

## HYPNOSIS IN PSYCHOTHERAPY AND PSYCHOSOMATIC MEDICINE

MEHMET Y. AGARGÜN\*

*SUMMARY: The aim of this brief synopsis is to review the relationship between hypnosis and dreaming and to present theoretical and clinical implications related to both phenomena. For this purpose, I considered hypnotic dreams and sleep dreams; hypnosis and posthypnotic suggestion as presleep conditions affecting, sleep mentation; REM, suggestibility, hypnosis, cognition, and consciousness; dream recall and hypnotizability; psychopathological perspectives; and lucid dreaming, out-of-body experiences, hypnosis. It may be suggested that there is a strong and plausible relationship between sleep states and hypnotic phenomena. The investigation of this relationship will help to understand the underlying mechanisms of these experiences.*

*Key Words: Sleep, dreaming, hypnosis, consciousness, cognition.*

### INTRODUCTION

Dreaming is the most outstanding of the non-ordinary conscious states. Although it is an aspect of consciousness that everyone shares, dream process is not well understood. It involves the psychophysiological system, the sociocultural conditions, and the self-system. There are many influences of dreams such as mood-regulatory, adaptive and compensatory functions, and the integration of new information into existing memory systems. It is also related to immune regulation and is necessary for neural development in fetus and in newborn. The investigation of dream mechanisms may help to understand the complex human cognitions, emotions, and behavior. Moreover,

this may contribute to a latter explanation of psychopathology of neuropsychiatric disorders (1).

An important fact is the similarity between hypnotic phenomena and dreaming. The aim of this brief review is to present selected evidence supporting the hypothesis that there is a relation between hypnosis and dreaming. Firstly, basic dream characteristics will be reviewed. Then, the following topics will be considered:

- Hypnotic dreams and sleep dreams,
- Hypnosis and posthypnotic suggestion as presleep conditions affecting sleep mentation,
- REM, suggestibility, hypnosis, cognition, and consciousness,
- Dream recall and hypnotizability,
- Psychopathological perspectives,
- Lucid dreaming, out-of-body experiences, and hypnosis.

---

\*From Department of Psychiatry, Yüzüncü Yıl University, School of Medicine, 65300 Van, Türkiye.

### Basic Dream Characteristics

In 1953, Aserinsky and Kleitman published their paper on the so-called REM sleep which accounts for about 20% of the total sleep time in adults. REM sleep is characterized by rapid eye movements, activated EEG and muscle atonia. Awakening from REM sleep is very often accompanied by intense dreaming. Since REM sleep occurs regularly every night in every human being, it can be assumed that dreaming defined as cognitive / emotional activity during REM sleep is also present every night. NREM sleep is also accompanied by mental activity. Despite this stable physiological pattern the variability of dream recall is variable: some persons almost never recall a dream, whereas others can relate a detailed account of their nocturnal experiences every morning. In the average, adults recall at home one to two dreams per week (2).

### Hypnotic dreams and sleep dreams

Many studies have focused on hypnotically induced dreams. The use of hypnosis in attempts to influence the dream contents directly has important theoretical implications, particularly if sleep dreams and hypnotically induced dreams are similar or functionally equivalent.

Even subjects of only medium susceptibility to hypnosis can respond successfully to suggestions to dream during hypnosis. Any demonstration of the similarity or equivalence of hypnotic and sleep dreams would provide sophisticated evidence regarding the similarity of the two states in which the dreams are obtained.

The content of sleep dreams is determined by a multiplicity of factors (waking suggestion, direct stimulation of the sleeping subject, day residues, emotional states, and drugs). Numerous studies, both without EEG technology and with sophisticated EEG and REM awaking techniques have demonstrated that a posthypnotically suggested topic will appear directly or indirectly in subjects verbally reported dreams. Tart concludes: "At present, then, posthypnotic suggestion seems to be the most powerful and precise method for

affecting dream content, although its use is restricted to a minority of subjects." (3).

There is no objective means of knowing whether the hypnotically suggested dream actually occurs in REM sleep or whether subject awakens, either normally or in hypnosis, and produces waking or hypnotic fantasy instead of a dream.

The EEG of the hypnotized subject is that of a waking person rather than of a sleeping one. The physiological data provide compelling evidence for the dissimilarity of sleep and hypnotic dreams. The only physiological parameter on which clear similarities between the two types of dreams have been shown is in eye movement patterns.

