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To cite this article: Éva I. Bányai (2018) Active-Alert Hypnosis: History, Research, and Applications, American Journal of Clinical Hypnosis, 61:2, 88-107, DOI: [10.1080/00029157.2018.1496318](https://doi.org/10.1080/00029157.2018.1496318)

To link to this article: <https://doi.org/10.1080/00029157.2018.1496318>



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Published online: 27 Sep 2018.



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# Active-Alert Hypnosis: History, Research, and Applications

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After a brief review of the history of the idea of an activity-increasing hypnotic induction procedure with eyes open and pedaling a bicycle ergometer, the features of active-alert hypnotic induction are summarized. Results of research conducted on healthy volunteers revealed the behavioral, experiential, physiological, and interactional characteristics of the induced altered state of consciousness (ASC), showing both similarities and differences between traditional and active-alert hypnosis. A short description of the application of the method is followed by two brief case studies.

**Keywords:** active-alert hypnosis, behavioral manifestations, subjective experiences, neurophysiological indices, therapeutic application

In my doctoral research, in which I studied the effect of hypnosis on verbal learning, we used traditional relaxation hypnotic inductions. In the majority of the 24 experimental subjects, a sleepy, passive state developed, in accordance with the then-dominant Pavlovian theory of hypnosis, which conceptualized hypnosis as a sleeplike state (Pavlov & Gantt, 1928). It was striking, however, that

four subjects exhibited a different behavior: They were in an even “more active” state than the waking one. They followed the instructions of the experimenter immediately, while their fast movements, lively facial expressions, loud voices, and their fast speech were in sharp contrast with the passive behavior of the average subject. It was as if they had been released from some kind of pressure, their behavior reflected childlike playfulness. (Bányai, 1973, pp. 180–181)

Some of even those who entered a relaxed, passive state wondered why we had talked about drowsiness, for this state did not even resemble sleep: Although their muscles relaxed, they felt much livelier than during sleep; in fact, livelier than in their normal waking state.

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Serendipitously, when I watched a documentary on the war in Vietnam, I realized that we can witness altered states of consciousness (ASCs) under natural circumstances, far from the laboratory, when a person's activity level increases rather than decreases. In the movie, the camera crew filmed an American attack from the Vietnamese trench. The camera focused on the face of a single soldier who was in the middle of launching an attack. The facial expression of the highly excited soldier who was about to kill was almost identical to the trancelike appearance of the hypnotized subjects I saw daily in the laboratory. This shocking experience suddenly reminded me of my many pieces of reading in literature and folklore where increased activity elicited an ASC: for example, the ecstatic trance states of shamans (Eliade, 1964); the dance of the whirling dervishes (Williams, 1958); the tribal dances of Bali (Belo, 1960); the gods taking possession of the tribesmen while dancing to the rhythm of the drums in voodoo cult (Sargant, 1957); the "second wind" in physical activity, like long-distance running (Miller, Galanter, & Pribram, 1960); sexual orgasm (Ludwig, 1966); and so on.

Our controlled electrophysiological studies (summarized in Bányai, 1985) also failed to demonstrate any sleeplike activity in the background electroencephalogram (EEG), in the stimulus-triggered synchronization processes, or in the peripheral indices.

On the basis of the behavioral, phenomenological, and physiological differences between hypnosis and sleep, and considering the spontaneously occurring trance states as a result of certain procedures of increased activity under natural circumstances, I hypothesized that sleeplike quality is not an essential feature of hypnosis but a by-product of the traditional induction methods emphasizing relaxation and sleep. In my hypothesis, hypnosis can be induced by procedures that aim at increasing activity level. There had been some attempts to bring about hypnotic-like trance states by increasing activity, but mostly after relaxational induction involving closed eyes (for details, see Bányai & Hilgard, 1976; Capafons & Mendoza, 2018). It was only Ludwig and Lyle (1964) who completely avoided the metaphor of sleep and instead used different forms of movement (walking, spinning around, doing knee bends) to achieve a hyperalert state—in a highly atypical "postaddict" group. Their method was brought to such an extreme that most of the subjects had an unpleasant experience. Despite these scarce attempts of inducing hypnosis without activity-decreasing procedures, the literature did not offer any well-controlled method of hypnotic induction without reference to eye closure, relaxation, or sleep. To test my hypothesis, we developed an active-alert hypnotic induction procedure at the Laboratory of Hypnosis Research at Stanford University, where the subjects had to pedal a bicycle ergometer, with eyes open, while receiving suggestions of activity and alertness (Bányai & Hilgard, 1974, 1976).

## Active-Alert Hypnotic Induction Procedure

### Physical Arrangements

The environment of the active-alert hypnosis procedure is more similar to any other psychological experiment than to traditional relaxational hypnosis: the room remaining

brightly illuminated, no special steps toward excluding external noises, no soundproofing, no fixation point where the subject should focus. It is important, however, to ensure appropriate ventilation of the room because of the physical exercise involved. A stationary bicycle ergometer is positioned so that there is enough space for free movement of the hypnotist.

