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A COMPARISON OF REPORTED EXPERIENCES ASSOCIATED WITH DIFFERENT STYLES OF HYPNOSIS

by

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Date: 7/30/81

Approved:

Supervisor

Dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Psychology in the Graduate School of Duke University

1981
ABSTRACT
(Psychology-Clinical)
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Abstract

Reported experiences were compared for subjects undergoing a traditional style of hypnosis, a cognitive behavioral style of hypnosis, and a "waking imagination" procedure similar to hypnosis but explicitly labeled "non-hypnotic." Experiences of subjects within these three treatment conditions were also compared with the experiences subjects believed prior to treatment they would be most likely to have during a hypnotic session. No significant experiential differences appeared with regard to spatial, temporal, and personal disorientation; a sense of dissimilarity to ordinary experience; or obliviousness to extraneous thoughts or stimuli. Compared to subjects in the non-hypnotic procedure, subjects in the two hypnotic conditions reported more strong and positive feelings regarding the experience and a greater perceived inability to resist the experience. The only significant difference between cognitive behavioral and traditional subjects was the stronger belief of cognitive behavioral subjects that they were consciously directing and causing their hypnotic experience. Even though reported experiences differed somewhat for the different procedures, correlations of reported experiences with responsiveness (or "hypnotic susceptibility") were similar for the three procedures, with no apparent interaction effects for procedure with responsiveness on experience. In the two hypnotic conditions the experience of hypnosis was seen as more difficult to resist than subjects expected prior to treatment, but also less mysterious than expected. These findings overall indicate that experiential self-report is a useful method of gauging similarities and differences between different styles of hypnosis, quasi-hypnotic procedures, and expectations regarding hypnotic experience. Other theoretical and clinical implications of these findings are discussed.
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Introduction

"Hypnosis" and "hypnotic" phenomena appear in a variety of guises. A multiplicity of behaviors and experiences have been seen as manifestations of hypnosis, and many varied procedures have been used to elicit these hypnotic phenomena. Theories of the underlying causes of hypnosis have been equally far-ranging, with demonic possession, animal magnetism, psychopathology, and special physiological states considered as possible bases for hypnotic phenomena. Phenomena considered "hypnotic" have nonetheless occurred in the apparent absence of any of these proposed causes (Shor, 1979a). Given the elusiveness of the concept of hypnosis, it is not surprising that Barber (1969) has criticized the very use of the word "hypnosis"—yet he does so in a book entitled Hypnosis.

In this study we propose a heuristic model which describes the context in which hypnotic phenomena occur. Hypnosis involves: (1) antecedent variables which influence the subject to (2) think and experience in a particular way and (3) therefore respond in particular ways, manifesting hypnotic phenomena. The antecedent variables consist of two classes of variables: first, the procedures used by the hypnotist; and second, the characteristics of the hypnosis subject, e.g., attitudes, motivation, styles of thinking. Hypnotic phenomena include: behavioral and experiential responses to specific suggestions by the hypnotist; and reported experiences other than those specifically suggested. The component parts of this model are discussed below, and are charted in Figure 1.

Hypnotic procedures are those techniques used during a session to elicit hypnotic phenomena. Typically the hypnotist will prepare the subject for responding to hypnosis by what is called an "induction." The hypnotist will
then make specific suggestions designed to elicit specific responses. Presumably, the induction orients the subject toward thinking and experiencing in a manner appropriate for hypnosis, and facilitates subject response to suggestion. One general approach is to suggest increasing calm, relaxation, and transformed experience of proprioceptive sensations. The approach may involve fixed staring at a particular spot, progressive muscle relaxation, or a combination of both. This procedure, which will be called "traditional," is the most well known to the general public and is used in the most common experimental tests of hypnotic phenomena (e.g., Weitzenhoffer and Hilgard, 1962).

A second kind of preparation, associated with Barber (1969), is the exhortation of the subject to become hypnotized. The hypnotist tells the subject that it is very easy, pleasant and interesting to become hypnotized, and that nearly all subjects do in fact experience hypnosis. This form of preparation is frequently called "task-motivational instruction." A third type of preparation, also associated with Barber (Barber, Spanos, and Chaves, 1974) is known as "skills training." The hypnotist advises the subject to become deeply involved in his or her imagined thoughts, and to try to "think
creatively" along with suggestions made. The hypnotist also models hypnotic behavior, describing his or her own use of cognitive strategies to facilitate the experience of hypnosis. The combination of these two non-traditional approaches will be called "cognitive behavioral."

Few clinical hypnotists use only one of these approaches. More often they will use both approaches, fitting them to the needs and characteristics of the subject. In actuality, the subtle variations in communication during hypnotic procedures are almost endless. For experimental purposes, however, strictly standardized techniques, entailing the verbatim recital of a hypnotic procedure protocol, are the rule. While standardization limits the freedom of the hypnotist to communicate in a persuasive, effective, and spontaneous manner with particular subjects, it does make replication of experimental findings possible.

The two most common procedures used as controls in experimental studies of hypnosis are the simulation of hypnosis and the use of "waking suggestion." In the simulating condition, the subject is instructed to respond to specific suggestions in the way a hypnotized person presumably would, but the subject is also instructed actually to be unhypnotized (Orne, 1981). Thus the subject is instructed to merely pretend to be hypnotized but not to experience hypnosis. "Waking suggestion" procedures differ from most hypnotic procedures in two ways: first, the induction and suggestions are not labelled "hypnotic"; and second, there is typically a much less intensive or lengthy preparation of the subject prior to giving suggestions. The subject may be told simply to use his or her imagination and to listen carefully to some suggestions. To consider "waking suggestion" non-hypnotic is arbitrary, since it does in fact elicit many phenomena similar to those elicited by "traditional" hypnotic procedures. On the other hand, to call "cognitive
behavioral" approaches hypnotic may also be arbitrary, inasmuch as these procedures are dissimilar to "traditional" approaches. What is or is not called hypnosis is probably not crucial. Delineating specific differences between procedures, as well as examining their ramifications, is essential to understanding hypnotic phenomena. Verbatim protocols for traditional, cognitive behavioral, and waking suggestion (or non-hypnotic) procedures appear in the appendix.

All the procedures discussed involve a relationship between a hypnotist, or facilitator, and a subject. Such styles of hypnosis are sometimes called "heterohypnosis," to distinguish them from "self-hypnosis." By reading and thinking in accord with specific instructions, subjects can elicit hypnotic phenomena without the presence of a hypnotist, and this is called "self-hypnosis." Sometimes, hypnotists may teach a subject during heterohypnosis to induce and experience self-hypnosis. Hypnotic phenomena also may be elicited by meditation, progressive muscle relaxation, biofeedback or strenuous physical exercise. In fact, some theorists argue that we frequently experience hypnotic phenomena spontaneously (Shor, 1962; Lankton, 1980; Zeig, 1980), though we do not always know it. Can hypnosis occur then in the absence of hypnotic procedures? This is actually a question that can only be answered by careful definition and delineation of criteria. If hypnosis is defined as necessarily including specific procedures or antecedent variables, then the rigid laws of tautology clearly dictate that hypnosis and hypnotic phenomena cannot occur without hypnotic procedures. Phenomena occurring which are similar in specific ways to the phenomena elicited by hypnotic procedures, and which are dissimilar to phenomena ordinarily experienced, are sometimes called "trance" or "naturally occurring trance phenomena." The adjective "hypnotic" is often reserved for such phenomena only when occurring
after procedures labeled "hypnotic."

Subject variables refer to the characteristics of the subjects, such as attitudes, expectations, personality traits, and cognitive abilities which influence the experience of hypnotic phenomena. Subjects who report experiencing hypnotic phenomena tend to have the following traits: (1) they are able to perform cognitive tasks requiring selective attention or obliviousness to extraneous thoughts and stimuli (Van Nuys, 1973; Graham and Evans, 1977; Karlin, 1979; Mitchell, 1970); (2) they become deeply involved in imaginative thinking, to the extent that they lose their ordinary sense of self-awareness (As, O'Hare, and Munger, 1962; Shor, Orne, and O'Connell, 1962; Tellegen and Atkinson, 1974; J. Hilgard, 1970); and (3) they report that imagery conjured up by an externally provided stimulus word is very vivid (Sutcliffe, Perry and Campbell, 1970; P. Bowers, 1978). Some studies have also indicated that positive expectations and attitudes toward hypnosis are associated with the ability to experience hypnotic phenomena, but correlations are typically low. General dispositional traits have not been associated with the ability to experience hypnotic phenomena, perhaps because the hypnotic context is so unusual that such general traits are not applicable (Sheehan, 1979). In only one study (Gur and Reyher, 1973) has the interaction of subject variables and hypnotic procedures been examined experimentally. As noted above, the interaction of subject variables and hypnotic procedures is essential to clinical hypnosis. The skilled clinical hypnotist assesses subject behavior and characteristics before and during the hypnotic procedure. On the basis of this ongoing assessment, the clinical hypnotist chooses ways of communicating which will be most effective in eliciting hypnotic phenomena for the particular subject. Subject variables are obviously an important component of the hypnotic context, but they will...
not be studied in this paper. A study currently in progress will examine the interaction of different subject variables and different hypnotic procedures in eliciting hypnotic phenomena (Brown, Cross, and Gospe, in preparation).

In this study, cognition refers to the way in which the subject organizes and interprets external stimuli and internally generated thoughts, memories, and images. Experience can be defined as the contents of consciousness, or what one consciously perceives, feels, and thinks at any given moment. In this study, the word "experience" will on occasion also be used in place of the cumbersome term "subject's report of the experience."

Cognitive processing is the means by which experience is constructed from internal and external stimuli.

Experience is difficult to assess scientifically since it cannot be directly observed or operationalized. We can examine the self-report of subjects and make inferences about what the subject is actually experiencing, but it should be kept in mind that subjects may not be able to communicate accurately what they are experiencing. Even while attempting to be honest and precise, subjects will inevitably shape their reports to fit, or evade, the demands, expectations, and language of others. It is, however, not merely the description of experience, but perhaps experience itself that is shaped by social demands and previously learned ways of understanding what happens. Such diverse students of psychology as the social psychologists interested in attribution theory, cognitive psychologists employing information processing models of cognition, developmental psychologists like Piaget, and even psychotherapists like Sullivan and Kelly, all share a simple but powerful idea: experience is not passively received and imposed upon us; rather, it is constructed from the stream of afferent data. The subject selects, ignores, rearranges, organizes and labels data, using previously
learned "cognitive structures" (Neisser, 1967); that is, information is processed on the basis of previously learned patterns of interpreting what happens. The processed information which the subject becomes aware of at any moment—those memories, thoughts; images, and perceptions of which one is conscious—are what we have defined in this paper as experience. It is, of course, impossible to apprehend a person's experience, because it is irredeemably private. A further complication is that experience can never be an object of knowledge because it is constantly being constructed and reconstructed. If we ask a subject to observe his or her experience, the subject is likely to take a critical, detached, and self-conscious stance, processing information in a different fashion, and thereby transforming experience.

Experience—in particular, experience of how one seems to be thinking—is rendered even more elusive by hypnotic procedures. Hypnotic subjects are urged not to take a self-conscious, critical or detached stance. In fact, good hypnotic subjects do things without experiencing themselves as actually doing them, and experience things as real which are not actually real. This mystification of experience may cause awareness of one's cognitive processes to become inaccessible. Nonetheless, this unusual transformation of experience seems to be essential to hypnosis, and must be studied if we are to understand the phenomenon.

Cognition characteristic of hypnosis has been examined indirectly by study of two sets of variables. First, experimenters look at subject variables which are correlated with response to suggestion after hypnotic procedures. The inference is then made that the subject variables that are highly correlated with responsiveness may be involved in hypnotic cognition. Second, experimenters examine subject self-report regarding their experience
of hypnosis. If a particular experience is correlated with responsiveness, experimenters may infer that this experience is descriptive of actual hypnotic cognition. Inferences based on similarities between these two sets of data would obviously be more powerful. For example, some studies, reviewed by Spanos and Barber (1974), indicate that strong motivation to do well in a hypnosis experiment is associated with responsiveness. However, as will be seen later in this study, the experience during the hypnotic session of wanting to do well is not associated with responsiveness. Motivation does not therefore appear to be as important to hypnotic cognition as selective attention; as will be discussed below, the ability to attend selectively during non-hypnotic tasks and the actual experience of attending selectively during hypnosis, are both associated with hypnotic responsiveness.

The theories of hypnotic cognition are quite numerous, but there is considerable overlap between these theories, and a "convergence" in approaches to understanding hypnosis (Spanos and Barber, 1974). The three most popular explanations of hypnotic cognition are strong involvement in imaginative thinking (e.g., Shor, 1979b; Barber, Spanos and Chaves, 1974; P. Bowers, 1978; Fromm, 1979; J. Hilgard, 1970; Sheehan, 1979); selective attention (e.g., Hilgard, 1977; Orne, 1981; Shor, 1979b; Fromm, 1979; Barber, 1969); and a decreased consciousness of one's self or ego as directing one's action and experience (Fromm, 1979; Hilgard, 1977; Shor, 1979b; Sarbin and Coe, 1972).

**Hypnotic responsiveness** refers to verbal and motoric behavior occurring in response to specific suggestions made during hypnotic procedures. Since the pioneering work of the behavioral psychologist Hull (1933), responsiveness has been the most popular criterion for the presence of hypnosis and has been used to make inferences about the ability of subjects
to be hypnotized. If a subject responds to suggestions in a context which is defined as "hypnotic," then the subject is typically believed to be "hypnotized"; the subject is also thereby considered "hypnotizable."

"Hypnotic depth" is often inferred on the basis of response to suggestion. If a given procedure is shown to facilitate and increase response to suggestion, this procedure is typically considered a "hypnotic" induction or procedure. Finally, if particular reports of experience during a hypnotic procedure are consistently correlated with response, these are called "hypnotic" experiences. A more commonly used term for responsiveness is "susceptibility." In this study, "response" or "responsiveness" is used instead, because the word "susceptibility" has implications of dependency and submissiveness. Responding to hypnotic or non-hypnotic suggestion is not necessarily a submissive, dependent experience.

Response to suggestion is usually assessed by examining the subjects responses to standardized scales for measuring hypnotic susceptibility. As Sarbin and Coe (1972) have noted:

A major advance in the study of hypnosis was the development of standardized scales to measure the variations in responsiveness to settings traditionally defined as hypnosis. Reliable measures have now made it possible to define the degree of hypnotic responsiveness and to compare results obtained in different laboratories under specifiable conditions. Reliable scales have also made it possible to examine individual differences. Earlier case reports, although fascinating to read, were limited in usefulness because they failed to include repeatable criteria or a wide range of responses (173-174).

These scales for assessing responsiveness usually involve standardized wording. They start with an induction or preparatory statement, and then go on to a number of hypnotic suggestions. The number of suggestions in these scales vary, but in the most popular scales, there are ten to twelve suggestions. Most items implicitly or explicitly demand some kind of behavior which can be seen by an outside observer. These suggestions are usually made
separately. After the hypnotist reads or recites each suggestion, there is a pause during which the subject may perform the suggested behavior or undergo the suggested experience, if he or she has not already done so. Suggestions typically involve: involuntary movement; involuntary inhibition of movement; hallucinations; amnesia; or involuntary behavior after the formal cessation of the hypnosis session ("post-hypnotic suggestion"). The protocols used in this study include all of these types of suggestions listed above, and appear verbatim in the appendix. Different standardized scales currently in use have been reviewed and evaluated in the October, 1978-January, 1979 double issue of the *American Journal of Clinical Hypnosis* and the April, 1979 issue of the *International Journal of Clinical and Experimental Hypnosis*.

While most of these scales are administered individually, some scales have been developed for group testing. The most widely used group hypnotic susceptibility scale is the Harvard Group Hypnotic Susceptibility Scale, Form A (Shor and E. Orne, 1962). Unlike the Stanford Hypnotic Susceptibility Scale, Form A (Weitzenhofeffer and Hilgard, 1959) from which the HGHSS-A is derived, the HGHSS-A relies upon the subject's rating of how his or her behavior would appear to an outside observer, rather than upon the experimenter's rating. Fortunately, self-ratings are highly correlated with observer ratings (Bentler and Hilgard, 1963; Shor and E. Orne, 1963) and appear to be reliable.

Two kinds of reports of hypnotic experience are very commonly examined by hypnosis researchers: the degree to which the experiences conjured up by each specific suggestion are perceived as real; and the degree to which the subject experiences himself or herself as being "deeply" hypnotized.

Self-report on the reality of the experience of specific suggestions is a useful method which can supplement behavioral observation in the assessment
of responsiveness (Barber, 1969; Sheehan and Perry, 1976). However, the validity of these reports has been questioned (Sarbin and Coe, 1972), inasmuch as they may more accurately reflect perception of external demand and willingness to comply to these demands, than actual experience. Spanos and Barber (1968) have made a partial attempt to deal with this problem; in a 2 x 2 factor study they compared subjects involved either in task motivational or traditional procedures. Subjects were asked to report on their experience of suggested hallucinations. Crossed with these two conditions was a condition in which there was a strong demand for an honest report and a condition in which there was not an explicit and emphatic demand for honest report. In the two traditional conditions and in the task motivational condition with no honesty demand, the experience of hallucination was reported as being quite real, with reports being approximately equivalent. In the task motivation group with demand for honesty, reports of the reality of the experience were significantly less emphatic. This finding suggests that the validity of reported experiences is more questionable in task-motivation than in traditional conditions. In the study proposed in this paper, self-report instruments for hypnotic experience will include demands for honest and accurate reports.

Self-report of the "depth" of hypnosis has been reviewed at length by Tart (1970, 1979). Typically, these scales involve a report of a number, with a low number representing little or no experience of hypnosis, and a high number indicating a deep experience of hypnosis. The subject may rate the hypnotic experience only once, or repeatedly, over the course of a session. Barber (1969) has criticized these scales, charging that the concept of depth is so general as to be meaningless. He also proposes that these reports, rather than representing experience, are only attributions made by the
subject on the basis of self-observed behavior. Tart (1970) counters this argument by observing that report of depth after trance induction procedures and prior to any suggestion of test items for responsiveness was in fact highly correlated with responsiveness; unfortunately, he does not provide these specific data on which he bases this conclusion. Tart further notes in support of this assessment method that subjects reported a variety of criteria they used to determine depth other than self-observation of responsiveness, including "feelings of drowsiness . . . changes in body image or perceived body position . . . fading of the environment . . . relaxation . . . feelings of compulsiveness of response" (p. 115).

This second defense of reports of depth brings us back to Barber's charge: measures of hypnotic experience may be so general as to be meaningless. Depth appears to be associated with a number of different reported experiences, which are not necessarily related. Self-reported depth, the reality of specific suggested experiences, and the manifest behavioral responses to test items, all may be useful criteria by which we can define the presence or degree of hypnotic experience. Unfortunately, they tell us little or nothing about the nature of the experience or the styles of thinking associated with hypnosis. This does not mean these criteria should be abandoned; rather, it should encourage researchers in hypnosis to attempt to assess more specific hypnotic experiences.

