

# ESP UNDER HYPNOSIS: THE ROLE OF INDUCTION INSTRUCTIONS AND PERSONALITY CHARACTERISTICS

BY PATRIZIO TRESSOLDI\* AND GUIDO DEL PRETE\*\*

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**ABSTRACT:** In the present study, we compared directly the efficacy of two types of hypnotic induction instructions on a forced-choice clairvoyance task in a sample of participants selected for their medium to high absorption or transliminality scores. The first kind of instructions (ESP) emphasized the capacity to visualize a remote picture, freeing the mind from any thinking activity. The second kind of instructions, the out-of-body experience (OBE), emphasized leaving the body and allowing the mind to go where the target was presented. The two instructions were applied in a within-subject design to control individual differences better. In the 2 sessions of 10 trials each, the mean hit scores were: first session:  $M = 3.33$  ( $SD = .65$ ); second session:  $M = 2.41$  ( $SD = .79$ ). The mean hit score of the first session was well above  $MCE$ ,  $\pi = .60$ ;  $CI: .28-.91$ ; contrast:  $\Delta\pi = .10$ . No substantial differences were obtained with the two kinds of instructions. These data replicate the findings obtained by Del Prete and Tressoldi (2005), supporting the hypothesis that a combination of hypnosis and special induction instructions tailored for the ESP task facilitate the performance in participants with medium to high absorption or transliminality scores.

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The role of hypnosis as a mediator for ESP has been documented (see Stanford & Stein's 1994 meta-analysis). Even if it is well established that hypnosis facilitates ESP better than normal awakening or self-relaxation, little, if any, systematic research on the role of specific instructions to induce hypnosis has been carried out. Cardeña (2006, 2007) repeatedly underlined that enhanced psi phenomena depend on a trait (high hypnotizability), a state (the hypnotic context), or an interaction between the two.

In this paper we manipulated the state, comparing directly the efficacy of two kinds of instructions. The first, which we named ESP, was characterized by the emphasis on the capacity to visualize a remote picture while freeing the mind from any thinking activity. The second, which we named OBE, was characterized by instructions to leave the body and allow the mind to go to the place where the target was presented (see details below). The two instructions were applied by using a within-subject design to control individual differences better. To maintain the personality traits under control, we selected participants with a medium to high level of transliminality or absorption. It is well documented that these traits act as mediators for ESP (Dalton, Zingrone, & Alvarado, 1999; Thalbourne, 1996, 2004) as well as for hypnotizability (Glisky, Tataryn, Tobias, Kihlstrom, & McConkey, 1991). Del Prete and Tressoldi (2005) demonstrated that these personality traits were strongly correlated with hits in a clairvoyance-like

task, but only if participants were in a deep hypnotic state using OBE instruction.

We expected that, once in a state of hypnosis, participants with these personality traits would benefit more from suggestions to use OBE to complete a clairvoyance task than from suggestions to use ESP because the targets were presented in a room not very far from the place where the participants were located. However, the OBE suggestions can be considered less credible than the ESP ones, that is, the possibility to let the mind leave the body and move to the room where the targets are presented. There is some evidence that the credibility of the treatment acts as a mediator on the effects obtained under hypnosis (Milling, Shores, Coursen, Menario, & Farris, 2007). To our knowledge, there is no evidence of the role of the credibility of hypnotic suggestions on ESP performance. In this sense, our comparison between OBE and ESP instructions has to be considered as exploratory.

## METHOD

### *Participants*

Twelve volunteers (7 males and 5 females) were recruited by the first author among relatives and people attending his Center, to participate in an experiment to test the potentialities of hypnosis. They were selected from among other people if their scores on the Revised Transliminality Scale (Lange, Thalbourne, Houran, & Storm, 2000) were above 25.7 out of a maximum of 37.3 of the corrected scores and/or above 23 (over 2/3 of the range, 0–34) on the Tellegen Absorption Scale.

