

Strategy Manipulation and the Stroop Effect in Hypnosis

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When asked to name the ink color of an incompatible color word (e.g., the word *red* printed in green ink), people show strong interference from the word. This phenomenon—the Stroop effect—has become a benchmark measure of attention, and is notoriously difficult to modulate. This study examined Stroop interference in subjects who were either high or low in susceptibility to hypnosis. Compared with performance in the waking state, the Stroop effect actually increased under hypnosis, a result particularly evident in the high-susceptible subjects. This contradicts the notion that high-susceptible subjects freely select appropriate strategies when hypnotized, a conclusion strengthened by an analysis of reported strategies in the two states. However, when provided with an attentional focusing instruction under hypnosis, high-susceptible subjects sharply reduced the Stroop effect, whereas low-susceptible subjects decreased it only slightly. One role of hypnosis may be to assist the subject in tuning attention, but only when an appropriate strategy is provided.

The Stroop task (Stroop, 1935) examines the degree to which an incongruent color word interferes with the naming of the ink color in which that word is printed (e.g., saying “blue” to the word *red* in blue ink). Interference in the task is indexed typically by comparing this incongruent condition to an appropriate control, generally the time to name the same ink color when it is on a row of *Xs* (or other nonword). Performance of the task is taken as a measure of attention because the two dimensions of the stimulus are competing for a limited capacity system. Despite instructions to the contrary, the subject finds it very difficult to ignore the word when naming the ink, even if the word is upside-down and backward (Dunbar & MacLeod, 1984). The intrusion of the word produces an alternate possible response and, when that response is incompatible, generates interference in the form of an extended response latency to naming the color.

The Stroop phenomenon is resistant to change in the face of extensive practice, and it appears in a large variety of modifications of the task (for reviews, see Dyer, 1973; Jensen & Rohwer, 1966). Indeed, MacLeod (1988) cites over 500 studies that have investigated variations of the Stroop task. It is the very persistence of the phenomenon that has led some investigators to argue that the interference cannot be avoided because it is a consequence of automatic word reading (e.g., Posner & Snyder, 1975). Others simply maintain that words are read faster than

colors can be named (e.g., Morton & Chambers, 1973), which will invariably produce interference because of people’s extensive experience in reading. Dunbar and MacLeod (1984) review these positions, suggesting that neither is sufficient, and MacLeod and Dunbar (1988) suggest on the basis of training data that the key to interference is the degree of automaticity of processing each dimension.

Attention has long been recognized as playing an important role in hypnosis. Barber (1960) listed selective attention to the hypnotist as one of his necessary conditions for hypnotic behavior. Leuba (1960) and Van Nuys (1973) both saw hypnotizability as at least partially dependent on selective attention or concentration. Empirically, Fehr and Stern (1967) demonstrated that there appeared to be more spare attention to handle a secondary task when subjects were awake than when they were hypnotized. The suggestion is that hypnotized subjects are devoting more (complete) attention to the primary task. Bowers (1976, p. 138) even suggested that highly susceptible subjects process information more efficiently preattentively. Perhaps most provocative of all is the argument offered by Krippner and Bindler (1974) that appropriate instructions under hypnosis can produce both diffuse or selective attentional sets. We agree with Karlin (1979) that attentional processes may well be critical in understanding the function and meaning of hypnotic behavior.

It is intriguing, therefore, to investigate whether Stroop performance—a benchmark measure of attention—can be brought under control in hypnosis more than in the normal waking state. In fact, the suggestion has been made in the literature that Stroop-like interference can be reduced under hypnosis. Blum and Graef (1971) argued that because Stroop interference is a “subtle” effect, it should be difficult to fake. Consequently, they used Stroop interference as one of their measures in a study comparing simulation with actual hypnosis. Hypnotic subjects showed decreasing interference as their arousal

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state (manipulated posthypnotically) moved from stuporous to very alert; simulating subjects showed much less interference overall and, most important, no change with simulated level of alertness. Blum and Wiess (1986) reported data compatible with the hypothesis that Stroop-like interference can occur in the hypnotic context. Working with highly susceptible subjects in the posthypnotic setting, and using instructions to apply negative visual hallucination or agnosia to their task, they found that instructions were successful in attenuating the extent to which the printed words interfered with speed of symbol naming.

With these ideas about attention and hypnosis in mind, the present study brings together hypnosis and the Stroop effect. The study addresses three critical questions in this regard. First, there is the question of whether subjects demonstrate a reduced Stroop effect when hypnotized as compared with when they are in the normal waking state. The second question is whether the pattern of interference in the two states is different for high- and low-susceptibility subjects. If so, the third question is whether instructions about what strategy to adopt are critical in causing any reduction under hypnosis, and whether such instructions differentially affect subjects of differing susceptibility. Our focus is on strategies used to combat the detrimental impact of the to-be-ignored word on the to-be-named color and how they are affected by hypnosis.

