

What Is Hypnosis? The 'Implicit Neural Activation & Information Processing Theory' of Hypnosis

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Adapted from Dan Jones book 'Hypnotherapy'

Any theory of hypnosis proposed needs to be able to explain aspects that seem to occur within hypnosis. Here I will explain the 'Implicit Neural Activation & Information Processing Theory' of what hypnosis is. Unlike other theories this theory of hypnosis doesn't say hypnosis is a state, or that it isn't a state, an argument that has rumbled on in the hypnosis research community for decades. This theory of hypnosis proposes a new way of looking at hypnosis, as being a 'normal' function of mind and nothing special.

These include:

- Automaticity – people report that they didn't move their arm for example, but that it moved all by itself.
- Responding to suggestions or ideas as if they are real, even when this is counter to what they are trying to do – for example people told that they can't stand up, can try to stand up yet they fail, people can be told that they won't feel any pain and whether they consciously believe they will or not, they don't feel any pain
- Any theory needs to be able to account for varying degrees of hypnotic susceptibility and the stability of this susceptibility

We will cover these three points shortly.

Firstly, what is hypnosis?

The **implicit neural activation and information processing**. This theory proposes that hypnosis is the process of messages being received by the implicit part of the mind that activate neural patterns in the brain promoting the idea of a specific response, everyone has slightly different patterns in relation to the messages being received, so everyone has different responses, the patterns are only light signals, but they remain active until there is an opportunity for them to discharge. The more times the same pattern is stimulated the more 'charged' that neural pattern becomes and the more likely it is to lead to automatic action.

An example of this could be; communicating hypnotically with someone, they aren't formally being hypnotised and have no awareness of anything being expected of them, they don't realise they are having hypnotic communication used on them.

Throughout the communication the ideas for 'run', 'fast', 'zip', and 'jog' are used, all of these were used in non-exercise or activity contexts when being talked about, like 'we need to **run** through that idea because summer is **fast** approaching, so we need to **zip** over to the main office later and see if the original document can **jog** our minds'

These words have been embedded in the conversation (Ericksonian Language Pattern – Embedded Commands and Suggestions) and when the subject walks away from the hypnotist they can be observed to be walking faster, and perhaps even jogging and yet they won't realise they have been influenced.

Just using one word may get negligible results, but as more words with the same underlying pattern are used this response potential builds up and automatic action happens. This example is of someone being influenced covertly, but it could be also overt influence, where a subject gets given a direct suggestion, and they don't analyse the suggestion or their response to it, they just let the response happen and it does, whereas someone else may analyse the suggestion, opinions, their beliefs, they may interfere too much consciously for the subtle signal to get through, whether this is mucking around, or trying too hard, or trying to be too passive.

This theory comes from the work of priming from social psychology.

In everyday life environmental stimuli trigger specific neural systems which leads to automatic behavioural responses. Hypnosis is the utilisation of this unconscious behavioural guidance system. The hypnotist is utilising the default system that pre-dates the evolution of consciousness that allows for automatic behavioural responses to environmental stimuli without consciousness.

So when there is a stimulus, using direct or indirect hypnosis, this triggers implicit neural activation, this neural activation happens outside of awareness. This activation leads to a behaviour or response.

This response can be thoughts, feelings, or behaviours.

This unconscious behavioural guidance system runs in the present, and keeps us tied to the present, whereas the conscious mind lets you mentally time travel (thinking about the past or future).

“Conscious motivation etc. is built on unconscious motivation, so it is always the same system; people just think it is now conscious. The structure for processing was already there, consciousness just uses it”

There is an evaluative system, motivational system and perceptual system, the most influential system is the motivational system, the other systems often check things through the motivational system (unconscious goal pursuit), for example evaluative mainly looks for where something is good or bad, if it is good and desirable (motivation) the behaviour is 'towards', if it is bad and needs to be avoided (motivation) the behaviour is 'away from'.

The motivational system can overrule the other systems, like if a baby was crying you won't mimic the baby (the expected perceptual system response), instead the motivational system will be more dominant and lead you to instantly check the baby is alright, or comfort the baby, etc.

Automaticity:

This view of hypnosis relates to automaticity from the perspective that the hypnotist is communicating with the part of implicit processing part of the brain, and it is their way of communicating that keeps that communication going. This means the hypnotist gets responses starting unconsciously before the conscious mind is aware of the responses and then from how they continue to communicate continues to keep the response going.

“You can get the same effect by telling someone to do something and priming someone to do something, when primed people have no idea they have cooperated, it was ‘out of awareness’ behaviour”

With priming people respond automatically without conscious involvement. Humans fall into patterns of responding, so if someone responds ‘yes’ four times in a row they are more likely to respond ‘yes’ on the fifth time, even if it is something they wouldn't necessarily normally agree with. So if someone is responding ‘hypnotically’ they are more likely to continue to do so, even when perhaps they don't need to. For example; if a hypnotist had been getting responses and then said ‘I would like you to lift your left hand’, they could do this consciously, but if they have been responding hypnotically, they may respond by lifting it unconsciously. Whereas hypnotic language would be ‘in a moment I would like that left arm to lift’ and if they respond unconsciously it will be because they unconsciously perceived the message as not being directed to the person to intentionally carry out any action. This may then be experienced as an arm lifting all by itself as the implicit behaviour happens and the conscious mind is being just an observer.

“A study was done in a call centre to raise donations; one set of staff was shown written instructions and a photo of a person winning a race, while the other group just had the written instructions. The group that saw the photo raised significantly more money than the control group.”

Responding to suggestions or ideas as if they are real, even when this is counter to what they are trying to do:

This was touched on above, if someone is told to lift their arm and they know they can lift their arm, then they will most likely lift their arm. If they are told to try to lift their arm, ‘try’ implies difficulty, so the implicit processing is for the arm not to lift, or at least be very difficult to lift. When there is conflicting information the information that has come through first is most likely to win.

