

POSTHYPNOTIC AMNESIA

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October 12, 2025

RECOMMENDED CITATION

mohammad looti (2025). *POSTHYPNOTIC AMNESIA*. PSYCHOLOGICAL SCALES.
Retrieved from <https://scales.arabpsychology.com/?p=44372>

POSTHYPNOTIC AMNESIA

Primary Disciplinary Field(s): Psychology, Cognitive Neuroscience, Clinical Hypnosis

1. Core Definition

Posthypnotic amnesia (PHA) is fundamentally defined as a subject's inability to consciously recall events, experiences, or specific information acquired during the period of a formal hypnotic trance. This memory deficit is typically transient and highly specific, often lasting only until the subject receives a predetermined cue or 'cancellation signal' from the hypnotist, at which point the memory frequently returns in full. PHA represents a striking demonstration of the potential dissociation between memory encoding and conscious retrieval, occurring despite the subject having been alert, responsive, and often highly engaged throughout the hypnotic procedure. The mechanism is understood not as a true loss of memory trace, but rather a temporary block in the access or retrieval pathway, suggesting an active, yet unconscious, inhibitory process is at play during the period of amnesia.

The experience of posthypnotic amnesia is broadly categorized into two main types based on its origin: induced and spontaneous. **Induced PHA** is the more common and clinically relevant form, arising directly from explicit instructions provided by the hypnotist while the subject is in trance. These instructions typically take the form of suggestions that upon waking, the subject will forget specific details of the hypnotic session until a designated release signal is given. The efficacy of induced PHA is strongly correlated with the individual's level of hypnotic suggestibility or vulnerability, a measurable trait that varies widely across the population. High suggestibility is a necessary, though not always sufficient, condition for robust and reliable posthypnotic responses, including amnesia, analgesia, or behavioral compliance.

The practical significance of this phenomenon lies in its demonstration of the mind's capacity to compartmentalize cognitive functions under command. Unlike organic forms of amnesia resulting from neurological damage or trauma, PHA is reversible and dictated by psychological instruction. This characteristic allows researchers to study the mechanisms of memory retrieval and intentional forgetting in a controlled experimental environment. Furthermore, the temporary nature of the block reinforces the theoretical model that memories formed during hypnosis are stored implicitly or non-consciously, becoming available only when the instructed barrier is lifted, thus providing invaluable insights into the structure and organization of the human memory system, particularly the interaction between declarative and procedural knowledge.

2. Historical Context and Early Theories

The observation of posthypnotic amnesia dates back to the earliest organized studies of animal magnetism and hypnotism in the 18th and 19th centuries. Figures such as the Marquis de

Puységur noted that subjects often awoke from the "magnetic sleep" with no recollection of what transpired during the session. This observation was crucial because it helped distinguish the hypnotic state from ordinary sleep and provided early evidence that mental activity could occur outside of conscious awareness. Later, during the height of clinical hypnosis, figures like Jean-Martin Charcot and Hippolyte Bernheim extensively documented amnesia as a common sequelae of the hypnotic state, often associating its depth and completeness with the overall success of the hypnotic induction itself.

Early theoretical frameworks attempting to explain PHA predominantly centered around concepts of dissociation and state-dependent learning. The dissociation theory, championed by psychologists like Ernest Hilgard, posits that hypnosis creates a division in consciousness, separating the primary stream of experience (the conscious self) from a 'hidden observer' that registers events but remains inaccessible under ordinary conditions. According to this model, the posthypnotic instruction acts to maintain the separation of the hypnotic memory trace from the conscious, waking self until the specific retrieval cue is presented. This view framed PHA not merely as forgetting, but as an active, psychologically driven barrier between two functionally distinct systems of awareness, thereby protecting the conscious mind from information gathered during the hypnotic state.

Conversely, some earlier psychological theories focused on the role of suggestion and role-enactment, arguing that PHA was less a manifestation of true neurological change and more a behavioral compliance with the hypnotist's instructions. Theorists adopting this socio-cognitive perspective suggested that subjects, especially those highly suggestible, were motivated to fulfill the implicit or explicit expectations of the hypnotic role, including the instruction to forget. While modern research has largely moved past a purely role-enactment view, the early debates between state theories (emphasizing altered consciousness) and non-state theories (emphasizing cognitive strategies and social dynamics) were instrumental in shaping the rigorous experimental methodologies subsequently employed to study the genuine cognitive basis of posthypnotic phenomena.

3. Mechanisms of Induced Posthypnotic Amnesia (PHA)

Induced PHA is achieved through direct suggestion provided during the hypnotic trance. The effectiveness of the suggestion relies heavily on the quality of the induction and the subject's depth of trance, suggesting that the hypnotic state facilitates a unique cognitive receptivity to inhibitory commands. The mechanism is hypothesized to involve the temporary suppression of retrieval functions rather than the erasure of memory storage. Studies using techniques such as cueing or forced recall, where subjects are given special instructions to access the information, often show that the memory can be retrieved, even if it is not spontaneously available, indicating an accessibility block rather than permanent deficit.

