Posthypnotic Amnesia for Autobiographical Episodes: A Laboratory Model of Functional Amnesia?

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Research Article

POSTHYPNOTIC AMNESIA FOR AUTOBIOGRAPHICAL EPISODES: A Laboratory Model of Functional Amnesia?

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Abstract—*Extreme variation in the accessibility of autobiographical memory is a major characteristic of functional amnesia. On the basis of its ability to temporarily disrupt the retrieval of memory material, posthypnotic amnesia (PHA) has been proposed as a laboratory analogue of such amnesia. However, most PHA research has focused on relatively simple, nonpersonal information learned during hypnosis. This experiment extended PHA to autobiographical memory by examining high- and low-hypnotizable subjects' explicit and implicit memory of two autobiographical episodes, one of which was targeted by a PHA suggestion. The effects of PHA were consistent with the major features of functional amnesia: PHA disrupted retrieval of autobiographical information, produced a dissociation between implicit and explicit memory, and was reversible. The nature of PHA's effect on autobiographical memory and the potential utility of a PHA paradigm for investigating functional amnesia are discussed.*

In its everyday operation, autobiographical memory involves some forgetting and shifts in the accessibility of memories to conscious awareness (Tulving & Pearlstone, 1966). However, in functional amnesia (otherwise known as autobiographical, psychogenic, or dissociative amnesia; American Psychiatric Association, 1994), the level of forgetting is extreme and shifts in awareness are dramatic (Arrigo & Pezdek, 1997; Kihlstrom & Schacter, 1995; Schacter & Kihlstrom, 1989). Functional amnesia is characterized by (a) an inability to consciously access personal memories (i.e., disrupted explicit memory); (b) a continuing influence of the forgotten information on behavior, thoughts, and action (i.e., a dissociation between implicit and explicit memory); and (c) spontaneous resolution, which implicates shifts in accessibility rather than simple memory decay over time (i.e., normal forgetting; Bryant, 1995; Eich, Macaulay, Loewenstein, & Dihle, 1997; Kihlstrom & Schacter, 1995; Schacter & Kihlstrom, 1989).

Despite the theoretical interest of such dramatic shifts in personal memory, systematic empirical research has been limited by the relative rarity of functional amnesia and retrospective rather than concurrent assessment of memory performance. Unfortunately, there is no currently accepted paradigm for creating and indexing selective forgetting and recovery of autobiographical memory in the laboratory. Posthypnotic amnesia (PHA) offers one possibility (Barnier & McConkey, 1999; Neisser, 1967; Schacter & Kihlstrom, 1989). PHA involves suggesting to hypnotized persons that following hypnosis they will be unable to recall particular material (typically, stimuli or events learned or experienced during hypnosis) until they receive a reversibility cue. It produces profound forgetting in high-hypnotizable, but not low-hypnotizable, individuals, and is argued to involve a temporary, retrieval-based dissociation between episodic and semantic memory (Kihlstrom, 1985, 1998; for alternative accounts, see Coe, 1978; Huseman, Gruder, & Dorst, 1987; Spanos, 1986). A series of studies (Barnier, Bryant, & Briscoe, 2001; Bryant, Barnier, Mallard, & Tibbits, 1999) confirmed that PHA can influence material learned or experienced before hypnosis and that PHA and functional amnesia involve similar memory performance.

The present experiment extended existing PHA research, which has focused overwhelmingly on relatively simple, nonpersonal material, to autobiographical memory and addressed two questions: (a) Can PHA create forgetting of autobiographical episodes? (b) Does posthypnotic autobiographical amnesia show the same characteristics as functional amnesia? Drawing on concepts and methods from the literatures on autobiographical memory, hypnosis, and social cognition, the experiment developed and explored the utility of the paradigm as well as provide the first data on PHA's impact on autobiographical memory.