In the conclusion of his review of measures of hypnotic depth, Tart (1979) does in fact advocate a multidimensional approach; that is, a variety of different experiences that may be associated with responsiveness and may be independent of each other should be assessed through subject self-report. Shor (1979b) calls this approach "phenomenological," distinguishing it from "subjective" approaches. While both methods of studying hypnosis examine the
reported experience of subjects, the phenomenological approach is multidimensional and based on specific criteria for the different experiential dimensions. The subjective approach only looks at one dimension, such as the "reality" or "depth" of the experience, and the self-assessment of subjects on the dimension is based on vague impressions, with the criteria for judgement unspecified. Shor (1979b) has recently described an interview method for assessing hypnotic experience, a method which embodies the phenomenological approach. Three experiences which Shor considers essential to an understanding of hypnosis are "trance," "nonconscious involvement," and "archaic involvement." As Shor defines it, trance is the experience of obliviousness to the thoughts and sensations which might cast doubt upon the reality of the hypnotic experience. Nonconscious involvement refers to the experience of things seeming to happen automatically, without the subject consciously willing them. Archaic involvement is the experience of strong positive feelings towards the hypnotist and a desire to please him or her. Shor also rates subjects on the basis of five other experiences often associated with hypnosis: drowsiness; relaxation; vividness of imagery, absorption, and access to the unconscious or the experience of bizarre and typically repressed primary process modes of thought. Shor's assessment technique provides specific criteria for assessing each of these experiences, based on what the subject says about the hypnotic session. The experiences chosen by Shor to assess are based on a priori concepts and are not empirically derived. It should also be noted that to date Shor has not published any data based on the use of this method. The theoretical implications of Shor's approach are extremely important, even if empirical validation is not yet available. The experience of what he calls trance is seen as indicative of a focussing of awareness away from
ordinary aspects of reality, thus leading to a sense of disorientation, strangeness, and tolerance for seemingly illogical events. Nonconscious involvement implies deep involvement in hypnotic role taking, during which the subject changes the ordinary sense of self-awareness and becomes unaware that his or her actions are volitional. Archaic involvement implies the increased influence of strong and primitive emotions upon thinking and experience, and in particular, the influence of early feelings towards parents or parental figures. Thus, all three dimensions of hypnotic depth are experiences which reflect underlying changes in the processing of information.

Shor further maintains that radically different styles of thinking and their experiential correlates may accompany similar levels of response to specific suggestion. Some subjects may be profoundly involved in all three of the dimensions of hypnotic depth, but others may only be deeply involved in two or even one of these dimensions. The particular dimensions Shor proposes may not necessarily be the most important styles of thinking and experiencing associated with hypnosis. Still, it is important to determine if in fact identical levels of response to suggestion during different hypnotic procedures mask differences in cognition and experience.

Like Shor, As and Ostvold (1968) have used a post-session interview technique to investigate hypnotic experience. They assessed the absence or presence of 27 experiences which the authors believed to be frequently associated with hypnosis. Factor analyzing these data, they derived three broad and rather heterogeneous experiential factors. The first factor, positively correlated with responsiveness, was called "trance" and was characterized by the perceived loss of volition, passivity, loss of contact
with reality, and unawareness of location. The second factor, called "ego control" was negatively correlated with responsiveness, and involved such reported experiences as self-observation, self-control, and awareness of disturbing or extraneous thoughts. A third factor, called the "desire for regression" was uncorrelated with responsiveness and involved desires for letting go, relaxation, and "total surrender."

Field (1965) has used a 38 item true-false self-report inventory administered after hypnotic sessions to assess the hypnotic experience. Field originally generated 300 sentences describing experiences associated with hypnosis. These sentences were based either on theoretical writings about hypnosis or on interviews with subjects after hypnotic sessions. These items were then used in an inventory for assessment of hypnotic experience, and 38 items were chosen which were highly correlated with hypnotic behavior.

The Field Inventory has been factor analyzed in two studies in order to derive experiential dimensions of hypnosis empirically. Field and Palmer (1968) looked at reports of 223 subjects who were hypnotized individually and later filled out the inventory. Both behavioral responses and experiential responses were included in the analysis. A general factor called hypnotic depth was found, and all items were included in this factor. The first rotated factor was called "unawareness" and consisted of items indicating "lessened awareness, loss of a sense of time, and detachment from the experimenter and the experimental situation" (p. 56). The second rotated factor, called "challenge" consisted of six responses to suggestion, and experiential items indicating an inability to resist hypnotic suggestion. A third factor entitled "enthusiasm" was composed of some items suggesting positive feelings and other items suggesting a sense of strangeness. The fourth factor, entitled "drowsiness" contained items mentioning sleep, and
described "a cognitive clouding of consciousness, as opposed to perceptual unawareness (p. 57). "Subjective conviction," the fifth factor, involved "the self-rating of deep or medium hypnosis" and "feelings of inability to resist" (p. 58). The sixth factor was based on behavioral responses to suggestions. Field and Palmer acknowledge that the third to sixth factors "are somewhat less clearly defined than the previous factors" (p. 56).

Johnson (1979) has factor-analyzed experiential responses to self-hypnosis and group heterohypnosis, using a modified version of Field's inventory. Unfortunately, this study has such a small sample size—48 subjects—that the factor analysis may well have yielded spurious results. In general, results were similar to those found by Field and Palmer (1968).*

If we contrast the Field Hypnotic Depth Inventory with the interview approach of Shor, and As and Ostvold, two advantages of the former are apparent: first, the inventory is simple to administer and fill out; and second, it minimizes bias induced by the experimenter. However, this approach has the disadvantage of filtering out complex and unusual experiences or styles of self-expression. Further, it is likely that the wording of the inventory statements may suggest ways of constructing the experience retrospectively, in a way not actually characteristic of the experience during the hypnosis session. Whatever method is used, however, it does seem that similar experiences emerge; among them are, first, disorientation, including spatial and temporal disorientation; second, lack of voluntary control, or a sense of passivity; and finally, strong feelings of enthusiasm, profundity

*A study published after the writing of the present study also used a questionnaire method for the phenomenological study of self-hypnosis and heterohypnosis (Fromm et al., 1981).
and mystery.

The model of hypnosis discussed here is shown in Figure 1. To summarize, experimental hetero-hypnosis can be described as an event which begins with a relationship between one or more subjects and a person who is considered the hypnotist. Both the subject and hypnotist agree that the hypnotist will undertake certain procedures to hypnotize the subject. These procedures may include instructions to refocus attention and to become relaxed and receptive, they may involve exhortation of the subject to become hypnotized, and/or they may involve the hypnotist modeling and describing cognitive strategies. Following these procedures, specific suggestions are made by the hypnotist to the subject, and presumably the preparatory procedures facilitate the subject's response to the different suggestions. Also influencing responses are skills, traits, and attitudes characteristic of the subject; among these variables are involvement in imagination and the ability to attend selectively.

Subject variables and hypnotic procedures do not lead directly to hypnotic experience; rather, they predispose the subject to process information in such a way that hypnotic experience is constructed. Experience includes the subjectively perceived reality of specific suggestions, but it also includes more general reactions such as temporal and spatial disorientation, a sense of mystery, changes in focus of attention, changes in sense of self, a feeling that actions and thought are involuntary and outside of one's control, enthusiastic or positive feelings, and so on. Such experiences in turn become part of the data received by the subject, further influencing the way information is processed and experience reconstructed. Experience may lead to particular sorts of attributions which reinforce, augment, or modify the way information is processed (Bowers, 1973). Self-report of experience
and responsiveness, like experience itself, is based on the way information is processed. Self-reported experience involves the kinds of experiences or experiential dimensions mentioned above. Responsiveness refers to motoric behavior and reported experiences which indicate that the subject’s perceptions are in accord with specific suggestions. Suggestions to which subjects respond might include involuntary movement, involuntary inhibition of movement, hallucinations, amnesia, and post-hypnotic suggestions. Response to suggestions and any subject report of experience during the hypnotic session may further influence hypnotic cognition.

Although this study deals with experimental hypnosis, the model can also be applied to clinical hypnosis. The clinical hypnotist typically attempts to understand the characteristics of the subject, tests for responsiveness, and sometimes asks for experiential report from the subject. On the basis of this information, the clinical hypnotist modifies or tailors the procedure to fit the needs and abilities of the subject. This is represented in the diagram by the dotted lines. The responsiveness of the hypnotist to the subject distinguishes clinical from experimental hypnosis. Because the clinical hypnotist is free to be responsive to the subject, he or she is likely to have increased and more dramatic results (Erickson, Rossi and Rossi, 1976); however, the procedures used are less likely to lend themselves to replications or experimental study.

The model proposed here implies that there may be a number of disparate phenomena grouped together within the concept of "hypnosis." It further suggests the possibility that the distinctions between what is "hypnotic" and what is not may well be arbitrary, and that supposedly non-hypnotic procedures may elicit phenomena similar to hypnotic phenomena. The purpose of this study is not to discover the essential elements of hypnosis, nor is it
to unearth an indisputable definition of hypnosis. Instead, it is proposed that similarities and differences between phenomena elicited by different procedures be compared. The definition of hypnosis is probably a matter of individual preference and the caprice of history, rather than the result of empiricism. Empiricism is, however, useful in further describing and ferreting out different types of phenomena which have been defined as hypnotic.

This approach is potentially of importance in resolving theoretical controversies about the nature of hypnosis. In this study, particular attention is paid to the question of whether "trance" is an essential element of hypnosis. Sarbin and Coe (1972) and Barber (1969, 1979) have criticized what they call "trance theorists," for postulating that there is a vague state or type of experience, often called trance, which is discontinuous with ordinary experience, is invariably associated with deep hypnosis, and causes hypnotic phenomena. To a certain extent, Sarbin and Coe, and Barber misrepresent the position of trance theorists. Trance theorists do not in fact consider hypnosis as involving experiences and cognitive styles qualitatively different from those employed outside of hypnotic contexts, though hypnosis may in fact involve intensification of ordinary styles of thinking and experiencing (Fromm and Shor, 1979). Further, most trance theorists share with non-trance theorists the belief that cognition is an essential aspect of hypnosis, and particular ways of processing information are in fact the immediate causes of hypnotic experience and response to suggestion. Finally, Shor (1979), Hilgard (1965, 1977) and Fromm (1979), among others, have described in some detail specific elements of hypnotic cognition and experience, so that "trance" or the "state of hypnosis" are far from being vague terms, devoid of meaning.
Barber has also attempted to prove empirically that trance-like experiences are not essential to hypnosis. The task-motivational and skills-training approaches to hypnosis were developed largely for this purpose. These hypnotic procedures, described above, are designed so as not to elicit trance-like experiences. They are, however, designed to maximize positive attitudes, beliefs, motivation, and the use of imagination. These techniques yield levels of response to suggestion equal or superior to those achieved by traditional hypnotic techniques (Hilgard and Tart, 1966; Barber, 1969; Katz, 1979). Barber concludes that positive attitudes, beliefs, motivation, and the use of imagination are essential to achieving hypnotic response, while trance experiences, or such concomitants of "altered state" as a sense of temporal, spatial and bodily disorientation, inattention to logical incongruity and to conventional forms of self-awareness, a sense of mystery or strangeness, etc., are all extraneous.

The effectiveness of Barber's procedures in producing response to suggestions have been amply demonstrated experimentally, but the conclusions he draws are not totally persuasive. One way of disputing Barber's position would be to dismiss responsiveness as an adequate indicant of authentic hypnotic phenomena, and to require trance-like experiences in order to label an event hypnotic. Hilgard (1965) and Shor (1970) state that subjects can be deeply hypnotized from the perspective of experience, yet not be especially responsive to suggestion; perhaps we should de-emphasize responsiveness as a criterion for hypnosis and emphasize trance-like experience. Nonetheless, this semantic argument evades Barber's central point; that subjects can behave in accord with suggestions and erroneously experience them as reflecting reality, while at the same time not having trance-like experiences.
A second approach to disputing this position would be to challenge the authenticity of responsiveness when Barber's procedures are used. Perhaps subjects in these conditions are less likely to experience suggested effects as real, but are more likely to experience pressure to act as if the effects were real and describe them as real. Responsiveness might be based on the increased power of social pressure employed by the hypnotist. As noted above, Spanos and Barber (1968) in fact found that response to suggestion was the same in task motivation and traditional procedures, but was significantly less in the task motivation condition when there was a strong demand for honest report. The demand for honesty did not effect the traditional condition. An interesting experiment would test whether responsiveness during "skills training" procedures would also be effected by demands for honesty.

A third possibility is that the cognitive behavioral procedures employed by Barber do in fact lead to trance-like experiences, even though such experiences are not explicitly conjured up. Tart and Hilgard (1966) propose that subjects in these conditions "slip into trance," especially those subjects who are highly responsive. Using a multidimensional phenomenological approach, Connors and Sheehan (1976) compared subjects' reported experiences during task motivational procedures and control, non-task motivational procedures. As compared to non-task motivation subjects, the task motivation subjects were much more responsive to suggestion and more likely to report themselves as having actually been hypnotized. They were also more likely to report themselves as: experiencing a sense of "dissociation"; feeling more relaxed; experiencing themselves as not acting voluntarily; and seeming to themselves not to have inner control over their responses. These findings do indicate that task motivational procedures are more effective that control
procedures in eliciting subject reports of trance-like experiences. Differences between task motivation and traditional hypnotic techniques on reported experience were not examined in the Connors and Sheehan study.

The present study compares the reported experiences of subjects undergoing one of three treatments: (1) a "traditional" hypnotic procedure; (2) a "cognitive behavioral" hypnotic procedure, combining task motivation and skills training techniques; and (3) a "non-hypnotic" procedure, involving the use of imagination, but specifically defined as non-hypnotic. It was hypothesized that some similarities would appear, indicating that subjects in the cognitive behavioral and non-hypnotic conditions report, at the very least, slipping into some aspects of trance. Differences in reported experience would show which experiences are more likely to be evoked by the particular procedures, possibly indicating there are "varieties of hypnotic experience," each associated with the different procedures. It was expected that many experiential differences would appear between the two styles of hypnosis, and many similarities would appear between hypnotic procedures and the so-called non-hypnotic procedure.

For the purposes of the present study, it was further hypothesized that there might be interactions between the particular procedures and the subjects' level of response to suggestion. For example, cognitive behavioral procedures are designed not to elicit such trance experiences as a feeling of disorientation. We might expect in the comparison of this group with the traditional group, that there would be a lower incidence of reported disorientation. Doing an interactional analysis, we might further hypothesize that within the cognitive behavioral conditions, subjects who respond to many suggestions do not report feeling disoriented more than subjects who are poor responders; we would expect a greater correlation of
disorientation and responsiveness for subjects in the traditional treatment condition. The simple comparison examines differences in normative reported experiences for the different groups; the interactional analysis examines the way in which different procedures reconstitute the relationship between reported experience and response to suggestion.

This study also examines potential differences in what experiences subjects expect to have during hypnosis and what they actually report happens. Such a comparison highlights which reported experiences are actually influenced by the procedure, and which reported experiences might very simply be based on subjects interpreting their experience according to their expectations, possibly uninfluenced by the actual procedures. Such a comparison would also have important clinical implications: if we know what kinds of experiences are likely to surprise the subject, we will be able to prepare subjects to interpret these experiences favorably, augmenting positive therapeutic and experiential effects.

In the course of addressing these issues, this study is intended to replicate previous findings regarding the response elicited by different procedures. It also replicates previous studies describing the reported experiential correlates of responsiveness for traditional hypnotic procedures.
Method

Subjects

There were 133 subjects, all of them female undergraduates taking their first course in psychology at Duke University. Involvement in this experiment was voluntary, but could be used to fulfill experimental requirements for introductory psychology. The sign-up sheet for volunteers indicated that the experiment would involve "the use of hypnosis and/or waking imagination." Subjects participated in only one session and only underwent one of the three treatment conditions.

Experimenters

There were two hypnotists participating in the study. One was a male clinical psychology graduate student and the other was a male clinical psychologist. Both had previous training and clinical experience in the use of hypnosis. Both also received additional coaching from the author of this study in the administration of the protocols used in the experiment, so that such aspects of delivery as timing and tone of voice were roughly equivalent. The clinical psychology student led six sessions in all, leading two sessions of each of the three treatment conditions. The clinical psychologist led three sessions, one for each of the three treatment conditions. The author of the study was also present at all nine sessions.

Pre-treatment procedure

Before beginning the experiment, three subjects were randomly selected for behavioral observation during the experimental procedure. All subjects were asked to fill out a questionnaire on previous experience of hypnosis, attitudes regarding hypnosis, and expectations about the depth of hypnosis they were likely to achieve. Three randomly selected subjects in each of the
conditions also filled out questionnaires on their predictions of what hypnosis might be like for them. (These subjects were not necessarily the same as those chosen for behavioral observation.) The questionnaire began as follows:

Many people have different ideas about what hypnosis is like. Imagine that you have just been hypnotized and now the hypnotic session is over. How would you describe the experience using the following questionnaire? Don't spend too long on any one statement—there are no "right" or "wrong" answers. For each statement circle a number. The number "1" indicates that you strongly agree, while "2" and "3" represent less strong agreement. The number "7" indicates that you strongly disagree, while "6" and "5" represent less strong disagreement. The number "4" indicates neither agreement nor disagreement.

The questionnaire then listed 47 sentences, for the most part taken from Shor (1979) and Field (1965), but in some instances devised by the present author. Subjects rated each of these possible descriptions of the expected experience separately on a scale of "1" to "7," with "1" representing strong agreement and "7" representing strong disagreement.

Subjects who did not fill out the expected experience questionnaire filled out the Marlowe-Crowne social-desirability scale (Crowne and Marlowe, 1964) instead. The attitude questionnaires were examined by the author to determine if any of the subjects had highly negative attitudes toward hypnosis; such subjects would have been screened from the study. In actuality, none of the subjects indicated highly negative attitudes and none were screened.

Upon completion of the questionnaires, the author said the following:

"Hello, my name is Charles Brown. As you know, this experiment is concerned with imagination and hypnosis. (In the non-hypnotic condition, the author adds: However, the particular group which you are in will explore the use of active imagination, and will not involve hypnosis). I think you are going to find the experiences you are about to have very pleasant and interesting. At no time will I ask you to do anything silly or embarrassing, because this is a serious scientific study. Now I am not going to tell you anything more right now about the experience or the experiment because I want you to find out what it is like for
yourself, without any bias or preconceived ideas. At the end of this session, you will fill out a few more forms about your experience. I would like you to read the form being handed out. (The author handed out the informed consent forms.) Just as it says, you can leave right now and obtain full credit. If you still want to participate in the experiment, please sign the form."

The form read:

I am aware that this experiment involves the use of hypnosis and/or active imagination. If I choose, I may withdraw from this experiment and obtain full experimental credit.

Date ________________

Name ________________

The subjects then filled out the consent form. In no instance did a subject refuse to do so. The author then collected the consent forms and handed out response booklets. The experimenter was then introduced by name, and it was stated that the experimenter was highly trained and would be leading the experiment. At that point the experimenter began the treatment.

Treatment

There were three treatment conditions, and for each one, three group sessions were run. The treatment conditions have been entitled traditional, cognitive behavioral, and non-hypnotic. The traditional treatment began with suggestions of eye fixation, heaviness of eyelids, muscle relaxation, and a general sense of calm and peace. This treatment was taken almost verbatim from the SGSCH:C (Stanford Group Scale for Hypnotic Susceptibility: Form C; Finke and MacDonald, 1978). The cognitive behavioral treatment involved a didactic discussion of the nature of hypnosis. The experimenter
emphasized the importance of effort, motivation, and positive attitudes. Also, the experimenter modeled response to suggestion, describing how he would think and act in order to respond appropriately. A combination of the protocols given in Barber and Wilson (1977) and Comins, Fullam and Barber (1975) was used for this procedure. The non-hypnotic treatment began with the experimenter stating that the session would not involve the use of hypnosis, though it would involve the use of imagination.

Subjects in all three conditions were then asked to close their eyes; in the traditional treatment condition, most subjects had closed their eyes prior to completion of the preparatory procedure, but those whose eyes were still open were asked to close them. A series of suggestions, taken from SGS:HS:C, was then administered. For the cognitive behavioral condition, all direct or indirect references to relaxation were taken out of the protocol, and for the non-hypnotic condition, references to both relaxation and hypnosis were removed. Suggestion 10, a post-hypnotic suggestion, was added in all three conditions to the series of suggestions taken from the SGS:HS:C.