Previous findings (Del Prete & Tressoldi, 2005), suggested that the contribution of these personality characteristics to ESP required at least a medium level of transliminality or absorption; therefore we maintained this criterion. The participants' mean chronological age was 35, standard deviation = 10.1. The volunteers were not paid for their participation.

### *Task*

The task was devised as a simple gambling-like task. Twenty different series of four emotionally neutral figures (representing landscapes, animals, buildings, flowers, and so on) for a total of 10 trials, were presented in sequence one at time on a PC monitor for about 1 min and then presented simultaneously to allow the participant to guess which one could be the target. At the same time, the target, chosen by a pseudorandom algorithm, was projected on a second monitor. This monitor was in a room connected to the equipment installed in a second room separate from the one where the volunteer was located. During the experiment, the two rooms were completely isolated. The experimental assistant and the participant could not see what was being shown in the adjacent room.

*Hypnosis Induction Procedure*

The hypnotic state was induced by the first author, a medical doctor with more than 15 years of experience in clinical hypnosis. The procedure started with a modified Jacobson technique (20–30 min) followed by 15–20 min of real hypnotic induction. The attainment of the deep hypnotic state was based on behavioural indices observed by the hypnotist. The main indices are: deep muscular relaxation, slow and regular breathing, reports of spontaneous images, slow ocular movements, and a sensation of hand paralysis.

Each participant was shown the monitor on which the target would appear and was then invited to lie down on a couch in the main room, isolated from the environmental noise. The task was explained as follows:

When you are in the desired mental state after the induced hypnotic state, you will see four pictures presented one after another for about 1 minute each on the monitor in front of you. Afterwards, you will see all four pictures together and you will have to choose the target. Remember, do not try to look for any rules because the target has been chosen by a randomized algorithm.

OBE instructions contained indirect flight suggestions, in line with Erickson's procedure (Erickson & Rossi, 1981), to induce spontaneous OBE experiences, plus an element of expectancy or "mental set," whereby the participant was encouraged to want an OBE and firmly believe it could happen. With ESP instructions, the emphasis was placed on the capacity to receive spontaneously the target image without mental effort (an abbreviated description of the instructions is reported in Appendix B; a more complete version may be requested from the second author).

The participant was instructed to report every impression arising during the hypnotic state. Following the reception period, participants were shown the four possible targets and asked to choose the real one using their impressions. After the participant had chosen the target, the experimenter input the answer on the computer and the program recorded the choice in a file without any feedback.

The order of instructions, ESP and OBE, was counterbalanced among participants.

Each session comprised 10 trials. Due to the individual differences in achieving the appropriate mental status and performing the task, the time needed to induce the optimal hypnotic condition and deliver the instructions varied among the participants. It was then necessary to complete each session in a different number of days, ranging from two to four.

## RESULTS

*Data Analysis*

Instead of a factorial design 2 (session) x 2 (order) we chose to focus our statistical comparison to test specific hypotheses (Fur & Rosenthal, 2003). Furthermore, we preferred nonparametric statistics given the low number of data. Effect sizes and their Confidence Intervals were calculated using the bootstrap method suggested by Algina, Keselman, and Penfield (2005).

The number of correct hits out of 10 for each participant is presented in Appendix A.

*Level of Transliminality and Absorption*

The mean scores of transliminality and absorption were:  $M = 28.8$ ,  $SD = 1.8$ , and  $M = 26.2$ ,  $SD = 2.5$ , respectively. The mean absorption is close to 25.5 (no standard deviation available) reported by Cardeña (2006) in his group of high scorers in hypnotisability.

The main hypothesis tested is an exploratory two-tailed main instructions effect or an interaction of instructions by order considering possible decline or learning effects.

*Instructions Effect*

Mean scores with the OBE and ESP inductions were  $M = 3$ ,  $SD = .74$  and  $M = 2.75$ ,  $SD = .96$ , respectively. The statistical comparison with the Wilcoxon paired test gave a nonsignificant result ( $z = .57$ ).