### Procedure

The subject, after being seated on the bicycle, adjusts the resistance himself or herself so as to resemble pedaling uphill. The hypnotist may either sit or stand next to the subject, enabling observation of physical reactions and facial expressions.

During rapport formation the hypnotist aims at weakening the stereotyped connection between hypnosis and sleep by emphasizing that hypnosis can be induced by a wide range of methods and under different circumstances. Then the subject is instructed to look straight ahead and pedal without stopping during the whole procedure.

The standard induction and test suggestions parallel the various forms of the Stanford Hypnotic Susceptibility Scales (forms A, B, C, profile I, II, both in English and in Hungarian) (Bányai, 1987; Weitzenhoffer & Hilgard, 1959, 1962, 1967).



FIGURE 1 Subject at the End of Traditional Relaxational Hypnotic Induction (Left) and Active-Alert Induction (Right).

After the first general remarks about the nature of hypnosis, the active-alert induction is administered (see Appendix). **Figure 1** illustrates the posture and expression of a subject after relaxational and active-alert hypnotic inductions.

After the induction, the subject continues pedaling and receives different test suggestions. The text of the suggestions and their removal are also modified by replacing suggestions of relaxation and sleepiness with those of activity, alertness, focused attention, and freshness, for example, removal of the mosquito hallucination suggestion:

It's gone ... That's a relief ... you are no longer bothered ... the mosquito has disappeared. Just continue pedaling ... just let your legs pedal as if by themselves.

In the course of dehypnosis, the subjects are gradually brought back to their regular level of alertness through counting from 20 to one. At five, the subject is suggested to stop pedaling; by one, hypnosis ends.

## Research

As summarized in my Candidate of Sciences thesis and in the first edition of the *Handbook of Clinical Hypnosis* (Bányai, 1987; Bányai, Zseni, & Túry, 1993), research on active-alert hypnosis was conducted with healthy volunteer subjects in several series of experiments. The first one, conducted at Stanford University on a nonselected sample of university students volunteering for a hypnosis study, tested the effect of active-alert induction on mainly motor suggestions (Bányai & Hilgard, 1974, 1976). There was no significant difference between the effects of traditional and active-alert inductions in the performance of the test suggestions. The question arose, however, whether this heightened responsiveness in active-alert hypnosis might be the result of the continuous pedaling itself. The second series, still at Stanford, compared pedaling for the same amount of time with the same resistance with or without hypnotic induction. Active-alert induction significantly increased responsiveness to test suggestions, as opposed to pedaling only.

Because cognitive changes constitute an essential part of hypnotic responses, which are especially important in therapy, in a third series of experiments, conducted at the Department of Comparative Physiology at Eötvös Loránd University in Hungary, we tested the effects of active-alert hypnotic induction on suggestions in the cognitive domain: dream, memory enhancement (age regression, recall of meal), hand analgesia, auditory hallucination (Bányai, 1980). After preliminary screening for hypnotizability, only highly susceptibles were invited to the study, as they are more likely to respond to cognitive suggestions. There was a slight but significant difference in test performance, favoring traditional induction. This difference might have been due to the preselection procedure: The subjects were “initialized” into hypnosis by the traditional, relaxational method, and the “new” style contradicted their expectations.

Analyzing the contribution of each item within the total scale revealed that the difference in total score was due to a single item, namely, auditory hallucination. Unfortunately, the difficulty of the two specific items of auditory hallucination may have been different. As the subjects often noted, they found it easier to hallucinate a well-known children's song (traditional session) than to hear an unknown and unspecified voice (active-alert situation).

Despite these differences, qualitative analysis of the data showed that the style of performance of the tested hypnotic suggestions was similar in the two kinds of hypnosis: Dissociations, clear, vivid dreamlike visual imagery, involuntary performance of motor suggestions, effortless memory improvement, and rationalization of posthypnotic suggestions appeared.

In the next series of experiments, we compared the neurophysiological background of traditional and active-alert hypnosis. The peripheral indices reflected the heightened physical activity: increased heart rate and muscle activity (electromyography [EMG]) as compared to traditional hypnosis. However, we did not find any difference in the background EEG. Despite the fact that the subjects pedaled the bicycle ergometer with eyes open, marked alpha activity characterized the EEG even in active-alert hypnosis (Bányai, Mészáros, & Greguss, 1981).