High- and low-hypnotizable individuals recalled distant and recent autobiographical episodes, and later received a PHA suggestion that targeted one of the episodes. Explicit memory for both episodes was tested before and after the suggestion was canceled. High-hypnotizable individuals, but not low-hypnotizable individuals, were expected to show a temporary, reversible impairment in recall (i.e., explicit memory) of the episode targeted by PHA. They were also expected to show a dissociation between implicit and explicit memory. Because most available nomothetic (rather than idiographic) implicit memory measures were designed for relatively simple stimuli rather than personal memory (e.g., word-fragment completion), two tasks were developed and tested in this experiment to index the dissociation. It was expected that despite impaired recall, high-hypnotizable subjects' performance on these tasks would be influenced by the "forgotten" memories.

METHOD

Participants

Ten high-hypnotizable (3 male, 7 female; mean age = 20.30, *SD* = 2.63) and 10 low-hypnotizable (6 male, 4 female; mean age = 22.50, *SD* = 7.62) undergraduate psychology students at the University of New South Wales, Sydney, Australia, participated as hypnotic subjects for research credit. Selection was based on their performance on a modified 10-item version of the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962) and a tailored 10-item version of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962).[1] The high-hypnotizable

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1. The 10-item shortened HGSHS:A included head falling, eye closure, hand lowering, finger lock, moving hands together, communication inhibition, fly hallucination, eye catalepsy, posthypnotic suggestion, and PHA; arm rigidity and arm immobilization were removed because of time limitations. 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 PHA; anosmia and auditory hallucination were removed to allow time for the memory tests before (elicitation) and after (Recall 1 and 2) hypnosis.

participants scored from 7 to 10 on the HGSHS:A (M = 8.42, SD = 0.91) and from 8 to 10 on the SHSS:C (M = 9.20, SD = 0.92). The low-hypnotizable participants scored from 0 to 3 on the HGSHS:A (M = 1.80, SD = 0.63) and from 0 to 3 on the SHSS:C (M = 2.10, SD = 0.88). All high-hypnotizable participants, but no low-hypnotizable participants, passed PHA items on the HGSHS:A and SHSS:C.

Materials

Subjects' explicit memory of the distant and recent episodes was indexed by free recall before the PHA suggestion was administered (elicitation), after it was administered (Recall 1), and after it was canceled (Recall 2). The distant and recent episodes were operationalized as the first day of high school (approximately 6 years previously) and the first day at the university (approximately 6 months previously), respectively. The procedure drew on the Autobiographical Memory Interview of Kopelman, Wilson, and Baddeley (1990) and their distinction between "personal semantic information" and "autobiographical event information." Subjects recalled (a) nine autobiographical facts (personal semantic information) for each episode (viz., name of the school, name of the suburb or town in which it was located, name of a teacher or lecturer, names of three male friends they met or interacted with on that day, and names of three female friends) and (b) the most memorable single incident from each entire episode (autobiographical event information).

Dissociations between implicit and explicit memory were indexed by a category-generation task and a social judgment task. The category-generation task, which was based on a similar task used by Kihlstrom (1980) to index implicit memory of word lists, tapped the personal semantic information for each episode. Subjects were asked to generate as quickly as possible 10 instances for each of two critical categories (girls' names, boys' names) and five noncritical categories (birds, sports, countries, furniture, mammals). The critical categories were related to the personal semantic information recalled during elicitation. Evidence for a dissociation was assessed by comparing the number of instances generated for the critical categories (implicit memory) that matched names from the autobiographical episode with the number of autobiographical facts from these categories recalled on Recall 1 (explicit memory); analysis also focused on the time subjects took to generate instances (i.e., response latencies) for each category.

The social judgment task, which drew on conceptually similar tasks in implicit social cognition (e.g., the false-fame effect; Jacoby, Kelley, Brown, & Jasechko, 1989; Squire & McKee, 1992), tapped the autobiographical event information for each episode. Subjects were asked to rate 20 "possible life events," including 18 events adapted from the Life Events Inventory (Garry, Manning, Loftus, & Sherman, 1996) and 2 events that were short descriptions of subjects' own memorable incidents (from the distant and recent episodes). Subjects used an 8-point scale to rate the likelihood of the events (i.e., "How likely is it that 95% of people have experienced such an event before the age of 21?" 1 = *not at all likely*, 8 = *extremely likely*) and then used a second 8-point scale to rate whether each event had happened to them (1 = *it definitely did not happen*, 8 = *it definitely did happen*). Evidence for a dissociation was assessed by comparing subjects' likelihood ratings (considered implicit memory because they did not depend on conscious recollection) with their happened-to-me ratings (considered explicit memory because they depended on conscious access to the autobiographical episodes).

