Can Devices Facilitate a Hypnotic Induction?

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Historically, many devices were believed to have the ability to facilitate a hypnotic induction, but in time such devices proved to have no inherent facilitating properties other than a general placebo effect. To test the efficacy of a device called a “plasma ball” that may facilitate an induction by combining two sensory modalities simultaneously (visual and auditory), 42 college students who scored 6 and below on the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) and completed a scale rating the realness of items, were selected for a second session. Participants were matched on hypnotizability scores and randomly assigned to experimental or standard eye fixation induction control condition. Although hypnotizability scores and realness ratings increased significantly from the initial session, use of the device did not produce higher hypnotizability scores or realness ratings in the experimental compared with the control condition. Results indicate that there is still no evidence that one fixation device works better as a target than any other.

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Introduction

The literature is replete with examples of efforts to facilitate hypnotic inductions and increase hypnotizability. Excluding those studies that have used sophisticated techniques (for example, the Barabasz Restricted Environmental Stimulation Therapy [Barabasz, 1982]), or possibly extensive training procedures like the Carleton Skills Training Program (CSTP) developed by Spanos and his associates (Gorassini & Spanos, 1986; Spanos, DeBrevil, & Gabora, 1991), most have been found to be minimally effective at increasing hypnotizability. In addition, most studies have established that all types of inductions are essentially equivalent (e.g., Hilgard, 1982; Page & Handley, 1991).

Historically, many devices have been thought to possess the ability to facilitate the induction of hypnosis, for example, Mesmer’s magnets and his baquet, or more recently a motorized spinning spiral. However, in time, all those devices that have been tested experimentally have been proven to have no inherent facilitating properties.
other than that of a general placebo effect. In other words, if the subject of the induction believes the device will be effective, it may well prove to be so. After all, it has often been shown that expectancy plays a role in hypnotic responding. Kirsch’s (1994) study demonstrates this well.

Recently, we came upon a device, called either a “plasma ball” or a “laser ball” that seemed to have the potential to facilitate hypnosis by combining two sensory modalities simultaneously: visual and auditory. It consists of a glass globe that produces visible manifestations of electrical currents that are sound activated, and for the purposes of a hypnotic induction, specifically voice activated. Since a typical induction instructs the subject to listen to the words of the operator, it was thought that the electrical (and thus visual) response of the globe to each word uttered by the operator, should add to the emphasis of the induction through increased attention and focusing and that such a device might facilitate hypnotic inductions.

This study had two purposes. One was an attempt to test the relative efficacy of this device as an induction tool. The second was that it also serve as a control for a previously found gender interaction in the procedure selected (Page & Handley, 1991).

Method

Participants

Participants were drawn from a total of 92 college students enrolled in introductory psychology classes who were administered the Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) of Shor and Orne (1962), during their regularly scheduled class period, producing a mean score of 5.54 (SD = 2.84). This mean was well within the established norms for the HGSHS:A. Participants’ ages ranged from 18 to 47 with a mean and median of 21.1 and 19 years, respectively. A total of 42 (22 males, 20 females) Caucasians participated in a second phase of the study. Two experimenters (both male Caucasians) carried out all inductions.

Procedure

Upon completion of the HGSHS:A response booklet, a Realness Rating Scale (RRS), modeled after the Creative Imagination Scale of Barber and Wilson (1978/79), was completed. On this scale, participants rated (on a scale of 0 to 4) how real each hypnotic item/experience felt.

Participants scoring 6 and below on the HGSHS:A (to avoid a possible “ceiling effect”) were selected for a second (individual) hypnotic session. After being matched on the basis of their HGSHS:A score, each pair of participants was randomly assigned to either experimental or control condition. In the second session, the Stanford Hypnotic Susceptibility Scale, Form B (SHSS:B) of Weitzenhoffer and Hilgard (1959) was administered employing either the globe (experimental condition) or a small light (control condition) as the “target” of focus. A trained assistant who was blind to the hypothesis of the study had the deciding vote on any SHSS:B items that were not clearly passed or failed, serving to guard against experimenter bias in the scoring of the SHSS:B. In addition, both experimenters were blind to the first session scores of the participants. The rationale for the use of the HGSHS:A and SHSS:B was three-fold. First, a group scale was needed as a screening device to select low hypnotizable participants from a large sample, hence the HGSHS:A. Secondly, the HGSHS:A is the group version of the

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SHSS:A. Third, the SHSS:B was constructed as a parallel form of the SHSS:A to be administered following a previous hypnotic induction.