In the fifth series of experiments, a method that is more appropriate for detecting fine changes in central nervous activity, namely, visual and auditory event-related potentials (ERPs), was studied. To maintain the attention of the subjects for a sufficiently long period of time to record ERPs, a special learning situation was designed in which a sensory or a motor set of attention was induced by a sensosensory or an avoidance conditioning procedure (Bányai et al., 1981; Bányai, Mészáros, & Greguss, 1983). The sensory set was induced by instructing the subjects to pay attention to a 500 msec delay between a tone and a following flash. In the motor set, an avoidance conditioning situation was created, where the subjects had to press a button 300 to 500 msec after the same tone to avoid the flash (as opposed to the normal reaction time of 140 to 180 msec). In traditional hypnosis, the decrease of the amplitude of the 70 ms positive component of visual ERP (P70) in the vertex lead and an increase of the contingent negative variation (CNV) in the frontal area (both are considered to be appropriate indicators of the general level of activation; Tecce, 1970; Tecce, Savignano-Bowman, & Meinbresse, 1976) reflected a decrease in the general level of activation as a result of relaxation. In active-alert hypnosis, however, neither P70 nor CNV reflected the increased activity level. On the other hand, both hypnotic inductions caused a difference in the latencies of the late components of the ERPs: As compared to the waking state, both hypnotic inductions caused the latencies of the late auditory and visual ERPs to increase in the avoidance conditioning situation, in accordance with the demand of delaying the button-pressing motor response.

On the basis of the results of our first five experiments and considering the findings of other researchers that have replicated or extended the study of active-alert hypnosis

(Cikurel & Gruzelier, 1990; Kasos E., Kasos, K., Pusztai, Polyák, Kovács, & Varga, *in press*; Kasos K., Kekecs, Kasos E., Szekely, & Varga, 2018; Kovács et al., 1996; Malott, 1984; Miller, Barabasz, & Barabasz, 1991), we can conclude that a genuine ASC can be induced by active-alert hypnotic induction.

Despite the subjects' expectations about hypnosis being a passive, sleeplike state, all of the essential characteristics of hypnosis appear in active-alert hypnosis, with some major differences between relaxational and active-alert hypnoses. Let's review the main similarities and differences in the most relevant areas on the basis of comparison of the data of 94 healthy volunteer subjects.

### Responsiveness to Test Suggestions

Heightened responsiveness to suggestions is considered to be the most important characteristic feature of the hypnotic state. It has been repeatedly demonstrated that traditional and active-alert induction procedures produce identical behavioral responses to motor suggestions (Bányai, 1987; Bányai & Hilgard, 1976; Malott, 1984). It is relevant for clinicians that the responses performed cover a wide range of suggestions: various cognitive suggestions (memory improvement, positive and negative hallucinations, dreams), posthypnotic suggestions, pain reduction (for a summary, see Bányai et al., 1993). The experience of the subjects revealed that involuntariness and dissociation characterized the performance of test suggestions in both types of hypnoses. A quote from a subject illustrates the similarity of effortlessness of memory improvement:

If you try to remember, when you are fully awake, it's a kind of a ... hard work ... but now, since you said that I would remember ... it meant that I would remember. ... When you are awake, you should look for your memories consciously, keeping pulling them out ... from a ... drawer. ... And you get impatient: When does the real one appear? ... While here, I was just waiting for the image in the armchair or for the taste on the bike ... patiently. ... And ... it suddenly appeared.

### Mimics, Posture, Gestures

Despite the usually open eyes, facial expressions are "masklike," similar to traditional hypnosis, but a happy, almost ecstatic smile appears frequently. There are differences, however, in posture and gestures: Muscle tone increases in general; movements are faster and often exaggerated in highly susceptibles; pedaling speed increases (by about 32%, as compared to the waking control).

### Task Performance

In the avoidance conditioning situation of the fifth series of experiments, there was no difference in performance between waking control and either traditional or active-alert hypnotic responses. There was a difference, however, in subjective experiences: As

opposed to the waking state and to relaxational hypnosis, in active-alert hypnosis the subjects did not feel frustrated after mistakes; rather, they found the task pleasantly interesting (Bányai, 1987).

### Relinquishment of the Planning Function

Despite the lack of decreased level of alertness, typical signs of hypnosis appear in subjective reports after active-alert induction. When comparing traditional and active-alert hypnoses, the subjects noted the similarities:

How did they [traditional versus active-alert] differ from my usual state? Well ... somehow ... I wanted to do what you said. . . . Yes, in both states, yes ... I could not do anything alone, I believe, nothing, without you telling me to do.

(Note the similarity to the remark a subject made to Gill and Brenman (1959):

I know I am in hypnosis because I *know* I will do what you tell me. (pp. 36–37)

### Lack of Reality Testing

In all, 55% of the subjects spontaneously remarked that there were unquestioned changes in the perception of time and space, unusual visual and bodily sensations and distortions appeared, and unexpected memories emerged suddenly. As one of the subjects reported:

I was very unquestioning, and just ... you know, I didn't try to evaluate something you said as soon as you said it.