*Session Effect*

Ten out of 12 participants obtained a better hit score in the first session than in the second. If we compare directly the data obtained in the first session with the second one, we obtain: first:  $M = 3.33$ ,  $SD = .65$ ; second:  $M = 2.41$ ,  $SD = .79$ . The statistical comparison with the Wilcoxon statistic gives a  $z = 2.39$ ,  $p = .021$ , two-tailed; effect size  $d = 1.24$ ; CI: 2.4–.36. The mean hit score of the first session is well above the  $MCE$ ,  $\pi = .60$ ; CI: .28–.91; Contrast:  $\Delta\pi = .10$  (Rosenthal & Rubin 1989).

*Order Effect*

When the order of instructions was OBE followed by ESP, all six participants scored better in the first condition. Their mean scores in the two conditions were: OBE,  $M = 3.33$ ,  $SD = .52$ ; ESP,  $M = 2.17$ ,  $SD = .75$ . A direct comparison with the nonparametric statistic Wilcoxon paired test

gives a  $z = 2.33$ ,  $p = .02$ , two-tailed. On the other hand, when the order of instructions was ESP followed by OBE, only four out of six participants scored better in the first condition. The corresponding means were: OBE,  $M = 2.67$ ,  $SD = .82$ ; ESP,  $M = 3.33$ ,  $SD = .82$ . The statistical comparison gives  $z = 1.16$ ,  $p = .24$ , two-tailed.

#### *Correlations with Absorption and Transliminality Scores*

The correlation between hits obtained in the first and second session with absorption and transliminality scores are presented in Table 1.

TABLE 1  
CORRELATIONS ( $R_s$ ) BETWEEN HITS AND ABSORPTION  
AND TRANSLIMINALITY SCORES

Session	Absorption	Transliminality
1	.38	.53*
2	.56*	.22
ESP	.53*	.58*
OBE	.23	.05

\* $p < .05$ , one-tailed

The combined relationship of both absorption and transliminality scores on hit scores was  $R = .37$  (*ns*) and  $R = .14$  (*ns*) for the first and second session, respectively, and  $R = .52$  ( $p = .04$ , one-tailed) and  $R = .14$  (*ns*) on the ESP and OBE instruction conditions, respectively. Even if interesting, further correlations splitting session and instruction conditions were omitted as they were based on only six data. The correlation between the scores of the two personality variables was  $r_s = .28$  (*ns*) whereas the correlation between the hits in the ESP and OBE conditions was  $r_s = -.25$  (*ns*).

#### DISCUSSION

The main result obtained in this investigation is the session effect. The 33% of correct hits obtained in the first session is well above an MCE of 25%. The percentage of correct hits obtained in the first session is close to the 37.5% obtained by Del Prete and Tressoldi (2005) using the same apparatus, design and OBE instructions.

In the second session, the 24.1% of correct hits is in the range of MCE. The drop from the first to the second session is plausibly another instance of the "decline effects" (Bierman, 2001; Kennedy 2003) the mechanisms of which are still unknown. One possible cause could be fatigue from maintaining the optimal mental condition. We would like to remind that for each trial, participants needed twenty to

thirty minutes. This drop reminds all experimenters how difficult it is to maintain the “mental set” necessary to achieve the best performance in these experiments. Unfortunately, this effect was not expected and, as a consequence, no information was collected to monitor if this happened, for example interviewing participants about their mental status or the strategies used to solve the task. The advice we can draw from this result is to reduce the number of trials to the minimum necessary within each session. It is interesting to observe that this recommendation has also been made by Kahneman (2003) to prevent the so-called cognitive System1, the cognitive system which permits intuition, to be interfered with by the cognitive System2, based on reasoning.

A direct comparison between the two instructions seems to suggest a slight advantage of the OBE, given the statistical difference from the ESP instruction when it is used in the first session and the lack of statistical difference when applied after the ESP session. However, in this case, the percentage of correct hits of 26.7% is very close to the *MCE*. For this reason, it seems more plausible to accept the interpretation that there are no differences between the two types of instructions.