The REMs are saccadic in nature and difficult to relate to specific content scenes. However, saccadic eye movements may also occur related to arousal, attention, meditative, contemplative, and daydreaming incidents.

Many authors believe that REM may occur, when deeply hypnotized subjects are asked to dream. In these studies, the investigation of REM during hypnotic dreams was the primary focus of the investigation. In contrast, Evans *et. al.* (4) suggested that REM was not found in any subject during the suggested dream. Under appropriate circumstances some subjects can quickly learn to establish delicate control over their eye movements. Some subjects were able to produce optokinetic nystagmus voluntarily, a much more specific reflexive pattern of minute movements than that of REM saccades. As a consequence, the occurrence of stage REM eye movement patterns during the hypnotic dream has not been established conclusively. Perhaps, hypnotizability and selection of the subjects in the researches should be main predictors of the experiments (4).

### Hypnosis and posthypnotic suggestion as presleep conditions affecting sleep mentation

In all of the studies, attempts were made to test the traditional view that suitable subjects tend to incorporate and transform material contained in presleep

posthypnotic suggestions into their nocturnal dreams.

The first formal work since the advent of modern techniques was carried out by Stoyva (5). He employed 16 highly hypnotizable subjects, each of whom received presleep suggestions on 6 or more experimental nights, with or without standard hypnotic-induction procedures. Reports were obtained from stages REM, 2, 3, and 4. Mentation following both presleep conditions contained references to the suggested topics but a larger proportion of hypnotized subjects (44%) reported frequent dreaming on the suggested topic than when they had received suggestion without hypnosis (25%). This effect was manifested in all sleep stages. Stoyva concluded that although hypnotic trance with posthypnotic suggestion was not a requisite for incorporation of presleep suggestions, it increased the probability of such occurrences.

Tart (3) studied 10 highly hypnotizable subjects who received presleep posthypnotic suggestions to dream about a dramatic, anxiety-tinged, threatening narrative in which the subjects were instructed to imagine themselves the central characters. Thirty-eight REM sleep reports were collected after varying intervals of stage REM had elapsed. 50% of the subjects were judged not to have dreamed at all, in concordance with the posthypnotic suggestion. Those remaining subjects who could fulfill the instructions had dreams that possessed a wide range of evidence of influence, from only a few elements being affected to 'almost total control' over the content of the sleep experience. However, the posthypnotic suggestion to dream on a certain topic was deemed to have an inhibiting or suppressing effect on natural dream processes. Tart concluded that dreams following posthypnotic suggestions designed to influence natural nocturnal dreaming are best viewed as the outcome of interactions between hypnosis factors and those involved in production of natural stage REM dreams.

Tart and Dick (6) employed 13 highly hypnotizable subjects who were given presleep posthypnotic suggestions to dream in great detail about a presleep narrative they heard prior to retiring. In the course of a

2-night protocol, 2 different stimulus narratives were employed, 1 per night in counterbalanced order. Rather than permitting wide variations in the time elapsed since onset of each REM period sampled for mentation, all subjects were awakened whenever 5 to 10 minutes after beginning of REM sleep. Tart sought to control his data analysis by having 2 independent judges score against both stimulus narratives without knowing which narrative had been employed on the specific night of the report elicitation. Thus, half the dreams were scored against the wrong stimulus narrative to serve as a control for possible overlapping between spontaneous dream content and presleep narrative.

Barber *et. al.* (7) criticized Stoyva for using repeated, authoritative suggestions for his hypnosis group and a permissive manner for his nonhypnosis control group, pointing out that this could have confounded hypnosis factors with the forcefulness in which suggestions were given to either group. All subjects were given either authoritative, permissive, or no suggestions at all to think and dream about a specific topic: the death of President Kennedy.

In the laboratory, mentation reports were elicited about each REM period and at least one during NREM sleep 45 minutes after the termination of the previous REM sleep. The results were that presleep suggestions altered the dream content of 25% of the subjects regardless of whether hypnosis had been used or not. The style of the suggestion did play a role after all. That is, presleep suggestions had the greatest effect on dream content of hypnotized subjects when given authoritatively and on that of the nonhypnotized when given permissively. Finally, because subjects were randomly selected, it was possible to demonstrate that incorporation of suggested material was not related to the hypnotizability.

### **REM, suggestibility, hypnosis, cognition and consciousness**

There is an interesting and plausible relationship between hypnosis and the control of consciousness.

The ability to experience hypnosis may involve an important psychological dimension concerned with cognition and the control of consciousness.