So the implicit processing has already started and is already ‘actioned’ before the conscious mind is aware of a task aimed at it. And if anyone wants to try to consciously lift their arm, it is very difficult, because consciously we don't know how to do this. Normally we have motivation to achieve

something, and this has already come through unconsciously, and then we think about doing something, and then we think we chose to do something.

This problem of responding to suggestions as if they are real, even when this is counter to what we are trying to do is a common and often overlooked problem. We want to stop smoking, we have every intention of not putting the cigarette in our mouth, but find we do it any way. Or we stand in front of an audience and feel nervous, and want to calm down, and can rationally tell ourselves these are all people we know and see every day and so there is nothing to be nervous about, yet that implicit response has already started and is in full flow, so it take a lot of effort to break it and do something different.

“Consciousness isn’t for the instigation or guidance of action, unconscious instigates and guides action. Consciousness is for time travelling and for explaining yourself to others, and interacting with others.”

It is also known that generally the higher the level of motivation the more successful hypnosis can be, so if someone is in a lot of pain and a Doctor tells them a specific drug will make them pain free, and then gives them a placebo, this is likely to work because they have activated the implicit neural patterns for trusting the Doctor, for the Doctor’s status, their training and abilities and belief that they know their field and what they are talking about. You then get the pills which have rituals attached, so you trigger the patterns for prior times you have taken medication successfully where you have taken pills at specific times and specific doses, you associate the colour of the pills with patterns saying generally red and big pills are best for pain control, so when you take the placebo it works, even if consciously you are thinking you don’t think it will work. It is more about whether it matches a number of unconscious patterns, rather than conscious patterns. If some of the significant unconscious patterns were different due to upbringing for example, so maybe you highly distrust Doctors, and have negative patterns associated with Doctors, then the placebo may not work.

Any theory needs to be able to account for varying degrees of hypnotic susceptibility and the stability of this susceptibility:

In different contexts hypnosis can be more or less successful and people generally remain stable in how susceptible they are throughout their life. Using structured, scripted, standardised inductions leads to a few people responding very well, some people responding reasonably well, many people responding average, some people not responding that well, and a few people barely (or seemingly not) responding at all. Tailoring the hypnosis to the client gets a higher success rate, although there is still variability in what people can and can’t do hypnotically, and for therapy most people get results whether they have entered a deep, medium, or light trance.

“In some priming studies that failed to get expected results they looked for differences between priming that was successful and priming that wasn’t successful, when the experiment was the same in all cases. They found the unsuccessful studies were carried out by researchers that had never heard of priming, and the successful studies were carried out by researchers that were aware of priming and what it was.”

Depending on the context can depend on the response you get. So in the same way that contextual priming shows that if you vote in a school you are more likely to vote for a politician that is promoting education, and if you vote in a church hall you are more likely to vote for a politician that is promoting religion, with hypnosis, if you try to hypnotise someone out of the blue in the street you will have a different response to hypnotising them in a therapy room or science lab.

This is why some people are great hypnotic subjects during stage shows, but not good subjects in therapy, or good subjects in therapy but not in science labs, or good in science labs but not in stage shows.

“Cues set norms, the context influences how you will respond and behave”

There is nothing in hypnosis that doesn't happen in everyday life. The difference is that it is focused, attention is guided, and it is goal driven. We all have experiences of cutting ourselves and not feeling pain until we see the cut, or needing the toilet when we sit down in a cinema to watch a film, but once we get into the film we forget we need the toilet and don't remember until the film ends, or sit on an uncomfortable chair only to get engrossed in what someone is saying and stop being aware of how uncomfortable the chair is. Or as Einstein said 'A second with your hand on a hot stove can feel like an hour, and an hour with a beautiful girl can feel like just minutes'.

All of these are experiences that when elicited under hypnosis and focused on with a purpose lead to something that seems unusual, which is actually quite ordinary.

Motivational system – Unconscious goal pursuit

Information processing goals – prime for impression formation, prime with information, this will lead to being more aware of similar information (like using stories/metaphors in hypnosis, or using embedded commands and suggestions and other hypnotic language to get ideas across covertly leading to these being easier to activate later)

Achievement and performance goals – prime the idea of achievement etc. to make people do better (using positive mental rehearsal, ego-strengthening, etc. to stimulate the idea of success)

Interpersonal goals – prime for better interpersonal goals, primes for goals associated with others

Conscious goal pursuit qualities – persistence, resumption, consequences for mood and motivational strength –***these also apply to unconscious motivations*** – This is something we see in hypnosis, especially when we have set up post-hypnotic suggestions or similar to carry-out unconscious behaviour, people persevere, they want to resume to complete their tasks, and not being able to increases the motivational strength, and it is often tied into wanting a positive feeling or state. This is also seen within other trance-states, including problem trance-states, like addictions, OCD, Anxiety and Depression.

Deep underlying concepts are physical, spatial (verticality, distance)(perceptual effects/perceptual system) and visual and abstract, temperature, texture (hard/soft)

Physical 'metaphors' can satisfy needs, so someone excluded from a social group can hold a warm cup and will feel better, no warm cup and they crave affiliation, holding a cold cup increases the feeling of exclusion.

Metaphors in general are in everyday use in language, and so can be used to create influence or change.

Underlying mechanisms – semantic priming, innate structure (hard-wired), (very) early learning

- Evaluation priming effect is gone in four seconds
- Priming often loses its effect if you are aware of it, like hypnosis can.
- People want homeostasis. The biggest motivation state can take over (motivation wins over all others), so a need to mimic can be overruled by need to help.