Procedure

Following informed consent procedures, the experimenter asked subjects to generate memories (elicitation). She asked them to recall a distant and a recent episode (first day of high school and first day of university, respectively); order of episode was counterbalanced across individuals. For each episode, she asked them to close their eyes and imagine themselves experiencing the episode again, and then to recall personal semantic information (i.e., the nine autobiographical facts) and autobiographical event information (i.e., the most memorable single incident of the entire episode). She also asked them to rate their memories in terms of vividness (1 = *not at all vivid*, 7 = *very vivid*) and confidence in the accuracy of recall (1 = *not at all confident*, 7 = *very confident*).[2]

The experimenter then administered a hypnotic induction procedure and a number of standard suggestions, followed by the PHA suggestion. She told half the subjects that after hypnosis they would not be able to recall their first day of high school (i.e., distant episode targeted by PHA) and the other half that after hypnosis they would not be able to recall their first day of university (i.e., recent episode targeted). She told all subjects that they would be unable to recall the event until they received a reversibility cue ("Now you can remember everything").

After a hypnotic deinduction procedure, the experimenter administered the category-generation and social judgment tasks, which she presented as tests of information processing speed following hypnosis; task order remained constant so that the memory cues progressed from general (category labels) to specific (incident descriptions). The experimenter then administered Recall 1. She asked subjects to recall the personal semantic information and their memorable incidents for the distant and recent episodes. She then gave the reversibility cue that canceled PHA, and asked them to recall the events again (Recall 2). Finally, she answered any questions and ended the session.

RESULTS

Explicit Memory of the Autobiographical Episodes

Analysis focused on subjects' recall during elicitation (before the PHA suggestion was administered), Recall 1 (after it was administered), and Recall 2 (after it was canceled). Table 1 presents the mean number of personal semantic details recalled and the number of subjects who recalled their memorable incidents across these tests.

Recall at elicitation

A 2 (hypnotizability: high vs. low) × 2 (episode: distant vs. recent) mixed-model analysis of variance (ANOVA) of the semantic information recalled during elicitation yielded a main effect of episode, $F(1, 18) = 8.07$, $p < .015$. Although both high- and low-hypnotizable subjects retrieved the majority of the nine personal semantic details requested, they provided slightly more information for the recent than the distant event.[3] All high-hypnotizable subjects and the majority of

2. There were no differences in high- and low-hypnotizable subjects' vividness and confidence ratings; mean ratings ranged from 4.89 (SD = 1.76) to 5.70 (SD = 0.92). Further, there was no consistent relationship between subjects' ratings and their recall during elicitation, Recall 1, or Recall 2.

3. This can be explained by the fact that for high school (the distant event) some subjects did not provide names of both boys and girls they met because they attended single-sex schools.

Table 1. *Explicit memory performance (personal semantic information and memorable incidents) across memory tests*

Subject group and episode	Test: Elicitation	Test: Recall 1	Test: Recall 2
Personal semantic information			
High hypnotizable			
Distant episode	6.50 (1.35)	4.30 (3.99)	6.40 (1.17)
Recent episode	8.30 (1.06)	4.20 (3.99)	8.30 (1.06)
Low hypnotizable			
Distant episode	7.30 (1.42)	7.30 (1.42)	7.30 (1.42)
Recent episode	8.00 (1.49)	7.90 (1.45)	8.00 (1.49)
Memorable incidents			
High hypnotizable			
Distant episode	10 (100%)	5 (50%)	10 (100%)
Recent episode	10 (100%)	5 (50%)	10 (100%)
Low hypnotizable			
Distant episode	9 (90%)	9 (90%)	9 (90%)
Recent episode	10 (100%)	10 (100%)	10 (100%)

Note. For personal semantic information, the mean number of details recalled is shown; maximum = 9. Standard deviations appear in parentheses. For memorable incidents, the number of subjects who recalled their memorable incident is shown. Percentages appear in parentheses.

low-hypnotizable subjects recalled an incident for the distant and recent episodes.