Suggestions given were as follows:

1. The subject's outstretched hand would involuntarily lower;
2. the subject's outstretched hands would involuntarily move toward each other;
3. the subject would hear a mosquito and then feel it landing on her hand;
4. the subject would taste something sweet and then taste something sour;
5. the subject would be unable to bend her arm at the elbow;
6. the subject would have a dream about hypnosis in the traditional and cognitive behavioral conditions, and in the non-hypnotic condition would dream about imagination;
7. the subject would regress in age, feeling as if she were in the fifth
grade, and then as if she were in the second grade;

8. the subject would not be able to lift her hand from her lap;

9. the subject would see only two squares on a poster which actually displayed three squares;

10. the subject would forget what was said during treatment, and in writing the date she would write 1970 rather than 1980, but forget that she had been told to do so.

Subjects were told that they would remember everything that happened during the experiment only after the experimenter said "Now you can remember everything."

While the suggestions were being given, the experimenter and the author independently coded behavior in response to suggestions 1 to 5 and suggestion 8 for the three subjects selected for observation. All of these suggestions involved either some sort of physical movement or inhibition of physical movement.

Post-treatment procedure

At the end of the treatment condition, all the subjects filled out the first page of a questionnaire, giving their names, the date, and everything they could remember about the treatment. After two minutes, the experimenter said "Now you can remember everything" and the subjects went on to finish the questionnaire.

The first part of the questionnaire dealt with the subjects' responses to each of the specific suggestions. Subjects in the traditional and cognitive behavioral treatment condition also related on a five point scale the perceived depth of their experience of hypnosis. The second part of the questionnaire dealt further with the overall experience of the subject, above and beyond response to specific suggestions. This part of the questionnaire
began as follows:

The following statements refer to the experience you have just had. For each statement choose a number. The number "1" indicates that you strongly agree, and numbers "2" and "3" represent lesser amounts of agreement. The number "7" indicates that you strongly disagree, while "6" and "5" represent lesser amounts of disagreement. The number "4" indicates that you neither agree nor disagree with the statement. Please make your answers as accurate and honest as you can, but do not spend too long on any one statement.

Forty-seven sentences referring to the experience during treatment were then rated separately by the subjects on a scale of "1" to "7," with "1" representing strong agreement and "7" representing strong disagreement. These 47 items were identical to those used prior to treatment by the selected subjects. Unlike that questionnaire, this one dealt with the actual experience rather than the expected experience. Also, the post-treatment questionnaire dealing with experience was filled out by all 133 of the subjects, while the pre-treatment questionnaire, dealing with expectations, was filled out only by randomly selected subjects in each condition.

When all subjects had completed the questionnaire, the author discussed the purposes of the study and answered questions. Subjects were given the telephone number of the author and were urged to call if they had additional concerns or had experienced adverse effects. No subject actually contacted the author of the study with difficulties, though several requested to be in future experiments involving hypnosis. Subjects were also told that until the entire study was completed they should not discuss the specifics of the study with anyone.

All pre- and post-treatment questionnaires, verbatim protocols of the three treatment conditions, the behavioral coding form, and guidelines for scoring response to suggestion are given in the appendix.
Data analysis

Data was analyzed in order to:

1. develop a single variable which would be a valid descriptor of subjects' response to specific suggestions during treatment;
2. compare levels of response for (a) the three treatment groups, (b) the two experimenters, and (c) determine whether response is affected by the interaction of treatment with experimenter;
3. develop higher order variables from the 47 item post-treatment experience inventory, which would represent the kinds of experiences reported by the subjects;
4. compare reported experiences of (a) subjects in different treatment groups, (b) subjects with different levels of response, and (c) determine whether reported experiences are effected by the interaction of level of response and treatment condition; and
5. compare reported experiences for each of the three treatment conditions with subjects' pre-treatment expectations regarding hypnosis.

1. Scores on each of the twenty measures of response to specific suggestion were summed, with each of the twenty items weighted equally. Items were scored 2 for a full response to suggestion, 0 for no response, and in some cases, 1 for a partial response. More specific criteria for scoring items are given in the appendix. Since there were twenty items with a maximum score of 2 and a minimum score of 0, possible scores on the single response variable ranged from 0 to 40. It should again be emphasized that "response" is a single variable assessing overall response to specific suggestions during treatment, and is to be distinguished from "experience," which is discussed below.
To determine the validity of this variable, the Pearson correlation coefficient was computed for reported depth of hypnosis with the response variable. This included data from the traditional and the behavioral cognitive treatment subjects only, since the non-hypnotic treatment subjects did not report on depth of hypnosis variable. Further, for the six response items listed above, which involved experimenter observation, pearson correlation coefficients were computed for the summed scores of the ratings by the outside observers, with the ratings of behavior made by the subjects themselves. Pearson correlation coefficients were also calculated for the two observer ratings to determine inter-rater reliability. Finally, biserial correlation coefficients were calculated for the response variable with each of the twenty specific response items. (Eleven of the twenty response items entailed three possible responses: full, partial, or none. Since biserial correlations require two groups of subjects, partial response subjects on a given item were included with either full or no response subjects for purposes of analysis. Partial responders were usually combined with whichever of the other two groups had fewer subjects. If the full response and no response groups for a given item had approximately equal numbers of subjects, the partial response group was combined with the group that was closest to it on the mean response score.)

2. To examine treatment, experimenter, and interaction effects on response, a three by two analysis of variance was computed. Response as the dependent variable, and treatment crossed with experimenter were the independent variables. One way anovas were calculated to further elucidate any effects found to be significant in the two way anova.

3. To derive summary variables describing the experiences of subjects during treatments, answers given on the post-treatment inventory were factor
analyzed. A principle component analysis with a varimax rotation was employed. Only factors which had an eigen value of at least 1.0 and which were not heterogeneous in content were employed in further analyses. To obtain scores for the experience factors, the scores for each individual item that correlated with the particular factor at a level of .40 or greater were summed, and the items that negatively correlated with the factor at a level of -.40 or greater were subtracted. For these calculations, all items were weighted equally. In further analyses described below, both individual experience items and experience factors were used as dependent variables; the experience items and the experience factors should not be confused with each other.

Each score for the individual experience items was subtracted from 4 prior to any analysis using these items. Thus, negative scores indicate disagreement with the item, positive scores indicate agreement, and a score of 0 indicates that the subject neither agrees nor disagrees. This arithmetical transformation of the raw data makes the numerical results easier to interpret and does not, in any way, change the statistical findings.

4. Effects on reported experience of treatment, response levels, and interactions of treatment and response were examined through the use of multiple analyses of variance (manovas). To classify subjects according to level of response, subjects were divided into three approximately equal groups, based on their response scores. Cut-off scores for members of high, moderate and low response groups were kept the same, regardless of the treatment condition. "Level of response" refers to membership in the high, moderate or low response group, while "response" refers to the 40 point, continuous summary variable.
Since there were three response groups and three treatment groups, three by three manovas were employed. Two manovas were run for the purposes of this analysis. One manova used experiential factors as dependent variables, and the other used experiential items as dependent variables. Some redundancy was expected in the results of the two manovas, but many of the experience items were not associated with the experience factors. These items represented independent and interesting subjective reports which were potentially important aspects of hypnotic experience.

Wilks' criterion was used to assess the significance of the manovas. When Wilks' criterion was significant at \( p \leq 0.05 \), anovas that were significant at \( p \leq 0.05 \) have been reported. When Wilks' criterion was not significant, anovas were reported only when \( p \leq 0.01 \). The manova is useful in determining whether, over all, a given independent variable has had a significant effect on experiences taken as a whole. The anovas examine whether or not independent variables have significant effects on specific experience factors and items, looked at individually.

As the significance level for the effects examined in the manova decreases, the probability increases that seemingly significant findings using the associated anovas are spurious. Hence, it was decided to use more stringent criteria for reporting anovas as significant when Wilks' criterion for the manova was not significant.

To determine the strength of linear relationships between response and particular experience factors and items, Pearson correlation coefficients have also been calculated. High scores for the Pearson correlation coefficient indicate that scores on the independent variable are associated in a consistent fashion with scores on the dependent variable. In
calculating Pearson correlation coefficients, response scores were used; that is, scores on the 40 point scale, rather than level of response.

5. Manovas were also employed to compare the pre-treatment expectations regarding hypnosis, and the actual reported experiences of subjects after each of the three procedures. It was thought that subjects might have been unduly influenced in filling out the post-treatment questionnaire by having previously filled out the pre-treatment questionnaire. Therefore, in comparisons of expected experiences and actual reported experiences following treatment, post-treatment scores of the twenty-five subjects who took the pre-test were excluded.

In all, six one way manovas were run to study expected and actual experiences: expectations were compared with actual reported experiences, looking at experiences associated with each of the three treatment conditions, and using both experience factors and experience items as dependent variables. Once more, Wilks' criterion was used to determine the significance of the manovas. When Wilks' criterion was significant at \( p \leq 0.05 \), associated anovas for specific experiences, which were significant at \( p \leq 0.05 \), have been reported. When Wilks' criterion was not significant at \( p \leq 0.05 \), associated anovas were only reported which were significant at \( p \leq 0.01 \).

Results

1. The measure of response to suggestion was highly correlated with subjects' ratings of hypnotic depth on a 5 point scale, with the Pearson correlation coefficient equal to 0.75. Pearson correlation coefficients for observer ratings with self-assessments of behavioral response to the six suggestions were low, with correlations for the six items ranging from 0.30 to
Since inter-rater reliability on the different items was also quite low, the weak relationship between observers and self-assessment of behavior was probably a result of unreliable observer ratings. All twenty of the biserial r's for the specific response items with the summary response variable exceeded .30 and ten had biserial r's with response that were higher than .50. The low correlations on the behavioral items notwithstanding, it appears that the response variable is a valid measure for summarizing subjects' response to suggestion made during the experiment. The response variable is highly correlated with the reported experience of hypnotic depth and with nearly all of the twenty individual response items. Data discussed here are displayed in detail in the appendix, Tables A and B.

2. There were significant differences between the three treatment groups on the response variable, as indicated by the overall F (F = 3.5; df = 2, 130; p = .03). There were no significant experimenter effects or interaction effects.

Pair-wise comparisons were made between the three treatment conditions. Although no significant difference for responsiveness was found between the traditional and the cognitive behavioral group, non-hypnotic subjects were significantly less responsive than both traditional subjects (F = 4.0; df = 1, 85; p = .05) and cognitive behavioral subjects (F = 6.9; df = 1, 90; p = .01). Mean levels of response for the traditional, cognitive behavioral, and non-hypnotic groups were 23.5, 24.3, and 20.2, respectively. On a 40 point scale differences of 4.1 or 3.3 points may not be dramatic, but the two hypnotic treatment conditions were nonetheless significantly more effective than the non-hypnotic treatment condition in eliciting responsiveness, while the effects of the two different types of hypnosis, the experimenter, and interaction between experimenter and treatment were not significant. These
results are displayed in the appendix, Table C.

3. Seven acceptable factors emerged in the factor analysis of the post-experimental experience questionnaire:

Factor 1, called "disorientation," involved changes in perception of time, location and sense of self. The experience item with the highest loading on this factor was "Time seemed to 'stand still'" (.65).

Factor 2, called "enthusiasm," was associated with subject reports that the experience was positive, important, and amazing. The item with the highest loading on factor 2 was "I was delighted with the experience" (.83).

Factor 3, "inability to resist," involved feelings that experience and suggested actions were compelling and difficult to resist. The item with the highest loading on this factor was "I was able to resist the experience whenever I wanted to" (-.71).

Factor 4, "discontinuity," involved the feeling that the experience was, in a general way, dissimilar to ordinary experience or perception of reality. The item with the highest loading on this factor was "It seemed similar to ordinary experience" (-.66).

Factor 5 involved highly heterogeneous items and was not used in further analyses.

Factor 6, "obliviousness," involved inattention to thoughts or stimuli which might distract the subject from imagined realities. The item with the highest loading on this factor was "What the experimenter would think of my actions or behavior was important to me" (-.63).

Factor 7, "lack of conscious direction," was negatively correlated with items suggesting that the experience appeared to be the result of the subject's conscious control and direction. The item with the highest loading on the factor was "I consciously decided to imagine the things I experienced"
The factors, with all items loading at a level of .40 or above, are displayed in Table 1. Also displayed are the eigen values of the factors and variance accounted for by the factors.

3. Treatment effects on experience, as assessed by Wilks' criterion for the manova, were not significant when experience items were the dependent variable. However, when experience factors were the dependent variable, Wilks' criterion was significant for treatment effects. Wilks' criterion was significant for the effects of level of response, that is, whether the subject was in the high, moderate or low response group. This effect was significant both with experience items and experience factors. Wilks' criterion did not suggest significant interaction effects on either experience items or experience factors. Thus, there are clear indications that different levels of response are associated with differences in reported experience, some more tentative indications that different treatments are associated with differences in reported experience, and no evidence that the relationship between response and reported experience differs with different types of treatment. Wilks' criterion for the manovas are displayed in the appendix, Table D.

a. Significant differences for treatment effects on experience factors are indicated by the overall F for the univariate anovas dealing with "enthusiasm," "inability to resist," and "lack of conscious direction." No significant treatment effects were found for experience factors dealing with "disorientation," "discontinuity," and "obliviousness."

In making pair-wise comparisons of the three treatment groups, we find that both traditional and cognitive behavioral group members reported significantly more "enthusiasm" for the experience than non-hypnotic group
<table>
<thead>
<tr>
<th>Factor 1</th>
<th></th>
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<tbody>
<tr>
<td>43.</td>
<td>Time seemed to &quot;stand still&quot;</td>
<td>.65</td>
</tr>
<tr>
<td>21.</td>
<td>After the experiment was over, I was surprised at how much time had gone by</td>
<td>.63</td>
</tr>
<tr>
<td>16.</td>
<td>I was so involved with the experience that I seemed to &quot;forget myself&quot;</td>
<td>.62</td>
</tr>
<tr>
<td>15.</td>
<td>Everything happened automatically</td>
<td>.55</td>
</tr>
<tr>
<td>20.</td>
<td>At times I seemed to lose awareness of where I was</td>
<td>.55</td>
</tr>
<tr>
<td>26.</td>
<td>I felt apart from everything else</td>
<td>.47</td>
</tr>
<tr>
<td>25.</td>
<td>The experimenter somehow seemed very powerful and special</td>
<td>.44</td>
</tr>
<tr>
<td>10.</td>
<td>It seemed as if it happened a long time ago</td>
<td>.43</td>
</tr>
<tr>
<td>13.</td>
<td>The things I imagined or experienced during the experiment seemed very real</td>
<td>.42</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Factor 2</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>19.</td>
<td>I was delighted with the experience</td>
<td>.83</td>
</tr>
<tr>
<td>16.</td>
<td>This was a very rewarding thing to do</td>
<td>.74</td>
</tr>
<tr>
<td>29.</td>
<td>During the experiment I felt I understood things better or more deeply</td>
<td>.55</td>
</tr>
</tbody>
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Items loading on the factors at .40 or higher, either negatively or positively, are listed with the factors, along with their loadings on the factors.
Table 1 cont’d

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
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<tbody>
<tr>
<td>5</td>
<td>Everything the experimenter said seemed important to me</td>
<td>(.49)</td>
</tr>
<tr>
<td>41</td>
<td>I felt amazed</td>
<td>(.46)</td>
</tr>
<tr>
<td>30</td>
<td>Thoughts and feelings seemed to come out of nowhere</td>
<td>(.44)</td>
</tr>
<tr>
<td>Factor 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>I was able to resist the experience whenever I wanted to</td>
<td>(-.71)</td>
</tr>
<tr>
<td>24</td>
<td>I could not stop physical movements after they had started</td>
<td>(.62)</td>
</tr>
<tr>
<td>11</td>
<td>I could not have stopped doing some of the things suggested even if I had tried</td>
<td>(.59)</td>
</tr>
<tr>
<td>28</td>
<td>I tried to resist but I could not</td>
<td>(.54)</td>
</tr>
<tr>
<td>44</td>
<td>I felt in control of myself and my actions</td>
<td>(-.54)</td>
</tr>
<tr>
<td>12</td>
<td>I felt aware of my body only where it touched the chair</td>
<td>(.47)</td>
</tr>
<tr>
<td>Factor 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>It seemed similar to ordinary experience</td>
<td>(-.66)</td>
</tr>
<tr>
<td>38</td>
<td>I frequently had a sense of unreality</td>
<td>(.57)</td>
</tr>
<tr>
<td>39</td>
<td>The experimenter’s voice seemed to come to me from far away</td>
<td>(.42)</td>
</tr>
<tr>
<td>Factor 5</td>
<td>Heterogenous Items</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>I felt like I was deeply concentrating</td>
<td>(.59)</td>
</tr>
<tr>
<td>18</td>
<td>I was able to overcome some or all of the suggestions</td>
<td>(-.43)</td>
</tr>
<tr>
<td>45</td>
<td>The awareness of the posture, position, and sensations of my body was different from usual</td>
<td>(.43)</td>
</tr>
<tr>
<td>29</td>
<td>During the experiment I felt I understood things better or more deeply</td>
<td>(.41)</td>
</tr>
<tr>
<td>Factor 6</td>
<td>Obliviousness</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>31.</td>
<td>What the experimenter would think of my actions or behavior was important to me</td>
<td>(-.63)</td>
</tr>
<tr>
<td>7.</td>
<td>I was quite conscious of my surroundings</td>
<td>(-.46)</td>
</tr>
<tr>
<td>26.</td>
<td>I felt apart from everything else</td>
<td>(.46)</td>
</tr>
<tr>
<td>33.</td>
<td>Things that would ordinarily seem illogical or unusual did not distract me</td>
<td>(.43)</td>
</tr>
<tr>
<td>4.</td>
<td>At times I felt very aware of being in an experiment</td>
<td>(.41)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor 7</th>
<th>Lack of Conscious Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>I consciously decided to imagine the things I experienced</td>
</tr>
<tr>
<td>40.</td>
<td>Things seemed to happen because I chose to make them happen</td>
</tr>
<tr>
<td>44.</td>
<td>I felt in control of myself and my actions</td>
</tr>
</tbody>
</table>
Table 1 cont'd

Item 26 appears in Factors 1 and 6; Item 29 appears in Factors 2 and 5; Item 44 appears in Factors 3 and 7. None of the other items appear in more than one factor.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Eigenvalue</th>
<th>% Variance</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>13.99</td>
<td>53.3</td>
<td>53.3</td>
</tr>
<tr>
<td>Factor 2</td>
<td>2.21</td>
<td>8.4</td>
<td>61.7</td>
</tr>
<tr>
<td>Factor 3</td>
<td>1.78</td>
<td>6.8</td>
<td>68.4</td>
</tr>
<tr>
<td>Factor 4</td>
<td>1.26</td>
<td>4.8</td>
<td>73.2</td>
</tr>
<tr>
<td>Factor 5</td>
<td>1.21</td>
<td>4.6</td>
<td>77.9</td>
</tr>
<tr>
<td>Factor 6</td>
<td>1.11</td>
<td>4.2</td>
<td>82.1</td>
</tr>
<tr>
<td>Factor 7</td>
<td>1.02</td>
<td>3.9</td>
<td>85.9</td>
</tr>
</tbody>
</table>
members. Traditional and cognitive behavioral subjects did not show significant differences on the experience of enthusiasm.

Traditional subjects reported significantly greater "inability to resist" than non-hypnotic subjects, and there was a slight trend for cognitive behavioral subjects also to report greater "inability to resist" than non-hypnotic subjects ($F = 2.6; df = 1, 90; p = .11$). There was no significant difference between the two hypnotic conditions for "inability to resist."

Finally, the traditional group reported significantly more "lack of conscious direction" of their experience than the cognitive behavioral group. There was a strong trend for the traditional group to report significantly more "lack of conscious direction" of experience than the non-hypnotic group ($F = 3.6; df = 1,85; p = .06$). There was no significant difference between the cognitive behavioral and the non-hypnotic group on "lack of conscious direction." The means of these factors for the treatment groups are displayed in Table 2, and the significance levels of the differences are shown in Table 3.

