

**Foundations for Integrating Hypnosis
into Your Therapies for Treating Anxiety,
Depression, and Pain**

with
Michael D. Yapko, Ph.D.
Webinar Section 2 of 12



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Hypnosis in Modern Cognitive Neuroscience

- Hypnotic suggestion has been increasingly used as an investigative tool in a range of cognitive and social neuroscience research areas, such as hearing, vision, synesthesia, volition, pain, and attention and attentional conflict, including the ability to exert substantial control over automatic processes.

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**Hypnosis in Modern Cognitive
Neuroscience: The *Intrinsic* Focus**

- The "intrinsic" focus as one area of research strives to acquire "a better understanding of the nature of hypnosis and hypnotically suggested phenomena. Intrinsic studies are largely concerned with what makes some people more responsive to hypnotic suggestions than others, the nature of hypnotic suggestibility, whether suggested hypnotic phenomena are 'real' or are simply 'imagined' and whether hypnosis involves a special state of consciousness." (p.565)

Oakley, D. & Halligan, P. (August, 2013). Hypnotic suggestion: opportunities for cognitive neuroscience. *Neuroscience*, 14, 565- 576.

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Hypnosis in Modern Cognitive Neuroscience: The *Instrumental* Focus

Instrumentally focused studies involve the selective use of experimentally and, increasingly, clinically informed suggestions to investigate aspects of normal and abnormal psychological functioning.

"This more instrumental approach probes challenging issues such as the nature and neural basis of consciousness, brain mechanisms underlying visual perception or pain and the putative cognitive origins of clinical symptoms such as medically unexplained paralysis seen in some patients with conversion disorder (hysteria), hallucinations, delusions and alterations in control over thought and action in schizophrenia." p.565

Oakley, D. & Halligan, P. (August, 2013). Hypnotic suggestion: opportunities for cognitive neuroscience. *Neuroscience*, 24, 565- 576.

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Questions About The Brain in Hypnosis

- Are there morphological differences between the brains of high and low hypnotizables?
- Are there cognitive differences that have a neuropsychophysiological basis?
- Are there physiological correlates of the hypnotic state that can be identified and measured?

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Questions About The Brain in Hypnosis

- Are neurophysiologically measurable state changes a cause or reflection of the hypnotic experience?
- To what extent do the neurophysiological data reflect the hypnotic induction process(es) used rather than the hypnotic state itself?
- How does a suggestion get converted into a (cognitive, behavioral, physical, etc.) response?

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Is there a specific biological signature for hypnosis?

No, at least none found yet. But there are *tendencies* in the form of shifts in cognitive processing.

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Suggesting Seeing in Color vs. Black and White

- Conducted at Harvard University by Stephen Kosslyn and colleagues, the study was designed to find out whether hypnosis could be used to modulate color perception. Ss were shown a series of patterns, some involving colors and some only shades of gray while in waking and hypnotized conditions.
- Color stimuli were shown to be processed in a separate brain region than the gray stimuli.

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Suggesting Seeing in Color vs. Black and White

- Researchers suggested that the Ss visualize each image shown them as either color or b&w while the PET scan measured brain activity.
- When Ss were hypnotized, the color areas of the brain were less active when told to see color as only gray; likewise, the color areas were more active when told to see (i.e., hallucinate) the gray stimulus as colorful.
- Brain areas used to perceive color were activated in both brain hemispheres, despite exposure to only gray, just as they would activate when genuinely exposed to a color stimulus. This did not occur when not in hypnosis

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Does the mind fool the brain in hypnosis?

“Hypnotic visual illusion alters color processing in the brain.”

Kosslyn et al., *Am J of Psychiatry*, 2000, 157, 1279-1284

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The Eye Pupil Adjusts to Imaginary Light: A Study from University of Oslo

- **Summary:** In response to *imagined light*, Ss pupils constricted 87 percent as much as they did during actual viewing, on average. In response to *imagined darkness*, Ss pupils dilated to 56 percent of their size during real perception
- **Implications:** Mental imagery activates some of the same automatic (i.e., unconscious) neural pathways involved in the actual experience.

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The neurological bottom line: Hypnosis produces changes in the brain’s arousal and attention systems, but these vary across individuals and even across experiences within individuals

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Major Models of Hypnosis

There are many different models of hypnosis, each advocating a way of thinking about the process of doing hypnosis as well as the subjective nature of the experience. One simplistic, yet meaningful, way to characterize the differing models is as follows:

- Traditional
- Standardized
- Utilization (Ericksonian)

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The Possible Power Distributions in Any Human Relationship

- **A > B**; Traditional/Authoritarian hypnosis where the hypnotist is the expert to be *obeyed*
- **A < B**; Standardized hypnosis where the client must find a way to respond meaningfully to scripted approaches
- **A = B**; Utilization/conversational (Ericksonian) approaches which rely on mutual responsiveness within a collaborative framework

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The best way, in my opinion, to distinguish models is by whether the model is *intrapersonal* and/or *interpersonal* in nature

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How *you* think about hypnosis determines how *you* will use hypnosis

This is why different people can differ so dramatically in how they apply hypnosis; each has very different ways of viewing client problems, the goals of therapy, the nature of hypnosis, what it means to be human, what matters in life, and many other such personally defining influences on one's approaches

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Language Shapes Emotion Perception

- "... the move in the language embodiment literature (is) to break down the distinction between perception and conceptualization as separate faculties of the mind. **Neuroimaging findings in this literature suggest that the same regions involved in actually experiencing sensory stimuli or performing actions are also involved in representing concepts.** Behavioral studies compellingly demonstrate that **activating conceptual knowledge can shape perceptual and motor task performance...**

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Language Shapes Emotion Perception

...In an embodied view of emotion knowledge, when participants utter an emotion word (e.g., *anger*), they automatically generate the word's meaning by partially reactivating neural representations of specific instances of that category." (p. 323)

Gendron, M., Barsalou, L., Lindquist, K., & Barrett, L. (April, 2012). Emotion words shape emotion percepts. *Emotion*, 2, 314-325.

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Suggestion Structures

- Positive suggestions
- Negative suggestions
- Direct suggestions
- Indirect suggestions
- Process suggestions
- Content suggestions
- Post-hypnotic suggestions (PHS)

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Suggestion Styles

- Permissive style
- Authoritarian style

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Direct Suggestions for Symptom Reduction

- Example – A hypnotist suggests to a patient undergoing a painful medical procedure (e.g., surgery, a lumbar puncture, spinal tap) that the affected body part (i.e., the back) is numb and insensitive to pain.
- This is a classic use of hypnosis.

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Keep in mind that the therapist can suggest...
... but the client chooses



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Thanks for your kind attention!

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