Recall following administration of PHA

A 2 × 2 (Hypnotizability × Episode) mixed-model ANOVA of the semantic information recalled during Recall 1 yielded a main effect of hypnotizability, $F(1, 18) = 12.17$, $p < .005$.[4] High-hypnotizable subjects recalled fewer details from both episodes than low-hypnotizable subjects did. Also, whereas all low-hypnotizable subjects recalled their memorable incidents, only half of the high-hypnotizable subjects did so, $\chi^2(1, N = 20) = 3.87$, $p < .01$, and $\chi^2(1, N = 20) = 6.67$, $p < .01$, for the distant and recent episodes, respectively. Thus, following the PHA suggestion, high-hypnotizable subjects' recall was impaired, but low-hypnotizable subjects' recall was not.

The recall of high-hypnotizable, but not low-hypnotizable, subjects was strongly influenced by the PHA suggestion. Figures 1a and 1b focus on high-hypnotizable subjects' memory for the distant and recent episodes on Recall 1 (expressed as a percentage of information recalled at elicitation) according to which episode was targeted by the suggestion. A 2 (PHA: episode targeted vs. episode not targeted) × 2 (episode: distant vs. recent) ANOVA of the semantic information recalled yielded an interaction between PHA and episode, $F(1, 8) = 5.11$, $p < .055$. Although the high-hypnotizable subjects recalled fewer details from the recent episode when it was targeted by PHA than when it was not, they recalled similar amounts from the distant episode (lower than the amounts from the recent episode) when it was targeted by PHA and when it was not.[5] In other words, their memory of the distant episode was impaired irrespective of the specific focus of the suggestion. Also, whereas fewer high-hypnotizable subjects recalled their memorable incident from the distant episode when it was targeted by PHA than when it was not, $\chi^2(1, N = 10) = 3.60$, $p < .06$, similar numbers recalled their incident from the recent episode when it was targeted by PHA and when it was not. Thus, although in general high-hypnotizable subjects' memory was poorer when the episode was targeted by PHA than when it was not, the suggestion influenced recall of the distant episode (particularly for personal semantic information) more than recall of the recent episode.

Recall following cancellation of PHA

A 2 × 2 (Hypnotizability × Episode) mixed-model ANOVA of the semantic information recalled during Recall 2 (see Table 1) yielded a main effect of episode, $F(1, 18) = 9.08$, $p < .01$. Both high- and low-hypnotizable subjects retrieved the majority of the personal semantic details requested, but as at elicitation, they provided slightly more information for the recent than the distant episode. Also, almost all high- and low-hypnotizable subjects recalled their memorable incidents. Thus, despite impairment in high-hypnotizable subjects' explicit memory after PHA was administered, their recall returned to the (ceiling) level of low-hypnotizable subjects after the suggestion was canceled.

Dissociations Between Implicit and Explicit Memory

Category generation

Table 2 presents the mean total number of girls' and boys' names generated as instances on the category-generation task that matched names from the autobiographical episode and the number of names recalled on Recall 1. A 2 (hypnotizability: high vs. low) × 2 (PHA: episode targeted vs. episode not targeted) × 2 (memory: implicit vs. explicit) ANOVA yielded a main effect of hypnotizability, $F(1, 18) = 4.92$, $p < .05$; a main effect of memory, $F(1, 18) = 34.13$, $p < .001$; and an interaction between hypnotizability and memory, $F(1, 18) = 19.20$, $p < .001$. Whereas high- and low-hypnotizable subjects generated similar numbers of girls' and boys' names from the two episodes as instances, on Recall 1 high-hypnotizable subjects recalled significantly fewer of these details than low-hypnotizable subjects did. This result indicates a dissociation between implicit and explicit memory for high-hypnotizable subjects. Also, whereas for high-hypnotizable subjects there was a significant (one-tailed) negative correlation between the number of names from the episodes generated as instances and average latency, $r = -.60$, $p < .05$, for low-hypnotizable subjects there was no relationship between instance generation and latency, $r = .32$, n.s. In other words, producing the "forgotten" autobiographical material appears to have speeded high-hypnotizable subjects' response time on the category-generation task.

