

# Relaxation as a Psi-conductive state\*

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Nine experiments are described in which muscular and "mental" relaxation was studied as a physiological and psychological state which appears to be quite conducive to the occurrence of paranormal phenomena such as telepathy and clairvoyance. Following a general introduction to the area, seven exploratory experiments are described in which relaxation was induced in Ss through the use of a modified Jacobson's progressive relaxation technique and suggestions for mental quietude and passivity. Ss scored highly accurately and significantly in tests of telepathic and clairvoyant knowledge of art print targets being viewed by sensorily isolated agents. Two further, more analytical, studies indicated that the good psi performance of Ss was indeed attributable to degree of relaxation and not to possible confounding variables such as belief, mood, attitude, or changes in other "states." This paper is presented in hopes that the consistent results obtained might stimulate further research in this relatively neglected area of paranormal information processing.

Research in our laboratory has indicated consistently that a highly relaxed state is quite favorable to the occurrence of dramatic instances of paranormal or psychic phenomena. Since our results have been so striking, consistent, and replicable, we feel it is important to bring this research to the attention of experimental psychologists. Since many readers may not be entirely familiar with certain paranormal phenomena, a number of terms will be discussed before our experimental procedures and results are presented.

The phenomena to be described are usually studied by "parapsychologists" or "psychical researchers" who systematically investigate processes termed "paranormal phenomena," "psychic phenomena," "extrasensory perception (ESP)" or "psi." The latter term will be used throughout this paper, since it is the most theoretically neutral and since less surplus meaning is associated with that term. The major types of psi processes studied in the laboratory include: telepathy (paranormal knowledge of the mental or brain content of another individual), clairvoyance (paranormal knowledge of objects or of objective events not associated with another individual), precognition (paranormal knowledge of future events), and psychokinesis (paranormal *influence* on some physical system). For a given process to qualify as paranormal, it must satisfy certain criteria. The information obtained must be (a) accurate, (b) unaccountable in terms of conventional sensory cues, (c) unaccountable in terms of rational inference, and (d) nonchance, i.e., not coincidental. Accuracy is usually determined by direct comparison with some simple "target" or by some blind rating or ranking procedure if the target is complex. Sensory cues are eliminated completely through the use of isolation procedures: i.e., the S ("recipient") attempts to receive

paranormal impressions of the target while enclosed in a soundproof, lightproof (and sometimes electrically shielded) room far removed from the location of the target. Rational inference is eliminated through use of a target which is truly randomly selected from a large pool of items. Statistical techniques indicate how probable the outcome would be by "chance" alone.

Recently, parapsychologists have moved beyond merely demonstrating the existence of various psi phenomena. They are now actively involved in investigating the conditions under which psi does or does not occur and are developing techniques designed to elucidate its mechanism of action. We describe herein our own investigations of possible psi-conductive states. The discovery of such psi-favorable states could be quite important for three reasons: (a) it would allow psi to be induced directly and with great frequency and strength in the laboratory, greatly facilitating its investigation; (b) it would allow us to begin sorely needed theory construction; and (c) it would facilitate practical applications of psi.

Our research began with an investigation of the role of hypnosis in psi. The psi performance of our S while in a hypnotized state (and while sensory cues, inference, and coincidence were well controlled) impressed us so much that we began to consider seriously what might have accounted for our dramatic results. We believed that the most likely contributing factor was the *highly relaxed state* which plays so great a part in successful hypnosis. An exhaustive review of the literature revealed that relaxation may indeed be a key factor in successful psi performance. Relaxation seems to be a reliable characteristic of the percipient in a majority of cases of spontaneous psi phenomena (Stevenson, 1970). Reference to the importance of relaxation is found in the writings of and about nearly all gifted psychics. White (1964) has described the critical role of deep physical and mental relaxation, reduction of strain, increase in passivity, and stillness of mind in the successful performance of gifted Ss. Autonomic nervous

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Table 1  
Summary of Results of First Seven Preliminary Relaxation Experiments

Experiment	Condition	Cases	Hits	Misses	% Hits	P	Direct Hits	% Direct Hits	P
1	Repeated tests of single S	6	6	0	100	.001	6	100	.001
2	Individual tests of six Ss	6	6	0	100	.001	6	100	.001
3	First group test	10	10	0	100	.001	7	70	.0002
4	Second group test	11	10	1	91	.006	6	54	.004
5	Third group test	10	4	6	40	n.s.	2	20	n.s.
6	Fourth group test <sup>1</sup>	6	4	2	67	n.s.	1	17	n.s.
7	Fifth group test <sup>2</sup>	11	11	0	100	.001	4	36	n.s.
<b>Noncorrected Total</b>		<b>60</b>	<b>51</b>	<b>9</b>	<b>85 %</b>		<b>32</b>	<b>53 %</b>	
<b>Corrected Total</b>		<b>22</b>	<b>19</b>	<b>3</b>	<b>86 %</b>	<b>.001</b>	<b>13</b>	<b>59 %</b>	<b>.00007</b>