Only six of the forty-seven experience items were associated with treatment differences of $p = .01$ levels of significance: Items 2, 6, 24, 34, 45 and 47.

Behavioral cognitive and traditional subjects were significantly more likely to report "This was a very rewarding thing to do" (item 6) than non-hypnotic subjects. The same difference appeared for "enthusiasm," a factor with which item 2 was highly correlated.

Traditional subjects were significantly more likely than non-hypnotic subjects to report "I could not stop physical movements after they had
started" (item 24) and significantly less likely to report "I was able to resist the experience whenever I wanted to" (item 34). These items were highly correlated with the factor "inability to resist," and these differences on the two items correspond to differences found with the "inability to resist" factor. In addition, however, cognitive behavioral subjects were significantly more likely than non-hypnotic subjects to report that "I could not stop physical movements after they had started" (item 24).

Behavioral cognitive subjects were significantly more likely than traditional subjects to report "I consciously decided to imagine the things I experienced" (item 2). This corresponds with findings regarding "lack of conscious direction" a factor with which item 2 is highly correlated. However, behavioral cognitive subjects also reported significantly higher levels of item 2, when compared with non-hypnotic subjects.

Traditional subjects were significantly more likely than non-hypnotic subjects to agree with the statement, "The awareness of my posture, position and sensations of my body was different from usual" (item 45). Cognitive behavioral subjects reported at a significantly higher level than non-hypnotic subjects that "I felt a strong motivation to do well in the experiment" (item 47). Neither item 45 nor item 47 were correlated with any of the experience factors. The means of these experience items and significance levels of differences for treatment are displayed in Table 2 and 3.

In short, the following experiential differences for treatment were indicated: Traditional subjects were more likely than non-hypnotic subjects to report an inability to resist, strong and positive feelings about the experience, and changes in bodily sensations. Compared with non-hypnotic subjects, cognitive behavioral subjects were more likely to report having
Table 2

Means for the three treatment groups on selected experiential factors and items.

<table>
<thead>
<tr>
<th>Factor 2</th>
<th>Enthusiasm</th>
<th>Traditional</th>
<th>Cognitive-Behavioral</th>
<th>Non-Hypnotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 6</td>
<td>This was a very rewarding thing to do.</td>
<td>2.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>3.3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.7&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Item 29</td>
<td>During the experiment I felt I understood things better or more deeply.</td>
<td>0.0&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>0.3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.5&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Factor 3</td>
<td>Inability to resist.</td>
<td>0.2&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.7&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>-3.6&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Item 24</td>
<td>I could not stop physical movements after they had started.</td>
<td>0.9&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.3&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Item 34</td>
<td>I was able to resist the experience whenever I wanted to.</td>
<td>-0.6&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.6&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Factor 7</td>
<td>Lack of conscious direction</td>
<td>-0.4&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-2.4&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-2.2&lt;sup&gt;ab&lt;/sup&gt;</td>
</tr>
<tr>
<td>Item 2</td>
<td>I consciously decided to imagine the things I experienced.</td>
<td>0.3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.5&lt;sup&gt;b&lt;/sup&gt;</td>
<td>0.6&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>Item 45</td>
<td>The awareness of the posture, position and sensations of my body was different from usual.</td>
<td>1.8&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1.3&lt;sup&gt;ab&lt;/sup&gt;</td>
<td>0.6&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Only included when overall F for the univariate anova is significant at p = .05. = agree with statement; = disagree with statement; 0 = neither agree nor disagree
| Item 47 | I felt a strong motivation to do well in this experiment. | \(-0.2^{ab}\) | \(0.4^a\) | \(-0.6^b\) |

Different letters indicate difference of means with \(p \leq .05\) or less; see Table 3.
Table 3

Overall F scores and significant pairwise comparison F scores for in Table 2.

<table>
<thead>
<tr>
<th>Factor 2</th>
<th>Enthusiasm</th>
<th>Overall F = 4.9; p = .009</th>
<th>TR vs. NH: F = 4.3; p = .04</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This was a very rewarding thing to do.</td>
<td>Overall F = 3.9; p = .02</td>
<td>TR vs. NH: F = 5.7; p = .02</td>
</tr>
<tr>
<td>Item 29</td>
<td>During the experiment I felt I understood things better or more deeply.</td>
<td>Overall F = 3.0; p = .05</td>
<td>CB vs. NH: F = 5.1; p = .03</td>
</tr>
<tr>
<td>Factor 3</td>
<td>Inability to resist</td>
<td>Overall F = 3.1; p = .05</td>
<td>TR vs. NH: F = 4.1; p = .05</td>
</tr>
<tr>
<td>Item 24</td>
<td>I could not stop physical movements after they had started.</td>
<td>Overall F = 5.4; p = .006</td>
<td>TR vs. NH: F = 10.6; p = .002</td>
</tr>
<tr>
<td></td>
<td>I was able to resist the experience whenever I wanted to.</td>
<td>Overall F = 4.1; p = .02</td>
<td>TR vs. NH: F = 8.5; p = .005</td>
</tr>
</tbody>
</table>

only included when p = .05
<table>
<thead>
<tr>
<th>Factor 7</th>
<th>Lack of conscious direction</th>
<th>Overall F = 3.4; p = .04</th>
<th>TR vs. NH: F = 5.0; p = .03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 2</td>
<td>I consciously decided to imagine the things I experienced.</td>
<td>Overall F = 5.8; p = .004</td>
<td>TR vs. CB: F = 11.5; p = .001</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NH vs. CB: F = 7.4; p = .008</td>
</tr>
<tr>
<td>Item 45</td>
<td>The awareness of the posture, position and sensations of my body was different from usual.</td>
<td>Overall F = 4.2; p = .02</td>
<td>TR vs. NH: F = 10.3; p = .002</td>
</tr>
<tr>
<td>Item 47</td>
<td>I felt a strong motivation to do well in this experiment.</td>
<td>Overall F = 3.0; p = .05c</td>
<td>CB vs. NH: F = 9.2; p = .003</td>
</tr>
</tbody>
</table>

---

TR = Traditional; CB = Cognitive Behavioral; NH = Non-Hypnotic

Degrees of freedom for overall F = 2, 124

Degrees of freedom for traditional vs. non-hypnotic = 1, 85

Degrees of freedom for behavioral cognitive vs. non-hypnotic = 1, 90

Degrees of freedom for traditional vs. behavioral cognitive = 1, 85
strong and positive feelings about the experience, and feeling a motivation to do well. There was a paradoxical trend for cognitive behavioral subjects to report greater inability to resist than non-hypnotic subjects, but also a greater sense of conscious direction of experience. Finally, the two hypnotic groups differed significantly on only one experience: cognitive behavioral subjects were more likely than traditional subjects to feel that they were consciously directing their experience.

b. When the high, moderate and low levels of response were compared, using overall F's for the six anovas, differences with significance levels of .0002 or less appeared for all six experience factors. Similarly, pearson correlation coefficients for the continuous response variable with the experience factors were also highly significant (p ≤ .001).

"Disorientation," "enthusiasm," "inability to resist," "discontinuity," "obliviousness," and "lack of conscious direction" were all positively correlated with response. All but six of the experience items (items 1, 5, 31, 35, 37, 47) were significant at the .05 level for anovas comparing the three levels of response. Only ten of the items (items 2, 28, 36, and 46 plus the previously mentioned items) were correlated with response less than .30. These data are displayed in the appendix, Table E.

c. Wilks' criterion for interaction was significant neither for experience factors, nor for experience items. None of the factors and only one of the items (item 18 "I was able to overcome some or all of the suggestions") had an interaction effect with p = .01 for the anova. The data for this item is displayed in Table F in the appendix, but the differences are likely to be spurious.

5. Differences between expected experience, and the actual reported experiences of traditional group members, were significant when items were
the dependent variables, but were not significant when factors were the
dependent variable. Contrariwise, cognitive behavioral subject reports of
experiences differed significantly from expected experience when factors were
the dependent variable, but not when items were used as criteria.
Significant differences appeared for both items and factors when expected
experiences were compared with reported experiences of non-hypnotic subjects.
Wilks' criteria for these six manovas are displayed in the appendix, Table D.

a. Compared with expected experiences, traditional subjects were
significantly more likely to report the following experiences, all of which
are typical of responsive subjects: difficulty in resisting the experience
(item 34); in stopping movements once they had started (item 24); difficulty
in holding one's head upright (item 36); changes in bodily sensations (item
45); a sense of being dazed (item 22); and acceptance of the experience
without questioning its reality (item 42). Traditional subjects were
significantly less likely to report the following experiences: finding the
experience mysterious (item 3) or amazing (item 41); and perceiving the
experimenter as similar to a significant other (item 42). Lower scores on
these three items are associated with low responsiveness. Traditional
subjects also were significantly less likely to feel motivation to do well in
the experiment (item 47); this experience was not associated with
responsiveness.

None of the anovas for the experience factors comparing pre-treatment
subject expectations and traditional subject reported experiences were
significant at a level of \( p = .01 \).

b. Although Wilks' criterion for expectations and cognitive
behavioral experience reports was not significant for individual items,
nonetheless, seven of the anovas for the individual items were significant at
the p = .01 level. Like the traditional subjects, cognitive behavioral subjects were significantly more likely to report difficulty in stopping movements once they had started (item 24) and a sense of being dazed (item 22); both experiences are associated with high response. Also, like traditional subjects, cognitive behavioral subjects were less likely to find the experience mysterious (item 3) or amazing (item 41), and lower levels of these experiences are associated with lack of responsiveness. Unlike traditional subjects, when compared to expectations cognitive behavioral subjects' reports were significantly higher for: obliviousness to surroundings (items 7) and a perception of the experimenter as powerful or special (item 25), both of which experiences are associated with higher responsiveness. Cognitive behavioral subjects also reported significantly higher levels of seeming to consciously choose to imagine what they experienced (item 2); high scores on item 2 are very slightly associated with lower levels of response.

While Wilks' criterion for the comparison of expectations and cognitive behavioral subject reports was significant when experience factors were the dependent variable, none of the anovas for the experience were significant at the p = .05 level. Nonetheless, the following strong trends emerged: Cognitive behavioral subjects reported experiencing more "inability to resist" than expected (F = 3.6; df = 1,61; p = .06). They also had lower scores on "lack of conscious direction" than expected (F = 3.7; df = 1,61; p = .06). Thus they were in greater control of their experience than expected, but were simultaneously less able to resist than expected.

c. Non-hypnotic subjects reported significant differences in experiences as compared to expected experiences; this finding held for both experiential items and factors. Non-hypnotic subjects reported experiencing
less motivation to do well in the experiment (item 47), an experience uncorrelated with response. They also reported less awareness of surroundings (item 7), an experiential report typical of more responsive subjects. Otherwise, all significant differences indicate non-hypnotic subjects reported lower levels than expected of experiences typical of responsive subjects: less of a sense of mystery (item 3) or strangeness (item 35); less of a feeling that the experimenter reminded them of a significant other (item 42); less of a sense that things were happening outside of conscious direction (item 2); less similarity to the feeling of having just awoken (item 17), less dissimilarity to ordinary experience (item 32); less of a feeling that what the experimenter said was important (item 8); and fewer feelings that the experience was delightful (item 19), rewarding (item 6), enlightening (item 29), or amazing (item 41). Non-hypnotic subjects reported very significantly lower levels of the factor indicating "enthusiasm," and there was a trend for them to report that their experience was less different from ordinary experience than expected, as indicated by scores on the "discontinuity" factors (F = 3.3; df = 1,60; p = .08). Both these differences on experience factors suggest that non-hypnotic subjects reported less of those experiences typical of responsive subjects than had been expected prior to treatment.

In summary, the following differences emerge when comparing expectations and actual reports of experience for the three treatment conditions: Both hypnotic groups seemed to experience more difficulty in resisting the experience than expected, but they also experience less of a sense of mystery or strangeness. Further, traditional subjects tended to report more changes in physical sensations than expected, while cognitive behavioral subjects tended to report greater conscious control of their experience. Non-hypnotic
Table 4
Means on experiential factors and items for the three treatment groups and for pretest expectations.

<table>
<thead>
<tr>
<th>Factor 2</th>
<th>Expectations</th>
<th>Traditional</th>
<th>Cognitive-Behavioral</th>
<th>Non-Hypnotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.6</td>
<td>2.5</td>
<td>2.8</td>
<td>-0.9*</td>
<td></td>
</tr>
<tr>
<td>Item 19</td>
<td>I was delighted with the experience.</td>
<td>1.2</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Item 6</td>
<td>This was a very rewarding thing to do.</td>
<td>1.2</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Item 29</td>
<td>During the experiment I felt I understood things better or more deeply.</td>
<td>0.6</td>
<td>-0.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Item 8</td>
<td>Everything the experimenter said seemed important to me.</td>
<td>1.2</td>
<td>0.8</td>
<td>0.7</td>
</tr>
<tr>
<td>Item 41</td>
<td>I felt amazed.</td>
<td>1.2</td>
<td>0.2*</td>
<td>-0.2</td>
</tr>
<tr>
<td>Factor 3</td>
<td>Inability to resist.</td>
<td>-3.0</td>
<td>0.2</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Only items which show significant differences between expectation and one or more treatments are displayed (p = .05). Factors showing a trend towards a difference are displayed. F scores and significance levels for items and factors displayed here are given in Table 5. Differences at the p = .05 level are indicated for comparisons of expectations and the particular treatment by asterisks following the appropriate treatment mean. Question marks follow differences for factors at the .05 < p < .10 level of significance. + = agree; - = disagree; 0 = neither agree nor disagree
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 34</td>
<td>I was able to resist the experience whenever I wanted to.</td>
<td>0.3</td>
<td>-0.7*</td>
<td>-0.5*</td>
<td>0.6</td>
</tr>
<tr>
<td>Item 24</td>
<td>I could not stop physical movements after they had started.</td>
<td>-0.5</td>
<td>1.0*</td>
<td>1.0*</td>
<td>-1.4</td>
</tr>
<tr>
<td>Factor 7</td>
<td>Things seeming to happen outside of conscious control.</td>
<td>-0.8</td>
<td>-0.5</td>
<td>-2.5</td>
<td>-2.2</td>
</tr>
<tr>
<td>Item 2</td>
<td>I consciously decided to imagine the things I experienced.</td>
<td>-0.2</td>
<td>0.3</td>
<td>1.6*</td>
<td>0.7*</td>
</tr>
<tr>
<td>Factor 4</td>
<td>Discontinuity</td>
<td>2.9</td>
<td>2.2</td>
<td>1.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Item 32</td>
<td>It seemed similar to ordinary experience.</td>
<td>-1.2</td>
<td>-1.0</td>
<td>-1.0</td>
<td>-0.3*</td>
</tr>
<tr>
<td>Item 3</td>
<td>It seemed mysterious.</td>
<td>1.2</td>
<td>-0.8*</td>
<td>-0.3*</td>
<td>-0.9*</td>
</tr>
<tr>
<td>Item 7</td>
<td>I was quite conscious of my surroundings.</td>
<td>0.6</td>
<td>-0.3</td>
<td>-0.7*</td>
<td>-0.4*</td>
</tr>
<tr>
<td>Item 17</td>
<td>It was like the feeling I have just before waking up.</td>
<td>1.0</td>
<td>0.6</td>
<td>0.8</td>
<td>-0.2*</td>
</tr>
<tr>
<td>Item 22</td>
<td>I felt dazed.</td>
<td>0.6</td>
<td>1.8*</td>
<td>1.6*</td>
<td>1.0</td>
</tr>
<tr>
<td>Item 25</td>
<td>The experimenter somehow seemed very powerful and special.</td>
<td>-0.2</td>
<td>0.2</td>
<td>0.9*</td>
<td>0.1</td>
</tr>
<tr>
<td>Item 35</td>
<td>It was a very strange experience.</td>
<td>1.3</td>
<td>0.5</td>
<td>0.4*</td>
<td>-0.2*</td>
</tr>
<tr>
<td>Item 36</td>
<td>I had trouble keeping my head up all during the experiment.</td>
<td>0.4</td>
<td>2.2</td>
<td>1.3*</td>
<td>0.9</td>
</tr>
<tr>
<td>Item 42</td>
<td>At all times the experimenter reminded me of one or more important people in my life.</td>
<td>0.0</td>
<td>-1.5*</td>
<td>-0.9</td>
<td>-1.6*</td>
</tr>
</tbody>
</table>

*Significant at the 0.05 level.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Score 1</th>
<th>Score 2</th>
<th>Score 3</th>
<th>Score 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>The awareness of the posture, position and sensations of my body was different from usual.</td>
<td>1.0</td>
<td>1.9*</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>46</td>
<td>I questioned how real the things were that I experienced.</td>
<td>0.9</td>
<td>0.0*</td>
<td>-0.1</td>
<td>0.6</td>
</tr>
<tr>
<td>47</td>
<td>I felt a strong motivation to do well in the experiment.</td>
<td>0.6</td>
<td>-0.5*</td>
<td>0.4</td>
<td>-0.6*</td>
</tr>
</tbody>
</table>
### Table 5

F scores and significance levels for factors and items in Table 4.

<table>
<thead>
<tr>
<th>Factor 2</th>
<th>Enthusiasm</th>
<th>Traditional vs. Expected</th>
<th>Cognitive-Behavioral vs. Expected</th>
<th>Non-Hypnotic vs. Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 19</td>
<td>I was delighted with the experience.</td>
<td>F = 3.0; p = .09</td>
<td>F = 15.1; p = .0003</td>
<td></td>
</tr>
<tr>
<td>Item 6</td>
<td>This was a very rewarding thing to do.</td>
<td></td>
<td>F = 12.4; p = .0008</td>
<td></td>
</tr>
<tr>
<td>Item 29</td>
<td>During the experiment I felt I understood things better or more deeply.</td>
<td></td>
<td>F = 12.6; p = .0008</td>
<td></td>
</tr>
<tr>
<td>Item 8</td>
<td>Everything the experimenter said seemed important to me.</td>
<td></td>
<td>F = 6.6; p = .01</td>
<td></td>
</tr>
<tr>
<td>Item 41</td>
<td>I felt amazed.</td>
<td>F = 12.6; p = .0008</td>
<td>F = 6.3; p = .01</td>
<td>F = 32.3; p = .0001</td>
</tr>
<tr>
<td>Factor 3</td>
<td>Inability to resist</td>
<td>F = 3.0; p = .09</td>
<td>F = 3.6; p = .06</td>
<td></td>
</tr>
<tr>
<td>Item 34</td>
<td>I was able to resist the experience whenever I wanted to.</td>
<td>F = 6.0; p = .02</td>
<td>F = 4.3; p = .04</td>
<td></td>
</tr>
<tr>
<td>Item 24</td>
<td>I could not stop physical movements</td>
<td>F = 14.6; p = .0003</td>
<td>F = 12.7; p = .0007</td>
<td></td>
</tr>
</tbody>
</table>

only included for items when p = .05 or less and for factors when p = .10 or less
<table>
<thead>
<tr>
<th>Factor 7</th>
<th>Things seeming to happen outside of conscious control.</th>
<th>$F = 3.7; p = .06$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 2</td>
<td>I consciously decided to imagine the things I experienced.</td>
<td>$F = 17.3; p = .0001$ $F = 3.9; p = .05c$</td>
</tr>
<tr>
<td>Factor 4</td>
<td>Discontinuity</td>
<td>$F = 3.3; p = .08$</td>
</tr>
<tr>
<td>Item 32</td>
<td>It seemed similar to ordinary experience.</td>
<td>$F = 4.8; p = .03$</td>
</tr>
<tr>
<td>Item 3</td>
<td>It seemed mysterious.</td>
<td>$F = 19.2; p = .0001$ $F = 11.3; p = .001$ $F = 18.8; p = .0001$</td>
</tr>
<tr>
<td>Item 7</td>
<td>I was quite conscious of my surroundings.</td>
<td>$F = 9.4; p = .003$ $F = 4.3; p = .04$</td>
</tr>
<tr>
<td>Item 17</td>
<td>It was like the feeling I have just before waking up.</td>
<td>$F = 5.9; p = .02$</td>
</tr>
<tr>
<td>Item 22</td>
<td>I felt dazed.</td>
<td>$F = 8.2; p = .006$ $F = 6.3; p = .01$</td>
</tr>
<tr>
<td>Item 25</td>
<td>The experimenter somehow seemed very powerful and special.</td>
<td>$F = 6.4; p = .01$</td>
</tr>
<tr>
<td>Item 35</td>
<td>It was a very strange experience.</td>
<td>$F = 4.2; p = .04$ $F = 12.8; p = .0007$</td>
</tr>
<tr>
<td>Item 36</td>
<td>I had trouble keeping my head up all during the experiment.</td>
<td>$F = 26.5; p = .0001$ $F = 4.2; p = .05$</td>
</tr>
<tr>
<td>Item 42</td>
<td>At times the experimenter reminded me of one or more important people in my life.</td>
<td>$F = 9.2; p = .004$ $F = 15.2; p = .0002$</td>
</tr>
<tr>
<td>Item 45</td>
<td>The awareness of the posture, position and sensations of my body was different from usual.</td>
<td>$F = 8.0; p = .007$</td>
</tr>
</tbody>
</table>
Item 46 I questioned how real the things were that I experienced.