4. Because of unequal variances across hypnotizability levels, I conducted a nonparametric Mann-Whitney test, which confirmed the difference between groups, $p < .005$.

5. Because of unequal variances across PHA levels, I conducted a nonparametric Mann-Whitney test, which confirmed the difference between subjects for the recent event, $p < .01$.

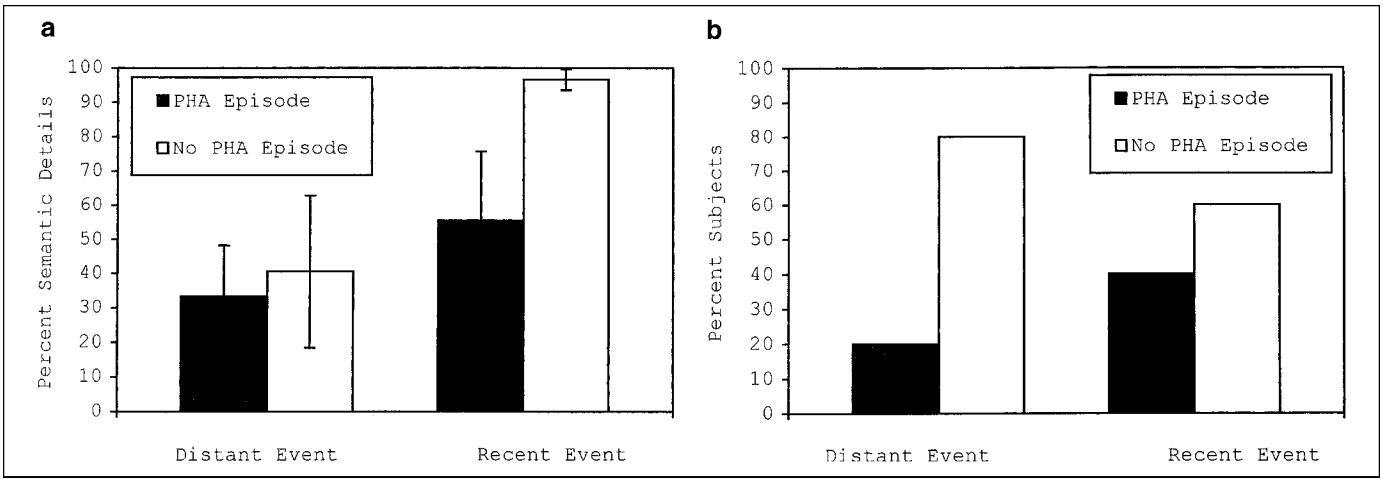

Fig. 1. High-hypnotizable subjects' performance on Recall 1: percentage of personal semantic information recalled (a) and percentage of subjects who recalled their memorable incident (b) as a function of whether the event was or was not the target of the posthypnotic amnesia (PHA) suggestion. Error bars show ±1 *SEM*.

Social judgment

Table 2 also presents the mean likelihood and happened-to-me ratings from the social judgment task. A 2 (hypnotizability: high vs. low) × 2 (PHA: episode targeted vs. episode not targeted) × 2 (rating: likelihood vs. happened to me) ANOVA yielded significant main effects of PHA, $F(1, 18) = 5.07$, $p < .05$, and rating, $F(1, 18) = 19.98$, $p < .001$, and interactions between hypnotizability and PHA, $F(1, 18) = 6.70$, $p < .02$, and hypnotizability and rating, $F(1, 18) = 11.55$, $p < .005$. Whereas high- and low-hypnotizable subjects' likelihood ratings were similar, happened-to-me ratings were significantly lower for high- than for low-hypnotizable subjects. Most important, whereas low-hypnotizable subjects' ratings of the two incidents were similar irrespective of the PHA suggestion (and indicated that these subjects believed the events had happened to them), high-hypnotizable subjects' ratings of the incident targeted by PHA were substantially lower than their ratings of the incident not targeted by the suggestion; specifically, following PHA, these subjects indicated that they were unsure whether the targeted incident had happened to them. These ratings are consistent with the results of the category-generation task in indicating a dissociation between implicit and explicit memory for high-hypnotizable subjects.