Evans *et. al.* (4) studied a particularly compelling indicator of dissociative processes: the ability to respond to suggestions during sleep. In that work, they were able to show that some subjects were able to respond to meaningful suggestions, which were administered during REM sleep, such as "Whenever I say the word itch, your nose will itch until you scratch it". Some subjects were able to respond to the simple cue word itch, by scratching their nose while remaining in REM sleep. These responses also occurred later in the night in another REM period without readministration of the suggestion. The responses also occurred the next night and up to several months later, even though the subject maintained total waking-state amnesia for these sleep-induced responses.

Subjects who responded to these sleep-induced suggestions not only scored more highly on the standardized hypnotizability scales than the non-responders, but they especially responded to the more dissociative items, including posthypnotic amnesia, post-hypnotic suggestions, and age regression.

The hypnotizability is an attribute that falls along the same dimension as the ability to fall asleep quickly and easily, and indicate that there may be an underlying dimension reflecting some kind of flexible, cognitive control over the ability to easily enter different states of consciousness. The hypnotizable subject not only experiences hypnotic and dissociative phenomena, but is a good and flexible sleepers, naps, and appears to experience other interesting states of consciousness.

### **Dream recall and hypnotizability**

There are mainly six theories on dream recall (2):

Repression hypothesis (Freud 1990)

Life-style hypothesis (Schonbar 1995)

Interference hypothesis (Cohen and Wolfe 1973)

Saliency hypothesis (Cohen and MacNeilage 1974)

Arousal-retrieval model (Koulack and Goodenough 1976)

Functional state-shift hypothesis (Koukkou and Lehman 1980)

The research findings seem to fit best into the arousal-retrieval model and the life-style hypothesis. There is a strong association between dream recall and absorption and hypnotic ability.

Whereas verbal memory was not related to dream recall, a substantial relationship was found for visual memory. Persons with marked capability to recall visual stimuli/images recall their dreams more often. Similar, it was shown that high dream recallers have better recollections of personal experiences such as childhood memories.

Several studies have demonstrated that frequent day dreaming and rich fantasy life is associated with high dream recall. Similarly, persons with creative interests recall their dreams more often. In addition, divergent thinking, which is often associated with creativity was positively related to dream recall frequency.

There is also significant association between personality dimensions and dream recall. Personality dimensions such as repression or introversion were not substantially correlated with dream recall frequency, but marked relationships were found for thin boundaries.

Obviously people differ in many ways; their minds and brains are organized differently. Hartmann (8) proposed thick and thin boundaries as a broad way of looking at individual differences as a new dimension of personality. The concept of relates to, and can be seen as encompassing, a number of more specific personality measures and characteristics such as fantasy-proneness, absorption, defensiveness, openness or self-disclosure, hypnotizability, and amount of dream recall.

In view of what we had said about thin boundaries in the senses of merging, lack of defensiveness, letting other people in, and having vivid imagery sometimes indistinguishable from reality, it seems likely that there would be some relationship between boundary scores and measures of hypnotizability. In a group of two hundred students, Barrett (9) demonstrated highly signifi-

cant correlations between total boundary scores and three different scales measuring aspects of hypnotizability: the Harvard Group Scale of Hypnotic Susceptibility, Tellegen's Absorption Scale, and the Field inventory. This finding confirms the impression that people with thin boundaries tend, on the average to be more suggestible or hypnotizable than with thick boundaries. The people with thin boundaries had also higher dream recall frequency than the others. Thus, there is a strong relationship between thin personality, dreaming and hypnotizability.

### **Psychopathological perspectives**

The apparent similarity between sleep states and hypnotic phenomena has been recognized since the nineteenth century when mesmerists and hypnotists distinguished the two states by describing them as 'natural' or 'artificial' somnambulism (10). The usually automatic connection between image and action is altered in both REM sleep and hypnosis. Janet was also convinced of this family resemblance, and generalized it to describe hysterical dissociative conditions in which an individual appears "as if she were in a dream" while acting out complex behaviors (11). Nemiah (12) used a term 'hysterical somnambulistic trance' to describe an altered state of consciousness in which traumatic memories return "as a hallucinatory tableau to which (hysterical somnambulists) react as if it actually existed." This particular dissociative presentation would be conceptualized today as a posttraumatic flashback because of patients' ability to report their conscious perceptual reexperiencing of the trauma-related memories.

