions and consequently was unable to process and resolve her anger at her mother. Because she was unable to remember much about her father, Jenny thought hypnosis might help her to work through her blockage around men. In an age regression to her early childhood, Jenny did not visualize her father but instead saw an image of her mother being affectionate with another man. She felt how intensely she wanted this affection, and, although aloof and guarded in the waking state, she was now sobbing. Jenny reported the “breakthrough” to her primary therapist, whom she continued to see weekly. Jenny was surprised to find that what she was really missing and was angry about was the lack of affection from her mother. This emotional release went on for a number of sessions, with Jenny increasing her idealizing the process and the adjunctive therapist.

Both therapists kept in close contact during this time, as Jenny became increasingly dissatisfied with her primary therapist and her “lack of emotion and insight.” These discussions included a clarification of transference wherein Dr. K. had become the consoling and encouraging
father she had missed in her life while her primary therapist had become the withholding and ineffectual mother. In this role, Dr. K. was able to encourage Jenny to work it through in the primary therapy and resolve some of her anger at her mother and the lack of caring she felt growing up. This allowed Jenny to develop more trust with the primary therapist, enough so that she could become enraged at her but still maintain the relationship. She also began to venture into the world of intimate relationships. This was a strong beginning after only a few months of collaborative work. This work continued for a year and a half, with Dr. K.’s role as Father and the primary as Mother and with Jenny making definite progress. This very complicated case illustrates how dynamic work may be the focus in both the adjunctive treatment and the primary therapy. It also illustrates that sometimes adjunctive work can create unpredictable interpersonal dynamics that need to be understood and managed effectively.

Case 7 (Dr. K.). A 27-year-old woman, Rhonda, was being treated by the primary therapist for depression and an inability to stay in a relationship despite her charm and attractiveness. Rhonda’s commitment to therapy was erratic. She would use therapy as a support to help her break up with a partner, and then she would stop therapy sessions for months or even years. The primary therapist was frustrated with the sporadic treatment, because they never were able to explore and resolve the dynamics. The primary therapist suspected that there might be sexual abuse and wanted help with getting to feelings about the abuse. Although there were no clear memories of sexual abuse, Rhonda felt there might be something to what her therapist was saying and wanted to explore it further. Rhonda’s father was an alcoholic who had abused her physically on occasion and had a number of affairs outside his marriage. She did remember that her father was overly affectionate and physical with her.

Rhonda was quite frightened about what might emerge in hypnosis and requested the presence of her primary therapist during the first session. After an induction and enhancement of a feeling of safety and the option to return to her safe place whenever needed, imagery began with a recent problematic situation with her boyfriend. While watching TV, he had put his arm around her and began cuddling her. Although it was clear that this was not a sexual overture, Rhonda became highly agitated and felt “totally disgusted,” telling him to “get your filthy hands off me.” In re-creating this scene, Rhonda reexperienced the disgust and revulsion and was given suggestions to allow any other feelings or images that were connected to them to emerge. (This technique is similar to Watkins’s, 1971, Affect Bridge but without the suggestion to go back in time.) After a few minutes with no results, suggestions were offered to return to the feelings of safety and then, shortly thereafter, to return to the feelings of disgust. This alternating went on for about 20 minutes.
with no new images or emotions emerging, although Rhonda stated she felt more in control of these feelings at the end of the session. An appointment was scheduled for the following week, but a few days later she canceled it. She also left her primary therapist for a number of months and broke up with her boyfriend. This adjunctive therapy failed in part because the feelings that emerged were overwhelming, and Rhonda could most easily keep them in check by simply avoiding them. Perhaps more work with stabilization and safety prior to uncovering would have ameliorated this problem.

**CONCLUSION**

These cases presented a sampling of the types of issues, definitions of roles, and the unforeseen complexities that can emerge when doing adjunctive therapy with hypnosis. Although it is essential to proceed with caution and a full awareness of potential problems, being “the other therapist” can be a very productive and satisfying endeavor.

**REFERENCES**


Wenn man “der andere Therapeut” ist: Die verschiedenen begleitenden Erfahrungen mit Hypnose

Sharon B. Spiegel und Stephen Kahn

Zusammenfassung: Kliniker, die Hypnotherapie anwenden, werden häufig gebeten, an der Behandlung von Patienten, die sich gleichzeitig bei einem Primärtherapeuten in Behandlung befinden, mitzuwirken. Überraschenderweise hat eine Überprüfung der Literatur ergeben, dass zu dieser häufigen Praxis keine Forschung existiert. Der vorliegende Artikel befasst sich mit einigen wichtigen Problempunkten sowie mit den Variablen, die bei der Entscheidung zum Eingehen eines solchen Arrangements zu bedenken sind. Er ist als Ausgangspunkt für weitere Untersuchungen zu diesem wichtigen Thema gedacht.

