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THE EFFECT OF TWO PROCEDURES ON HYPNOTIC SUSCEPTIBILITY MODIFICATION

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Abstract

The object of this research was to compare the effectiveness of two standardized programmes of hypnotic susceptibility modification, that of Sachs and Anderson (1967) and the Carleton Skills Training Package (CSTP) (Gorassini and Spanos, 1986). The results showed a statistically significant difference between these two programmes and the control group for both objective and subjective reponses to the suggestions, but no significant difference between the two programmes. The effectiveness of the CSTP in modifying hypnotic responsiveness scores, which had been placed in doubt in several studies, was confirmed.

Key words: Hypnosis, hypnotizability, hypnotic susceptibility modification, CSTP, sociocognitive theory

Introduction

Among the current controversies concerning hypnosis, one refers to whether or not hypnotic susceptibility may be modified. It focuses on the debate between 'state theorists' and 'non-state theorists'. The former affirm that only certain subjects, those who are highly suggestible, can experience the effects of suggestion. These subjects possess a special capacity for dissociation that is responsible for their entering into a sort of trance. From this perspective, hypnotic susceptibility may not be substantially modified. The possible influence of social variables such as attitudes or expectations might produce slight changes; that is they might operate in addition to the basic ability to experience dissociation (Hilgard, 1965; Perry, 1977; Kihlstrom, 1985; Hilgard, 1989; Bowers and Davidson, 1991).

The defenders of the 'non-state theory' affirm that, on the contrary, hypnosis depends more on social variables and cognitive processes, in which case it would be possible to modify susceptibility using an appropriate procedure (Barber, 1969; Sarbin and Coe, 1972; Spanos, 1986). This position has led to the development of two effective programmes of hypnotic susceptibility modification. The first derives from the work of Sachs and Anderson (1967). This programme includes discussion of the subjective experiences associated with various suggestions, practice of various suggestions and the presentation of reinforcement for appropriate responses. However, this work has suffered from a series of methodological problems such as not evaluating the involuntary experience, a defining characteristic of the 'classic suggestion effect', or failure to include a control condition (Bertrand, 1989). Later work partially solved these problems, although the extent to which this procedure affects the characteristic effect of hypnosis, that is, the experience of 'involuntariness', has not yet been

described in detail (Bullard and DeCoster, 1972; Kinney and Sachs, 1974; Springer et al., 1977).

Around the middle of the 1980s, another hypnotic susceptibility modification programme, currently very popular, was created, namely the Carleton Skills Training Package (CSTP) (Gorassini and Spanos, 1986). In this programme any erroneous ideas of hypnosis that the subject may have are corrected and instructions are given on how to correctly interpret suggestions, specifically, subjects are told that these do not simply 'happen', but are 'enacted' by the subject. Similarly, subjects are encouraged to use imaginative strategies that help them to experience the feeling of involuntariness.

The fundamental difference between the work of Sachs and Anderson (1967) and that of Gorassini and Spanos (1986) is that the first involves a series of scaled practical exercises, which assist the subject in experiencing the suggestions, while that of Gorassini and Spanos does not employ prior exercise, but simply offers cognitive strategies or instructions so that the subjects interpret the suggestions correctly. On the other hand, both programmes make use of general information on hypnosis, emphasizing the use of imagination and also use reinforcement (although in the CSTP this is of secondary importance).

It might be asked then whether the effectiveness of the two programmes is the same, especially with regard to experiencing 'involuntariness'. Hence the purpose of this research was to examine the relative success of each of the two programmes.

It should also be kept in mind that certain studies have questioned the effectiveness of the CSTP (Bates and Brigham, 1990; Bates, 1992; Bates et al., 1988), pointing out that it is not as high as claimed by the University of Carleton and that, furthermore, the only change is in the 'objective' response to suggestions, but not the 'subjective'. This leads to the conclusion that perhaps behavioural compliance may account for training gains. Likewise, an ecological factor unique to the Carleton laboratory or to the subject population employed at Carleton may exist. It would therefore seem advisable to apply it to a population other than that habitually used, in the present case Spanish university students.

Method

Subjects

Thirty subjects (21 women, 9 men) took part in this investigation, all were students in fifth year Psychology at the University of Almería. The average age was 23 years. They were selected from a sample of 79 subjects because of their low scores (0–2 points) on the Carleton University Responsivity to Suggestions Scale (CURSS) (Spanos et al., 1983a). All subjects were tested in groups of no more than eight and received course credit for their participation.

Materials

The CURSS (Spanos et al., 1983c) is a standardized test of hypnotic susceptibility, which correlates significantly with other standardized scales of suggestibility (Spanos et al., 1983b). A Spanish translation of the CURSS was used in the present study. Scores on the CURSS are stable over retest periods ranging from two weeks to three months (Spanos et al., 1983a). It consists of seven suggestions. For each one of them three measurements are taken:

1. CURSS:O (Objective scoring) – refers to whether or not the subject executes the 'visible' response requested in the suggestion.
2. CURSS:S (Subjective scoring) – refers to whether the subject subjectively experiences the sensations in the suggestions.
3. CURSS:O-I (Objective-Involuntary) – refers to the actual suggestions that the subject carries out. That is, those with a 'visible' response (CURSS:O), which are in addition experienced by the subject as 'involuntary'.