### Focused Attention

Shutting out the external world and narrowing of attention in both hypnoses were emphasized by 78% of the subjects. As one of them put it:

The feeling was like when I ... when I tune other things around me out. . . . If I could block out things around me all the time, I could remember my German a little bit better.

### Level of Alertness

It was reported by 72% of the subjects that while they felt sleepy and passive in traditional hypnosis, in active-alert hypnosis they became more alert and fresh. As one subject noted,

On the bike, somehow I did not feel ... tired, and was ready to pedal. And somehow, I could have gone on for a long time. Somehow ... somehow ... I was more alert ... and in general, more awake. While here [in traditional hypnosis] ... I was tired and very relaxed.



## Emotionality

According to 68% of the subjects, active-alert induction resulted in emotionally more positive, sometimes even ecstatic-like experiences. For example:

During the induction . . . when you suggested that I would become fresh . . . suddenly I was overwhelmed by a very strong and pleasant feeling . . . the feeling of wholeness. As at a beautiful summer dawn . . . it was warm yet freshening . . . and the smell of the fresh air. . . . It's hard to express. . . . But it was a peak experience . . . Complete peace . . . It was unique. Last time [in traditional hypnosis] I did not feel like this.

Perception of music was also influenced by active-alert hypnosis. In the study by Kovács et al. (1996), the subjects rated the administered musical pieces (Handel) more alert and softer than in the waking state.

## Sense of Agency

Although performance of test suggestions was similar after the two inductions, 32% of the subjects highlighted that they felt a more active participation in the entire process in active-alert hypnosis. As one of the subjects said:

The state of alertness that I felt on the bicycle was so much—so much more comfortable, because I felt like I was directing myself, like I had my choice, and I was . . . and I felt assured that I was doing something, you know, pedaling, and I felt that I could hear whatever you had to say . . . but this time [in traditional hypnosis] it felt like I had no choice.

## Exercise Effect

While it is usual that exercising on a stationary bike in the waking state results in fatigue, thirst, boredom, indifference, and subsequent stiff muscles, these effects were modified in active-alert hypnosis: After the initial feelings of fatigue, stiff thighs, and throbbing, the subjects felt a “second wind” by the end of induction, and pedaled as if released from inhibition.

## Preference for Induction Type

Some of the subjects spontaneously expressed their preference for either type of hypnosis: In all, 20% of the subjects preferred the active state induced by active-alert induction, while 28% preferred the passive relaxed state of traditional hypnosis. Subsequent analysis revealed that the subjects scored higher on the test suggestions after the preferred induction.

## Physiological Changes

The central physiological indices of activation (background EEG and ERP) did not reflect the increased level of activation manifested behaviorally and subjectively, but the peripheral components (EMG, heart rate) of arousal did (Bányai, 1987; Bányai et al., 1981, 1983).

ERP and CNV data suggest that it is the modification of selective attention that lies behind the behavioral and subjective changes induced by active-alert hypnosis: Similar to relaxational hypnosis, as a result of active-alert induction, the subjects become so sensitive to the demands of the task and to the hypnotist that they perceive and respond not only to manifest suggestions but even to the not-verbalized hidden requirements of the hypnotists, delaying their motor response and increasing their evoked potential latencies in avoidance conditioning (Bányai, 1987; Bányai et al., 1981, 1983; Mészáros, Bányai, & Greguss, 1981).

In line with the often demonstrated lateral shift of brain activity, Cikurel and Gruzelier (1990) reported that a more right-hemispheric information processing accompanies active-alert hypnosis, similar to traditional hypnosis in the case of haptic processing. A recent study from our hypnosis laboratory reinforced this finding. K. Kasos and colleagues (2018) measured electrodermal activity (EDA) bilaterally during active-alert hypnotic induction and in a control condition while the subjects listened to music. The results demonstrated that highly hypnotizable subjects showed a shift to right-sided electrodermal dominance, while the less hypnotizable subjects showed a left-sided electrodermal dominance in response to the active-alert induction. In the control condition, there was no change in EDA laterality. Laterality shift was also associated with self-reported hypnotic experiences characteristic of ASC as measured by the Phenomenology of Consciousness Inventory (Pekala, 1991).

## Interactional Characteristics of Active-Alert Hypnosis

A puzzling subjective phenomenon directed my attention to the need to expand the range of investigation to the *whole* interaction between hypnotist and subject: In the course of inducing active-alert hypnosis, I felt stiffness in my own thighs, as if I had ridden the bicycle. Motivated by this unexpected phenomenon, I developed a multi-dimensional social-psychophysiological approach (Bányai, 1985; Bányai, Mészáros, & Csókay, 1985). In this approach, attitude toward hypnosis, behavioral manifestations, subjective experiences, and physiological indices of both the hypnotists and the subjects are studied. The results are summarized elsewhere (Bányai, 1991, 1998, 2000, 2002, 2008; Bányai, Gósi-Greguss, Vágó, Varga, & Horváth, 1990); here, we concentrate only on one aspect, namely, hypnosis styles. On the basis of the complex analysis of hypnosis interactions, we first described two distinct hypnosis styles, physical-organic and analytic-cognitive (Bányai et al., 1990), later renamed maternal style and paternal

style, respectively (Bányai, 1991). Maternal hypnosis resembles the early mother–infant relationship characterized by a great amount of interactional synchrony, while paternal hypnosis mobilizes a more distant, cognitive-rational involvement of the participants. Both of these styles are strongly asymmetrical in nature (Bányai, 2000, 2002).