Item 47 I felt a strong motivation to do well in the experiment.

Degrees of freedom for Traditional vs. Expected = 1, 56.

Degrees of freedom for Cognitive-Behavioral vs. expected = 1, 61.

Degrees of freedom for Non-Hypnotic vs. Expected = 1, 60.
subjects found their experience less positive or powerful than pre-treatment subjects had expected of hypnosis, and in general, they were less likely to report the kinds of experiences shown to be associated with responsiveness. Means for the expected and actual experiences, and levels of significance for experiential differences, are displayed in Tables 4 and 5.

**Discussion**

The present study examined differences and similarities between the reported experiences of subjects undergoing three different hypnotic or quasi-hypnotic procedures. It also examined differences between the kinds of experiences which subjects expected to undergo during hypnosis, and actual experience during hypnosis, reported by subjects retrospectively. The study was designed to go beyond global measures of the degree of hypnosis experienced. Instead, the study assayed qualitative aspects of hypnosis, examining a number of specific kinds of experience.

This section relates the findings of the present study to the following questions: What experiences can be considered hypnotic? Are cognitive behavioral and "non-hypnotic" procedures actually hypnotic? Can hypnotic responsiveness occur in the absence of "trance-like" or "altered state" experiences? In addition, this section discusses clinical and research implications of the study.

**What experiences may be considered hypnotic?**

The experiential factors derived in this study do not correspond to the rather heterogeneous factors found by As and Ostvold (1968), but they do correspond to the factors derived by Field and Palmer (1969) and hypothesized
by Shor (1979b). "Disorientation" and "obliviousness" in the present study, are composed of specific experiences very similar to what Field and Palmer called "unawareness." "Disorientation," "dissimilarity" and "obliviousness" are similar to Shor's "trance" experience. "Inability to resist," in the present study, is similar to Field and Palmer's "challenge," and "inability to resist" combined with "lack of conscious control" closely resemble Shor's "nonconscious involvement." What has been called "enthusiasm" in the present study corresponds to what Field and Palmer also call "enthusiasm." None of the factors in the present study correspond closely with Shor's third major dimension of hypnotic depth, "archaic involvement," which deals with primitive, transference attitudes toward the hypnotist. Shor in fact does suggest that such experiences are not likely to be of importance in experimental studies, and only appear prominently during clinical hypnosis. A hint of such feelings is given by the experience factor "enthusiasm" in the present study, though the strong and positive feelings experienced in the present study are projected upon the experience of hypnosis rather than the hypnotist. The factor analysis in the present study appears to validate both the theoretical organization of hypnotic experience proposed by Shor, and the empirically derived organization of specific hypnotic experiences suggested by Field and Palmer.

However, before concluding that these experiences are hypnotic, we must compare reports of experiences given by hypnotized subjects with reports of a control group of non-hypnotized subjects. Three types of between group comparisons were employed in this study, and each type of comparison involves a different type of control group. First, the expected hypnotic experiences predicted by randomly selected subjects prior to treatment can be considered as a control. These predictions have been compared with experiences reported
after treatment. Second, the non-hypnotic treatment group constitutes a control condition, with subjects in the traditional and cognitive behavioral groups considered hypnotized. Similarly, the cognitive behavioral group can also be considered a non-hypnotic control group, with the traditional group being defined as hypnotic. Third, subjects showing lower responsiveness to suggestion within all three groups can be treated as nonhypnotized controls, while the higher responders can be considered truly hypnotized.

Differences between expectations and actual reports of experience for the different treatment groups were complex and difficult to interpret. Three interesting differences appeared: First, there was a tendency for subjects in the traditional and cognitive behavioral groups to be less enthusiastic about the experience, and there was significantly less enthusiasm in the non-hypnotic group. Second, the experience was less mysterious or strange than expected for the three groups. Finally, for the traditional and the behavioral cognitive groups, the experience was reported as much more difficult to resist than subjects expected.

The first two results may well be artifacts of the experimental setting and inapplicable to clinical hypnosis. The standardization of protocols, the sterile setting, the experimental context, and the group treatment all probably worked against the development of warmth or rapport between subjects and the experimenter. Strong and positive feelings can probably be more effectively nurtured in the spontaneous and involving kind of hypnotic relationship that grows outside of the experimental setting, especially when the experimenter is free to fit the hypnotic procedure to the needs and personality of the subject. Similarly, the emphasis on the scientific and experimental nature of the subject may well have vitiated the sense of mystery. Given the unfavorable context for hypnotic experience, the
experience of greater inability to resist than expected, reported by both hypnotic groups, is all the more striking. With a more involving and flexible procedure, this experience is likely to be even more pronounced. In short, the one experience which cannot be accounted for by a possible tendency of subjects to report what they expected to happen, and which cannot be discounted as an artifact of the experimental setting, is the purported inability to resist the experience.

Comparing the two hypnotic groups with the non-hypnotic group, we find two major differences: the hypnotic subjects reported more enthusiasm, and also a greater inability to resist the experience. The difference on the experience of enthusiasm may, however, tell us more about the non-hypnotic control group than the two hypnotic groups. Prior to coming to the experimental setting, non-hypnotic subjects believed that it was possible or even probable that they would be hypnotized, as this was mentioned on the sign-up sheet for volunteers. They may have felt that an implicit contract had been violated, and this may have resulted in negative feelings. In support of this possibility, it should further be noted that neither of the experimenters liked administering the non-hypnotic procedure; both thought it was really hypnotic and labeling it non-hypnotic was deceptive. They also felt that by calling it non-hypnotic they were working against themselves. The experimenters' feelings may have both reflected and influenced the feelings of the subjects. In short, hypnosis by another name is not as sweet.

The difference between the two hypnotic groups and the non-hypnotic group on inability to resist once more indicates the centrality of this experience to hypnotic phenomena. Subjects in the hypnosis conditions seem to reject, or at least not wholly accept, the idea that subjects can resist
hypnosis whenever they want.

If we consider the cognitive behavioral group a non-hypnotic control, then we can speak of one other experience on which hypnosis and control subjects differ: traditional subjects are significantly less likely than cognitive behavioral subjects to feel that they are consciously directing their experience. There is also a trend for traditional subjects to give more frequent reports than the non-hypnotic group of lack of conscious direction. These differences highlight the emphasis placed on effort and intentionality in the cognitive behavioral procedure, and to a lesser extent in the non-hypnotic procedure. The difference between the cognitive behavioral and traditional groups on this dimension is somewhat surprising nonetheless, given the absence of any difference on the conceptually similar experience of inability to resist. Both experiences involve a perceived lack of control, but lack of conscious direction of experience deals with a sense of not having caused things to happen or appear, while inability to resist deals with a sense of being unable to cause things to stop happening or appearing. Future studies of hypnotic experience ought to assay both these types of experiences of control, rather than grouping them together as Shor (1979b) does. It is possible for hypnotic subjects, especially during cognitive behavioral procedures, to feel that they have chosen to be unable to resist. This paradoxical experience is captured by the phrase Coleridge used to describe imagination: "the willing suspension of disbelief" (Coleridge, 1939).

Differences on two experience items further elucidated the nature of the traditional and the behavioral cognitive procedures. Traditional subjects were more likely than non-hypnotic subjects to report proprioceptive changes, validating the effectiveness of suggestions in the traditional induction of
altered bodily awareness. Similarly, the effectiveness of the cognitive behavioral procedure's emphasis on motivation is indicated by the report of more "motivation to do well in this experiment" among cognitive behavioral subjects than among non-hypnotic subjects.

The third type of control group employed by this study is the group of low responders, examined both for the study as a whole and within each of the treatment conditions. Theories of hypnosis (Hilgard, 1977; Fromm, 1979; Shor, 1979b) and empirical studies (As and Ostvold, 1968; Field and Palmer, 1969; Johnson, 1979) indicate that hypnotic responsiveness is associated with experiences similar to the ones called in the present study disorientation, enthusiasm, inability to resist, discontinuity, obliviousness, and lack of conscious direction. However, those studies and theories have not indicated whether these relationships also hold for cognitive behavioral and "non-hypnotic" control conditions. The present study strongly suggests that the same experiences associated with responsiveness during traditional hypnosis are also associated with responsiveness during cognitive behavioral and non-hypnotic procedures. The six experience factors are correlated with responsiveness in all three conditions, with no interaction between experience and condition. Further, no significant interactions were found upon 46 of the 47 experience items, and the one significant interaction found may well have been spurious.

To summarize, all six experience factors were associated with responsiveness for all three procedures, and none of these relationships differed significantly as a result of procedure. If we consider hypnotic experience those experiences correlated with responsiveness, we can consider all six experiences hypnotic for all three conditions. However, if we use a group comparison method, it appears that inability to resist, enthusiasm, and
perhaps lack of conscious direction are hypnotic experiences. If we then look at the comparison of treatment and expectation, the only experience factor that appears to be central to hypnosis is inability to resist, with the relatively low experience of enthusiasm, as compared to expectations, probably artifactual.

**Are cognitive behavioral and non-hypnotic procedures actually hypnotic?**

If we use responsiveness as a criterion for determining whether procedures are to be deemed hypnotic, then we can conclude that cognitive behavioral procedures are about as hypnotic as traditional procedures, while non-hypnotic procedures are less hypnotic. The findings of the present study replicate other studies cited in the introduction. By assessing specific experiences, the present study provides a supplementary method for measuring the hypnotic qualities of different hypnotic or quasi-hypnotic procedures.

The cognitive behavioral subjects had significantly lower scores than traditional subjects on one experience factor—lack of conscious direction—and on the basis of that difference the procedure can be considered less hypnotic. Proponents of the validity of cognitive behavioral approaches as hypnotic procedures might argue that this conclusion is based on a popular misconception regarding hypnosis: the belief that hypnosis requires one not to feel in control of one’s experience. Indeed, the cognitive behavioral approach involves explicitly training subjects to direct their experience. The fact nonetheless remains that the experience of lack of conscious control is associated with responsiveness for all three procedures, and, therefore, this experience can be considered hypnotic. Thus, for the average subject in the cognitive behavioral condition, the experience of hypnosis was attenuated on this one dimension.
Non-hypnotic subjects scored significantly lower than traditional subjects on two of the six experience factors: the inability to resist and enthusiasm. Lower scores on lack of conscious direction of experience approached significance. We can conclude that the traditional hypnotic procedure is more hypnotic than the non-hypnotic procedure, using experience as a criterion, and somewhat more hypnotic than the cognitive behavioral procedure. Whether or not we call the non-traditional procedures hypnotic is a question akin to whether we find more salient the upper or lower halves of partially filled glasses of water. Certainly the similarity of traditional and cognitive behavioral procedures on five of the six experience factors, and the close scores of traditional and non-hypnotic subjects on three of the six experience factors, provide grounds for arguing that all three procedures are hypnotic.

Can hypnotic responsiveness occur in the absence of "trance-like experiences?"

Barber's position is that cognitive behavioral and non-hypnotic procedures of the sort that he employs do not elicit trance-like experiences. In fact, the present study indicates that the three experience factors most closely related to trance-like experience, that is, disorientation, discontinuity, and obliviousness, were the only experience factors on which no significant differences occurred. The study does not confirm Barber's contention that his procedures avoid the promotion of trance-like experiences. This study also shows that the relationship between trance-like experiences and response to suggestion was positive, significant, and roughly equivalent for all three procedures. It is possible that a quasi-hypnotic procedure might not elicit trance-like experiences, and might elicit responsiveness that is not consistently associated with trance-like experiences, but neither claim can be made of the Barber-style procedures
tested in this study. The data are more consistent with Tart and Hilgard's (1966) hypothesis that subjects in non-traditional procedures may "slip into trance."

These results appear to contradict the findings of Connor and Sheehan (1976). In that study, subjects in task motivation conditions were more likely than non-task motivation subjects to report trance-like experiences. In the present study, cognitive behavioral procedures, which included task motivational instructions, and non-hypnotic procedures, which did not include such instructions, failed to yield significant differences on trance-like experiences. A likely reason is that the differences in responsiveness for the two groups in Connors and Sheehan's study was rather large, while in the present study differences were small on responsiveness. Another explanation for the difference in reported experiences, as well as an explanation for the difference in responsiveness, is that Connors and Sheehan did not request subjects to use their imagination, while in the present study non-hypnotic subjects as well as cognitive behavioral subjects were strongly urged to use their imagination. Spanos and Barber (1974) and Sheehan (1979), among others, review literature strongly suggesting that the use of imagination is central to the production of hypnotic phenomena, and the results of this study are consistent with that theory.

While the present study does not indicate that the cognitive behavioral procedures elicit fewer trance-like experiences, it does show that cognitive behavioral subjects experience a greater motivation to do well in the experiment as compared to non-hypnotic subjects. This finding validates the effectiveness of Barber's procedure in increasing motivation. However, motivation is not associated significantly with responsiveness in any of the procedures, including the cognitive behavioral condition, and this casts
doubt on Barber's contention that motivation is an important factor in producing hypnotic phenomena. While motivation may be useful prior to hypnosis, a keen sense of motivation during the hypnotic session may lead to self-consciousness and self-monitoring. Such a stance is likely to work against experiencing an inability to resist, lack of conscious direction of experience, and the other hypnotic experiences identified in the present study.

**Clinical implications**

These data have shown that certain experiences are likely to be reported as occurring during hypnosis that are different from what subjects typically expect. In particular, subjects are likely to find the experience less mysterious or strange than expected, but more difficult to resist. The author has applied these findings to his own clinical use of hypnosis by "predicting" things that are likely to be surprising. Prior to treatment, subjects are informed that they may find hypnosis much less mysterious or strange than they expected, and that is a sign that they are likely to get a lot of benefit from hypnosis. Subjects are also told, when traditional methods are used, that good subjects tend to notice changes in bodily perceptions. For a short time, the author would mention prior to treatment that subjects might find the experience difficult to resist, but the author soon discovered that this made clients nervous. Instead, subjects are now told after treatment that it is common for good subjects to feel pleasantly surprised that the experience seems so compelling and difficult to resist. In other words, discrepancies with expectations that are likely to occur or have occurred are associated with good performance or deep hypnosis. By doing so, subjects may be influenced to see themselves as having done well and having benefitted. Experimental identification of other such
discrepancies between expected and actual experience—or for that matter expected and actual response to suggestion items—are likely to assist clinicians in structuring subjects' self-attributions and attitudes toward hypnosis in a favorable way.

Another important clinical implication of these data is the power of the very word "hypnosis" in certain contexts. The same implications are suggested by a clinically oriented study conducted by Lazarus (1973). Clients who came to him for treatment and specifically requested hypnosis were assigned alternately to either "hypnotic" or "non-hypnotic" individual treatment. Subjects in the hypnotic group were given positive information about hypnosis and then began relaxation training using Lazarus' standard relaxation protocol. Whenever the word relaxation would normally be used, either the word "hypnosis" was used or the phrase "hypnotic relaxation." The non-hypnotic treatment subjects were given negative information about hypnosis, and given positive information about relaxation. They were then given the same relaxation training, only without the use of the word "hypnosis" or its cognates. Except for these differences, treatment was equivalent for both groups of clients. Those clients undergoing "hypnotic" treatment had much more favorable therapeutic outcomes, and found therapy much more powerful and effective. For many of the non-hypnotic subjects who did not do well, Lazarus substituted hypnotic treatment; that is, the same treatment with the use of the word "hypnosis" or the term "hypnotic relaxation" instead of "relaxation." For the most part, clients who switched over to the hypnotic treatment found it more effective and enjoyable than their previous non-hypnotic training.

Both Lazarus' study and the present study provide data consistent with the theory that the use of the word "hypnosis" yields positive results.
However, there is an alternative or additional explanation: use of the word "hypnosis" to describe what we do is useful if the client expects or wants to be hypnotized. It remains to be seen whether the word by itself is all that powerful for subjects who do not expect or ardently desire to be hypnotized. Still, if a therapist believes that a client is favorably inclined toward hypnosis, and treatment or part of treatment can plausibly be labeled "hypnotic," it might be useful to do so, even if it does not fit the therapist's definition of his or her own preferred form of therapy.

The clinical tactics suggested may sound and may actually be deceptive. Certainly the experimenters considered it deceptive to label the non-hypnotic treatment non-hypnotic. Sometimes in the past when people have asked what hypnosis is, the author has given what he considers to be the right answer: hypnosis is difficult to define because the phenomena has appeared in a variety of guises, and what it is depends largely on how you operationalize and name the component parts of the hypnotic context. He then goes on to recapitulate the introduction to this study. The reader, by now familiar with this position, may be surprised to learn that the author's interlocutors have more often than not been disappointed by this explanation, finding it off the point. The author's current response is to say "It really depends a lot on the person. Have you ever seen anyone hypnotized?" or "What kinds of things have you heard about hypnosis?" He tries to elicit the person's ideas and come back with a definition that fit at least one of the definitions of hypnosis in current use, and that meshes with the needs and beliefs of the other person. Given the protean quality of the word "hypnosis," many phenomena within and outside of therapy can be labeled hypnotic or non-hypnotic. In communicating, the exchange of ideas and positive experiences may be more important than changing the meanings people ascribe to the word
"hypnosis." Still, the author is unclear about how to determine when the structuring of attributions, and the contradictory definitions of the same words with different people, are deceptive.

A third clinical implication of the present study involves the distinction between cognitive behavioral and traditional approaches to therapy. Barber, Spanos, and Chaves (1974), Kroger and Fezler (1976) and Dengrove (1976) among others, have stressed the similarities of behavior therapy and hypnosis, and have suggested syntheses of the two approaches. Nonetheless, clinical practitioners who are partial to one of these approaches often have little use for the other. The data presented here suggest that there may be strong similarities, at least from the perspective of the experiencing client. The one difference between them found in this study is nonetheless important: cognitive behavioral subjects are likely to feel more control over their experience, while traditional hypnotic subjects are less likely to feel that they consciously caused things to happen. This is not to say that hypnotic subjects are more likely to impute control to the therapist or hypnotist; rather, they tend to see the experience as unfolding without any effort on their part. If this experiential difference does in fact apply to the clinical situation, then there is an obvious basis for matching treatment and client, or most effectively "framing" what is essentially the same treatment for different types of clients. When the client is positively inclined toward the notion of having things happen through unconscious direction, and does not feel that he or she can succeed by "taking charge" of situations, a traditional approach might be more acceptable. If the subject is nervous about losing control, and feels he or she must work to succeed and take charge of situations, then a cognitive behavioral approach is indicated. Clearly, both as therapies and as methods
of eliciting hypnotic phenomena, traditional hypnotic and cognitive behavioral approaches overlap considerably, but the theoretical framework and preparation for treatment differ, leading to at least one very important experiential distinction.