<sup>1</sup> Smaller group with reporter present. — <sup>2</sup> Long-distance experiment (Los Angeles to Houston). —

system state measures which have been found to accompany facilitated psi (Otani, 1955) closely resemble physiological syndromes traditionally associated with relaxation. EEG indications sometimes associated with enhanced psi performance suggest an electrical correlate of the subjective state of relaxed awareness and of the physiological state of muscular relaxation (Honorton, Davidson, & Bindler, 1971; Morris et al, 1972; Stanford & Stanford, 1969). The dream state so successfully exploited as a psi-favorable condition in recent years (Ullman & Krippner, 1970) is characterized by extremely low muscular tension (Hartmann, 1970). Slowed alpha (alphoid) rhythms characterized two out-of-the-body experiences (which are sometimes accompanied by psi) studied in the laboratory (Tart, 1967, 1968). Alpha predominance characterized certain meditative states (Anand et al, 1969; Kasamatsu & Hirai, 1969; Wallace, 1970) which have traditionally been associated with heightened psychic sensitivity. Finally, Schmeidler & McConnell (1958) obtained good psi results in their studies of relaxed and passive maternity and concussion patients.

Our own research program consists of four phases. In Phase 1, we demonstrated that psi was greatly facilitated when our Ss attempted to receive psi impressions of targets while in a deeply relaxed state induced by a modified Jacobson's progressive relaxation technique. Seven exploratory experiments were conducted: one involving repeated tests of a single S, one involving individual tests of six Ss, and five group tests. Ss followed tape-recorded relaxation instructions for a 25-min period. They then recorded their impressions of a colored, postcard-sized reproduction of a painting which was being viewed by a sensorily isolated agent.

The S-to-agent distance varied from a minimum of 78 ft (on another floor, separated by a closed door, a stairway, and another closed door) to a maximum of approximately 1,400 miles (agent in Los Angeles, Ss in Houston). All possible sensory cues were eliminated before, during, and after the impression periods through the use of proper experimental techniques. Rational inference was eliminated by choosing the target pictures randomly from a large pool. Correspondences between subject protocols and actual targets were rated blind by the Ss themselves and by naive judges who were unaware of the correct targets at the time of rating. In these preliminary relaxation experiments (the results of which are presented in Table 1), Ss' impressions matched the correct targets at a significantly higher level than they matched five alternative control pictures which the agent did not "send." The overall results were associated with a probability of .000007 and therefore indicated the successful operation of the psi process. Details of this series may be found in Braud & Braud (1973).

In Phase 2, we began to explore the role of relaxation in a more analytical fashion. Ss were again tested while in a relaxed state. Before the correspondences were rated, all Ss indicated their degree of relaxation on a 10-point scale. When the Ss were later dichotomized at the median in terms of their psi performance, it was found that "good" psi performers were significantly more relaxed than were "poor" psi performers. Thus, Ss listening to the same relaxation-inducing taped instructions actually relaxed in different degrees, and these degrees of relaxation were in turn related to degree of psi performance (see Table 2).

In Phase 3, we measured degree of relaxation objectively through use of electromyographic

techniques. We also attempted to unconfound a number of factors not controlled in the first two phases. Two groups of 10 Ss each were used: one group listened to relaxation instructions as before, the other group listened to instructions designed to induce a state of tension. Besides instructions for muscular relaxation (Jacobson technique), the relaxation tape included instructions for mental quietude and passivity. The tension tape included instructions for systematically increasing muscle tension and instructions for mental alertness and activity. Both tapes included suggestions that the induced state (relaxation for one group, tension for the other) was an optimal one for successful psi functioning. The purpose of this last manipulation was to equate expectancy of success in both groups. Electromyographic (EMG) activity was recorded throughout the sessions, using a system similar to that described by Budzynski & Stoyva (1969) and Green, Walters, Green, & Murphy (1969), with the important exception that feedback was not provided the S. Electrical activity of the frontalis (forehead) muscle group was amplified, filtered, and displayed on an oscillograph and on a cumulative clock accurate to 1/100 sec. Recordings were taken during a 5-min baseline period, then during successive 5-min periods during which the S followed the relaxation (or tension) instructions. Finally, EMG was recorded during the 5-min impression period. During this period, the S attempted to receive psi impressions (via telepathy and clairvoyance) of an art print being viewed by a sensorily isolated agent. The targets were randomly selected from a large pool. After receiving impressions, but before recording them and before judging protocol-target correspondences, each S completed a questionnaire which was designed to determine certain subjective factors known to affect the psi process in an important manner. The questionnaire included three items which concerned belief in psi: four items concerning the S's mood and attitude toward the experiment, the E, and the target picture (not yet known to be the target picture at that time, of course); and nine items concerning the S's "state" during various periods of the experiment. The state cluster included questions about the S's feelings of physical and mental relaxation or tension at the beginning of the session and during the impression period, about his belief that the induced state was conducive to psi functioning, and about his state of consciousness and body awareness during the impression period. Ss self-rated each item on a 10-point scale.