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Etre “l’autre thérapeute”: les variétés d’expérience addictive avec l’hypnose

Sharon B. Spiegel et Stephen Kahn

Résumé: Les cliniciens qui utilisent l’hypnose dans leur pratique reçoivent fréquemment des demandes de patients qui sont déjà en traitement avec un thérapeute principal. Curieusement, la revue de la littérature indique qu’aucune recherche n’a eu lieu sur cette pratique courante. Cet article discute quelques uns des problèmes importants et des variables à prendre en compte avant de décider d’accepter cet arrangement. Il servira de point de départ afin de générer d’autres recherches sur ce sujet crucial.

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“El otro terapeuta”: Las variedades de las experiencias terapéuticas complementarias de hipnosis

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Resumen: Con frecuencia se pide a los terapeutas que utilizan a la hipnosis en su práctica que participen en el cuidado de pacientes que están en tratamiento con otro terapeuta. Es sorprendente que una revisión de la literatura indique que no se ha hecho investigación sobre esta práctica común. Este artículo
discute algunos de los puntos importantes así como las variables a considerar antes de decidir si se debe seguir esta práctica, y servirá como un punto inicial para generar más investigación en este importante tema.

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MATCHING HYPNOTIC INTERVENTIONS TO PATHOLOGY TYPES:
A Working Model for Expressive Psychotherapies

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Abstract: This article identifies Kohut’s typology of Guilty Man and Tragic Man as a clinically useful construct in outpatient psychotherapy. The author notes that an expressive approach focused on ambivalent conflict is indicated for the Guilty Man, and a restructuring expressive approach is indicated for the Tragic Man. A hypnosis technique is identified for use with each of these two approaches: the Door of Forgiveness technique (primarily for conflict-focused therapies) and the Conference Table Technique (for restructuring therapies).

The challenge of using hypnosis in expressive psychotherapy is usually not so much a matter of enabling the patient to be responsive to hypnosis; rather, the challenge is to help the patient use hypnosis therapeutically. Toward that end, this paper presents a model that enables the clinician to match expressive therapeutic interventions to the pathology encountered in the consulting room and to make decisions as to how hypnosis can best be incorporated into the expressive intervention. This approach is not empirically derived (though in principle it is research-testable) but instead emerges from psychoanalytic theory and practice. The logic of the model involves three propositions: (a) From a psychoanalytical point of view, psychological problems can be divided into two broad categories; (b) patients are best served if the expressive treatment intervention is properly matched with the particular problem presented; and (c) there are hypnotic procedures particularly well-suited to each treatment intervention. This paper is organized accordingly.

A BROAD TYPOLOGY OF PSYCHOPATHOLOGY

For the purposes of this paper, I propose two general types of pathology typically encountered in outpatient psychotherapy as viewed from...
a psychoanalytic perspective (Blanck & Blanck, 1994): conflict arising in the context of a reasonably mature psychic structure (structural conflict) and conflict arising in the context of a significant structural deficit (prestructural conflict). Kohut (1977) refers to this typology as Guilty Man and Tragic Man, stating:

It seems to me that, viewed in broad perspective, man’s functioning should be seen as aiming in two directions. I identify these by speaking of Guilty Man if the aims are directed toward the activity of his drives, and of Tragic Man if the aims are toward the fulfillment of the self. (p. 132)

When developmentally mature psychic structures are well articulated, psychological distress is primarily derivative of ambivalence around competing motives or drives, hence Guilty Man. Simply stated, neurosis can be conceptualized as due to conflicts around feelings. Guilt is often figural, for imagined sins of omission or commission. The treatment of choice is then a conflict-focused expressive psychotherapy aimed at resolving ambivalence.

On the other hand, when coherent psychic structures are not in place, psychological distress is embedded in the inability to distinguish fantasy from reality, self from other, inside from outside. As formulated by Blanck and Blanck (1994):

Splitting is the defensive arrangement at this second stage of development. It dissociates “all good” from “all bad,” which interferes with further integration of self and object representations. It keeps the good relationship with the mother intact in the face of frustration and protects the self against the overwhelming contamination of love by hatred. If it persists beyond this level, however, the result is pathological splitting. (p. 75)

This leads to a tragic impasse of the separation-individuation process. Hence, Tragic Man. The treatment of choice is then a restructuring expressive psychotherapy.