At the conclusion of the session, participants were given the RRS appropriate to the SHSS:B to complete, then questioned as to what they believed the study was about. This was an attempt to assess what if any “demand characteristics” (cues that are inherent in the experimental situation, as well as participant’s knowledge and expectations about hypnosis) (Orne, 1962) were being conveyed to participants. Finally, participants were asked not to talk to other students about any specifics of the just concluded session.

Results

Post-experimental questioning revealed that no participant actually guessed the hypothesis of the study. The two most frequently guessed hypotheses were (1) comparing the effectiveness of individual to group sessions ($f = 13$), and (2) how hypnosis affects different people concerning hypnotizability ($f = 11$). Seven subjects had no guesses at all. Pre-test HGSHS:A means for experimental and control groups were both $3.67 (SD = 1.85)$, since the groups were matched on the basis of their HGSHS:A scores.

The results of a split-plot Analysis of Variance (ANOVA) indicated that hypnotizability scale scores and realness ratings increased significantly from the initial group session to the second individual session, $F(1,40) = 125.84, p < .001$ and $F(1,40) = 347.01, p < .001$, respectively. The use of the globe did not produce higher scores on the SHSS:B than did an ordinary light, the means of the experimental and control groups being $M = 6.81$ and $M = 7.29$, respectively; $F(1,40) = .348, p = .56$. Nor did the globe produce higher ratings on the RRS than the light; experimental $M = 26.95$ and control $M = 27.67, F(1,40) = .115, p = .74$.

An ANOVA comparing Condition X Gender X Experimenter X Realness Rating indicated a significant Main Effect for Gender ($F = 4.56, p = .04$). A $t$-test used to compare realness ratings of males ($M = 29.55, SD = 5.23$) and females ($M = 24.85, SD = 7.50$) resulted in a significant difference with males producing higher realness ratings, $t (40) = 2.37, p = .02$. For SHSS:B scores, the comparison of males ($M = 7.77, SD = 2.60$) and females ($M = 6.25, SD = 2.40$) did not reach significance with males again scoring higher, $t (40) = 1.97, p = .056$. A Mann-Whitney U test on these data indicated a significant difference ($U = 298.5, p = .046$).

Discussion

Given the demand characteristics of the situation, it was not surprising to find that hypnotizability scores and realness ratings had increased from the first to the second hypnotic session. In addition to demand characteristics, two factors contributing to an increase in scores would be (a) a practice effect, and (b) regression to the mean. However, the increase would be tempered by the fact that participants tended to score about two points lower on the SHSS:B ($M = 5.48$; Weitzenhoffer & Hilgard, 1959, p. 53) than on the HGSHS:A ($M = 7.39$; Shor & Orne, 1962, p. 12).

Although the difference in gender interaction is somewhat puzzling, it may indicate an interesting social dynamic that was occurring in the hypnotic context. A previous study (Page & Handley, 1991) had discovered a gender interaction in which males scored lower than females in sessions where a female assistant was present. It
was thought that this could possibly be due to some males resisting the experimenter’s suggestions in the belief that they would appear to be weak-willed or less masculine to the female assistant if they responded. As a result, in this study we made every effort to pair same-gender assistants and participants. Although it was thought that this might well have eliminated the deficit in males’ scores, it is not clear why it resulted in significantly higher scores than females obtained.

One limitation of the present study relates to the fact that both measures of hypnotizability employed consist primarily of motor items. It is possible that the plasma ball device may facilitate more dissociative responses which in turn would be better assessed by scales containing more cognitive items than either the HGSHS:A or the SHSS:B. Another limitation of the present study would be the restricted generalizability of results in an experimental context such as this to a clinical context. For example, one should not ignore the fact that in a clinical setting it would be possible to tailor an induction to fit an individual’s preference for the type of induction, etc.

A possible line of inquiry for future research would be to manipulate the expectancies of participants by varying what they are told about a device that was to be used as a fixation target during an induction. For example, participants could be led to believe that the globe device is able to synchronize brain waves to produce a “trance” state. This could well increase their measured hypnotizability.

We conclude that, although the globe device would seem to have a unique advantage in facilitating hypnosis by combining both visual and auditory modalities, the results do not support this hypothesis. This is not to say that other techniques or devices used during an induction cannot serve to aid the induction. For example, the operator holding a hand near the subject’s forehead (producing a sensation of warmth) while suggesting a feeling of warmth may well facilitate the induction. The use of a metronome with a blinking light synchronized with its “tock” sound as was done by Barber (1969) in the standardized induction for the Barber Suggestibility Scale (BSS; 1965) may well facilitate an induction. To date, however, there is still no evidence that one particular fixation device works better as a target than any other target of fixation.

References