Future research

The line of inquiry pursued here can be extended to other hypnotic or quasi-hypnotic phenomena and procedures. For example, this study could be replicated with flexible, non-standardized styles of traditional and cognitive behavioral hypnosis. Similarly, subjects could be hypnotized several times using one of these techniques, so that subjects would become disinhibited and skilled at being hypnotized, and the experiences of these veteran subjects within different treatment conditions could be compared. A third approach to replication would be to include a non-hypnotic control that, like the control procedure in Connor and Sheehan (1976), does not involve the use of imagination.

Going beyond the procedures examined in this study, such techniques as relaxation training, biofeedback training, guided imagination, meditation, jogging and other forms of strenuous exercise, use of hallucinogenic drugs, hypnosis, and the numerous varieties of all these approaches to altered states of consciousness might be compared from an experiential perspective. These procedures do not necessarily elicit identical experiences, but on the other hand do not necessarily produce radically different experiences. At present, such procedures can be described and classified on the basis of what the therapist or teacher does, or what overt actions are performed by subjects, or what theoretical explanations of these procedures are given by their most prominent proponents. At this point, what we do not have are data to describe and classify these different phenomena on the basis of what
subjects experience, though Fromm (1977) has made some plausible suggestions along these lines.

In addition to comparing different types of procedures which appear to be similar to hypnosis, future research might well employ different methods of assaying experience. Among the methods used might be open-ended (e.g., Hilgard, 1977) or structured interviews (e.g., Shor, 1979b). Another method, used by Shevrin (1979), examines feelings about hypnosis that may be unconscious. Shevrin's approach is indirect: he asks subjects both during and after hypnotic sessions to tell a story about a Thematic Apperception Test card often seen as involving hypnosis. Similarly, Sheehan and Dolby (1979) have analyzed the content of the dreams about hypnosis that subjects report having during hypnotic session. The dreams, like the stories in Shevrin's study, are treated as expressions of subjects' unconscious feelings about hypnosis, especially about whether they liked the experience, and how they perceived the relationship with the hypnotist. Such an approach might well be applied to the comparative study of the different hypnotic and quasi-hypnotic approaches examined in this study, as well as other procedures designed to elicit altered states of consciousness. Future studies should pay particular attention to the experience of "enthusiasm" and determine what procedures maximize positive feelings. Since subjects sometimes may be unwilling to let on that they do not like the experience of hypnosis, the indirect method of assessing this experience may be especially useful.

Conclusion

As expected, the present study did not provide a clear-out answer to the question of whether different hypnotic or quasi-hypnotic conditions should be considered highly similar or relatively distinct. The similarities and differences that emerged are not easily summarized, though differences
between hypnotic and non-hypnotic conditions on inability to resist, and similarities on trance-like experiences, seem especially important. The boundaries between phenomena and procedures we deem hypnotic and those deemed non-hypnotic are arbitrary. More useful than such labeling is the description in detail of the kinds of things people involved with these phenomena actually seem to experience, and how these experiences differ from one procedure to another. Altered states of consciousness are notoriously difficult to study scientifically, but an empirical and comparative experiential approach may shed light upon these obscure yet alluring phenomena.
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ATTITUDES ABOUT HYPNOSIS

I have been hypnotized previously.

1. yes 2. no

My guess is that if I were involved in a hypnosis experiment, I would be

1. probably not at all hypnotizable
2. slightly hypnotizable
3. about average
4. a little above average
5. very hypnotizable

Indicate all of the adjectives which you believe are likely to be accurate in completing the following sentence:

I think I would find the experience of being hypnotized

1. satisfying T F
2. annoying T F
3. confusing T F
4. relaxing T F
5. exciting T F
6. silly T F
7. disturbing T F
8. illuminating T F
9. degrading T F
10. pleasurable T F
11. indifferent T F
12. frightening T F
13. interesting T F
14. fun T F
15. eerie T F
16. rewarding T F
17. surprising T F
Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

1. Before voting I thoroughly investigate the qualifications of all the candidates. T F
2. I never hesitate to go out of my way to help someone in trouble. T F
3. It is sometimes hard for me to go on with my work if I am not encouraged. T F
4. I have never intensely disliked anyone. T F
5. On occasion I have had doubts about my ability to succeed in life. T F
6. I sometimes feel resentful when I don't get my way. T F
7. I am always careful about my manner of dress. T F
8. My table manners at home are as good as when I eat out in a restaurant. T F
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it. T F
10. On a few occasions, I have given up doing something because I thought too little of my ability. T F
11. I like to gossip at times. T F
12. There have been times when I felt like rebelling against people in authority even though I knew they were right. T F
13. No matter who I'm talking to, I'm always a good listener. T F
14. I can remember "playing sick" to get out of something. T F
15. There have been occasions when I took advantage of someone. T F
16. I'm always willing to admit it when I make a mistake. T F
17. I always try to practice what I preach. T F
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people. T F
19. I sometimes try to get even, rather than forgive and forget. T F
20. When I don't know something I don't at all mind admitting it. T F
21. I am always courteous, even to people who are disagreeable. T F
22. At times I have really insisted on having things my own way. T F
23. There have been occasions when I felt like smashing things. T F
24. I would never think of letting someone else be punished for my wrongdoings. T F
25. I never resent being asked to return a favor. T F
26. I have never been irked when people expressed ideas very different from my own. T F
27. I never make a long trip without checking the safety of my car. T F
28. There have been times when I was quite jealous of the good fortune of others. T F
29. I have almost never felt the urge to tell someone off. T F
30. I am sometimes irritated by people who ask favors of me. T F
31. I have never felt that I was punished without cause. T F
32. I sometimes think when people have a misfortune they only got what they deserved. T F
33. I have never deliberately said something that hurt someone's feelings. T F
Many people have different ideas about what hypnosis is like. Imagine that you have just been hypnotized and now the hypnotic session is over. How would you describe the experience using the following questionnaire? Don’t spend too long on any one statement—there are no “right” or “wrong” answers. For each statement circle a number. The number “1” indicates that you strongly agree, while “2” and “3” represent less strong agreement. The number “7” indicates that you strongly disagree, while “6” and “5” represent less strong disagreement. The number “4” indicates neither agreement nor disagreement.

1. My mental state was very alert.
   1 2 3 4 5 6 7

2. I consciously decided to imagine the things I experienced.
   1 2 3 4 5 6 7

3. It seemed mysterious.
   1 2 3 4 5 6 7

4. At times I felt very aware of being in an experiment.
   1 2 3 4 5 6 7

5. My mind seemed empty.
   1 2 3 4 5 6 7

6. This was a very rewarding thing to do.
   1 2 3 4 5 6 7

7. I was quite conscious of my surroundings.
   1 2 3 4 5 6 7

8. Everything the experimenter said seemed important to me.
   1 2 3 4 5 6 7

9. I felt that I could have tolerated pain more easily during the experiment.
   1 2 3 4 5 6 7

10. It seemed as if it happened a long time ago.
    1 2 3 4 5 6 7

11. I could not have stopped doing some of the things suggested even if I had tried.
    1 2 3 4 5 6 7

12. I felt aware of my body only where it touched the chair.
    1 2 3 4 5 6 7

13. The things I imagined or experienced during the experiment seemed very real.
    1 2 3 4 5 6 7

14. I sometimes felt as if I were asleep.
    1 2 3 4 5 6 7
15. Everything happened automatically.
16. I was so involved with the experience that I seemed to "forget myself".
17. It was like the feeling I have just before waking up.
18. I was able to overcome some or all of the suggestions.
19. I was delighted with the experience.
20. At times I seemed to lose awareness of where I was.
21. After the experiment was over, I was surprised at how much time had gone by.
22. I felt dazed.
23. I felt like I was deeply concentrating.
24. I could not stop physical movements after they had started.
25. The experimenter somehow seemed very powerful and special.
26. I felt apart from everything else.
27. I felt no more relaxed than usual.
28. I tried to resist but I could not.
29. During the experiment I felt I understood things better or more deeply.
30. Thoughts and feelings seemed to come out of nowhere.
31. What the experimenter would think of my actions or behavior was important to me.
32. It seemed similar to ordinary experience.
33. Things that ordinarily would seem illogical or unusual did not distract me.
   1 2 3 4 5 6 7

34. I was able to resist the experience whenever I wanted to.
   1 2 3 4 5 6 7

35. It was a very strange experience.
   1 2 3 4 5 6 7

36. I had trouble keeping my head up all during the experiment.
   1 2 3 4 5 6 7

37. I felt extremely rested.
   1 2 3 4 5 6 7

38. I frequently had a sense of unreality.
   1 2 3 4 5 6 7

39. The experimenter's voice seemed to come to me from far away.
   1 2 3 4 5 6 7

40. Things seemed to happen because I chose to make them happen.
   1 2 3 4 5 6 7

41. I felt amazed.
   1 2 3 4 5 6 7

42. At times the experimenter reminded me of one or more important people in my life.
   1 2 3 4 5 6 7

43. Time seemed to "stand still".
   1 2 3 4 5 6 7

44. I felt in control of myself and my actions.
   1 2 3 4 5 6 7

45. The awareness of the posture, position and sensations of my body were different from usual.
   1 2 3 4 5 6 7

46. I questioned how real the things were that I experienced.
   1 2 3 4 5 6 7

47. I felt a strong motivation to do well in the experiment.
   1 2 3 4 5 6 7
Verbatim Protocols for the Treatment Conditions

Traditional Treatment

In a few minutes, I am going to administer a standard procedure for measuring susceptibility to hypnosis. At the end of the standard procedure, you will be asked to report on your experience in the Response Booklet which has been given to you. Please complete the information on the cover of the booklet now, but do not open the booklet until I tell you to do so. If any of you are wearing contact lenses, you may wish to take them out. If so, please do so now . . . . Now I think we are ready to begin.

Now, please seat yourself comfortably and rest your hands in your lap. That's right. Rest your hands in your lap. Now look at your hands and find a spot on either hand and just focus on it. It doesn't matter what spot you choose; just select some spot to focus on. I shall refer to the spot which you have chosen as the target. That's right . . . hands relaxed . . . look directly at the target.

I am about to help you to relax, and meanwhile, I shall give you some instructions that will help you gradually to enter a state of hypnosis. Please look steadily at the target and while staring at it keep listening to my words. You can become hypnotized if you are willing to do what I tell you to, and if you concentrate on the target and on what I say. You have already shown your willingness by coming here today, and so I am assuming that your presence here means that you want to experience all that you can. You can be hypnotized only if you want to be. Just do your best to concentrate on the target, pay close attention to my words, and let happen whatever you feel is
going to take place. Just let yourself go. Pay close attention to what I
tell you to think about; if your mind wanders bring your thoughts back to the
target and my words, and you can easily experience more of what it is like to
be hypnotized. Hypnosis is perfectly normal and natural, and follows from
the conditions of attention and suggestion we are using together. It is
chiefly a matter of focusing sharply on some particular thing. Sometimes you
experience something very much like hypnosis when driving along a straight
highway and you are oblivious to the landmarks along the road. The
relaxation in hypnosis is very much like the first stages of falling asleep,
but you will not really be asleep in the ordinary sense because you will
continue to hear my voice and will be able to direct your thoughts to the
topics I suggest. Hypnosis is a little like sleepwalking, because the person
is not quite awake, and can still do many of the things that people do when
they are awake. What I want from you is merely your willingness to go along
and to let happen whatever is about to happen. Nothing will be done to
embarrass you.

Now take it easy and just let yourself relax. Keep looking at the
target as steadily as you can, thinking only of it and my words. If your
eyes drift away, don't let that bother you . . . just focus again on the
target. Pay attention to how the target changes, how the shadows play around
it, how it is sometimes fuzzy, sometimes clear. Whatever you see is all
right. Just give way to whatever comes into your mind, but keep staring at
the target a little longer. After a while, however, you will have stared
long enough, and your eyes will feel very tired, and you will wish strongly
that they were closed. Then they will close, as if by themselves. When this
happens, just let it happen.
As I continue to talk, you will find that you will become more and more drowsy, but not all people respond at the same rate to what I have to say. Some people's eyes will close before others. When the time comes that your eyes have closed, just let them remain closed. You may find that I shall still give suggestions for your eyes to close. These suggestions will not bother you. They will be for other people. Giving these suggestions to other people will not disturb you, but will simply allow you to relax more and more.

You will find that you can relax completely, but at the same time sit up comfortably in your chair with little effort. You will be able to shift your position to make yourself comfortable as needed without it disturbing you. Relax more and more. As you think of relaxing, your muscles will relax. Starting with your right foot, relax the muscles of your right leg.... Now the muscles of your left leg.... Just relax all over. Relax your right hand, your forearm, upper arm and shoulder.... That's it.... Now your left hand... and forearm... and upper arm... and shoulder...  
... Relax your neck, and chest... more and more relaxed...
comfortably relaxed... comfortably relaxed.

As you become relaxed, your body will feel sort of heavy or perhaps numb. You will begin to have this feeling of numbness of heaviness in your legs and feet... in your hands and arms... throughout your body... as though you were settling deep into the chair. The chair is strong; it will hold your heavy body as it feels heavier and heavier. Your eyelids feel heavy too, heavy and tired. You are beginning to feel drowsy and sleepy. You are breathing, freely and deeply, freely and deeply. You are getting more and more sleepy and drowsy. Your eyelids are becoming heavier, more and more tired and heavy.
Staring at the target so long has made your eyes very tired. Your eyes hurt and your eyelids feel very heavy. Soon you will no longer be able to keep your eyes open. You will have stood the discomfort long enough; your eyes are tired from staring, and your eyelids will feel too tired to remain open. Your eyes are becoming moist from the strain. You are becoming more and more drowsy and sleepy. The strain in your eyes is getting greater and greater. It would be a relief just to let your eyes close and to relax completely, to relax completely. You will soon have strained enough; the strain will be so great that you will welcome your eyes closing of themselves, of themselves.

Your eyes are tired and your eyelids feel very heavy. Your whole body feels heavy and relaxed. You feel a pleasant warm tingling throughout your body as you get more and more tired and sleepy. Sleepy. Drowsy. Drowsy and sleepy. Keep your thoughts on what I am saying; listening to my voice. Your eyes are getting blurred from straining. You can hardly see the target, your eyes are so strained. The strain is getting greater, greater, and greater, greater, and greater. Your eyelids are heavy. Very heavy. Getting heavier and heavier, heavier and heavier. They are pushing down, down, down. Your eyelids seem weighted and heavy, pulled down by the weight...so heavy...

Your eyes are blinking, blinking...closing, closing...

Your eyes may have closed by now, and if they have not, they would soon close of themselves. But there is no need to strain them more. You have concentrated well upon the target, and have become very relaxed. Now we have come to the time when you may just let your eyes close. That's it, now close them.

You now feel very relaxed, but you are going to become even more relaxed. It is easier to relax now that your eyes are closed. You will keep
them closed until I tell you to open them or until I tell you to wake up ..

.. You feel pleasantly drowsy and sleepy as you continue to listen to my voice. Just keep your thoughts on what I am saying. You are going to get much more drowsy and sleepy. Soon you will be deep asleep, but you will have no trouble hearing me. You will not wake up until I tell you to ... Soon I shall begin to count from one to twenty. As I count, you will feel yourself going down farther and farther into a deep restful sleep, but you will be able to do all sorts of things I ask you to do without waking up ..

.. One--you are going to go more deeply asleep .... Two--down, down into a deep, sound sleep .... Three--four--more and more asleep .... Five--six--seven--you are sinking into a deep, deep sleep. Nothing will disturb you .... I would like you to hold your thoughts on my voice and those things I tell you to think of. You are finding it easy just to listen to the things I tell you .... Eight--nine--ten--half-way there--always deeper asleep .... Eleven--twelve--thirteen--fourteen--fifteen--although deep asleep you can hear me clearly. You will always hear me distinctly no matter how deeply asleep you feel you are. Sixteen--seventeen--eighteen--deep asleep, fast asleep. Nothing will disturb you. You are going to experience many things that I will tell you to experience .... Nineteen--twenty. Deep Sleep! You will not wake up until I tell you to. You will wish to sleep comfortably and to have the experiences I describe to you.

I want you to realize that you will be able to write, to move, and even to open your eyes if I ask you to do so, and still remain just as hypnotized as you are now. No matter what you do, you will remain hypnotized until I tell you otherwise .... Alright then, ....

(Turn to page 90 and continue.)
In this study of hypnosis, I am going to make a number of suggestions of things for you to experience. During this experiment, try to focus your thinking and use of your imagination creatively, so that you can produce for yourself the suggested effects and events. You'll really benefit from this experiment if you let yourself think along with the suggestions I make. When you think along with what I say, you'll find that you can use your mind to do many interesting and useful things and create for yourself very interesting experiences.

Let me give you some examples of the kinds of suggestions I might give to you. I might ask you to close your eyes and feel as if you are looking at a TV program. Now there are a number of possible ways to respond to this suggestion. For example, if someone were to ask me to close my eyes and imagine I'm watching a TV program, one thing I could do is close my eyes and say to myself: "There's no TV screen there. This is ridiculous. I can't do it." Obviously, if I take this kind of negative attitude, and say these negative things to myself, nothing's going to happen. I'm not going to visualize a TV screen or feel as if I'm looking at a TV program, and I won't find this to be an interesting and worthwhile experience the way most people do.

There is another way of responding to hypnotic suggestions, and this way also will keep me from benefiting from hypnosis. This way is to close my eyes and passively wait for a TV screen to appear. Once again, nothing will happen, because only my mind and my own thoughts can make a TV screen appear before my eyes.
There is a third way in which I could respond, and this is the way in which I benefit most from hypnosis. When somebody says to me, "Imagine you're watching a TV program" I let myself think of a TV program that I can remember very easily. I close my eyes (experimenter closes his eyes) and tell myself that I'm seeing Richie and Potsie from "Happy Days" and I can really see them in my mind's eye. They are hunched over a table in the soda shop; they look worried, scowling and shaking their heads. Now I can visualize the Fonz, strutting in the way he always does, looking tough in his leather jacket, and I picture Richie and Potsie turning towards him and starting to smile and saying, "Hey Fonz." And I feel just as if I'm looking at the TV program, (experimenter opens his eyes) and I find this to be a very interesting experience. In the same way I could feel as if I were watching the news, say a demonstration of Iranian students in Washington, D.C., or I could see a very exciting Duke basketball game, or a favorite soap opera or any other TV program. By using my imagination and being creative, and thinking of a TV show I've seen before, I create it myself and I see it in my mind's eye. Now everybody can do this, but not everybody does. Some people block themselves by negative attitudes and telling themselves such things as "this is silly" or "it can't happen" and other people just passively wait for something to happen to them.

Now, I'll give you another example of the kind of test I might give you. I might, for example, ask you to hold a pendulum like this and to think of it moving back and forth. Again, there are a number of ways you could respond.

For instance, if someone says to me, "Hold this pendulum (experimenter holds pendulum and models how to think along with the instructions) and think of it moving back and forth. Think that it's moving faster and watch for it to actually begin to move back and forth, back and forth, faster and faster,
back and forth." When I think along with these instructions and I focus my thinking and think of it moving back and forth, I find that it actually does move back and forth (experimenter stops holding pendulum). Now, there's nothing magic or mysterious about it moving. My own thoughts cause the pendulum to move. Focusing on the thought that the pendulum is moving back and forth causes slight little movements in the muscles of my fingers. These movements are unconscious in the sense that I'm not aware that my muscles are moving. Then, this movement is amplified by the pendulum and it seems to me that the pendulum is moving by itself. In psychology, this is called ideomotor action; that is, our muscles or our body and our mind are so intimately related that it would be impossible for us to think vividly of the pendulum moving back and forth without moving our muscles slightly.