On the basis of holistic ratings, active-alert hypnosis, however, activated a more symmetrical relationship between hypnotist and subject, namely, a friendlike style (Bányai, 2000, 2002). In an exploratory study, Pusztai (2017), using a feature-based coding system developed by Varga and Kekecs (2015), confirmed that a friendlike style was characteristic of active-alert hypnosis, and a sibling-like style could also be reliably distinguished. These styles are more egalitarian than maternal–paternal styles.

Neurohormonal characteristics of traditional and active-alert hypnotic interactions were also compared in our laboratory. Studying the effect of active-alert hypnosis on oxytocin and cortisol levels of hypnotists and subjects, E. Kasos and colleagues (*in press*) reported that while both hypnotic states caused a decrease in the cortisol level in hypnotists and subjects, a significant difference appeared in the oxytocin changes as a function of hypnotizability of subjects. Unlike during relaxational hypnosis (Varga & Kekecs, 2014), oxytocin level increased in low hypnotizables, it did not change in mediums, and it decreased in highs in active-alert hypnosis. These results suggest that while both hypnotic states have a stress-reducing, soothing effect, active-alert hypnosis has a further important effect: Those who are less involved in the hypnotic process (both behaviorally and phenomenologically) can mobilize their oxytocin system in active-alert hypnosis. Because oxytocin plays a significant role in bonding between nonkin humans (for summary, see Holt-Lunstad, Smith, & Layton, 2010; E. Kasos et al., *in press*; Varga & Kekecs, 2014), this finding suggests that active-alert hypnosis may have a beneficial, corrective effect on social relationships in low hypnotizables.

## Applications

As early as in 1977, I had already recommended using active-alert hypnosis in psychotherapy, especially in those patients who prefer active-alert to relaxational hypnosis and in those who could profit the most from the mood-elevating and ego-strengthening effect of active-alert hypnosis because of their depression or low ego strength (Bányai, 1977). Since then, various authors have applied the method in different fields: sports coaching, education, psychotherapy, and so on (see reports of other authors in this issue).

### General Features

Because the clinical application of active-alert hypnosis was already summarized in detail in Bányai et al. (1993), even including a transcript of a typical active-alert session, I reiterate here only the most important point: The description of the general technique

of active-alert hypnotherapy serves only as a basis for the creative work of the therapist. The actual induction and suggestions and the different interventions must be tailored to the individual patient.

### Indications, Contraindications

Members of the Hungarian Association of Hypnosis have reported case studies of active-alert hypnosis in several papers and presentations (Bányai, 1998; Biró, 2012; Lukács, 2017; Szemes, 1995; Túry, 1992, 1998; Zseni, 2012; Zseni & Vadász, 1988). On the basis of research findings, clinical reports, and personal discussions, we have found the main indications for the application of active-alert hypnosis as follows:

- lack of initiative and energy, general inhibition, excessively withdrawn personality;
- depression (even in long-standing depression with complex symptoms) (see Case 1);
- anxiety, dissociative, and psychophysiological disorders;
- inhibited identity development;
- eating disorders (mainly bulimia and obesity);
- neurotic symptoms of children who do not tolerate the stillness of traditional hypnosis;
- autism (combined with medical treatment);
- schizophrenic patients with “negative” symptoms (e.g., inhibition in movements, emotional expression, low libido);
- enhancement of physical and mental performance in healthy persons (including competitive athletes); and
- contradictory results with alcohol and drug abuse.

There are a few conditions in which active-alert hypnosis is contraindicated, in addition to the general contraindications of hypnosis:

- psychosis with “productive” psychotic symptoms (illusions, hallucinations, delusions, psychomotor restlessness); and
- maniac phase of bipolar disorder.

### Case 1

Jane (age 37), an American economist working as a specialist in Hungary, asked for help because of her depressive symptoms. Although she did not wish to consider hospitalization, her energy level became so low that sometimes she could not go to work. She developed sleep disturbance, loss of appetite, indigestion, occasional strong pressure in the chest, and, two weeks prior to seeking help, a panic attack accompanied the basic feelings of hopelessness. She felt to be in full isolation, magnified by the fact that she spoke no Hungarian; thus, her communication was restricted to her colleagues

and official conversations during her 10-month stay in Hungary. She tolerated this especially badly, as she had been in therapy in the United States before coming to Hungary, which she also missed.