2I posit a third category, Helpless Man, that is less relevant to this paper, which is focused on expressive psychotherapies. The Helpless Man notion is derived from the cognitive-behavioral perspective (Bandura, 1977) and refers to Bandura’s concept of self-efficacy. Bandura emphasizes the patient’s belief in his own coping skills. One goal of treatment is to foster the patient’s sense of self-efficacy by setting a series of realistically attainable goals, the mastery of which enhances self-efficacy. Helpless Man, one can say, has problems with reality or with the external world. He may suffer from all kinds of phobias, psychophysiological complaints, maladaptive habits, uncomplicated posttraumatic stress syndrome, depression, and so on. He is not able to deal adequately with certain situations. This may be the product of faulty conditions leading to a host of anticipatory fears, aberrant physiologically based conditioned responses, and dysfunctional cognitions. What is required is essentially relearning and mastery, arguably distinct from expressive modes of therapy that require insight.
USE OF HYPNOSIS IN TREATING GUILTY MAN

Guilty Man and the Treatment of Choice: Conflict-Focused Expressive Psychotherapy

Guilty Man (i.e., the neurotic patient) struggles with ambivalence. Hence, he or she experiences guilt, shame, remorse, bitterness, miscarried grief, and self-recrimination. All of this is the result of unconscious impulses and feelings that are ward off, because they give rise to anxiety, thereby inhibiting adaptive expression of affect (Vaillant, 1997). In this situation then, the intervention of choice is expressive psychotherapy, with a focus on resolution of ambivalence or conflict.

An Example of a Hypnotic Intervention Compatible With Conflict-Focused Expressive Psychotherapy

Helen Watkins (1990) devised an undervalued hypnotic technique that she called the “Door of Forgiveness.” Originally, the goal was the reduction of guilt feelings by bringing the conflict into consciousness and thereby resolving it. The approach is deemed to be enhanced by hypnosis, because it creates a therapeutic context that invites articulation of the affectively charged experiences that define the core conflictual material. Content that arises with this technique typically involves situations, fantasies, and events from the past but may also relate to contemporary conflict outside the therapy hour or even within it. Hence, the Door of Forgiveness technique creates a therapeutic environment in which conscious and previously disavowed feelings can be jointly examined, refined, and brought to expression in service of resolving the ambivalence.

Watkins describes her technique as follows:

I hypnotize the patient, deepening by walking downstairs, and then suggest the following: “In front of us is a hallway at the end of which is the Door of Forgiveness. However, before you can reach the Door of Forgiveness, there may be other doors you may need to pass through. Look on either side of the hallway and tell me if you see any doors. . . . The purpose of entering the room is to resolve some experience, some relationship out of the past which involves guilt. . . . When there are no more doors to be seen, we walk to the Door of Forgiveness . . . . (1990, pp. 312-313).

A Case Example of the Door of Forgiveness Technique With a Neurotic Patient

A 32-year-old profoundly passive/dependent female is seemingly unable to be assertive in any meaningful way. She is unable to enjoy sexual intimacy, and her professional activities are devoid of fulfillment. Several years of psychotherapy have yielded little improvement. During the 15th session of a hypnotically based intervention, the exchange below occurred following the introduction of the Door of Forgiveness technique.
Patient: I see my mother... she is doing her chilly act, and she tries to cover it up with her smile... I won’t be a party to it anymore.

Therapist: Get it across to her.

—5 minutes of silence—

Patient: I’m very angry. You were not available for me emotionally. Away with your play acting.

Therapist: Yes, let’s talk about real things.

Patient: Yes, you never gave me what I needed. . . Will you ever see that? I want to slap her in the face. Wake up!

Therapist: Do it.

Patient: ... I would like to send her away.

Therapist: I have no further use for a phony mother.

Patient: Exactly.

Therapist: Send her away... and feel how that is.

—3 minutes of silence—

Patient: It seems as she goes away that she is dragging along a part of me.

Therapist: Do you want to hold on to a stage mother or are you going to choose for your adult life?

Patient: There is an image of an umbilical cord connected to her. I could cut it through and free myself from these oppressive ties, this stream of expectations that are merely repelled.

—3 minutes of silence—

Patient: I did it. . . I remain standing while my mother almost loses her feet, as if she needs me more than I need her. . . . I remain standing, sadly.

Therapist: But you are standing—standing straight and tall.

Patient: Yes, it is painful, but, also, now I can do what I want.

Therapist: Picture yourself tomorrow, next week. You can do whatever you want. You are free to lead your own life in your own way, without any oppression, without any unmet expectations. . . Feel it in your chest, feel it in your mind.

—2 minutes of silence—

Patient: I’m really loose now.

Obviously much of this work is abreactive. But it was followed by a working through process outside hypnosis that helped the patient recognize and eventually resolve a profoundly anger-saturated ambivalence—in some sense this intervention helped the patient begin to domesticate her aggressive propensities in service of self-reliance and individuation. With this emerging sense of mastery came a relief from immobilizing guilt and an element of genuine forgiveness. Hence, the patient was able to more satisfactorily assert herself in her relationship with her
husband and her coworkers. Clearly, the role of the therapist is to be empathetically supportive but separate, as the patient explores her need for support and individuation.