The roles of absorption and transliminality as mediating factors for ESP are confirmed by the relationship of transliminality with hits in the first session and absorption in the second session, and by its differential influence depending on the induction instructions. This differential effect is at odds with the result obtained by Del Prete & Tressoldi (2005), who found an  $R = .75$  using only OBE instructions alternated with self-relaxation. Owing to this, we can give only speculative interpretations. For example, it is possible for the effects of absorption and transliminality to be reduced when OBE instructions are alternated with ESP ones, since the latter exploit the specific characteristics of absorption and transliminality, i.e., immersion in sensations and visual imagery; letting feeble sensations rise to the level of consciousness, and so on, whereas the OBE instructions essentially ask the mind to leave the body and travel to perceive the target. However, more direct testing of these hypotheses is necessary.

To summarize the main results obtained in the present investigation, we have a replication of the findings obtained by Del Prete and Tressoldi (2005) whereby a combination of hypnosis and special induction instructions tailored for the ESP task facilitate the performance in participants with a medium to high level of absorption or transliminality scores, confirming the Cardeña et al. (2007) hypothesis that the experiences of people high in hypnotisability in “deep” hypnosis, and we add, with special induction instructions, are more likely to be conducive to psi phenomena.

Future investigations will be necessary to learn how to increase the hits score from the level obtained by these procedures.

## REFERENCES

- ALGINA, J., KESELMAN, H. J., & PENFIELD, R. D. (2005). Effect sizes and their intervals: The two-level repeated measures case. *Educational and Psychological Measurement*, **65**, 241–258.
- BIERMAN, D. J. (2001). On the nature of anomalous phenomena: Another reality between the world of subjective consciousness and the objective world of physics? In P. Van Loocke (Ed.), *The physical nature of consciousness* (pp. 269–292). New York: Benjamins.
- CARDENA, E. (2006). Anomalous experiences and hypnosis. *Proceedings of Presented Papers: The Parapsychological Association 49th Annual Convention*, 32–42.
- CARDENA, E., LEHMANN, D., JONSSON, P., TERHUNE, D., & FARBE, P. (2007). The neurophenomenology of hypnosis. *Proceedings of Presented Papers: The Parapsychological Association 50th Annual Convention*, 17–30.
- DALTON, K. S., ZINGRONE, N. L., & ALVARADO, C. S. (1999). Exploring out-of-body experiences, dissociation, absorption, and alterations of consciousness with a creative population in the ganzfeld. *Proceedings of Presented Papers: The Parapsychological Association 43rd Annual Convention*, 48–67.
- DEL PRETE, G., & TRESSOLDI, P. E. (2005). Anomalous cognition in hypnagogic state with OBE induction: An experimental study. *Journal of Parapsychology*, **69**, 329–339.
- ERICKSON, M., & ROSSI, E. (1981). *Experiencing hypnosis*. New York: Irvington.
- FURR, R. M., & ROSENTHAL, R. (2003). Evaluating theories efficiently: The nuts and bolts of contrast analysis. *Understanding Statistics*, **2**, 45–67.
- GLISKY, M. L., TATARYN, D. J., TOBIAS, B. A., KIHLSSTROM, J. F., & MCCONKEY, M. (1991). Absorption, openness to experience, and hypnotisability. *Journal of Personality & Social Psychology*, **60**, 263–272.
- KAHNEMAN, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist*, **58**, 697–720.
- KENNEDY, J. E. (2003). The capricious, actively evasive, unsustainable nature of psi: A summary and hypotheses. *Journal of Parapsychology*, **67**, 53–74.
- LANGE, R., THALBOURNE, M. A., HOURAN, J., & STORM, L. (2000). The Revised Transliminality Scale: Reliability and validity data from Rasch top-down purification procedure. *Consciousness and Cognition*, **9**, 591–617.
- MILLING, L. S., SHORES, J. S., COURSEN, E. L., MENARIO, D. J., & FARRIS, C. D. (2007). Response expectancies, Treatment credibility, and hypnotic suggestibility: Mediator and moderator effects in hypnotic and cognitive-behavioral pain interventions. *Annals of Behavioral Medicine*, **33**, 167–178.