DISCUSSION

This experiment investigated PHA's influence on autobiographical memory and whether hypnotically created autobiographical amnesia shows the same characteristics as functional amnesia. The data indicate that PHA is not limited to simple, nonpersonal information or events learned or experienced during hypnosis, but can influence the autobiographical memories of high-hypnotizable, but not low-hypnotizable, individuals. Previous experiments in this program demonstrated that PHA is equally successful for information learned before and during hypnosis (confirming that PHA is not an instance of state-dependent memory; Barnier et al., 2001; Bryant et al., 1999), and the present findings extend this work to personal, distant (and obviously prehypnotic) memories. Also, these findings support claims that PHA may provide a laboratory analogue of functional amnesia (Kihlstrom & Schacter, 1995; Neisser, 1967; Schacter & Kihlstrom, 1989).

PHA shows the three features of functional amnesia: impaired conscious retrieval, dissociations between implicit and explicit memory, and reversibility. As predicted, following the administration of the PHA suggestion, high-hypnotizable subjects' recall, particularly of the episode targeted by the suggestion, was significantly impaired

Table 2. *Dissociations between implicit and explicit memory*

Subject group and episode	Implicit memory	Explicit memory
Category generation		
High hypnotizable		
Episode targeted by PHA	2.10 (1.45)	2.00 (2.45)
Episode not targeted	1.70 (1.16)	2.60 (2.07)
Low hypnotizable		
Episode targeted by PHA	1.90 (1.10)	4.50 (1.58)
Episode not targeted	1.50 (1.72)	4.50 (1.27)
Social judgment		
High hypnotizable		
Episode targeted by PHA	4.30 (2.41)	3.60 (3.20)
Episode not targeted	5.20 (2.66)	7.00 (2.16)
Low hypnotizable		
Episode targeted by PHA	4.10 (2.56)	8.00 (0.00)
Episode not targeted	3.80 (2.35)	8.00 (0.00)

Note. For category generation, implicit memory is represented by the mean number of semantic details from the autobiographical episodes that were generated as instances for critical categories (girls' names, boys' names), and explicit memory is represented by the number of these names recalled on Recall 1; maximum = 6. For social judgment, implicit memory is represented by likelihood ratings (1 = *not at all likely*, 8 = *extremely likely*), and explicit memory is represented by happened-to-me ratings (1 = *it definitely did not happen*, 8 = *it definitely did happen*). Standard deviations appear in parentheses. PHA = posthypnotic amnesia.

compared with low-hypnotizable subjects' recall. Despite this, information from the "forgotten" episode influenced their performance on the category-generation task (in terms of both instances generated and response latency) and the social judgment task. Thus, high-hypnotizable subjects showed a clear dissociation between implicit and explicit memory. Finally, following cancellation of the suggestion, high-hypnotizable subjects' memory returned to the ceiling level of low-hypnotizable subjects. This experiment is the first to demonstrate that PHA can create selective forgetting and recovery of autobiographical memory in the laboratory. Moreover, the strength of PHA's effect on high-hypnotizable subjects' memory, even among a relatively small group of subjects, underscores the potential utility of the paradigm (see also Barnier & McConkey, 1999).

The present findings highlight both the nature of PHA's effect on personal memory and directions for further development of the paradigm. For instance, PHA influenced high-hypnotizable subjects' memory for the distant event more than their memory for the recent event, which suggests that a memory's age or distance in time may determine whether its accessibility can be altered (Tulving & Pearlstone, 1966). That is, older memories may be more susceptible to PHA than younger memories are. Alternatively, the emotionality or scope of the targeted episode may influence its susceptibility to forgetting. Because functional amnesia typically revolves around forgetting emotional, often negative or traumatic, events (Christianson & Engelberg, 1999), it would be useful to focus on the emotionality (emotional/unemotional) and valence (positive/negative/neutral) of the events. Also, given that individuals may forget whole periods of their lives, it would be interesting to test whether PHA's influence extends from specific events to lifetime periods (Conway & Pleydell-Pearce, 2000; for initial data, see Cox & Barnier, 2001).