**USE OF HYPNOSIS IN TREATING TRAGIC MAN**

*Tragic Man and the Treatment of Choice: A Restructuring Expressive Psychotherapy*

Tragic Man (i.e., the preneurotic patient) tries to fashion a semblance of safety and intimacy utilizing archaic, preambivalent psychic structures. His or her life is, in fact, characterized by instability, compromised affect regulation, relational anomalies, and sometimes gross aberrations in experience of the self and other. Splitting is the best accommodation the patient can make, given his or her structural deficit. The intervention of choice is a restructuring expressive psychotherapy.

*An Example of a Hypnotic Intervention Compatible With a Restructuring Expressive Psychotherapy*

According to Gruenewald (1984), splitting is akin to dissociative phenomena. In other words, dissociative phenomena resemble prestructural pathology with respect to the organization of defense. Fraser (1991) describes an ego-state therapy technique he calls the Dissociation Table Technique. This technique is designed to treat dissociative disorders. I have adapted the technique to address common themes presented by preneurotic patients in general (as per Gruenewald’s argument noted above). The result is what I have termed the Conference Table Technique. The metaphor of “conference” captures the fragmented experience of identity and relationship often encountered with these patients. I introduce this technique to the patient as follows:

You will soon enter a room in which you will find a large oval table with a number of chairs around it. These chairs belong to all those aspects of yourself that clearly can be distinguished from one another and which together form the whole person, [patient name]. What characterizes these personages is that, although they all serve the interests of [patient name] and form an inalienable part of [patient name], they can sometimes be so absorbed in their own agendas that they are barely in contact with one another and with the realities of everyday life. The goals of the conference are to increase communication with one another so that potential, effort, and choice are better suited to the needs of [patient name] and more in line with day-to-day goings-on. The objective is to initiate a process with all the personages, by which they are able to develop themselves more according to their potentials, to build up more harmony, and eventually to integrate them into one coherent, balanced and differentiated person.

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*I prefer to use the term “personages” and not “persons” when introducing this technique, because I wish to support the notion of identity and minimize reification where possible.*
This process may require a considerable amount of time and terminates in an integration ritual that closes the conference.

A Case Example of the Conference Technique With a Preneurotic Patient

The patient is a young woman in her twenties who initially presents with a sleep disorder. She loses many hours of sleep a night. She is a theater manager and is married to a medical internist. Typically, when having the slightest disagreement with her husband, she becomes utterly convinced that they do not belong together. She is, in fact, as dictatorial in therapy as she is in her relationships and at work. Though she insists that the only problem she has is with sleep, symptom-focused behavioral treatment and subsequent hypnotic-relaxation training yield no relief. However, during the course of the latter intervention, it becomes clear that the patient is fundamentally narcissistic and, hence, unable to fully experience ambivalence or mature intimacy. The Conference Table Technique was applied early in the course of a 5-year therapy. The following is the exchange that ensued:

There is a gathering of the following personages: the Queen (representing grandiosity), the Small Terrified Girl (the negative self-representation), Annette (rage), the Very Nice Girl (a defense for avoiding conflict and confrontation), John (a defense for warding off confrontation by aggressive, mannish behavior), and Susan (the personage with the patient’s name, comparable with the “host” ego state in ego-state therapy). When using an “affect bridge” with the Small Terrified Girl, the following dialogue unfolds:

Small Terrified Girl: We are in the room, with the family. There are visitors. I am 5 years old. I am just sitting there ... as if watching a movie. I have nothing to do with these people, although I would like to. I would like to get some attention, but I don’t get it.

Therapist: Do you feel lonely?

Small Terrified Girl: Yes.

Therapist: Waiting until someone pays attention to you?

Small Terrified Girl: Yes.

Therapist: And in the meantime, it’s like you don’t exist?

Small Terrified Girl: Exactly, I do not exist for these people. ... And I wonder if I shouldn’t ask for attention. Too quickly, I think that they overlook me again.

Therapist: This isn’t the first time that this has happened?

Small Terrified Girl: No, it’s always like this.

Therapist: And it will be that way forever, this feeling?

Small Terrified Girl: Yes.

Therapist: With you just waiting till someone comes?

Small Terrified Girl: Yes.

Therapist: Such is the situation of the Small Terrified Girl!

Queen: (different voice, empathizing): That girl has a lot in common with me when I was little. Constantly, I have the feeling that people don’t conform to my conditions. That’s almost intolerable. If other people don’t behave the
way I want, I drop out. I feel insulted. That is very lonely; I’m not involved in anything. You are isolated.

Therapist: It seems that you have inverted the interaction; the Small Terrified Girl did not live up to the conditions of parents and siblings.

Queen: Yes, turning weakness into a weapon, but the loneliness remains!

In this case, the use of the Conference Table Technique enabled the patient and the therapist to encounter the primitive defenses of splitting, projective identification, and narcissistic devaluation inherent in this young woman’s day-to-day life, including her experience of therapy. Further elaboration of these themes within and outside of hypnosis facilitated a refocusing of the therapeutic enterprise on the critical tasks of supporting interpersonal engagement even during periods of disgust, fury, and a profound wish to “cut and run.”