The process of induced forgetting involves a highly specific form of executive control. Research suggests that the amnesia instruction acts as a posthypnotic command that, upon waking, activates inhibitory circuits designed to block the conscious pathway leading to the specific memories encoded during the session. This is distinct from generalized forgetting, which affects broad swaths of temporal experience. In PHA, the amnesia is often highly circumscribed, applying only to events within the trance state, while general knowledge and events immediately preceding or following the hypnosis remain intact. Furthermore, if subjects are asked to use non-declarative means of memory access (such as guessing or performance tasks), they often demonstrate implicit memory of the events, such as improved skill performance or affective responses, despite reporting no conscious recall.

Crucially, the release mechanism--the cancellation signal--demonstrates the command nature of induced PHA. When the hypnotist delivers the prearranged cue (e.g., "Now you can remember everything"), the cognitive block is instantly lifted, and recollection floods back. This immediate and complete reversal is difficult to explain by standard models of organic memory retrieval and strongly supports the view that the amnesia is maintained by an active, suggestion-driven cognitive set. The ability of a simple verbal cue to instantaneously restore complex declarative memory highlights the powerful regulatory influence of posthypnotic instructions on executive control systems responsible for memory accessibility, placing PHA at the intersection of conscious intention and automatic cognitive response.

4. Spontaneous Posthypnotic Amnesia (SPHA)

While induced PHA is the most studied form, **spontaneous posthypnotic amnesia** (SPHA) occurs without explicit instructions to forget. SPHA refers to the phenomenon where individuals, upon emerging from a hypnotic trance, report a generalized or partial inability to recall events that occurred during the session, even when they were not specifically told to do so. This type of amnesia is generally considered less common and less reliable than the induced form, but it holds significant theoretical interest because it suggests that the hypnotic state itself, independent of suggestion, may inherently interfere with memory consolidation or retrieval processes.

SPHA tends to be more prevalent in individuals assessed as being highly suggestible and those who experience very deep levels of trance, often referred to as the 'somnambulistic' state. This observation reinforces the 'state' theories of hypnosis, suggesting that a profound alteration in consciousness might naturally lead to a separation of memory traces, making them less accessible upon returning to the ordinary waking state. Researchers hypothesize that the deep engagement and absorption required for the profound hypnotic state may temporarily shift cognitive resources away from standard memory encoding or retrieval indexing mechanisms, thus creating an unintentional retrieval barrier post-trance.

The characteristics of SPHA usually involve a patchy or generalized inability to recall details, often dissolving gradually over time, unlike the sharp, immediate reversal of induced PHA. The existence of SPHA provides a powerful argument against purely socio-cognitive explanations, as the amnesia occurs independently of the hypnotic contract requiring compliance. Instead, SPHA suggests that the profound cognitive and attentional reorganization characterizing deep hypnosis can, by itself, result in temporary retrieval disruption, making it a critical area of study for understanding the intrinsic relationship between states of consciousness and the accessibility of declarative memory.

5. Neurocognitive Models and Explanations

Modern research employing neuroimaging techniques, such as fMRI and EEG, has sought to map the neural correlates of posthypnotic amnesia, moving the explanation beyond purely psychological models. These studies consistently demonstrate that PHA is associated with distinct changes in brain activity, particularly involving areas related to executive function, attention, and memory retrieval. When highly suggestible subjects are instructed to forget, the amnesia is often correlated with decreased activity in the prefrontal cortex (PFC), particularly regions associated with monitoring and conscious retrieval, such as the dorsolateral PFC. This reduction in PFC activity suggests a temporary downregulation of the brain's capacity for effortful memory search and verification.

Furthermore, research has highlighted the role of the default mode network (DMN), a set of interconnected brain regions active when the mind is at rest or engaging in self-referential thought. During successful PHA, there is sometimes observed a reduced functional connectivity between the DMN and areas critical for episodic memory retrieval, such as the hippocampus and parahippocampal gyrus. This reduced coupling implies that the suggestion to forget effectively disconnects the self-referential cognitive framework necessary for placing memories in context, thus hindering the conscious recall process while leaving the actual memory trace in the hippocampus relatively intact, aligning with the concept of a retrieval-specific block.

These neurocognitive findings largely support the dissociation model by providing physiological evidence for a functional separation. The amnesia is not caused by damage or decay, but by an active, suggested modulation of the brain's executive control system, selectively inhibiting the pathways required for conscious episodic retrieval. When the cancellation cue is given, the functional connectivity patterns rapidly revert, restoring the necessary dialogue between the PFC, the DMN, and the medial temporal lobe structures, thereby allowing the previously inaccessible memories to enter conscious awareness.