It is also apparent from subjects' comments that traditional dichotomous scoring for PHA (i.e., amnesia/no amnesia) does not capture the complexities of its influence on a multifaceted autobiographical episode. A previous study (Barnier & Wright, 2002) indexed PHA's impact on both the accessibility and the quality (viz., specificity, narrative, and sensory qualities of recall) of autobiographical episodes and found more dramatic changes in the quality than in the accessibility of memories (see also Johnson, Foley, Suengas, & Raye, 1988). Also, the precise impact of the suggestion on targeted and nontargeted (but associated) material remains unclear. The finding that high-hypnotizable subjects' memory of the distant episode was impaired irrespective of the specific focus of the suggestion is conceptually consistent with the report (Allen, Iacono, Laravuso, & Dunn, 1995) that high-hypnotizable subjects showed PHA for both targeted and nontargeted lists of words; in other words, PHA appears somewhat diffuse in its effect (see also Cox & Barnier, 2001).

More work is needed on "implicit autobiographical memory." Although autobiographical memory is usually defined in terms of the individual's ability to explicitly recollect past events (Conway & Pleydell-Pearce, 2000), the implicit influence of personal material is a key aspect of clinical reports of functional amnesia (e.g., Kihlstrom & Schacter, 1995; Schacter & Kihlstrom, 1989). This experiment developed and tested two tasks to index the dissociation between implicit and explicit expressions of personal memory. Both appeared to show the ongoing influence of forgotten autobiographical material and thus could potentially be used to explore the possibility of implicit autobiographical memory in functional or organic amnesia. Of course, the pattern of subjects' performance on these tasks could be due to other factors. For instance, the likelihood ratings in the social judgment task tended to be relatively similar for the various events, and this could reflect the inherent (and similar) likelihood of the events, rather than prior exposure during elicitation. Refinement of the tasks will assist in ruling out such alternative explanations.

The essential finding of this experiment is that a PHA suggestion, administered to highly hypnotizable individuals, can temporarily disrupt their explicit, but not implicit, memory for nonhypnotic, personally relevant, autobiographical episodes. PHA's ability to influence personal memory offers a valuable paradigm within which theoretical and empirical predictions about functional amnesia may be tested.

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REFERENCES

Allen, J.J., Iacono, W.G., Laravuso, J.J., & Dunn, L.A. (1995). An event-related potential investigation of posthypnotic recognition amnesia. *Journal of Abnormal Psychology*, *104*, 421–430.

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Arrigo, J.M., & Pezdek, K. (1997). Lessons from the study of psychogenic amnesia. *Current Directions in Psychological Science*, *6*, 148–152.

Barnier, A.J., Bryant, R.A., & Briscoe, S. (2001). Posthypnotic amnesia for material learned before or during hypnosis: Explicit and implicit memory effects. *International Journal of Clinical and Experimental Hypnosis*, *49*, 286–304.

Barnier, A.J., & McConkey, K.M. (1999). Autobiographical remembering and forgetting: What can hypnosis tell us? *International Journal of Clinical and Experimental Hypnosis*, *47*, 267–285.

Barnier, A.J., & Wright, J. (2002). *Posthypnotic amnesia: Influencing the accessibility and quality of autobiographical memory.* Manuscript submitted for publication.

Bryant, R.A. (1995). Autobiographical memory across personalities in dissociative identity disorder: A case report. *Journal of Abnormal Psychology*, *104*, 625–631.

Bryant, R.A., Barnier, A.J., Mallard, D., & Tibbits, R. (1999). Posthypnotic amnesia for material learned before hypnosis. *International Journal of Clinical and Experimental Hypnosis*, *47*, 46–64.