DISCUSSION

Elements of this brief clinical paper are novel, but essentially they represent an extension of clinical hypnosis theory as articulated by others (Baker, 1981, 1987, 1990; Brown & Fromm, 1986, 1987; Copeland, 1986; Fromm, 1984; and Fromm & Nash, 1992). These clinical theorists posit two fundamental types of pathology encountered in the outpatient psychotherapy context. Though variously labeled, the two types are fully compatible with Kohut’s notions of the Guilty Man and the Tragic Man (Kohut, 1977). The present paper identifies two clinical hypnosis techniques (Watkins’s Door of Forgiveness, Watkins, 1994; and the Conference Table Technique, adapted from Fraser’s Dissociation Table Technique, Fraser, 1991), which are well-suited to expressive work with Guilty Man and Tragic Man, respectively.

These techniques might also be of some diagnostic value. When applied, the patient’s ability to work productively with one or the other technique might suggest the fundamental problem to be addressed. For instance, a patient says in the context of the Door of Forgiveness: “There is nothing at all here... it looks like a very huge cathedral, but completely empty. . . . It is a nightmare, it doesn’t matter where I go... or what I do... I just want to leave.” Or another patient relates: “It is a very small cubbyhole, dark. There is nothing at all. I feel locked up. I’m not allowed to be among other people... I don’t belong. This is the way it is all the time.”

This suggests that the core pathology is not particularly ambivalent in nature. Guilt may not be an issue at this point in therapy. Forgiveness may be premature. There is nobody with whom to fight, no one to forgive or even understand. Such a reaction suggests a more tragic profile with themes of stagnation, isolation, and diffuse identity. Similarly, neurotic patients struggling to recognize and resolve ambivalence might derive less benefit from a conference technique that focuses much more
on matters of connectedness and integration rather than on conflict resolution per se.

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Anpassung von Hypnoseintervention an die Arten der Pathologie: Ein Arbeitsmodell für expressive Psychotherapie

Michel F. M. Boyer

Zusammenfassung: Dieser Artikel identifiziert Kohuts Typologie des “schuldigen Menschen” und “tragischen Menschen” als ein klinisch brauchbares Konstrukt bei ambulanter psychotherapeutischer Versorgung. Der Autor weist darauf hin, dass ein expressiver Ansatz, der auf ambivalenten Konflikt fokussiert ist, für den “schuldigen Menschen” indiziert ist, und dass ein restrukturierender expressiver Ansatz für den “tragischen Menschen”
indiziert ist. Bei jedem Ansatz wird jeweils ein entsprechendes Hypnoseverfahren zur Anwendung identifiziert: das Door-of-Forgiveness-Verfahren (hauptsächlich für konfliktzentrierte Therapie) und die Conference-Table-Technique (für restrukturierende Verfahren).

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Mise en correspondance des interventions hypnotiques et des types de pathologie: un modèle de travail pour les psychothérapies expressives

Michel F. M. Boyer

Résumé: Cet article identifie la typologie de Kohut de “l’Homme Coupable” et de “l’Homme Tragique” comme une construction clinique utile pour la psychothérapie. L’auteur note qu’une approche expressive concentrée sur le conflit ambivalent est indiquée pour “l’Homme Coupable”, et qu’une approche expressive restructurante est indiquée pour “l’Homme Tragique.” Une technique hypnotique est identifiée pour utiliser chacune de ces deux approches : la technique de la Porte du Pardon (particulièrement les thérapies de conflit), et la Technique de la Table de Conférence (pour les thérapies restructurantes).

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¿Qué intervenciones hipnóticas van con qué tipos de patología?:
Un modelo para las psicoterapias expresivas

Michel F. M. Boyer

Resumen: Este artículo identifica a la tipología de Kohut de “El Hombre Culpable” y “El Hombre Trágico” como un constructo clínicamente útil en la psicoterapia para pacientes no internados. El autor anota que un enfoque expresivo enfocado en el conflicto ambivalente es lo indicado para “El Hombre Culpable,” en tanto que un enfoque expresivo de reestructuración es lo indicado para “El Hombre Trágico.” Se recomienda una técnica de hipnosis para cada uno de estos enfoques: la técnica de la Puerta del Perdón (sobre todo para las terapias enfocadas en el conflicto), y la Técnica de la Mesa Redonda (para las terapias de reestructuración).

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NOT ALL ROADS LEAD TO ROME:  
A Response to Michel Boyer’s  
Paper Entitled “Matching Hypnotic  
Interventions to Pathology Types”  

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Boyer’s paper reminds us that different patients, by nature of their varying degrees of characterological maturity and related internal phenomenology, will respond differently to various hypnotic experiences, clinical suggestions, and utilization techniques. He employs Kohut’s metaphor differentiating structural versus dynamic arenas of psychopathology and neurotic versus preneurotic forms of symptom formation to extend the notion that different therapeutic strategies are required to maximize clinical responsiveness to specific hypnotherapeutic interventions. He then gives examples of two such differentiated techniques.