Now, this is the kind of thing that I'm referring to when I tell you that by letting your thoughts go along with the instructions you can have some interesting experiences and see how your mind and your body function together in amazing and useful ways.

However, when asked to think of the pendulum moving back and forth, there are a couple of other ways I could respond that would block the whole thing so that I could not benefit from these tests. I could say to myself, "It isn't moving back and forth. This is silly. It just can't move like that. That is ridiculous." And, of course, with this kind of negative attitude nothing will happen.

Another way in which nothing will happen is if I just wait for it to move by itself without thinking of it moving back and forth. Again, nothing will happen because it won't move by magic, only my own mind can make it move.
Now, very shortly I will be giving a number of interesting suggestions, and you will be able to experience hypnosis. As you know, most people do experience hypnosis and find it very pleasant. More important, everybody can experience hypnosis if they respond in the way I have described. Remember to focus your thinking and use your imagination to the best of your ability. Let your thinking and imagination go carefully and creatively along with the suggestions so that you can experience the many interesting and useful things your mind does during hypnosis.

Now, at the end of this procedure I will ask you to report on your experience in the booklet, but do not open the booklet until I tell you to do so. Right now I would like you to sit comfortably and if you wear contact lenses, please take them out right now . . . I want you to realize that you will be able to write, to move and even open your eyes if I ask you to do so, and still be deeply hypnotized. Right now please close your eyes . . . . It is very important that you keep them closed at all times unless I suggest otherwise. Think along with what I say and use your imagination creatively so that you can fully experience hypnosis . . . . Now I think we are ready to begin. (Turn to page 90.)

Non-Hypnotic Treatment

This is a test of your ability to use your imagination. I would like you to listen and attend carefully to what I say and I'd like you to see what happens and what you experience. At the end of this procedure, I will ask you to report on your experience in the booklet, but do not open this booklet until I tell you to do so. Right now I would like you to sit comfortably, and if you wear contact lenses, please take them out right now . . . .
I want you to realize that you will be able to write, to move, and open your eyes if I ask you to do so, and still effectively use your imagination. Right now please close your eyes .... It is very important that you keep them closed at all times unless I suggest otherwise .... Now I think we are ready to begin.

(In all three conditions, continue here.)

Now hold your right arm out at shoulder height, with the palm of your hand up. Your right arm straight out in front of you, the palm up. There, that's right .... Attend carefully to this hand, how it feels, what is going on in it. Notice whether or not it is a little numb, or tingling; the slight effort it takes to keep from bending your wrist; any breeze blowing on it. Pay close attention to your hand now. Imagine that you are holding something heavy in your hand ... maybe a heavy baseball or a billiard ball ... something heavy. Shape your fingers around as though you were holding this heavy object that you imagine is in your hand. That's it .... Now the hand and arm feel heavy, as if the weight were pressing down ... and as it feels heavier and heavier the hand and arm begin to move down ... as if forced down ... moving ... moving ... down ... down ... more and more down ... heavier ... heavier ... the arm is more and more tired and strained ... down ... slowly but surely ... down, down ... more and more down ... the weight is so great, and the hand is so heavy .... You feel the weight more and more ... the arm is too heavy to hold back ...

... it goes down, down ... more and more down ....

(Allow ten seconds)

That's good ... now let your hand go back to its original position on the arm of the chair (in the traditional condition: and relax). You probably experienced much more heaviness and tiredness in your arm than you would have
if you had not concentrated on it and had not imagined something trying to force it down. (In the traditional condition: Now just relax . . . ) Your hand and arm are now as they were, not feeling tired or strained . . . .

All right. (In the traditional condition: Just relax.)

Now extend your arms ahead of you, with palms facing each other, hands about a foot apart. Hold your hands about a foot apart, palms facing each other. I want you to imagine a force acting on your hands to pull them together, as though one hand were attracting the other. You are thinking of your hands being pulled together, and they begin to move together . . . coming together . . . coming together . . . moving together . . . closer together . . . more and more towards each other . . . more and more . . . . .

(Allow ten seconds)

That's fine. You notice how closely thought and movement are related.

Now place your hands back in their resting position (in the traditional condition: and relax) . . . your hands back in their resting position (in the traditional condition: and relax).

You have been listening to me very carefully, paying close attention. You may not have noticed a mosquito that has been buzzing, singing, as mosquitos do . . . listen to it now . . . hear its high pitched buzzing as it flies around your right hand . . . . It is landing on your hand . . . perhaps it tickles a little . . . there it flies away again . . . you hear its high buzz . . . . It's back on your hand tickling . . . it might bite you . . . you don't like this mosquito . . . . You'd like to be rid of it . . . . Go ahead, brush it off . . . . get rid of it if it bothers you . . . .

(Allow ten seconds)

It's gone . . . that's a relief . . . you are no longer bothered . . . the mosquito has disappeared. No more mosquito. (In the traditional
condition: Now relax, relax completely.)

I want you to think of something sweet in your mouth. Imagine that you have something sweet tasting in your mouth, like a little sugar . . . and as you think about this sweet taste you can actually begin to experience a sweet taste . . . . It may at first be faint, but it will grow and grow . . . and grow . . . . Now you begin to notice a sweet taste in your mouth . . . the sweet taste is increasing . . . sweeter and sweeter . . . . It will get stronger . . . it often takes a few moments for such a taste to reach its full strength . . . . It is now getting stronger . . . stronger . . . .

(Allow ten seconds)

All right. Now notice that something is happening to that taste. It is changing . . . You are now beginning to have a sour taste in your mouth . . . an acid taste, as if you have some lemon in your mouth, or vinegar . . . . The taste in your mouth is getting more and more sour, more acid . . . more and more sour . . .

(Allow ten seconds)

All right. Now the sour taste is going away and your mouth feels just as it did before I mentioned any tastes at all. Your mouth is normal now. There, it's quite normal now . . . . (In the traditional condition: and you just continue to relax . . . more and more relaxed.)

Please hold your right arm straight out in front of you and fingers straight out, too. That's it, right arm straight out. Think of your arm becoming stiffer and stiffer . . . stiff . . . very stiff . . . . as you think of its becoming stiff you will feel it become stiff . . . more stiff and rigid, as though your arm were in a splint so the elbow cannot bend . . . stiff . . . hold stiff, so that it cannot bend. A tightly splinted arm cannot bend . . . . Your arm feels stiff as if tightly splinted . . . .
Test how stiff and rigid it is . . . Try to bend it . . . try . . .

(Allow ten seconds)

That's fine. You will have an opportunity to experience many things. You probably noticed how your arm became stiffer as you thought of it as stiff, and how much effort it took to bend it. Your arm is no longer at all stiff. Place it back in position. (In the traditional condition: and relax.)

(The following section, dealing with hypnotic dreams, is given only in the traditional and cognitive behavioral conditions. Turn to page 94 for the non-hypnotic condition.)

We are very much interested in finding out what hypnosis and being hypnotized means to people. One of the best ways of finding out is through the dreams that people have while they are hypnotized. Some people dream directly about the meaning of hypnosis, while others dream about this meaning in an indirect way, symbolically, by dreaming about something which does not seem outwardly to be related to hypnosis, but may very well be. Now neither you nor I know what sort of a dream you are going to have, but I am going to allow you to rest for a little while and you are going to have a dream . . . a real dream . . . just the kind you have when you are asleep at night. When I stop talking to you very shortly, you will begin to dream . . . . You will have a dream about hypnosis. You will dream about what hypnosis means . . . . Now you are falling asleep . . . . Deeper and deeper asleep . . . deeper and deeper asleep . . . very much like when you sleep at night . . . . Soon you will be deep asleep, soundly asleep. As soon as I stop talking you will begin to dream. When I speak to you again you will stop dreaming, if you still happen to be dreaming, and you will listen to me just as you have
been doing. If you stop dreaming before I speak to you again, you will remain pleasantly and deeply relaxed . . . . Now sleep and dream . . . .

Deep asleep!

(Allow one minute)

The dream is over; if you had a dream you can remember every detail of it clearly, very clearly. You do not feel particularly sleepy or different from the way you felt before I told you to fall asleep and to dream, and you continue to remain deeply hypnotized. Whatever you dreamed you can remember quite clearly, and I want you to review it in your mind from beginning to end so you could tell it to someone if asked to.

(Allow twenty seconds)

All right. That's all for the dream. Continue to go deeper and deeper into the hypnotic state.

(In the traditional and cognitive behavioral conditions, turn to page 95. In the non-hypnotic condition, continue here.)

We are very interested in what imagination means to people. One of the best ways of finding out is through dreams that people have when they are involved in their imagination. Some people will dream directly about the meaning of imagination, while others dream about this meaning in an indirect way, symbolically, by dreaming about something that does not seem to be outwardly related to imagination, but actually may very well be. Now neither you nor I know what sort of dream you are going to have, but I am going to allow you to rest for a little while and you are going to have a dream . . . . a real dream . . . . just the kind you have when you are asleep at night. When I stop talking to you very shortly, you will begin to dream . . . . You will dream about the meaning of imagination . . . . Now you are falling asleep.
you will begin to dream. When I speak to you again you will stop dreaming, if you still happen to be dreaming, and you will listen to me just as you have been doing. If you stop dreaming before I speak to you again, you will remain pleasantly and deeply relaxed.... Now sleep and dream.... Deep asleep!

(Allow one minute)

The dream is over; if you had a dream you can remember every detail of it clearly, very clearly. You do not feel particularly sleepy or different from the way you felt before I told you to fall asleep and to dream.

Whatever you dreamed you can remember quite clearly, and I want you to review it in your mind from beginning to end so you could tell it to someone if asked to.

(Allow twenty seconds)

All right. That's all for the dream.

(Continue here for all three conditions.)

Now, keeping your eyes closed, hold your pencil or pen in your writing hand in such a way that you can easily write on the back of your booklet. Keep your eyes closed.... Now please write your name ... and while you are at it, why don't you also write your age and the date. That's fine.

Keep the pen or pencil in your hand and listen closely to me. I would like you to think about when you were in the fifth grade of school; and in a little while you will find yourself once again a little child on a nice day, sitting in class in the fifth grade, writing or drawing on some paper.... I shall now count to five and at the count of five you will be back in the fifth grade.... But no matter what you experience you will continue to hear my voice, and you will continue to do what I ask you to do.... One, you are going back into the past. It is no longer 1980 nor 1979 or 1978, but
much earlier. Two, you are becoming increasingly younger and smaller. Three, presently you will be back in the fifth grade, and you will feel an experience exactly as you did once before on a nice day when you were sitting in class, writing or drawing. Four, very soon you will be there.

Once again a little child in a fifth grade class. You are nearly there now. In a few moments you will be right back there. Five! You are now a small child in a classroom sitting happily in school.

(Allow thirty seconds)

You are sitting happily in school. You have some paper in front of you and are holding something to write with. I would like you now to write your name on this paper... (pause until almost all are through writing).... That's fine, and now please write down your age... and now the date, if you can... and the day of the week....

Presently you will no longer be in the fifth grade, but you will be still younger, back at a happy day in the second grade. I shall count to "two," and then you will be in the second grade. One, you are becoming smaller still, and going back to a nice day when you were in the second grade.... Two, you are now in the second grade, sitting happily in school with some paper and a pen or pencil.... You are in the second grade....

(Allow thirty seconds)

You are sitting happily in school. Would you please write your name on the paper.... That's good.... And now you can write how old you are.... That's fine... and now you can grow up again and come right back to (state current day and date) in Duke University, Durham, North Carolina. You are no longer a little child but a grown up person sitting in a chair. (In the traditional and cognitive behavioral condition: deeply hypnotized.) Now (in the traditional and cognitive behavioral conditions: remaining
deeply hypnotized) put down your pen or pencil and turn your response booklet over again. (In the traditional condition: Now just continue to be comfortably relaxed.)

Now your left hand should be in your lap . . . . You are very relaxed and comfortable, with a feeling of heaviness throughout your body. I want you now to think about your left arm and hand. Pay close attention to them. They feel numb and heavy, very heavy. How heavy your left hand feels . . . even as you think about how heavy it is, it grows heavier and heavier . . . . Your left arm is getting heavier, very heavy, as though it were being pressed against your lap. You might like to find out a little later how heavy your hand is—it seems much too heavy to move—but in spite of being so heavy, maybe you can move it a little, but maybe it is too heavy even for that . . . . Why don't you see how heavy it is . . . . Just try to lift your hand up, Just try.

(Allow ten seconds)

That's find. You see how it was harder to lift than usual (in the traditional condition: because of the relaxed state you are in). Now place your hand back in its resting position (in the traditional condition: and relax). Your hand and arm now feel normal again. They are no longer heavy. (In the traditional condition: Just relax—relax all over.)

While you sit there with your eyes closed, I am holding a large cardboard sheet in front of me . . . . In a little while I am going to ask you to open your eyes and look toward me at the cardboard sheet in front of me, (in the traditional and cognitive behavioral condition: remaining as hypnotized as you are now.) There are two colored squares on the cardboard sheet. In fact, that is all there is on the cardboard sheet, just two colored squares. Two colored squares and nothing else . . . . All right,
open your eyes slowly, and look at the two squares. Notice the colors of the squares you see.

(Allow ten seconds)

But now look hard, and you will see that there are really three colored squares. Three colored squares. Now close your eyes as I take away the cardboard sheet.

(Continue here for traditional condition. For the cognitive behavioral condition and for the non-hypnotic condition, turn to page 99.)

Stay completely relaxed but listen carefully to what I tell you next. In a little while I shall begin counting backwards from twenty to one. You will awaken gradually, but you will still be in your present state for most of the count. When I reach "five" you will open your eyes but you will not be fully awake. When I get to "one" you will be entirely roused up in your normal state of wakefulness. You will have been so relaxed, however, that you will have trouble recalling the things I have said to you and the things you did or experienced. It will prove to cost so much effort to recall that you will prefer not to try. It will be much easier just to forget everything until I tell you that you can remember. You will forget all that has happened until I say to you "now you can remember everything." You will not remember anything until then. After you wake up you will feel relaxed and refreshed. I shall now count backwards from twenty, and at five, not sooner, you will open your eyes but not be fully aroused until I reach "one." At "one" you will be fully awake .... In the response booklet, you will write the date as (month, date) 1970. You will write the year 1970, but you will forget that I told you to do so, just as you will forget the other things, until I tell you "Now you can remember everything." Ready, now 20-
Listen carefully to what I tell you next. In a little while I shall begin to count backwards from twenty to one. Gradually you will become less and less hypnotized, but you will still be in your present state for most of the count. When I reach "five" you will open your eyes, but you may still be a little bit hypnotized. When I get to "one" you will be in your normal and unhypnotized state of awareness. You will have been feeling so good, however, that you will have trouble recalling the things I have said to you and the things you did or experienced. It will prove to cost so much effort to recall that you will prefer not to try. It will be much easier just to forget everything until I tell you that you can remember. You will forget all that has happened until I say to you: "Now you can remember everything." You will not remember anything until then. At the end of the count you will feel refreshed and very good. I shall now count backwards from twenty, and at five, not sooner, you will open your eyes but not be fully out of hypnosis until I reach one. At "one" you will feel like you are no longer hypnotized.

In the response booklet, you will write the date as (month, date) 1970. You will write the year 1970, but you will forget that I told you to do so, just as you will forget the other things, until I tell you "Now you can remember everything." Ready, now "20-19-18-17-16-15-14-13-12-11 half-way 10-9-8-7-6-5-4-3-2-1. Very good.

(Continue cognitive behavioral treatment on page 100. Continue here for non-hypnotic condition.)

Listen carefully to what I tell you next. In a little while I shall begin to count backwards from twenty to one. Gradually you will become less
and less involved in the processes of imagination, but you will still be experiencing things as you are now for most of the count. When I reach "five" you will open your eyes, but you will still be involved in your imagination a little bit. When I get to "one" you will be experiencing and thinking about things the way you ordinarily do. You will have been feeling so good, however, that you will have trouble recalling the things I have said to you and the things you did or experienced. It will prove to cost so much effort to recall that you will prefer not to try. It will be much easier just to forget everything until I tell you that you can remember. You will forget all that has happened until I say to you: "Now you can remember everything." You will not remember anything until then. At the end of the count you will feel refreshed and very good. I shall now count backwards from twenty, and at five, not sooner, you will open your eyes but you will still be involved with your imaginative processes until I reach one. At one you will feel like you are no longer deeply involved in the processes of imagination . . . . In the response booklet you will write the date as (month, date) 1970. You will write the year 1970, but you will forget that I told you to do so, just as you will forget the other things, until I tell you "Now you can remember everything." Ready, now, 20-19-18-17-16-15-14-13-12-11 half-way 10-9-8-7-6-5-4-3-2-1. Very good.

(Continue here for all three conditions.)

Now please turn to page 2 of the Scoring Booklet.

(Wait three minutes for completion)

Listen carefully to my words. Now you can remember everything. Please turn now to Page 3 of the Scoring Booklet.

(Wait 2 minutes for completion.)
Now please turn to Page 4 of your Scoring Booklet. Please do not return to the earlier pages. You will find listed on Page 4, and the following pages, the specific happenings which were suggested to you during the standard hypnotic procedure. Please read the instructions at the top of Page 4, and answer each item. If you have any questions, please indicate that to me.
Response Booklet

Do not open this booklet until instructed to do so.
Please write down briefly in your own words a list of the things that happened since you closed your eyes. Do not go into detail. Spend three minutes, no longer, in writing your reply.
PLEASE DO NOT RETURN TO PAGE 2

On this page write down a list of anything else that you now remember that you did not remember previously. Please do not go into detail. Spend two minutes, no longer, in writing out your reply.

Please DO NOT TURN THIS PAGE until the examiner specifically instructs you to do so.
Listed below in chronological order are ten specific happenings which were suggested to you during the procedure. We wish you to estimate whether or not you objectively responded to these ten suggestions, that is, whether or not an onlooker would have observed that you did or did not make certain definite responses by certain specific criteria.

It is understood that your estimates may in some cases not be as accurate as you might wish them to be and that you might even have to guess. But we want you to make whatever you feel to be your best estimates regardless.

Beneath a description of most of the suggestions are sets of two responses, labeled A and B. Please circle either A or B for these questions, whichever you judge to be the more accurate. Please answer every question. Failure to give a definite answer to every question may lead to disqualification of your record. For a few of the suggestions, a special scale has been devised. Select the response that is the best estimate of your experience.

1. HAND LOWERING (RIGHT HAND)

You were told to extend your right arm straight out and feel it becoming heavy as though a weight were pulling the hand and arm down. Would you estimate that an onlooker would have observed that your hand lowered at least six inches (before the time you were told to let your hand down deliberately)?

Circle one: A. My hand had lowered at least six inches by then.  
B. My hand had lowered less than six inches by then.

2. MOVING HANDS TOGETHER

You were told to hold your hands out in front of you about a foot apart and then told to imagine a force pulling your hands together. Would you estimate that an onlooker would have observed that your hands were not over six inches apart (before you were told to return your hands to their testing position)?
Circle one:  A. My hands were less than six inches apart by then.  
B. My hands were just six inches apart by then.  
C. My hands were more than six inches apart by then.  

3. EXPERIENCING OF MOSQUITO  
You were next told to become aware of the buzzing of a mosquito which was said to become annoying, and then you were told to brush it off. Would you estimate that an onlooker would have observed you make any grimacing, any movement, any outward acknowledgement of an effect (regardless of what it was like subjectively)?  

Circle one:  A. I did make some outward acknowledgement.  
B. I did not make any outward acknowledgement.  