Christianson, S.-A., & Engelberg, E. (1999). Organization of emotional memories. In T. Dalgleish & M. Power (Eds.), *Handbook of cognition and emotion* (pp. 211–227). Chichester, England: Wiley.

Coe, W.C. (1978). The credibility of posthypnotic amnesia: A contextualist's view. *International Journal of Clinical and Experimental Hypnosis*, *26*, 218–245.

Conway, M.A., & Pleydell-Pearce, C.W. (2000). The construction of autobiographical memories in the self-memory system. *Psychological Review*, *107*, 261–288.

Cox, R.E., & Barnier, A.J. (2001). *Posthypnotic amnesia for a first romantic relationship: Forgetting the entire relationship vs. forgetting selected events.* Manuscript submitted for publication.

Eich, E., Macaulay, D., Loewenstein, R.J., & Dihle, P.H. (1997). Memory, amnesia, and dissociative identity disorder. *Psychological Science*, *8*, 417–422.

Garry, M., Manning, C.G., Loftus, E.F., & Sherman, S.J. (1996). Imagination inflation: Imagining a child event inflates confidence that it occurred. *Psychonomic Bulletin & Review*, *3*, 208–214.

Huseman, L.R., Gruder, C.L., & Dorst, G. (1987). A process model of posthypnotic amnesia. *Cognitive Psychology*, *19*, 33–62.

Jacoby, L.L., Kelley, C., Brown, J., & Jasechko, J. (1989). Becoming famous overnight: Limits on the ability to avoid unconscious influences of the past. *Journal of Personality and Social Psychology*, *56*, 326–338.

Johnson, M.K., Foley, M.A., Suengas, A.G., & Raye, C.L. (1988). Phenomenal characteristics of memories for perceived and imagined autobiographical events. *Journal of Experimental Psychology: General*, *117*, 371–376.

Kihlstrom, J.F. (1980). Posthypnotic amnesia for recently learned material: Interactions with "episodic" and "semantic" memory. *Cognitive Psychology*, *12*, 227–251.

Kihlstrom, J.F. (1985). Posthypnotic amnesia and the dissociation of memory. In G.H. Bower (Ed.), *The psychology of learning and motivation* (pp. 131–178). Orlando, FL: Academic Press.

Kihlstrom, J.F. (1998). Dissociations and dissociation theory in hypnosis. *Psychological Bulletin*, *123*, 186–191.

Kihlstrom, J.F., & Schacter, D.L. (1995). Functional disorders of autobiographical memory. In A.D. Baddeley, B.A. Wilson, & F.N. Watts (Eds.), *Handbook of memory disorders* (pp. 337–364). New York: Wiley.

Kopelman, M., Wilson, B., & Baddeley, A. (1990). *The Autobiographical Memory Interview.* Bury St. Edmunds, England: Thames Valley Test Co.

Neisser, U. (1967). *Cognitive psychology.* New York: Appleton-Century-Crofts.

Schacter, D.L., & Kihlstrom, J.F. (1989). Functional amnesia. In F. Boller & J. Grafman (Eds.), *Handbook of neuropsychology* (Vol. 3, pp. 209–231). Amsterdam: Elsevier Science.

Shor, R.E., & Orne, E.C. (1962). *Harvard Group Scale of Hypnotic Susceptibility, Form A.* Palo Alto, CA: Consulting Psychologists Press.

Spanos, N.P. (1986). Hypnotic behavior: A social psychological interpretation of amnesia, analgesia, and "trance logic." *Behavioral and Brain Sciences*, *9*, 449–467.

Squire, L.R., & McKee, R. (1992). Influence of prior events on cognitive judgments in amnesia. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *18*, 106–115.

Tulving, E., & Pearlstone, Z. (1966). Availability versus accessibility of information in memory for words. *Journal of Learning and Verbal Behavior*, *5*, 381–391.

Weitzenhoffer, A.M., & Hilgard, E.R. (1962). *Stanford Hypnotic Susceptibility Scale, Form C.* Palo Alto, CA: Consulting Psychologists Press.

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