Jane came from a family where she was the second child and only daughter with three brothers. She had always felt excluded, anxious, and worthless. Her older brother had always been a “problem child” (later diagnosed “borderline personality”), thus “sucking away” all care from Jane. Jane tried to gain her parents’ attention by frequent illnesses.

She first participated in psychotherapy at age eight, for four months, because of bedwetting. Because she suffered from constant anxiety and depression since childhood, she was in different kinds of psychotherapy with occasional breaks since age 24. Her symptoms never abated, but she felt she could “at least talk to someone.”

Based on Jane’s history, she could be diagnosed with persistent depressive disorder (dysthymia) [300.4 (F34.1)] (*DSM-5*, [American Psychiatric Association, 2013]).

The choice of active-alert hypnosis as the main procedure for catalyzing psychotherapy was justified by the fact that she needed the consciousness-altering effect of hypnosis that also ensured an intensive therapeutic relationship; furthermore, she had a very strong need for achievement (the only source of security in her life so far), which suited the prolonged activity necessary for active-alert hypnosis well. Her moderate hypnotizability was sufficient for administering active-alert hypnosis.

The aim of the first phase of therapy was to terminate symptoms causing acute inability to work through the aid of the activity-increasing and mood-lifting effects of active-alert hypnosis, combined with behavior-modification elements. With twice-weekly sessions, Jane’s condition improved considerably after 12 active-alert hypnosis sessions. Her mood improved from session to session; her bodily symptoms disappeared; her panic attacks terminated; and her sleep patterns improved and were healthier. She returned to work, which she enjoyed and performed successfully.

The 12th active-alert hypnosis session brought a change in therapy. While pedaling the bicycle ergometer, Jane suddenly experienced a vivid, complex fantasy: She felt as if riding a horse, instead of a bike, and trotting as one with the horse. This highly vivid and pleasant experience brought up many early childhood memories. She recalled that until age four she had really ridden a horse a lot at the farm of her maternal grandparents, where she had felt happy.

In the next phase of therapy, we further explored her early childhood period. An abundance of vivid episodes emerged in which she could develop close relationships, mainly with animals. As an aftereffect of active-alert hypnosis, Jane started to ride horses in a riding hall in the suburbs. Because the stablemen did not speak English, she began studying Hungarian to make herself understood. In this phase of therapy, she found new resources and realized that, in addition to intellectual performance, she needed something else too.

In the third phase of therapy, the 25th session started again with the spontaneous emergence of an image. In her fantasy, she was again riding a horse, but this time with a man whom she thought had probably been her only true love, but she had never realized this while he was alive; the man had died five years before. After this session we elaborated her feelings of anxiety in the next few waking meetings; these feelings of anxiety had prevented her from forming relationships. Then, again in active-alert hypnosis sessions, ego-strengthening suggestions reinforced her feelings that, as she had become able to direct and control her life actively recently, she would not become vulnerable in couple relationships either and would be able to control them too. This was followed by a few traditional relaxational hypnosis sessions in which she could remain calm and comfortable without constant activity. Upon age-progression suggestion, she imagined a future in which she had a husband and two children. She found this perspective increasingly realistic even in the waking state.

In the meantime, she developed a rich social life in Hungary. During her visits to the United States every three months, her American acquaintances noticed that she had become more balanced, harmonic, and attractive. Because she felt she had become able to solve her problems independently, to develop relationships, and to direct her life actively, therapy was terminated after the 39th session.

In a 21-year follow-up, Jane is symptom free, emotionally stable, and, as she put it, happy. She returned to the United States, has been happily married for 20 years, and has two children. She is a leading economist.

In this case, the administration of active-alert hypnosis—in a patient who had lived all her life in anxiety, depression, and isolation—played a fundamental role in enabling her to draw strength from her forgotten positive early-childhood memories, to mobilize her hidden resources, to take the development of her relationships into her own hands, and to become a happy and balanced person.

### Imaginary Active-Alert Hypnosis

The active-alert method has already been developed further and is used not only in its original form. Self-hypnotic active-alert technique and group application were summarized in Bányai et al. (1993). Based on my experience with cancer patients who were physically very weak, I have recently been using what I call an “imaginary active-alert hypnosis” technique. The essence of the method is as follows:

1. It can be applied in any bodily position.
2. No actual pedaling is involved.
3. Suggestions aimed at increasing activity and alertness refer to imaginary movements.

A sample induction may start like this:

Just imagine that you are sitting on a bicycle . . . and now you start pedaling while concentrating on my words . . . As you think of pedaling, your muscles begin to feel the joyous feeling of moving . . . like in your childhood. . . . Imagine the rhythmic changes in your muscles . . . how they contract first and then relax . . . contract and relax. . . . Enjoy these rhythmic changes in your muscles. . . .