4. TASTE EXPERIENCE  
You were next told that you would have a sweet taste in your mouth, and then you were told that you would have a sour taste in your mouth.  

How strong was the sweet taste in your mouth?  
Circle one: none vague weak strong  

Did you make any facial movements, such as lip movements or grimacing that an onlooker would have observed?  
Circle one: Yes No  

How strong was the sour taste in your mouth?  
Circle one: none vague weak strong  

Did you make any facial movements, such as lip movements or grimacing that an onlooker would have observed?  
Circle one: Yes No  

5. ARM RIGIDITY (RIGHT)  
You were next told to extend your right arm straight out, then told to notice it becoming stiff, and then told to try to bend it. Would you estimate that an onlooker would have observed that there was less than two inches of arm bending (before you were told to stop trying)?  

Circle one:  A. My arm was bent less than two inches by then.  
B. My arm was bent at least two inches by then.
6. Dream

You were next told to have a dream. In the following space describe your dream in detail.

We have found that people have various sorts of experiences in response to this. Which of the following categories do you think best describes your experience?

Circle one letter:

A. Nothing went through my mind at all.

B. Just thinking about the topic I reported, as I would think about any topic while normally awake.

C. Just daydreamed about it, as I might daydream while awake or drowsy.

D. It was much more vivid imagery than I normally have, like watching a movie or TV.

E. It was like a real dream, where the imagery was not only vivid and real but I seemed to be physically present "in" the dream while it was occurring, instead of just watching it as in watching a movie.

r. Something else than these. (Describe)
7. **AGE REGRESSION**

You were next told to go back to your fifth and second grade classes.

**Fifth Grade**

When I told you to go back to your fifth grade class where were you and what were you doing?

Place an "X" next to the statement that best describes your experiences when I told you to go back to the fifth grade.

1. I did not go back at all.
2. I was thinking about when I was back at the previous age, but I had no visual experiences.
3. Although I did not go back to a previous age, I could see myself as a young child reliving a past experience.
4. Although I knew I was really my present age, I felt in part as though I was reliving a past experience.
5. I actually felt as though I was back at the suggested age, and reliving a past experience.

**Second Grade**

When I told you to go back to your second grade class where were you and what were you doing?

Place an "X" next to the statement that best describes your experience when I told you to go back to the second grade.

1. I did not go back at all.
2. I was thinking about when I was back at the previous age, but I had no visual experiences.
3. Although I did not go back to a previous age, I could see myself as a young child reliving a past experience.
4. Although I knew I was really my present age, I felt in part as though I was reliving a past experience.
5. I actually felt as though I was back at the suggested age, and reliving a past experience.
8. AN: IMMOBILIZATION (LEFT ARM)

You were next told how heavy your left hand and arm felt and then told to try to lift your hand up. Would you estimate that an onlooker would have observed that you did not lift your hand and arm up at least one inch (before you were told to stop trying)?

Circle one: A. I did not lift my hand and arm one inch by then.  
B. I did lift my hand and arm at least one inch by then.

9. THE SQUARES: HALLUCINATIONS

You were next told to open your eyes and look at two squares on a large cardboard sheet. Place an "X" next to the statement that most nearly describes your reaction when you opened your eyes.

_____ 1. I realized immediately that there were three squares.
_____ 2. At first I saw only two squares, but then I realized that there were three squares.
_____ 3. I saw only two squares, because I saw the third square as a colored spot or shadow (or something else other than a square).
_____ 4. I did not see the third square until you told me to look carefully and to see the third square.

If you placed an "X" before items "2", "3", or "4", what were the colors of the squares that you first saw?
(1) Regarding the suggestion of EXPERIENCING A MOSQUITO--how real was it to you? How vividly did you hear and feel it? Did you really believe at the time that it was there? Was there any doubt about its reality?

(2) Regarding the two suggestions of HAND LOWERING (RIGHT) and HANDS MOVING TOGETHER--was it subjectively convincing each time that the effect was happening entirely by itself? Was there any feeling either time that you were helping it along?

(a) Hand Lowering

(b) Hands Moving Together

(3) Overall, I believe that I was (circle the appropriate number)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>not at all</td>
<td>deeply hypnotized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Experiential Inventory

The following statements refer to the experience you have just had. For each statement choose a number. The number "1" indicates that you strongly agree, and numbers "2" and "3" represent lesser amounts of agreement. The number "7" indicates that you strongly disagree, while "6" and "5" represent lesser amounts of disagreement. The number "4" indicates that you neither agree nor disagree with the statement. Please make your answers as accurate and honest as you can, but do not spend too long on any one statement.

1. My mental state was very alert
   1 2 3 4 5 6 7

2. I consciously decided to imagine the things I experienced.
   1 2 3 4 5 6 7

3. It seemed mysterious.
   1 2 3 4 5 6 7

4. At times I felt very aware of being in an experiment.
   1 2 3 4 5 6 7

5. My mind seemed empty.
   1 2 3 4 5 6 7

6. This was a very rewarding thing to do.
   1 2 3 4 5 6 7

7. I was quite conscious of my surroundings.
   1 2 3 4 5 6 7

8. Everything the experimenter said seemed important to me.
   1 2 3 4 5 6 7

9. I felt that I could have tolerated pain more easily during the experiment.
   1 2 3 4 5 6 7

10. It seemed as if it happened a long time ago.
    1 2 3 4 5 6 7

11. I could not have stopped doing some of the things suggested even if I had tried.
    1 2 3 4 5 6 7

12. I felt aware of my body only where it touched the chair.
    1 2 3 4 5 6 7

13. The things I imagined or experienced during the experiment seemed very real.
    1 2 3 4 5 6 7

14. I sometimes felt as if I were asleep.
    1 2 3 4 5 6 7
15. Everything happened automatically.
   1 2 3 4 5 6 7

16. I was so involved with the experience that I seemed to "forget myself".
   1 2 3 4 5 6 7

17. It was like the feeling I have just before waking up.
   1 2 3 4 5 6 7

18. I was able to overcome some or all of the suggestions.
   1 2 3 4 5 6 7

19. I was delighted with the experience.
   1 2 3 4 5 6 7

20. At times I seemed to lose awareness of where I was.
   1 2 3 4 5 6 7

21. After the experiment was over, I was surprised at how much time had gone by.
   1 2 3 4 5 6 7

22. I felt dazed.
   1 2 3 4 5 6 7

23. I felt like I was deeply concentrating.
   1 2 3 4 5 6 7

24. I could not stop physical movements after they had started.
   1 2 3 4 5 6 7

25. The experimenter somehow seemed very powerful and special.
   1 2 3 4 5 6 7

26. I felt apart from everything else.
   1 2 3 4 5 6 7

27. I felt no more relaxed than usual.
   1 2 3 4 5 6 7

28. I tried to resist but I could not.
   1 2 3 4 5 6 7

29. During the experiment I felt I understood things better or more deeply.
   1 2 3 4 5 6 7

30. Thoughts and feelings seemed to come out of nowhere.
   1 2 3 4 5 6 7

31. What the experimenter would think of my actions or behavior was important to me.
   1 2 3 4 5 6 7

32. It seemed similar to ordinary experience.
   1 2 3 4 5 6 7
33. Things that ordinarily would seem illogical or unusual did not distract me.
1 2 3 4 5 6 7
34. I was able to resist the experience whenever I wanted to.
1 2 3 4 5 6 7
35. It was a very strange experience.
1 2 3 4 5 6 7
36. I had trouble keeping my head up all during the experiment.
1 2 3 4 5 6 7
37. I felt extremely rested.
1 2 3 4 5 6 7
38. I frequently had a sense of unreality.
1 2 3 4 5 6 7
39. The experimenter's voice seemed to come to me from far away.
1 2 3 4 5 6 7
40. Things seemed to happen because I chose to make them happen.
1 2 3 4 5 6 7
41. I felt amazed.
1 2 3 4 5 5 7
42. At times the experimenter reminded me of one or more important people in my life.
1 2 3 4 5 6 7
43. Time seemed to "stand still".
1 2 3 4 5 6 7
44. I felt in control of myself and my actions.
1 2 3 4 5 6 7
45. The awareness of the posture, position, and sensations of my body were different from usual.
1 2 3 4 5 6 7
46. I questioned how real the things were that I experienced.
1 2 3 4 5 6 7
47. I felt a strong motivation to do well in the experiment.
1 2 3 4 5 5 7
When you wrote the date on the second page of the booklet, did you write 1970 and forget that you had been instructed to do so? Did you write 1970 even though you remembered that the experimenter had told you to do so? Did you write 1980, but feel a strong impulse to write 1970? Describe your thoughts at that time.

Describe any other inner or subjective feelings during the experiment that you think would be of interest.
Scoring of Items in Response Booklet

Hand lowering: If "A" was circled, the subject received 2 points; if "B" was circled, no points.

Moving hands together: If "A" was circled, 2 points; if "B" was circled, 1 point; and if "C" was circled, no points.

Experiencing of mosquito: If "A" was circled, 2 points; if "B" was circled, no points.

Taste experience (sweet taste): If in response to the question "How strong was the sweet taste in your mouth?" the subject circled "strong," 2 points; "weak," 1 point; and "vague" or "none," no points.

Taste experience (behavioral response to sweet taste): If in response to the question "Did you make any facial movements, such as lip movements or grimacing that an on-looker would have observed?" the subject circled "yes," 2 points; if "no," then no points.

Taste experience (sour taste): If in response to the question "How strong was the sour taste in your mouth?" the subject circled "strong," 2 points; "weak," 1 point; "vague" or "none," no points.

Taste experience (behavioral response to sour taste): If in response to the second occurrence of the question "Did you make any facial movements, such as lip movements or grimacing that an on-looker would have observed?" the subject circled "yes," 2 points; if "no," then no points.

Arm rigidity: If the subject circled "A," 2 points; if "B," no points.

Dream: If the subject circled "E," 2 points; "D," 1 point; and "A," "B" or "C," no points. If the subject circled "F," the codes picked the item from "A" to "C" which best fit the experience as described by the subject, and scored the response according to the letter chosen.
Age regression (fifth grade): If the subject checked item "5," 2 points; item "4," 1 point; and item "1," "2" or "3," no points.

Age regression (second grade): If the subject checked item "5," 2 points; item "4," 1 point; and items "1," "2" or "3," no points.

Arm immobilization: If the subject circled "A," 2 points; if "B," no points.

Two squares hallucination: If the subject checked items "2," "3" or "4," 2 points; if item "1," no points.

Post-hypnotic suggestion: If the subject wrote the date "1970," 2 points; if she started to write "1970" and then changed it to "1980," 1 point; if she wrote 1980 or nothing, no points.

Age regression (date or age): If the subject changed either the date or age she wrote down in response to the age regression suggestion, 2 points; if the date and age were the same, no points.

For the last five items, written materials were scored independently by three coders. The actual score given on the item was the score on which either two or all three coders agreed. It was possible that there would be different scores given by the three coders, but this only occurred three times. In those instances, a score of "1" was given for the item.

Age regression (handwriting): If the writing of the subject's name became more childlike (e.g., larger, printed rather than written, uneven lines, etc.) in response to the age regression suggestion, 2 points; if the handwriting remained the same, no points.

Experiencing a mosquito (inner, subjective experience): If the subject described the experience as seeming real, 2 points; if it was imagined vividly but did not seem real, 1 point; otherwise, no points.

Hand lowering (inner, subjective experience) and;
Moving hands together (inner subjective experience): If the experience was convincing, 2 points; if it was somewhat convincing, 1 point; if not at all convincing, no points.

Post hypnotic experience (amnesia): If the subject forgot the post hypnotic suggestion until after she started to write 1970 or until the experimenter instructed her to remember, 2 points; if she felt a compulsion to write 1970, other than a simple desire to conform to instructions, and did remember that a post hypnotic suggestion was given, 1 point; otherwise, no points.
<table>
<thead>
<tr>
<th>Behavior</th>
<th>Coding Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hands lowered at least 6&quot;</td>
<td></td>
</tr>
<tr>
<td>Hands less than 6&quot; apart</td>
<td></td>
</tr>
<tr>
<td>Hands just 6&quot; apart</td>
<td></td>
</tr>
<tr>
<td>Grimacing or movement as if there were a mosquito</td>
<td></td>
</tr>
<tr>
<td>Lip movements or grimacing as if tasting something sweet and/or sour</td>
<td></td>
</tr>
<tr>
<td>Arm bent less than 2&quot;</td>
<td></td>
</tr>
<tr>
<td>Arm lifted less than one inch</td>
<td></td>
</tr>
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</table>
Table A

Biserial correlations of response items with the response variable

<table>
<thead>
<tr>
<th>Response Item</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand lowering</td>
<td>.47</td>
</tr>
<tr>
<td>Moving hands together</td>
<td>.32</td>
</tr>
<tr>
<td>Experiencing of mosquito</td>
<td>.60</td>
</tr>
<tr>
<td>Taste experience (sweet taste)</td>
<td>.52</td>
</tr>
<tr>
<td>Taste experience (behavioral response to sweet taste)</td>
<td>.67</td>
</tr>
<tr>
<td>Taste experience (sour taste)</td>
<td>.65</td>
</tr>
<tr>
<td>Taste experience (behavioral response to sour taste)</td>
<td>.70</td>
</tr>
<tr>
<td>Arm rigidity</td>
<td>.48</td>
</tr>
<tr>
<td>Dream</td>
<td>.81</td>
</tr>
<tr>
<td>Age regression (fifth grade)</td>
<td>.68</td>
</tr>
<tr>
<td>Age regression (second grade)</td>
<td>.60</td>
</tr>
<tr>
<td>Arm immobilization</td>
<td>.50</td>
</tr>
<tr>
<td>Two squares hallucination</td>
<td>.73</td>
</tr>
<tr>
<td>Post-hypnotic suggestion</td>
<td>.48</td>
</tr>
<tr>
<td>Age regression (date or age)</td>
<td>.46</td>
</tr>
<tr>
<td>Age regression (handwriting)</td>
<td>.66</td>
</tr>
<tr>
<td>Experiencing of mosquito</td>
<td>.66</td>
</tr>
<tr>
<td>(inner, subjective experience)</td>
<td>.76</td>
</tr>
<tr>
<td>Hand lowering (inner, subjective experience)</td>
<td>.39</td>
</tr>
<tr>
<td>Moving hands together (inner, subjective experience)</td>
<td>.32</td>
</tr>
<tr>
<td>Post-hypnotic experience (amnesia)</td>
<td>.68</td>
</tr>
</tbody>
</table>
Table B

Pearson correlation coefficients for: self-assessment with average of observer assessment for behavioral responses; and inter-rater reliability on behavioral responses

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Observers with subject</th>
<th>Inter-rater reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Hand lowered 6&quot; or more.</td>
<td>.53</td>
<td>.32*</td>
</tr>
<tr>
<td>2. Hands move within 6&quot; of each other.</td>
<td>.51</td>
<td>.90</td>
</tr>
<tr>
<td>3. Movement in response to hallucinated mosquito.</td>
<td>.30*</td>
<td>.57</td>
</tr>
<tr>
<td>4. Movement in response to hallucinated taste.</td>
<td>.48</td>
<td>.35</td>
</tr>
<tr>
<td>5. Arm movement less than 2&quot; from lap.</td>
<td>.61</td>
<td>.32*</td>
</tr>
<tr>
<td>6. Arm bent less than 2&quot;.</td>
<td>.42</td>
<td>.38</td>
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</tbody>
</table>

*p > .05
Table C

Response for treatment and experimenter

<table>
<thead>
<tr>
<th>Treatment Conditions</th>
<th>Response Mean</th>
<th>F Value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trance</td>
<td>23.5 (n = 41)</td>
<td>F(2,127) = 3.6; p = .03</td>
<td></td>
</tr>
<tr>
<td>Task motivation</td>
<td>24.3 (n = 46)</td>
<td>F(1,85) = 4.0; p = .05</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>20.2 (n = 46)</td>
<td>F(1,90) = 6.9; p = .01</td>
<td></td>
</tr>
<tr>
<td>Experimenter 1</td>
<td>23.3 (n = 88)</td>
<td>F(1,85) = 0.2; p = .65</td>
<td></td>
</tr>
<tr>
<td>Experimenter 2</td>
<td>21.3 (n = 45)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall F for treatment conditions

Experimenter 1 vs.
Experimenter 2

Interaction between
Experimenter and Treatment

F(2,127) = 1.8; p = .17
<table>
<thead>
<tr>
<th>Type of treatment by Level of Response</th>
<th>Experience Factors</th>
<th>Experience Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment effects</td>
<td>F(12,238) = 1.9; p = .04</td>
<td>F(94,140) = 0.9; p = .72</td>
</tr>
<tr>
<td>Response effects</td>
<td>F(12,238) = 6.4; p = .0001</td>
<td>F(94,140) = 1.9; p = .0002</td>
</tr>
<tr>
<td>Interaction effects</td>
<td>F(24,416) = 0.7; p = .87</td>
<td>F(186,282) = 1.0; p = .49</td>
</tr>
<tr>
<td>Trance vs. expectations</td>
<td>F(6,51) = 1.7; p = .13</td>
<td>F(47,10) = 5.9; p = .003</td>
</tr>
<tr>
<td>Task motivation vs. expectations</td>
<td>F(6,56) = 5.0; p = .0003</td>
<td>F(47,15) = 1.7; p = .14</td>
</tr>
<tr>
<td>Control vs. expectations</td>
<td>F(6,55) = 6.4; p = .0001</td>
<td>F(47,14) = 2.3; p = .04</td>
</tr>
</tbody>
</table>
Table E

Experience items not correlated with response at a level of $r > .30$:

1. My mental state was very alert.
2. I consciously decided to imagine the things I experienced.
5. My mind seemed empty.
28. I tried to resist but could not.
31. What the experimenter would think of my actions or behavior was important to me.
35. It was a very strange experience.
36. I had trouble keeping my head up all during the experiment.
37. I felt extremely rested.
46. I questioned how real the things were that I experienced.
47. I felt a strong motivation to do well in the experiment.

Pearson correlation coefficients for experience factors with response (all correlations significant at $p = .001$ level):

<table>
<thead>
<tr>
<th>Experience Factor</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disorientation</td>
<td>.66</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>.62</td>
</tr>
<tr>
<td>Inability to resist</td>
<td>.57</td>
</tr>
<tr>
<td>Discontinuity</td>
<td>.43</td>
</tr>
<tr>
<td>Obliviousness</td>
<td>.61</td>
</tr>
<tr>
<td>Lack of conscious direction</td>
<td>.46</td>
</tr>
</tbody>
</table>
Table F

Cell means for item 18, response by treatment

<table>
<thead>
<tr>
<th>Task</th>
<th>Trance</th>
<th>Motivation</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>High response</td>
<td>-0.7</td>
<td>-0.4</td>
<td>-1.5</td>
</tr>
<tr>
<td>Moderate response</td>
<td>1.1</td>
<td>0.3</td>
<td>-0.2</td>
</tr>
<tr>
<td>Low response</td>
<td>1.2</td>
<td>0.4</td>
<td>1.9</td>
</tr>
</tbody>
</table>
References


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Hilgard, J.R. *Personality and Hypnosis: A Study of Imaginative Involvement*. 


Biography

Charles J. Brown was born on January 20, 1953 in Baltimore, Maryland. He studied at Yale University from 1970 to 1974, receiving a B.A. with Distinction in Literature in 1974. From 1975 to 1976, he was a University Fellow at Columbia University, and received an M.A. in Comparative and English Literature in 1976. Mr. Brown was a James B. Duke Fellow at Duke University from 1977 to 1979, and has studied clinical psychology at Duke from 1977 to 1981. He is currently a psychology intern at the Federal Correctional Institution in Butner, North Carolina. In September of 1981, Mr. Brown will be employed at the University of Alabama in Birmingham as an assistant professor of medical psychology. He has co-authored the following papers and presentations:


