

Abstract for RIP 1979

Symposium: Methodological Perspectives on Psi Research

Using Altered States of Consciousness

to Facilitate or Study Psi:

Some Methodological Suggestions

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As psi generally functions poorly in our ordinary state of consciousness, there has always been interest in using discrete altered states of consciousness (d-ASCs) to facilitate or study psi. Empirical results to date have been somewhat positive, but erratic and far short of the potential promise. We do not have well developed scientific knowledge of various d-ASCs to straightforwardly draw upon, but even with the knowledge we have, parapsychologists usually have done studies that show poor state-of-the-art knowledge of d-ASC research.

We have better scientific knowledge about hypnosis than most other d-ASCs. This paper will sketch how an hypnosis and psi experiment should be done to be state-of-the-art with respect to hypnosis, and thus allow much better understanding of the relationship between the hypnotic d-ASC and psi functioning.

First, general changes in procedure from the "colonial" paradigm so typical in experiments (Tart, JASPR, 1977, 71, 81-102) should be made so the participant in an experiment is comfortable, feels he has something to learn or gain from the study, and trusts the experimenter.

Next we must be able to specify the hypnotic susceptibility of the

participants and/or screen for specific hypnotic capabilities. The most effective route starts with group screening using the Harvard Group Hypnotic Susceptibility Scale (HGSHS). Further measurement, as well as adaptation to the laboratory situation and to being in the d-ASC of hypnosis, should be obtained by individual administration of the Stanford Hypnotic Susceptibility Scales (SHSS). Forms A and B of the SHSS focus mainly on motoric suggestibility, and supplement and extend the HGSHS measures. Form C of the SHSS measures many cognitive and perceptual hypnotic abilities, such as dreaming, hallucinated tastes, negative hallucinations, age regression, and posthypnotic effects. Use of the HGSHS, SHSS, and Form C allows quite adequate assessment of general hypnotic susceptibility.

Hypnotic susceptibility is a long-term performance average. Hypnotic depth refers to a construct that can vary quite rapidly during experimentation. Participants should be taught some method, such as the North Carolina Scale, of reporting depth, so psi tests can be carried out at uniform depths.

When deeper hypnotic abilities are to be investigated, assessment by the Stanford Profile Scales of Hypnotic Susceptibility (SPSHS) is a necessity. Further training sessions to develop or stabilize special hypnotic abilities may be added at this stage.

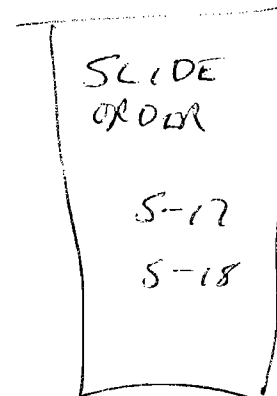
With participants who are well adapted to the laboratory and whose hypnotic capabilities are well known, we may now add psi components to the experimental sessions. Self reporting of depth should be used to be sure the d-ASC of hypnosis is actually present and that it is within the desired depth range during the actual psi testing. These procedures should allow much more accurate specification of hypnosis and psi measures by minimizing uncontrolled sources of error variance.

At the conclusion of an experiment, the experimenter should not only debrief the participant, the participant should debrief the experimenter,

i.e., the experimenter should treat the participant as a co-experimenter who was in a unique position to make important observations.

Hypnosis is a powerful technique. The experimenter should have appropriate training in psychology and hypnosis to screen out potentially unstable participants and handle occasional unpleasant consequences of hypnosis. The training and ethical standards of the Society for Clinical and Experimental Hypnosis and the American Society for Clinical Hypnosis are highly relevant for any parapsychologists contemplating hypnosis research.

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Our field has long seen considerable interest in using various altered states of consciousness, such as hypnosis or dreams, to facilitate psi functioning. Many spontaneous events which seem to represent high-level psi functioning happen in altered states like dreaming or reverie, and we have had a number of experimental attempts to deliberately induce altered states and improve psi functioning in the laboratory. While the results of these studies have been mixed, in general they suggest that psi functioning can at least occur and often be somewhat enhanced in altered states.

Several years ago (Tart, 1974) I attempted to bring some conceptual clarity into the concept of altered states, particularly in terms of its relationship to parapsychological research. This included introducing the concept of a discrete altered state of consciousness (d-ASC) as part of a systems approach to understanding this area. A d-ASC is a unique systems organization of the components or subsystems of consciousness, a stable style of functioning with a distinct experiential "flavor," and distinct functional advantages and disadvantages. Our ordinary state, itself a discrete state of consciousness, is the reference from which we view some other mental organization as altered. Various d-ASCs would include such phenomena as are associated with terms like hypnosis.

dreaming, meditation, mystical experience, extreme emotional states like rage or being in love, drug-induced states, etc.

As parapsychologists, then, we note that psi usually functions unreliably and at very low levels of manifestation in our ordinary state, when it functions at all, so we are interested in finding and inducing one or more d-ASCs where psi functions both more reliably and/or at stronger levels. As I pointed in my earlier review (Tart, 1974), however, this has not been a matter of the straightforward application and utilization of a well-developed science of d-ASCs to the poorly understood phenomena of psi, but more like the blind leading the blind, as our scientific understanding of d-ASCs is still in its infancy. It is worse than that, however, for para-psychological investigations utilizing d-ASCs usually lack an up-to-date understanding of even the meagre scientific knowledge about the particular d-ASC employed, so we are worse off than we need be.

The above methodological discussion is, by virtue of its generality, rather abstract. Everyone would agree that we should use state-of-the-art d-ASC knowledge in applications to psi research, but what exactly does that mean? In this brief paper I shall illustrate how state-of-the-art scientific knowledge of one d-ASC, hypnosis, would be employed in a psi study. I am making my job a little easier by using hypnosis,* for we have much more scientific knowledge about it than any other d-ASC, but the outline I shall present has obvious applications in principle to work with other d-ASCs.

* I shall further simplify here by treating hypnosis as a relatively unitary d-ASC, even though the term may actually refer to several, related d-ASCs (Tart, 1974; 1975).

We have several dozen studies of hypnosis and psi functioning in the literature. I shall not attempt to review specific studies (see Hornorton & Krippner, 1969; Van de Castle, 1969, for comprehensive reviews) in this brief time, but only generalize about them, in a more extreme way than the better ones deserve, in order to make my methodological points.

SLIDE # 5-17

Figure 1 shows the general design of extant studies. A subject population, presumably naive about the nature of hypnosis, is found for a hypnosis and psi experiment. The criteria for selecting this subject pool is usually its availability, rather than its known possession of any specific attributes of hypnotizability or psi ability. ~~Frequently there is only a single experimental session, in which any specific attributes of hypnotizability or psi ability~~ Frequently there is only a single experimental session, in which the purpose of the experiment is explained to the subject, a hypnotic induction procedure is performed by the experimenter/hypnotist, motivating suggestions that the subject has psi are given, and the psi test is administered while the subject is, presumably, hypnotized. The hypnotist goes through a dehypnotizing procedure, the subject is given some debriefing by the experimenter, and is sent away.

Insert Figure 1 about here

From the standpoint of state-of-the-art knowledge of hypnosis and psychology, this typical design possesses numerous shortcomings. For example, the hypnotic d-ASC is typically assumed to exist in subjects given the hypnotic induction procedure, a kind of external operationalism that is very reliable (all observers will agree that the hypnotist went through the induction procedure), but potentially very misleading, as a substantial number of subjects may not experience any change from their ordinary state of consciousness. Ideally the postulated change to the d-ASC we call hypnosis should be empirically assessed following the induction. This calls for extensive testing for the kind of experiences and behaviors typical of hypnosis, but frequently there is such little testing that the effectiveness of the induction procedure cannot be assessed. Other shortcomings of the typical design will become clearer as we look at a more ideal, state-of-the-art design.

Some of you will have wondered why I am using the word "subject" so casually, given my well-known arguments for humanizing experimental work (Tart, 1977). I am using "subject" deliberately in reviewing the typical experimental/procedure because it is accurate: people were usually subjected to a mysterious and rather authoritarian procedure by a prestigious authority figure who, implicitly and explicitly, used his superior knowledge to try to manipulate the subjects into behaving in a way that would advance the experimenters' (usually not the subjects') goals. I deliberately paint a somewhat exaggerated and stark picture here for clearer illustration, but these are important psychological factors in understanding these old hypnosis and psi experiments (indeed, almost all psychological experiments) and must be recognized.

Figure 2 diagrams a state-of-the-art design that could be applied to hypnosis and psi studies. We begin again with a presumably naive population, but a population of "participants" rather than "subjects."

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This change in concept, which should be reflected in the experimenter's attitudes and behavior, will help create a psychological outlook that sees each participant as a unique and individual collaborator or co-experimenter, a person who responds to the experimental procedure and makes special contributions to it both during and after the formal experimental procedure ~~and makes special contributions to it both during and after the formal experimental procedure~~. We can "standardize" procedure with the best state-of-the-art knowledge, but we must never lose sight of the human realities of the situation. I have discussed this a greater length elsewhere (Tart, 1977).

Insert Figure 2 about here

Our basic question for our ideal experiment is the relationship between the hypnotic state, the hypnotic d-ASC, and psi functioning. We could certainly do a behavioristic study of reactions to a procedure which has been implicated in d-ASC induction in other studies, but I think actually studying the d-ASC is more profitable and will focus on that. Without going into the technicalities of defining state (see Tart, 1974; 1975), this means we must select participants capable of entering that d-ASC, motivate and reward them adequately so they will want to enter the hypnotic d-ASC and use their potentials to the fullest, and cooperate with us for full and adequate reports of various factors which may affect their experience and performance. The most efficient way to begin the selection process is with a hypnotic susceptibility scale that has been designed to use with large groups of people. The figure shows the use of the Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962)

the best one available, which can be used with groups up to several hundred in size, if adequate assistance is available. Cooperation is usually readily obtained from participants at this state simply because of widespread curiosity about what it would be like to be hypnotized. People not interested are advised not to participate, but to leave or quietly watch those who are participating. The experimenter gives some standardized preliminary instructions and then reads, verbatim, standardized hypnotic induction instructions and suggestibility test items. The whole procedure takes about one hour. The suggestibility test items include the participant's hand lowering because of experienced heaviness, his arm being too heavy to lift, his fingers being too tightly interlocked to pull apart, his arm being rigid, his hands moving together as if pulled by a force between them, being unable to shake his head "no," hearing a mosquito buzzing around his head, being unable to open his eyes, and posthypnotic amnesia. Participants fill out individual response booklets reporting on their reactions afterwards. Normative data exists on thousand of participants, especially college students, so the particular group tested can be compared to fairly general population norms, and/or individual participants may be selected for further testing because they meet specified responsiveness criteria.

The Harvard Group Scale gives a moderately good assessment of responsiveness to a standardized hypnotic induction procedure, but it is limited. Most of the test items, e.g., deal with motor responses, rather than ^C cognitive or perceptual changes. In our ideal experiment then, we require further individual assessment, both for more reliable overall assessment of a particular individual's hypnotizability and, if so desired, to select for specified hypnotizability in general or special hypnotic abilities. The Stanford Hypnotic Susceptibility Scales Forms A and B (Weitzenhoffer and Hilgard, 1959), can be administered for this. Form A and Form B are parallel: they were developed for test and retest studies.

Either can be used here. As with the Harvard Group Scale (which is based on Forms A and B), however, they are heavily weighted toward motor response items. Administering one or the other of these can give more precision on this component of hypnotizability and/or serve as further time to adapt to the laboratory procedure, stabilize hypnotic abilities, and begin the formation of a more personal relationship with the experimenter. In many hypnotic studies however, it is adequate to skip the Form A and B administration and move on to individual administration of Form C of the SHSS.

Form C (Weitzenhoffer & Hilgard, 1962), which also takes about an hour to administer, involves a standardized induction procedure (although an individualized induction can be substituted), and then a dozen test items. These include several motor suggestibility items as in the group scale, but also many cognitive/perceptual items, such as hallucinated tastes of sweet and sour, a hypnotic "dream," regression to a younger age, a hallucinated voice, posthypnotic amnesia, and two negative hallucinations items, being unable to smell ammonia and being unable to see the third of three boxes on a table because of the suggestion that there are only two boxes on the table. Extensive normative data has been published.

Screening with Form C could rather reliably pick, say, people in the top 10% of hypnotic responsiveness. Or the combination of Group or Form A or B scores with subsequent Form C scores gives a fair general picture of hypnotic susceptibility, which could be correlated with later performance on some psi test. While the standardized form relies almost exclusively on overt behavioral responses to the suggestibility test items, Form C can also be scored for quality of experience in a way I devised some years ago (Tart, 1972; 1979) for more detailed information on a participant's responses.

If we feel that really high hypnotic talent is needed, and/or that more adaptation ~~of~~ to the laboratory would be helpful, and/or are concerned with the sometimes rapid fluctuations in the depth of the hypnotic d-ASC that can occur unbeknownst to us, another ^{scale} ~~state~~ is highly desirable, namely administering each participant both forms of the Standard Profile Scales of Hypnotic Susceptibility (Weitzenhoffer & Hilgard, 1957; Hilgard, Lauer, & Morgan, 1963). This takes a couple more sessions of an hour or more each. These forms ^were developed for profiling relative proficiency in specialized aspects of hypnotic talent. Six subscales deal with Agnosia and Cognitive Distortion (alteration of meaning and value rather than sense perception per se); Positive Hallucinations (experiencing sensory and perceptual phenomena in the absence of adequate stimuli); Negative Hallucinations (lack of awareness of stimulation that would normally be perceived); Dreams and Regressions (memory revival and fantasy production); Amnesia and Posthypnotic Compulsions (behavior suggested during the d-ASC of hypnosis but occurring after the participant has returned to his ordinary state); and Loss of Motor Control (motor responses carried out automatically as a result of suggestion and loss of volitional control). Again, extensive normative data exists. At this point, a participant's hypnotic talents are about as adequately assessed as the current state-of-the-art will allow. His special strengths and deficiencies are well mapped. *

I have also indicated in the figure that during the testing with the Profile Scales (or even during the earlier Form C administration) training in using self-report scales of hypnotic depth should begin. Depth is not the same as susceptibility: the latter is an average of performance over long time periods, but depth can fluctuate quickly and unexpectedly, with consequent effects of hypnotic experience and performance. The Extended North Carolina Scale of Hypnotic Depth which I

* A recent special combined issue (October 1978, January 1979) of the American Journal of Clinical Hypnosis is devoted to reviews of measures of hypnotic susceptibility and depth.

developed several years ago (Tart 1963; 1979; 1972; 1979) allows quick and convenient assessment of the participant's self-perceived depth, and should be used during subsequent work to detect these kinds of changes, whereupon they can either be analyzed as another known variable (instead of an unknown one increasing error variance in results) or used as an indication to work with the hypnotic state to change depth back to the desired level before proceeding with other tests, such as psi tests.

Thus after a group session and at least three individual sessions with each participant, we now know his or her hypnotic abilities in some detail, they have adapted to to the laboratory situation of being hypnotized and have come to know the experimenter. Any effects of the hypnotic d-ASC on psi performance are now more likely to be due to hypnosis per se than to an inexperienced "subject" of poorly known talents being confused or anxious or excited about a novel and unknown procedure.

We may be ready for actual psi testing at this point, or we may want to have further hypnotic training sessions to train or further assess specialized hypnotic abilities. For example we might want to train visualization/hallucination ability, or train dissociation of hypnotic behavior from normal reality to avoid inhibitions associated with consensus standards, or teach quieting of mental noise in the hypnotic d-ASC (one of the main characteristics of deep hypnosis - see Tart, 1966), or facilitate dream induction, or create a secondary personality which was ^{"psychic,"} ~~"physic,"~~ etc.

Now we arrive at the main experimental session where a participant is hypnotized and the effectiveness of the procedure in actually inducing the desired d-ASC at the desired depth is assessed. Special abilities, if already trained, are activated by suggestion, and an appropriate psi test given. We generate our data on the relationship between well-defined qualities of hypnosis and psi.

Last, but not at all least, we come to a debriefing which draws on the participant ^{in a} ~~as~~ co-experimenter relationship which has been established throughout the many sessions. Not only does the experimenter debrief the participant, hopefully being able to tell the participant things which the participant finds interesting and relevant, but the participant should debrief the experimenter! After all, much of the most interesting phenomena of the hypnotic d-ASC were directly witnessed only by the participant as they were internal. These phenomena may cast much light on psi performance. He should be able to feel that he can make a genuine contribution to knowledge by reporting on these and conceptualizing them.

There are many other ^{ETHICAL} technical considerations, of course, such as adequate training of the experimenter in hypnosis and psychology, screening out unstable participants, therapeutic backup in the event of upset during the hypnotic sessions (even though actual incidence of such sequelae under proper lab conditions is very low), etc., but ^{space} ~~time~~ precludes going into them here. I hope that this sketch of a hypnosis and psi experiment that is high quality by state-of-the-art standards for hypnosis research will help improve the quality and profitability of all our future d-ASC and psi studies.

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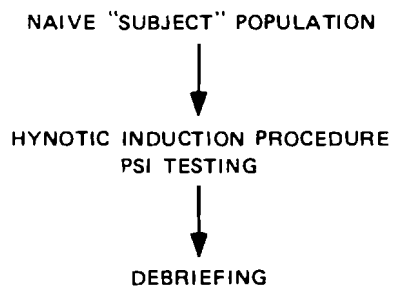


FIGURE 1 TYPICAL HYPNOSIS AND PSI EXPERIMENT

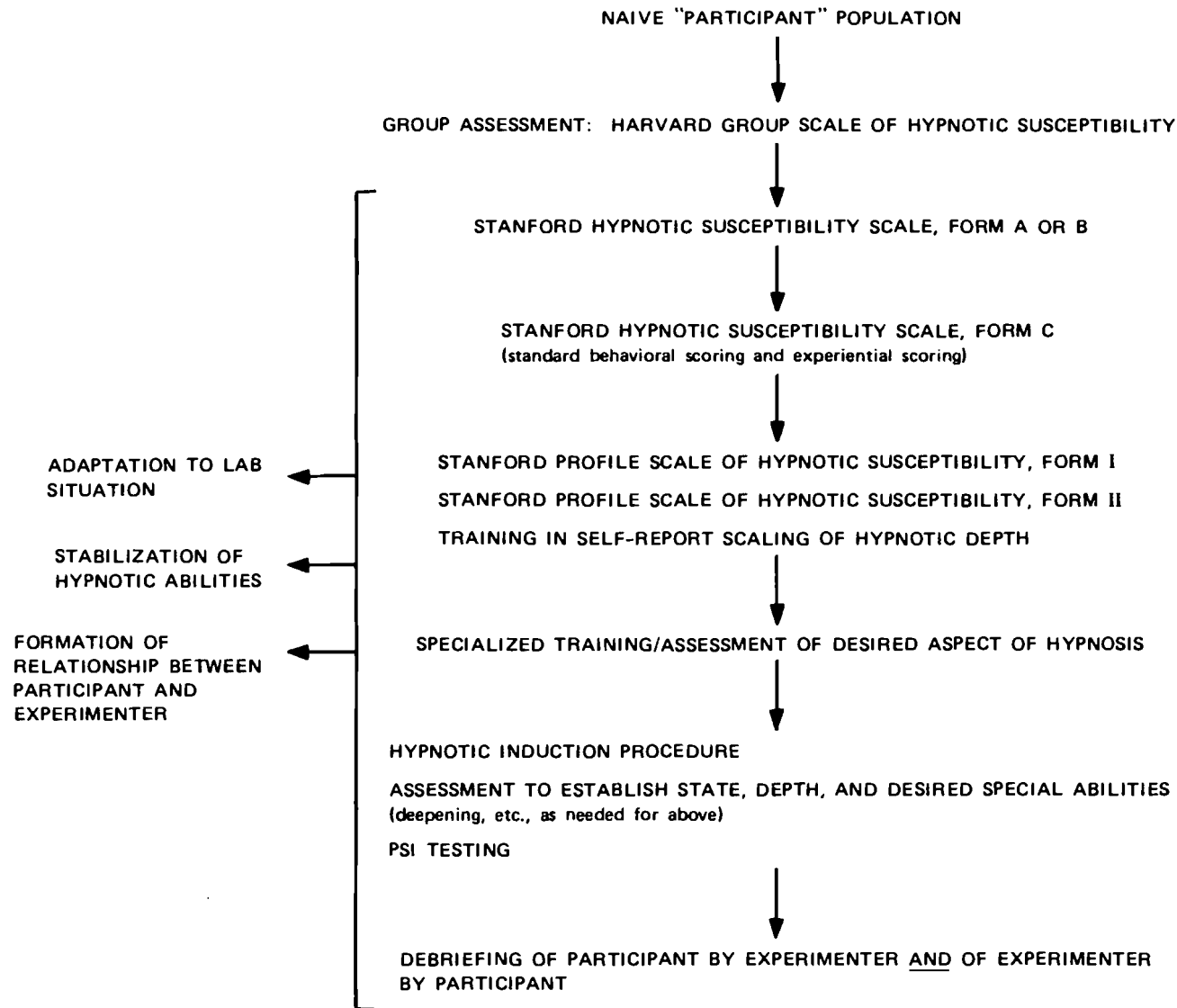


FIGURE 2 STATE-OF-THE-ART HYPNOSIS AND PSI EXPERIMENTAL PROCEDURE, 1979