I could not agree with Boyer’s basic thesis more. Although seeming obvious and simplistic and often explicated in the clinical hypnosis and psychotherapy literatures, the notion of specificity of technique and strategy for treatment remains elusive and often ignored. As all seasoned clinicians know, even the most elegant technique does not make conceptual or empathic sense for every patient or even for every patient who presents with the same manifest symptom. Issues related to structural maturity, personality style, the internal and external functions of a symptom, and situational factors, such as motivation, level of alliance, and elaborations of the treatment process, all must influence how we tailor our specific hypnotherapeutic techniques for any specific patient. Not only do these concerns impact issues of treatment efficacy but attention to these factors is requisite in order to manage the potential untoward effects of certain techniques for certain types of patients.

Our current clinical zeitgeist has seemed to drift toward a sort of narrowly defined empirical narcissism where clinical extensions of laboratory analogues of clinical and therapeutic processes are elaborated as “manualized treatments,” as if the analogues from which they derive are the same as “the real thing” and therefore applicable in robot-like precision to the real work of real psychotherapy. Although the dynamics and politics of such narcissism are interesting to debate for the evolution of

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our professions, the “as if–ness” of these attempts to standardize interventions cannot be ignored. Like all “as if” phenomena in our lives, they violate the authenticity of our experience and the attunement of our relatedness. Unfortunately, the legacy of such thought and practice is creating a new generation of clinicians who do not know that the intrapsychic, interpersonal, and phenomenological contexts of symptom formation must be considered when developing a treatment plan. Real patients have not been screened to eliminate the comorbidity of structural pathology, and truly effective psychotherapy is specifically and uniquely an idiographic enterprise. For this reason, Boyer’s paper is a useful reminder to each of us that efficacious hypnotherapy—like all psychotherapy—requires careful diagnosis and conceptualization that considers the person and his or her internal and relational worlds as well as the specific presenting symptom. No single induction works maximally for every patient; no suggestion or image or ego-mastery technique is indicated for every presentation of any psychopathology. In particular, the differences in ego functioning for patients arrested at preneurotic levels of character formation require specific alterations in strategy and technique to enhance and to secure the clinical applications of hypnosis in the psychotherapy of such individuals.

Further, as Boyer’s paper elaborates, the foci for the utilization of trance vary as a function of structural maturity and related capacities for self-observation, self-management, self-stability, and relatedness to others. Numerous authors have elaborated structural and developmental perspectives for framing and attuning such hypnotherapeutic interventions, especially with preneurotic patients (Baker, 1981; Copeland, 1986; Frederick & McNeal, 1999; Peebles, 1989). When hypnotherapeutic work is not informed by such conceptualization, techniques are often not helpful and occasionally harmful as they provoke unmodulated dissociation and regression or unmetabolized affective intensity.

As the clichés of our cultural experience remind us, one size does not fit all, and all that glitters isn’t gold. Thus, it may well be that all roads do not lead to Rome. The laboratory is not the clinic, and all patients do not respond in the same way to a specific technique. Let us hope that our clinical practice is fully informed by our cultural wisdom.

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SALIENT FINDINGS:

Summaries of Key Findings in the Research Literature

JOURNAL: Scientific American


The author of this July 2001 cover story article seeks to convey to an informed general readership what research has to say about the nature of hypnosis. This is a formidable task under the best of circumstances, and one which is made more challenging given the space constraints of a popular publication. The strategy taken is to initially identify common misconceptions about hypnosis and directly confront those misconceptions with evidence. In doing so, Nash first summarizes the methodological developments that enabled contemporary hypnosis research to mature. This helps the reader disengage from the old stereotypes surrounding popular notions of hypnosis and to explore “what hypnosis is” and “what hypnosis isn’t.” This is done in a user-friendly way by including a table with 15 common misconceptions about hypnosis alongside the actual facts in each case (e.g., the common misconception that “people with certain types of personalities are likely to be hypnotizable” is countered with “the reality is there are no substantial correlates with personality measures”). In further elaborating on the nature of hypnosis as revealed in the laboratory, Nash cites and describes many classic studies that are familiar to the readership of the International Journal of Clinical and Experimental Hypnosis. This includes the seminal work of Weitzenhoffer and Hilgard (1959, 1962, 1967); the instructive cross-sectional and longitudinal studies of hypnotizability (Morgan, Johnson, & Hilgard, 1974; Piccione, Hilgard, & Zimbardo, 1989); the study of hypnotic analgesia and placebo response following experimental pain by McGlashin, Evans, and Orne (1969); the “disappearing hypnotist” (Orne & Evans, 1966); active-alert hypnosis (Bányai & Hilgard, 1976); and others. Nash then proceeds to highlight more recent work using emerging technologies, such as positron emission tomography (PET), in advancing our understanding of hypnosis (Rainville, Duncan, Price, Carrier, &
Bushnell, 1997; Szechtman, Woody, Bowers, & Nahmias, 1998). Prior to addressing the question of clinical efficacy, Nash offers two cautionary paragraphs about the plasticity of memory and the perils of assuming that hypnosis enables individuals to relive the past in a literal manner. The section on clinical efficacy follows where Nash effectively describes the latest thinking on when, how, and for what problems hypnosis might be useful.