- ROSENTHAL, R., & RUBIN, D. B. (1989). Effect size estimation for one-sample multiple-choice-type data: Design, analysis, and meta-analysis. *Psychological Bulletin*, **106**, 332–337.
- STANFORD, R. G., & STEIN, A. G. (1994). A meta-analysis of ESP studies contrasting hypnosis and a comparison condition. *Journal of Parapsychology*, **58**, 235–269.
- THALBOURNE, M. A. (1996). An attempt to predict precognition scores using transliminality-relevant variables. *Journal of the Society for Psychical Research*, **61**, 129–140.
- THALBOURNE, M. A. (2000). Translinality: A review. *International Journal of Parapsychology*, **11**, 1–34.

\* *Dipartimento di Psicologia Generale*

*Via Venezia 8*

*35131 Padova, Italy*

*patrizio.tressoldi@unipd.it*

\*\* *Advanced Mind Development Center “Shambhala”*

*Frattamaggiore, Naples, Italy*

*guidodelprete@interfree.it*

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#### ABSTRACTS IN OTHER LANGUAGES

##### *Spanish*

RESUMEN: En este estudio comparamos directamente la eficacia de dos tipos de instrucciones de inducción hipnótica sobre una tarea de clarividencia de respuesta limitada (forced-choice) en una muestra de participantes seleccionados por puntuaciones medianas o altas de absorción o de transliminalidad. Las primeras instrucciones, sobre percepción extrasensorial (PES), enfatizaron la capacidad de visualizar una ilustración remota liberando la mente de actividades de pensamiento. Las segundas instrucciones, sobre experiencias fuera del cuerpo, enfatizaron salir del cuerpo y dejar la mente ir al lugar en donde se encontraba el objetivo. Las dos instrucciones fueron usadas en un diseño intra-sujeto para controlar por diferencias individuales. En las 2 sesiones de 10 ensayos cada una, el promedio de éxitos fue: primera sesión:  $M = 3.33$  ( $SD = .65$ ); segunda sesión:  $M = 2.41$  ( $SD = .79$ ). El promedio de éxitos en la primera sesión fue sobre lo esperado al azar,  $\pi = .60$ ;  $CI: .28-.91$ ; contraste:  $\Delta\pi = .10$ . No hubo diferencias substanciales entre las dos clases de instrucciones. Estos resultados replican los hallazgos de Del Prete y Tressoldi (2005), y apoyan la hipótesis de que una combinación de la hipnosis y

de instrucciones especiales de inducción adaptadas para la prueba de PES facilitan el desempeño en los participantes con puntuaciones medianas o altas de absorción y transliminalidad.

### *German*

**ZUSAMMENFASSUNG:** In der vorliegenden Studie wurde ein direkter Vergleich der Wirksamkeit zwischen zwei Arten hypnotischer Induktionsinstruktionen bei einem Hellsehtest mit begrenzten Wahlmöglichkeiten vorgenommen. Die Stichprobe bestand aus ausgewählten Probanden, die mittlere bis hohe Trefferscores bei ‚Absorption‘ oder ‚Transliminalität‘ erzielten. Die erste Versuchsinstruktion (ASW) betonte die Fähigkeit, ein räumlich entferntes Bild zu visualisieren, indem sich der Geist von jeder reflektierenden Aktivität frei machen sollte. Mittels der zweiten Instruktion (Außerkörperliche Erfahrung, AKE) sollte der Körper verlassen werden und der Geist sollte sich an diejenige Stelle begeben, an der sich das Zielobjekt befand. Die beiden Instruktionen wurden der jeweils gleichen Versuchsperson gegeben, um individuelle Unterschiede besser kontrollieren zu können. In den beiden Sitzungen mit jeweils zehn Versuchsdurchgängen wurden folgende mittlere Trefferquoten erzielt: Erste Sitzung :  $M = 3.33$  ( $SD = .65$ ); zweite Sitzung:  $M = 2.41$  ( $SD = .79$ ). Die mittlere Trefferquote der ersten Sitzung lag deutlich über der Zufallserwartung MCE,  $\pi = .60$ ; CI: .28–.91; Kontrast:  $\Delta\pi = .10$ . Die beiden Instruktionsarten führten zu keinen wesentlichen Unterschieden. Die Befunde replizieren die Ergebnisse von Del Prete und Tressoldi (2005) und unterstützen die Hypothese, dass eine Kombination von Hypnose mit speziell auf eine ASW-Aufgabe zugeschnittenen Versuchsinstruktionen die Trefferleistung bei Probanden begünstigen, die bei ‚Absorption‘ oder ‚Transliminalität‘ mittlere bis hohe Trefferscores erzielen.