The Sachs and Anderson (1967) hypnotic susceptibility modification programme consists of the following elements:

1. Information on the sensations that the subject must experience during suggestion. The subject is told what sensations occur during suggestion and, through a series of 'physical exercises' is assisted in experiencing them. For example, in order to feel the sensation of 'lightness' during the 'arm rising' suggestion, some books are placed on the subjects hands so that, when they are taken away, he feels how the arm 'tends to rise'.
2. Self-paced successive approximations. Starting from the subject's own level, successful experience is attempted through a series of instructions such as telling him to use his imagination. Approximations to the final criterion are reached by instructing subjects to increase their responses in 'just noticeable difference' steps.
3. Use of a double-bind situation. Creation of a situation analogous to the cognitive dissonance paradigm is attempted. In this case, the subject is requested to give a motor signal when he feels the intensity of the appropriate sensation has increased by a 'just noticeable difference' step. The subject is then challenged on the item and his objective perfomance is measured. Thus, the subject finds himself in the position of being compelled to validate his subjective opinion of increased sensation with an increased objective perfomance.
4. Verbal reinforcement contingent on the execution of the appropriate hypnotic behaviour.

The Carleton Skills Training Package (CSTP) (Gorassini and Spanos, 1986) consists of the following elements:

1. Information – the subjects are given positive information on what hypnosis is and the common errors habitually associated with it are eliminated.
2. The importance of using the imagination to experience the effects of hypnosis is emphasized.
3. Specific instructions on how the subject should behave during each suggestion are given and he is told that he should not expect the effect to 'happen', but that it should be he who 'enacts' it. This aspect is also emphasized by presenting a video in which a model, who is said to have previously undergone CSTP, carries out the various suggestions that comprise the programme. While he is carrying them out, he says out loud what he is thinking and feeling at that moment. After each suggestion he is interviewed by the experimenter to whom he describes how he felt, and the main points in the CSTP are stressed.

Procedure

First the suggestibility of the subjects was evaluated using the CURSS. Of the subjects who scored low in susceptibility, 10 were assigned at random to the CSTP,

another 10 to the Sachs and Anderson programme (1967) and the remaining 10 were assigned to the control group and received no training. All procedures were carried out in the Spanish language.[1] After intervention, the CURSS was given again to measure the effect of training.

The training was carried out one week after measuring the susceptibility of the subjects. The low-susceptible subjects were invited to participate in a programme to modify hypnotic susceptibility. All of them accepted. The CSTP was run in one session of 75 minutes while the Sachs and Anderson programme was carried out in four consecutive daily sessions of 20 minutes each. The same suggestions were worked on in both programmes (arm levitation, hand lock, visual hallucination and post-hypnotic amnesia).

Results

Separate 3 x 2 mixed ANOVAs compared baseline and post-test perfomance on each CURSS dimension for subjects in the three groups. The treatment x baseline/post-test interaction effect attained significance for the CURSS:O dimension, $F(2, 27) = 14.68$, $p < 0.001$; the CURSS:S dimension, $F(2,27) = 35.78$, $p < 0.001$; and the CURSS:OI dimension, $F(2,27) = 12.42$, $p < 0.001$. The relevant means are given in Table 1.

Table 1. Baseline and post-test means (and standard deviations) on the three subscales of the CURSS for subjects in the experimental and control conditions

Variable		Baseline		Post-test	
	N	M	SD	M	SD
CURSS: O					
Carleton	10	1.1	0.87	3.2	1.98
Sachs and Anderson	10	1.0	0.81	2.8	1.54
Control group	10	0.8	0.79	0.9	0.88
CURSS: S					
Carleton	10	2.5	1.58	10.5	4.42
Sachs and Anderson	10	2.4	1.35	9.1	3.66
Control group	10	2.1	1.52	2.4	1.43
CURSS: OI					
Carleton	10	0.7	0.82	2.9	2.23
Sachs and Anderson	10	0.5	0.70	2.0	1.49
Control group	10	0.5	0.50	0.5	0.52

CURSS = Carleton University Responsiviness to Suggestion Scale; O = Objective. S = Subjective. OI = Objective and Involuntary.