Sleep changes, particularly traumatic dreams found in some PTSD patients may also be dissociative. These nightmares are often reported as exact replicas or instant replays of the original traumatic experience both in imagery and accompanying affect, and are therefore reminiscent of the waking experience of traumatic flashbacks or relivings (13,14).

### **Lucid dreaming**

Lucid dreaming means dreaming while knowing that you are dreaming. The term was coined by Frederik

van Eeden who used the word 'lucid' in the sense of mental clarity. Lucidity usually begins in the midst of a dream when the dreamer realizes that the experience is not occurring in physical reality, but is a dream. Often this realization is triggered by the dreamer noticing some impossible or unlikely occurrence in the dream, such as flying or meeting the deceased. Sometimes people become lucid without noticing any particular clue in the dream; they just suddenly realize they are in a dream. A minority of lucid dreams (according to the research of LaBerge and colleagues, about 10%) are the result of returning to REM (dreaming) sleep directly from an awakening with unbroken reflective consciousness (15-17).

Lucidity is not synonymous with dream control. It is possible to be lucid and have little control over dream content, and conversely, to have a great deal of control without being explicitly aware that you are dreaming. However, becoming lucid in a dream is likely to increase the extent to which you can deliberately influence the course of events. Once lucid, dreamers usually choose to do something permitted only by the extraordinary freedom of the dream state, such as flying.

### **Out-of-body experiences and hypnosis**

Out of body events (OBEs) are personal experiences during the human perceives his physical existence separated from his own body which performs actions while his 'self' remains aside as a bystander. 5-30% of people may have these experiences at least once in their lives (18). They may be considered as a natural phenomenon arising out of normal brain processes. OBEs begin when a person loses psychological contact with sensory input from the body while remaining consciousness. They are extraordinary experiences. The people with OBEs say they are more real than dreams. Usually, these experiences include being in an 'out of body' much like the physical one, feeling a sense of energy, vibrations, and hearing strange loud noises. A sensation of body paralysis may precede the OBEs and this paralysis turns on or

remains active while the person's mind is fully awake and aware of the world (19).

In my opinion, there is an association between lucid dreaming, out of body experiences and hypnosis. In the investigation of the relationship between hypnosis and dreaming, these conditions may be explanatory and helpful. Lucid dreaming is a learning skill and hypnosis may contribute to solve dreaming secrets scientifically. By using lucid dreaming, it may also be possible for a dreamer to prolong and control the dreams. Self-hypnosis has an important role in both daydreaming and nocturnal dreaming, particularly some types of dreams such as flying dreams and kinestezik sensations.

Recently, Semiz *et. al.* (20) presented a case report of 'Out of Body Experiences'. They suggested that there might be an association between OBEs and hypnotizability. Their report presented a case of OBEs, which indicated an interface between these experiences and hypnotic phenomena: Mr. H, a 21-years-old man, was admitted to our hospital because of his unusual experiences. He was anxious and irritable about these frightening experiences. He described that out of body experiences were occurred several times in resting position during the last six months. He unexpectedly experienced a scene for 5-10 minutes. He reported: "I was in a green field and saw a crow attacking a swaddled baby, pecking him at this eyes, and I was terrified of that as if I was myself the baby. Thus, I chased the crow and it escaped. Then, I run afterwards and caught it. I killed it and rescued the baby. Then, I abruptly returned to my usual awareness." He pointed out he was aware that at the time he wasn't asleep and he perceived the situation fully live and as if he himself was inside the situation.

Hypnotizability of the subject was assessed by the eye roll sign of the Hypnotic Induction Profile (HIP) (21). There is a recent study indicating a relationship among the eye roll, hypnotizability, and absorption (22). The subject was scored as Grade 3. He was a hypnotizable subject and an imagery suggestion was used as a technique. The mental pictures and set scenes that have specific purposes, such as to relax, to foster a new self-

image, and to provide an environment in which any behavior were reprogrammed. Anxiety level was significantly reduced by several consecutive sessions.

This case presentation may suggest a causal relationship between OBEs and hypnotic capacity. Survey evidence favors the theory that OBEs could arise out of the same conditions as sleep paralysis. There is also considerable evidence that people who tend to have OBEs also tend to have lucid dreams, flying and falling dreams, and the ability to control their dreams. At this point, the association between dreaming, particularly lucid, and suggestibility should be reexamined. Future directions are needed to investigated.