6. Experimental Paradigms and Research Findings

Research into PHA relies heavily on rigorous experimental paradigms designed to differentiate genuine amnesia from simulation or artifact. The standard protocol involves inducing hypnosis, presenting novel material (e.g., lists of words or specific tasks) during the trance, giving the amnesia suggestion, and then testing memory upon de-hypnotization. To control for simulation, researchers often employ forced-choice recognition tasks, implicit memory tests, and comparison groups composed of low-suggestible individuals or simulators who are instructed to pretend they have amnesia.

Key research findings consistently show that highly suggestible subjects under amnesia instructions perform significantly worse on conscious recall (free recall and cued recall) tasks compared to non-amnesia controls or low-suggestible participants. Crucially, these same highly suggestible subjects often demonstrate intact memory on implicit tests, such as priming or skill learning tasks, where their performance is facilitated by the previously encountered hypnotic material despite their inability to consciously state what they remember. This dissociation between explicit and implicit memory is the strongest behavioral evidence that PHA represents a genuine block in conscious retrieval, rather than mere compliance or inability to encode the information initially.

Further experimental manipulation has explored the specificity and persistence of PHA. Studies confirm that PHA can be highly specific--subjects can be instructed to forget only words starting with a certain letter or only actions performed with the right hand--demonstrating the remarkable precision of cognitive control under hypnotic suggestion. While most induced PHA is lifted by the cancellation cue, some highly susceptible individuals report persistent amnesia for periods, though permanent amnesia is extremely rare and typically associated with deeper psychological factors or trauma encountered during the trance state, reinforcing the ethical imperative of professional clinical practice.

7. Clinical Applications and Ethical Considerations

Posthypnotic amnesia holds several potential applications within clinical settings, though its use is often approached cautiously. One primary application involves managing painful or stressful medical procedures. By inducing PHA, a clinician might help a patient forget the immediate distress or anxiety associated with a difficult procedure, such as dental work or minor surgery, thereby reducing anticipatory fear in future sessions. Similarly, in psychotherapy, particularly in the treatment of phobias or anxiety, PHA may be used temporarily to block the conscious recollection of highly distressing hypnotic suggestions related to exposure therapy, allowing the patient to process the therapeutic benefits without the immediate, overwhelming conscious memory of the simulated trauma.

However, the clinical use of PHA raises serious ethical and practical concerns. The ethical

imperative dictates that clinicians must ensure that critical or potentially useful memories are not permanently blocked. If a memory contains important therapeutic insight or necessary safety information, blocking it could be detrimental. Professional guidelines therefore mandate the use of a reliable cancellation cue and thorough post-hypnotic debriefing to ensure all suggested amnesia is lifted, particularly in forensic contexts where accurate memory recollection is paramount. The general consensus among professional bodies, such as the [American Psychological Association](#) (APA), emphasizes that hypnosis should serve to enhance memory and insight, not obscure it.

A second key consideration is the potential for creating 'false amnesia' or implanting false memories, although this risk is debated. The power of suggestion within hypnosis requires practitioners to be exceptionally vigilant about their phrasing and therapeutic goals. While PHA is generally considered a transient retrieval block, the potential for complex posthypnotic suggestion to influence behavior or memory perception after the trance necessitates strict adherence to informed consent and professional training, guaranteeing that the subject fully understands the nature of the amnesia suggested and the terms of its reversal prior to induction.

8. Debates Regarding Reality vs. Simulation

A significant and enduring debate in the study of PHA revolves around whether the phenomenon represents a genuinely altered cognitive state (the state position) or merely a manifestation of strategic forgetting, highly motivated compliance, or role-playing (the non-state or socio-cognitive position). Critics of the state view argue that subjects who claim amnesia are simply complying with the social demands of the hypnotic situation, strategically avoiding recall to satisfy the hypnotist's expectations, particularly since the behavior is reversible upon cue.

However, evidence from neuroimaging and objective performance measures strongly undermines the pure simulation hypothesis. If PHA were purely voluntary compliance, subjects would likely show similar retrieval deficits across both explicit and implicit memory tasks, which they do not. Furthermore, fMRI studies showing consistent, involuntary changes in prefrontal executive control and DMN connectivity during amnesia, and their rapid reversal upon the release cue, suggest an underlying, physiologically constrained cognitive process that is difficult to fake consistently. The high correlation between amnesia and objective measures of hypnotic suggestibility also points toward a genuine, trait-dependent cognitive capacity rather than a generalized social strategy.

The current scholarly consensus tends towards an integration of these views, often referred to as a neodissociation or contextual-cognitive model. This model acknowledges that while socio-cognitive factors (expectations, motivation) are necessary for engagement and compliance with the suggestion, the actual mechanism of amnesia--the temporary retrieval block--is facilitated by genuine, suggestion-induced alterations in cognitive control processes unique to highly suggestible individuals. Thus, PHA is best understood as a genuine cognitive phenomenon triggered by

suggestion within a specific social context, rather than simple role-playing.

9. Further Reading

[Wikipedia: Posthypnotic Amnesia](#)

[American Psychological Association \(APA\) Resources on Hypnosis](#)

[Ernest Hilgard and the Dissociation Theory](#)

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