In sum, the article can be viewed as a primer on hypnosis, and it will not only serve as an excellent tutorial on hypnosis for the general readership of Scientific American but it will also serve to inform future generations of serious students in the behavioral sciences and medicine about the nature of hypnosis. It has been more than four decades since an article dealing with hypnosis has appeared in Scientific American, and the wait has been worth it. This cogent commentary by Nash is comprehensive, objective, and lucid. It will not only serve its intended purpose of informing those who are intellectually curious but it will also have the added effect of making it easier for basic and applied researchers to do work in hypnosis and get proper credit for it.

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JOURNALS: Anesthesiology, Pediatrics, and Perceptual and Motor Skills


When carried out properly, case studies can yield perfectly respectable scientific information about whether an intervention worked beyond mere chance and sometimes even *how* it worked. The importance of case studies has been underscored by their inclusion in the APA methodological guidelines for defining an intervention as efficacious (Chambless & Hollon, 1998). In 2002, the *International Journal of Clinical and Experimental Hypnosis* will publish a special issue on when and how to design and carry out valid case studies.

Four case studies have been published in the past few months that together highlight some of the reasons why the *Journal* has decided to devote a special issue to this matter. All four studies (three in medical journals and one in a psychology journal) also point to some interesting and innovative applications of hypnosis that, if the researchers had tracked or analyzed them just a little more systematically, might have yielded more definitive results. The first is a report by Ran Anbar (2001) on the use of hypnosis with chronic dyspnea in children ages 8 to 18 years (mean age 13.4). In this case, the dyspnea (recurrent difficulty breathing or shortness of breath) was studied among 16 children who had normal pulmonary tests with no structural abnormalities. Self-hypnosis was taught to each patient in one or two 15-45 minute sessions. Thirteen of the 16 patients had improved at 20-month follow-up. Five patients reported resolution immediately posthypnosis; 6 others reported a gradual decline in symptoms with application of self-hypnosis. The merit in this study is its innovative approach to what appears to be a not uncommon clinical problem. On the other hand, without careful tracking of improvement over the 20-month period, it is difficult to determine whether hypnosis had anything to do with resolution. The fact that 5 patients reported immediate resolution is intriguing though.

A novel application of hypnosis was reported by Ran Anbar and David Hehir (2000) with an 11-year-old boy suffering from respiratory distress episodes that sometimes resulted in loss of consciousness. There were repeated trips to the emergency room where inhalation resolved
with oxygen and bronchodilators. From the age of 9, the boy was reported to have these episodes, typically interrupting sleep. He had a 4-year history of refractory asthma and severe gastroesophageal reflux disease and was under the care of a psychiatrist for anxiety. The question at issue was whether the boy suffered from vocal cord dysfunction (VCD), a condition of paradoxical adduction of the vocal cords during inspiration and a problem that could explain the symptom features. Definitive diagnosis of VCD requires observation of the adduction via fiber-optic laryngoscopy during an attack. Provocation of an attack is sometimes achieved using methacholine, histamine, or exercise challenges. In this case, hypnosis was used to successfully induce the symptoms during the laryngoscopy. An adduction of the vocal cords was indeed noted, and the proper treatment plan implemented (in this case, speech therapy). Interestingly, the boy reported spontaneous amnesia for the diagnostic procedure. The author says the boy was a good hypnotic subject, but apparently no attempt was made to measure hypnotizability. The author wisely notes that inducing such a respiratory episode with a patient must be done in an appropriate medical facility where emergency equipment and personnel are immediately available.