As a conclusion, an important topic is the relationship between sleep, dreaming, and hypnosis. In my opinion, there is a strong and plausible association between sleep states and hypnotic phenomena. The investigation of this association will be helpful to understand the underlying mechanisms of these phenomena. In the coming years, we anticipate important progress in our understanding of the basic mechanisms of sleep, dreaming, and hypnosis that interact and mediate complex human cognitions, emotions, and behaviour.

## REFERENCES

1. Agargün MY : *A new multidisciplinary journal: Sleep and Hypnosis 1:VII-VIII, 1999.*
2. Schredl M : *Dream recall: research, clinical implications and future direction. Sleep and Hypnosis, 2:72-81, 1999.*
3. Tart CT : *A comparison of suggested dreams occurring in hypnosis and sleep. Int J Clin Exp Hypnosis, 12:263-289, 1964.*
4. Evans F : *Hypnosis and sleep: techniques for exploring cognitive activity during sleep. In: Hypnosis: Development in Research and New Perspectives. Ed by E Fromm, RE Shor, Comp. New York, pp 139-183, 1979.*
5. Stoyva J : *The effects of suggested dreams on the length of rapid eye movement periods. Unpublished doctoral dissertation, University of Chicago, 1961.*
6. Tart CT and Dick L : *Conscious control of dreaming: I. The posthypnotic dream. J Abnorm Psychol, 76:304-315, 1970.*
7. Barber TX, Walker P and Hahn K : *Effects of hypnotic suggestions on nocturnal dreaming. J Abnorm Psychol, 82:414-427, 1973.*

8. Hartmann E : *Boundaries in the Mind. Basic Books* : New York, 1991.
9. Barrett D : *The relationship of thin vs. thick boundaries to hypnotic susceptibility. Paper presented at the meetings of the Eastern Psychological Association, Boston, Mass, 1989.*
10. Gauld A : *Hypnosis, somnambulism and double consciousness. Contemporary Hypnosis* 9:69-76, 1992.
11. Butler LD, Duran REF, Jasiukaitis P, Koopman C and Spiegel D : *Hypnotizability and traumatic experience: a diathesis-stress model of dissociative symptomatology. Am J Psychiatry*, 153:42-63, 1996.
12. Nemiah JC : *Dissociative disorders. In: Comprehensive Textbook of Psychiatry, 5th edition. Ed by HI Kaplan, BJ Sadock. Baltimore, Williams and Wilkins, pp 1028-1044, 1989.*
13. Friedman M : *Biological approaches to the diagnosis and treatment of post-traumatic stress disorder. J Trauma Stress* 4:67-91, 1991.
14. Kinzie JD : *Post-traumatic stress disorder. In: Comprehensive Textbook of Psychiatry. Ed by HI Kaplan, BJ Sadock. Vol 6, Baltimore, Williams and Wilkins, pp 1000-1008, 1991.*
15. LaBerge S and Rheingold H : *Exploring the world of lucid dreaming. New York: Ballantine, 1990.*
16. LaBerge S, Levitan L and Dement W : *Lucid dreaming: Physiological correlates of consciousness during REM sleep. Journal of Mind and Behavior*, 7:251-258, 1986.
17. LaBerge S : *Lucid dreaming: Psychophysiological studies of consciousness during REM sleep. In: Sleep and Cognition. Ed by RR Bootsen, JF Kihlstrom and DL Schacter. Washington, D.C.:American Psychological Association, pp 109-126, 1990.*
18. Blackmore S : *A theory of lucid dreams and OBEs. In: Conscious Mind, Sleeping Brain. Ed by J Gackenbach and S LaBerge, pp 373-387, New York: Plenum, 1988.*
19. Levitan L and LaBerge S : *Out of body experiences and Lucid Dreams. Nightlight* 3:2-3, 1991.
20. Semiz UB, Basoglu C, Ebrinç S and Çetin M : *Out of Body Experiences: Are Associated With Hypnotizability? Sleep and Hypnosis*, 1:68, 1999.21. Spiegel H and Spiegel D : *Trance and Treatment: Clinical Uses of Hypnosis. Washington, DC: American Psychiatric Press, 1987.*
22. Frischholz EJ, Spiegel D, Trentalange MJ and Spiegel H : *The Hypnotic Induction Profile and absorption. Am J Clin Hypn* 30:87-93, 1987.

Correspondence:

Mehmet Yücel Agargün  
Department of Psychiatry,  
Yüzüncü Yil University,  
School of Medicine,  
65300 Van, TÜRKİYE.