And it might continue like this:

And now imagine that you are not biking in this closed room, but you are out in your favorite place . . . and enjoy the pleasant sunshine, the fresh breeze against your cheeks. . . . And as you inhale the fresh air, you begin to enjoy your movements even more. . . .

Following is a brief case illustration depicting the application of this method.

### Case 2

An oncologist referred Betty to me because Betty was not able to get out of bed. Betty had received chemotherapy and was currently getting radiotherapy, but her physical condition did not justify her inability to walk. At our first meeting, Betty did not want even to speak, showing signs of serious depression, but she agreed to listen to me. I told her that her physical condition enabled her to get out of bed, but maybe she did not want to. I offered her the possibility of a method that uses imagination to make moving easier. After getting her permission, I administered imaginary active-alert hypnosis, using the image of riding a stationary bicycle. At the end of the second session, she revealed some deeper reasons for her depression and said she would like to sit on a real stationary bike. To do that she had to get up and go to where the bike was. From then on, real active-alert hypnosis was administered. In the third session, she had a spiritual experience: She felt she had reached a snowy mountaintop and, as she looked around, the sun lit up. As the snow began to melt, she felt she also melted into the surrounding sea. She felt this as a joyous experience, for being part of nature. After this session, her condition improved dramatically. Still receiving radiotherapy, she began hiking in the woods, where she met an old acquaintance, and together they joined a religious community where she felt secure and happy. After seven years, Betty is in good physical and psychological condition.

### Conclusion

Active-alert hypnosis has been demonstrated to be a useful tool for a better understanding of the necessary and sufficient conditions of inducing a hypnotically altered state of consciousness and its main characteristics. The experience of increased self-control and efficiency in active-alert hypnosis is in harmony with the most recent trends in positive psychology that aim at achieving competence, self-actualization, development of bodily and psychological health based on strong self-control, ego activity, agency, and the development of internal control.

## Acknowledgments

I would like to express my gratitude to Anna Csilla Gósi-Greguss, PhD, for her invaluable help in the preparation of this article. I also thank the members of the Hungarian Association of Hypnosis for sharing their experiences in active-alert hypnotherapy with me.

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## Appendix

### Active-Alert Hypnotic Induction

Now I'll ask you to sit here on the seat of this bicycle, ... put your hands on the handle bars ... your feet on the pedals ... good.

First of all I should like to ask you about the seat. Is it comfortable for you? If it's not comfortable enough we can adjust it for you. Why don't you help me to adjust it? Let's adjust it in this way ... to reach a point where your leg becomes straight if you put it on the lowest pedal. Is it good now? Are you sure? Fine. Try to pedal a little bit.

(In front of you there is a small wheel which you can turn counter-clockwise to increase the resistance of the pedals. Just adjust it up to a point where you can feel some resistance but not so much that you would become fatigued after pedalling for a rather long period of time. Is it good now? Sure? That's fine. But if you feel tired after a while just tell me. Have you any questions?)

Now I'll ask you to pedal ... .

1. I'm about to help you to become as attentive and alert as you can ... that will help you gradually to enter a state of alert hypnosis. Just sit on the bicycle with your hands on the handle bars and pedal. I want you to pedal steadily and while pedalling to listen to what I say. Your ability to enter a state of alert hypnosis depends partly on your willingness to cooperate and partly on your ability to pedal the bicycle steadily while concentrating upon my words. You have already shown yourself to be cooperative by coming here and with your further cooperation I can help you to become hypnotized. You can be hypnotized only if you are willing. I assume that you are willing, and that you are doing your best to cooperate by pedalling steadily and listening to my words letting happen whatever you feel is going to take place. Just let it happen. If you pay close attention to what I tell you and think of the things I tell you to think about you can easily experience what it is like to be hypnotized. There is nothing fearful or mysterious about hypnosis. It is a perfectly normal consequence of certain psychological principles. It is merely a state of strong interest in some particular thing. Sometimes you experience something very much like hypnosis when you are driving along a straight highway and you are oblivious to the landmarks along the road. In a sense you are hypnotized whenever you see a good show and forget you are part of the audience, but instead feel you are part of the story. Many people report, that becoming hypnotized feels as if they are becoming very alert, very attentive...experiencing everything more clearly than in the usual state. Hypnosis is an individual experience and is not just alike for everyone ... Generally a person can concentrate all of his powers on a given task in hypnosis and he can perform more efficiently than normally. S/He can perform a given task while remaining hypnotized and s/he doesn't feel as tired because of hypnosis. Nevertheless, if you feel tired of pedalling too hard, do not hesitate to tell me. Just tell me. All I ask of you is that you keep up your attention and interest and continue to cooperate as you

have been cooperating. Nothing will be done that will cause you any embarrassment. Most people find becoming acquainted with hypnosis a very interesting experience.