The third report (Treggiari-Venzi et al., 2000) describes the successful use of hypnosis as an adjunctive therapy for weaning a 46-year-old surgery patient from mechanical ventilation. The patient had a history of pulmonary tuberculosis, ischemic heart disease, gout, psoriasis, and alcohol abuse. He underwent right pneumonectomy for invasive aspergillosis. There were multiple problems with the healing process during the course of postoperative mechanical ventilation. Following infections and other complications, the patient had a tracheotomy performed on the 77th postoperative day. By this time, the constant stress of ongoing uncertainty with multiple life-threatening episodes began to take its toll on the patient. He was demonstrating sleep disorder, severe anxiety, feelings of intense vulnerability, and a sense of impending death. At the point where medical weaning from mechanical ventilation was attempted, the patient was unable to tolerate more than 12 hours per day off the ventilator. On day 88, a hypnotic intervention was begun. Hypnosis was incorporated into a cognitive-behavioral approach, which aimed at allaying anxiety and increasing time off the ventilator. Hypnosis sessions were 10 to 20 minutes in duration and appear to have been on a 2-to-3-times-a-week basis. After five such sessions, self-hypnosis was taught. Sixteen days after onset of treatment with hypnosis, the patient was off ventilation entirely. The authors present a clear figure that tracks the daily amount of time without mechanical ventilation, along with physiological indices of respiration. This is a splendid data set and might have been augmented with some current time-series.
statistical analyses. Still, this paper reports on an appropriate and interesting application of hypnosis in medicine, which fits in quite nicely with the review of the literature on medicine and hypnosis by Pinnell and Covino (2000).

The final case study (Pates & Maynard, 2000) examined the effects of a hypnotic intervention on golf-chipping performance of three athletes using an ABA design. In this design, a baseline is established (Phase A), followed by a treatment phase where hypnosis is used (Phase B), followed by a third phase during which hypnosis is discontinued (Phase C). If the intervention is helpful, one might expect an increase in performance during Phase B relative to that during Phase A, and a return to baseline during Phase C. The hypnosis intervention involved relaxation, imagery, hypnotic induction, hypnotic poly-sensory suggestions, and trigger procedures over 5 weeks and seven sessions. The results appear to document the pattern of findings described above, with all 3 subjects performing best during Phase B (i.e., during the hypnosis intervention phase). However, no attempt was made to assess whether this pattern differs from chance or whether demand characteristics might be at play. This notwithstanding, the ABA design is quite powerful in some cases and might be considered by clinicians who wish to systematically track the patient’s symptom status before, during, and after treatment. In clinical contexts, however, an ABAB design is typically used, where an extra phase is added, and the treatment is reinstated.

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JOURNAL: Seizure


Research focusing on the causes and nature of psychogenic nonepileptic seizures is relatively rare. The authors of this study rightly note that pseudoseizures have been linked to stress, anxiety, and dissociative proclivities. Further, some theorists posit a link between
dissociativity and hypnotizability, especially in their clinical manifestations. This study sought to test the notion that pseudoseizure patients would exhibit higher levels of dissociation, a more emotion-focused coping style, and greater hypnotic susceptibility than the general population. Twenty pseudoseizure patients and 20 nonpatient control subjects matched for age, gender, and predicted IQ were administered the Dissociative Experiences Scale (DES), the Perceptual Alteration Scale (PAS), the Creative Imagination Scale (CIS), the Tellegen Absorption Scale (TAS), the Ways of Coping Questionnaire (WOC), the Hospital Anxiety and Depression Scale (HAD), the Multidimensional Health Locus of Control Questionnaire (MHLC), and the National Adult Reading Test (NART-2nd ed.). The inferences that can be drawn from such broad correlational sweeps across experimental and controls unmatched for clinical status are quite limited. Further, use of the CIS as a measure of hypnotizability is not advisable for such studies. Still, it is interesting to note that pseudoseizure patients scored significantly higher on the DES and in their use of escape-avoidance strategies. The control group actually appeared more able to experience absorption (the TAS) than the pseudoseizure group. However, all of these findings might be explained by the more general fact that a clinical group was being compared to a nonclinical group. There were no significant findings associated with the CIS.

JOURNALS: Cancer and Vaccine


These papers are of special note because they are both comprehensive reviews of important clinical problems faced by physicians, and they both mention hypnosis as a viable alternative under some circumstances. In the Jacobson et al. study (2001), the authors conduct a study that documents that approximately 90% of pediatric patients ages 15 to 18 months suffer from serious distress associated with vaccinations. More relevant to hypnosis, 45% of children ages 4 to 6 years display serious and profound reactions that often interfere with treatment. Having established this, the authors comprehensively review pharmacological (e.g., refrigerant topical anesthetics, “sucrose nipples”), procedural (e.g.,
applying pressure to the site, needle length, injection position), and cognitive interventions that have been proposed as possible solutions. Among the latter group is hypnosis, which the authors cite as quite promising in reducing anxiety and pain in controlled studies with children and adolescents.

The Ernst review (2001) paper addresses the broader topic of palliative cancer care. This review is less than comprehensive, but then again the scope of the problem is formidable. The author mentions nine specific types of complementary medical interventions that have been studied, ranging from aromatherapy, to massage, spiritual healing, and, of course, hypnosis. Each of these areas receives a somewhat cursory review. Ernst concludes that hypnosis may be helpful for pain, anticipatory nausea, and anxiety but cautions that more research is needed.
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