Each significant interaction was examined further in terms of simple effects. There were no significant baseline differences between subjects in the CSTP, the Sachs and Anderson programme or control group on any CURSS dimension ($F(2,27) = 0.34$, $p = 0.71$ on the CURSS:O; $F(2,27) = 0.19$, $p = 0.82$ on the CURSS:S; $F(2,27) = 0.27$, $p = 0.76$ on the CURSS:OI). Furthermore, in the control condition,

[1]A Spanish translation of the CURSS and the CSTP are available from the first author.

there was no significant change from baseline to post-test on any CURSS dimension ($F(1,9) = 1$, $p = 0.34$ on the CURSS:O; $F(1,9) = 3.86$, $p = 0.081$ on the CURSS:S; $F(1,9) = 0$, $p = 1$ on the CURSS:OI). On the other hand, CSTP subjects exhibited significant increments from baseline to post-test on the CURSS:O dimension, $F(1,9) = 26.64$, $p < 0.001$; the CURSS:S dimension, $F(1,9) = 75.79$, $p < 0.001$; and the CURSS:OI dimension, $F(1,9) = 20.17$, $p < 0.01$. The Sachs and Anderson programme also exhibited significant baseline to post-test increments on the CURSS:O dimension, $F(1,9) = 52.07$, $p < 0.001$; the CURSS:S dimension, $F(1,9) = 80.64$, $p < 0.001$; and the CURSS:OI dimension, $F(1,9) = 31.15$, $p < 0.001$.

The simple main effect of treatment at the post-test was highly significant for the CURSS:O dimension, $F(2, 27) = 6.36$, $p < 0.005$; the CURSS:S dimension, $F(2,27) = 16.02$, $p < 0.001$; and the CURSS:OI dimension, $F(2, 27) = 5.88$, $p < 0.01$. *Post hoc* comparisons (least significant differences, LSD) indicated significant differences for the CSTP and the Sachs and Anderson programme compared with the control group for the CURSS:O dimension (mean difference, MD = 2.3, $p < 0.05$; MD = 1.9, $p < 0.05$ respectively for the two training programmes), for the CURSS:S dimension (MD = 8.1, $p < 0.05$; MD = 6.7, $p < 0.05$) and for the CURSS:OI dimension (MD = 2.4, $p < 0.05$; MD = 1.5, $p < 0.05$). However, no statistically significant differences were shown between the CSTP and the Sachs and Anderson programme for the CURSS:O dimension (MD = 0.04, $p > 0.05$), the CURSS: S dimension (MD = 1.4, $p > 0.05$) or the CURSS:OI dimension (MD = 0.9, $p > 0.05$).

Discussion

In the literature, two effective hypnotic susceptibility modification programmes have been developed, the Sachs and Anderson programme (1967) and the Carleton Skills Training Package (CSTP) (Gorassini and Spanos, 1986). However, the first of these suffered a series of methodological problems which impeded the generalization of its results (Diamond, 1974) and the other, the CSTP, has been criticized as not as effective as stated by its authors (Bates et al., 1988; Bates and Brigham, 1990; Bates, 1992).

The present investigation has confirmed that both programmes are effective in the modification of hypnotic susceptibility (Table 1) and in addition, the effectiveness of the CSTP has been verified with a sample taken from a different population than the one habitually used, in this case, Spanish students. Moreover, CSTP effectiveness was found to be high in objective as well as subjective responses to suggestion. Therefore, the results obtained by the Bates research group, in which they report only a slight modification in susceptibility and then only in 'objective' responses, have not been confirmed here (Bates et al., 1988; Bates and Brigham, 1990; Bates, 1992). The present results are in agreement with the work of other laboratories in which the CSTP has been found to be effective (Fellows and Ragg, 1992; Robertson et al., 1992; Bertrand et al., 1993; West and Fellows, 1996).

Also, the present results have shown the effectiveness of the Sachs and Anderson programme in influencing a defining feature of the response to suggestion, 'involuntariness', which had not been determined until now (see Table 1).

These results show the similar effect of both programmes. Maybe because there are only minor differences between them. For example, they both use instructions that emphasize the effective use of imagination, give appropriate information about the nature of hypnosis and use reinforcement. The main difference between them is that the Sachs and Anderson programme uses scaled practical exercises while the CSTP presents the appropriate cognitive strategies and directly requests

the subjects to carry out the suggestions. In this respect the CSTP seems easier to administer.

The success of both programmes could be mediated by the effect of expectancies (Gearan and Kirsch, 1993). Among other variables could be the effect of compliance. We would argue, however, that these are not the main variables. First, as we have seen before, it is not simply the effect of compliance because we can see changes in the subjective responses, but fundamentally because these two programmes use strategies (such as vivid imagination, different exercises, etc.) that can produce changes in the subjective experiences of the subjects. Thus, the subjects could feel something 'different' that they would understand as being due to the hypnotic influence (Wagstaff, 1981). In this connection, we have to consider the change of attitude of the subjects (Kidder, 1973) as a result of 'persuasive' procedures such as these two programmes. On the other hand, these programmes could change the expectancies of the subjects, as is found if expectancies are assessed after a hypnotic induction (Council et al., 1986); equally though, if we were to ask the subjects how likely they would be to respond to suggestions they could easily modify their responses to those suggestions to make them correspond with their previous answer. Thus expectancies, when they are assessed, rather than being an unmediated determinant of hypnotic responding depend on other elements such as the instructions given in the programme or the subject's interpretation of suggestions (Spanos et al., 1993).

This study thus provides some evidence for the effectiveness of the two training programmes in modifying hypnotic responsiveness scores. However, more studies are needed that replicate these results and which use follow-up testing to measure the longer term effect of these programmes.

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