2. Just pedal the bicycle, don't stop pedalling. Keep your thoughts on my words and while doing this, pedal steadily, as steadily as you can. Should the muscles of your thighs feel a little stiff don't let that bother you. Just focus again on pedalling. After a while you may find that you feel that your body is a little warm or your breathing is a little faster, that's all right. If you feel more alert, that will be fine too. Whatever happens let it happen and keep focusing on pedalling. After a while there will come a time, however, when you will have pedalled long enough to feel your legs moving as if by themselves. They will move so easily and so quickly that you will be unable to keep them still. They will continue to pedal, perhaps quite involuntarily. When this happens just let it take place.

3. Pedal more and more. As you think of pedalling your legs will move even easier. And with each leg movement you will be more alert ... more and more alert ... more and more attentive. Just keep pedalling and listening to my voice... That will help you to block out distractions from the environment and actively perform many tasks better than in your usual state. Just keep up your attention and interest and continue to cooperate as you have been cooperating.

4. As you pedal more and more, a feeling of pleasant warmth will perhaps come over your body. A feeling of warmth is coming into your legs, and your arms ... into your feet, and your hands ... into your whole body. Your legs feel free moving and warm, free moving and warm ... . Your arms feel warm ... warm ... . Your face is getting warm ... . Your head is getting hot ... more and more hot ... . You are beginning to feel alert and attentive ... alert and attentive. Your breathing is becoming fast but regular ... fast but regular ... your are getting alert and attentive ... more and more alert and attentive.

While your legs move more and more easily, you pedal the bicycle so easily now.

5. Pedalling so long has made your legs move quite automatically, without much effort. Your legs move easier and easier. Soon you will no longer be able to stop them. Soon they will move by themselves. Your legs will keep pedalling and not be able to stop. Your legs are now even fresher from pedalling. You feel this freshness in all of your muscles ... in all the muscles of your legs. You are becoming increasingly alert and attentive... .A feeling of warmth and freshness is getting greater and greater in your legs ... greater and greater ... It would be so nice to keep on pedalling the bicycle without any effort ... just to move your legs and listen attentively to my voice talking to you. You would like to pedal in this way, to keep on pedalling without any effort. You would like to pedal is this way, to keep on pedalling without any effort. You will soon reach this state. You will feel so warm and fresh ... your legs will pedal so easily that your legs will move by themselves ... move by themselves.

6. Your legs are moving easily ... easy ... very easy. You are alert, very alert. There is a pleasant feeling of alertness, attentiveness, and freshness all through your body ...

you are fresh and alert ... fresh and attentive ... alert ... attentive ... fresh ... attentive. Listen only to my voice. Pay attention to nothing else but my voice. Your legs are feeling fine. They are moving by themselves ... you are having difficulty in stopping them. Your legs are moving easily ... . This ease of pedalling is getting greater and greater ... greater and greater ... . Your legs are moving easily ... very easy ... pedalling is getting easier and easier ... easier and easier ... . Your legs are moving by themselves.

Now we have come to the time when you may just let your legs continue pedalling... So just keep pedalling.

7. You are now pleasantly alert and attentive but you are going to be even more alert ... much more alert ... . Your legs are now moving almost automatically. You will keep your legs moving until I tell you otherwise or I tell you to stop... . You feel alert and attentive ... just keep listening to my voice, pay close attention to it. Keep your thoughts on what I am saying, just listen. You are going to get much more alert and attentive. Soon you will be completely alert and deeply hypnotized. You will continue to hear me. You will not stop pedalling until I tell you to do so. I shall now begin to count ... . At each count you will feel yourself getting more and more alert ... more and more attentive ... . You become as alert and as attentive as you possibly can ... . You are going to enter a state of alert hypnosis ... a state in which you will be able to do all sorts of things I ask you to do.

1 ... you are getting more and more alert ... 2 ... more and more alert, more and more active mentally, more and more attentive ... 3 ... 4 ... more and more alert ... 5 ... 6 ... 7 ... you are going into a completely alert state of hypnosis. Nothing will disturb you. Pay attention only to my voice and only to such things as I may call to your attention.

I would like you to keep on paying attention to my voice ... the things I tell you ... 8 ... 9 ... 10 ... 11 ...12 ... more and more alert, always more alert ... 13 ... 14 ... 15 ... deeply hypnotized and yet quite alert. You can hear me clearly. You will always hear me no matter how noisy the bicycle may sound ... 16, , , 17, , , 18 ... very alert ... very attentive ... nothing will disturb you. You are going to experience many things that I will tell you to experience ... 19 ... 20. Deeply hypnotized and alert. You will not stop pedalling until I tell you to do so. You will wish to be very alert and attentive ... and will have the experiences I shall presently describe.