### *French*

**RESUME:** Dans la présente étude, nous comparons directement l'efficacité de deux types d'inductions hypnotiques sur une tâche de clairvoyance à choix forcé, avec un groupe de participants sélectionnés pour leurs scores moyens et élevés en absorption et en transliminalité. Le premier type d'instructions (PES) met en avant la capacité de visualiser une image à distance, libérant l'esprit de toutes les activités de pensée. Le second type d'induction, la sortie hors du corps (OBE), met l'accent sur le fait de quitter son corps et de permettre à son esprit d'aller là où la cible est présentée. Les deux inductions ont été employées dans un dispositif avec des sujets permettant de mieux contrôler les différences individuelles. Dans les 2 sessions de 10 essais chacune, le taux de score moyen fut : première session :  $M = 3.33$  ( $SD = .65$ ); seconde session:  $M = 2.41$  ( $SD = .79$ ). Le score moyen à la première session fut bien au dessus de ce qu'on pouvait attendre du hasard,  $\pi = .60$ ; CI: .28–.91; contraste:  $\Delta\pi = .10$ . Aucune différence substantielle n'a été obtenue avec les deux types d'induction. Ces données répliquent les découvertes obtenues par Del Prete & Tressoldi (2005), supportant l'hypothèse qu'une

combinaison d'hypnose et d'inductions spécifiquement créées pour les PES facilite la performance des participants ayant des scores moyens et élevés d'Absorption et de Transliminalité.

## APPENDIX A

## CORRECT HITS OF EACH PARTICIPANT FOR EACH SESSION

ID	Session 1	Session 2	Order
1	3	2	OBE-ESP
2	3	2	OBE-ESP
3	3	2	OBE-ESP
4	4	3	OBE-ESP
5	3	1	OBE-ESP
6	4	3	OBE-ESP
7	4	2	ESP-OBE
8	3	4	ESP-OBE
9	4	3	ESP-OBE
10	3	2	ESP-OBE
11	2	3	ESP-OBE
12	4	2	ESP-OBE
<i>M</i>	3.33	2.41	
<i>SD</i>	.65	.79	

## APPENDIX B

## ABBREVIATED DESCRIPTION OF THE INSTRUCTIONS

## OBE:

*Reception phase:*

There is a light point on the ceiling... you are attracted to it... you want to take it ... imagine your hands, arms, feet, stomach, head, lifting toward it.

... as you approach this lighting point you see it becoming larger and larger like a sun wrapping you in its warmth. You feel as if you are floating on air.

Now you are tired. You are gently leaving your body. You feel light ... you are flying in the air.

Now cross the wall of the room where you saw the monitor on which the target should be presented ... the target image is there now... look at it ... it is getting clearer... still clearer ...

You will remember this image only for two minutes. When I say “erase” you will forget it forever.

*Identification phase:*

Remember that you are in a dream. You can also open your eyes.

Now look at the four images on the screen ... show the image you saw in the room.

Now forget this. Do not think, do not act.

## ESP:

*Reception phase:*

Do not think, do not act.

The target image is now presented on the monitor in the room you visited.

Let this image raise spontaneously in your unconscious mind.

There is a fog, but this image emerges from the fog ... it is getting more and more clear.

Now you recognize it.

*Identification phase.*

Remember that you are in a dream. You can also open your eyes ...

Now look at the four images on the screen ... show the image you saw in the room.

Now forget this. Do not think, do not act.