Correspondence between S protocol (written and drawn impressions) and targets were quantified via a ranking technique. The S was provided a pack of six pictures (art prints) which had been coded and randomized. One of these was the correct target which the isolated agent had viewed; the other five were alternative, control targets which had never been seen by the agent. No sensory contact occurred between S and agent while the pack was presented, nor were any

Table 2  
Psi Performance of Tense Vs Relaxed Subjects

Good Psi Performance (1.69)	→ →	More Relaxed (1.81)
Poor Psi Performance (3.88)	→ →	More Tense (3.12)
(U = 14.5, $n_1 = n_2 = 8$ , $p < .041$ )		

sensory cues possible via the pack and envelopes and cards themselves. The S compared his protocol with each of the targets and assigned a rank of 1 to the target corresponding best to that protocol. A rank of 6 was assigned to the target corresponding least to the protocol. Ranks of 2-5 had intermediate degrees of correspondence; no ties or omissions were permitted. A S scored a "hit" if his target was assigned a rank of 1, 2, or 3; scores of 4, 5, and 6 were "misses." Since, by chance, equal numbers of Ss should score hits and misses ( $p = \frac{1}{2}$ ), significantly more hits than misses (binomial test) would indicate the presence of psi effects in the data.

Although this experiment generated considerable data, we will mention here only those results which bear on the psi process. The overall experiment yielded evidence for significant psi hitting: 15 Ss obtained hits, while 5 obtained misses, yielding a binomial probability of .021. Ss following relaxation instructions performed significantly better on the psi task than did Ss listening to tension instructions. Relaxation Ss scored 9 hits and 1 miss (binomial  $p = .011$ ), while tension Ss scored 6 hits and 4 misses (binomial  $p = .377$ ). The psi performance of the relaxation Ss (mean score = 2.0) was significantly superior (Mann-Whitney  $U = 21$ ,  $p < .025$ ) to that of the tension Ss (mean score = 3.4). Over all 20 Ss, a significant positive Spearman rank-order correlation obtained between successful psi performance and (a) degree of EMG-defined relaxation during the impression period ( $\rho = +.49$ ,  $p < .05$ ), (b) degree of self-rated physical relaxation during the impression period ( $\rho = +.53$ ,  $p < .05$ ), and (c) degree of self-rated mental relaxation during the impression period ( $\rho = +.49$ ,  $p < .05$ ). The relaxation and tension groups differed significantly ( $p < .001$ ) in terms of EMG-defined relaxation, self-rated physical relaxation, and self-rated mental relaxation. Importantly, the relaxation and tension groups did *not* differ significantly in terms of other variables which might have had important influences on the psi process (i.e., belief, mood, attitude, certain other states). Thus, the relaxation/tension effect was *not* confounded by differences between the two groups in expectancy or other relevant subjective variables.

A secondary finding (but one of considerable importance) was that EMG level, physical state rating, and mental state rating all intercorrelated significantly and positively (correlations ranged from +.57 to +.82; all with associated  $ps < .01$ ), whether measured in terms of their initial values, their impression period values, or

their degree of shift from beginning to end of the session. This indicates that Ss are accurately aware of their tension or relaxation levels and that their subjective ratings correlate well with objective bioelectrical measurements of degree of relaxation.

Phase 4 of our research program, which is now in progress, involves a more delicate control of degree of physical relaxation accomplished through the use of EMG biofeedback techniques. Our goal is to map the function relating degree of relaxation to successful psi performance.

We have presented the highlights of our research to date dealing with the influence of relaxation on psi. The effect appears to be quite reliable. Nine independent experiments have been conducted in our own lab with consistent results. Quite recently, our work has been successfully replicated by an independent investigator (Stanford & Mayer, 1973). We present this summary of our methods here so that other psychologists may undertake to replicate and extend our findings. Space limitations prohibit a discussion of our theoretical notions about the role of the relaxation state in the psi process. However, such a statement may appear in a subsequent paper. Those seeking more information regarding our procedures and results may consult Braud & Braud (1973), Braud & Braud (1974), or may write to us for additional information.

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