The notion of strategic responding in hypnosis has been expounded most comprehensively by Spanos (1986a, 1986b; see also Wagstaff, 1981), the essential argument being that hypnosis itself is a process of strategic enactment. According to this view, the hypnotized subject is motivated spontaneously to bring appropriate strategies to bear on the solution of hypnotic tasks, thereby producing conformance to the hypnotist's demands. "Like other complex social enactments, hypnotic responding is strategic rather than automatic. Hypnotic subjects . . . guide their enactments in terms of their understandings concerning the requirements of the test situation and the social impressions they wish their enactments to convey" (Spanos, 1986a, p. 112). Susceptible subjects, in particular, are considered to be ideal for demonstrating strategic enactment, because of the nature of the hypnotic context, their special abilities, and the tasks they have to perform. With respect to ability, Spanos (1986b) asserted, for instance, that "both high and low suggestibles have the ability to use cognitive strategies. . . . However, low suggestibles come to see themselves as unable or unwilling to respond maximally to the types of suggestion associated with hypnosis" (p. 460).

The main implications of this theory are that hypnotic tasks encourage, explicitly or implicitly, the active use of relevant strategies to help execute them. High-susceptible subjects will perform well on these tasks, but if low-susceptible subjects also are taught suitable strategies, and if their possible negative attitudes and expectancies are dispelled, then they should be able to match the performance of the hypnotic group. At times, hypnotic subjects may look to succeed in deceiving themselves as well as the hypnotist about the nature of their responses. The theory essentially argues, however, that it is the consciously motivated strategic character of their involvement that generates for hypnotic subjects "the interpretations and subjective experiences that enable them to believe in the impressions that they convey to others" (Spanos, 1986a, p. 88).

In our view, conceptualizations of this kind highlight the special value of suggesting particular ways both high- and low-susceptible subjects might reduce the extent of the Stroop effect when color and word conflict. Accordingly, the present study investigated the Stroop effect in both high- and low-susceptible subjects. Subjects served as their own controls and were tested under both waking and hypnotic instruction, prior to the introduction of a strategy designed to help them reduce Stroop interference. Three predictions consistent with the social compliance account of hypnosis, wherein the hypnotic subject is characterized as an active strategic responder, were tested in the study. First, if attentional processes play a special direct role in hypnosis, then it is conceivable that hypnotic instruction alone will appreciably reduce Stroop performance when color and word conflict, especially for high-susceptible subjects. Second, high-susceptible subjects should actively use strategies in hypnosis before being especially instructed to do so. Third, the introduction of strategies designed to reduce Stroop interference should lead to the equation of the performance of both high- and low-susceptible subjects under hypnosis.

In summary, the study tested whether high-susceptible subjects, as compared with low-susceptible subjects, would show less Stroop interference under hypnosis than when awake. It also explored in detail the strategies that subjects use in the Stroop task when hypnotized, and examined the changes in Stroop performance that occur when hypnotized subjects are taught strategies designed to aid them in reducing Stroop interference.

Method

Subjects

Two independent groups of 13 high- (10 female, 3 male) and 13 (all female) low-susceptible subjects were tested three successive times. All subjects were screened originally on the Harvard Group Scale of Hypnotic Susceptibility (HGSHS:A; Shor & Orne, 1962). High-susceptible subjects had previously scored 10 or more on the HGSHS:A, and low-susceptible subjects had scored 2 or less on the same scale. The design thus incorporated subjects with extreme scores in its criterion groups. Both high- and low-susceptible subjects were administered three successive testings on the Stroop task: waking, hypnosis without strategy manipulation, and hypnosis plus strategy manipulation.

Procedure

The entire procedure was under the control of a BBC microcomputer with color monitor. We used the now common format of a single stimulus per trial, rather than the traditional format of multiple stimuli on a single card. Stroop stimuli were administered in blocks, each block consisting of two, three, or four color-naming interference trials. These experimental blocks were interspersed with blocks of word-reading interference trials used as buffers. The present design, involving a change from word-naming to color-naming, was constructed (as a derivation from normal procedures) so as to optimize the types (and frequency) of strategies the subject may use. Pilot work (Donovan, 1986) showed that the traditional Stroop administration does not provide the level of response difficulty experienced by subjects involved in the present task. Overall, the nature of the strategy to be manipulated was an important consideration in the choice of design.

A total of 110 trials (46 word-reading trials and 64 color-naming trials) were given to each subject. The colors (as well as the words) were

BLUE, YELLOW, GREEN, and RED. Control trials of the XXX type were not used; rather, the design focused on differential Stroop performance using incongruent stimuli only, with subjects acting as their own controls from one testing condition to the other. If subjects could learn when a change from word reading to color naming would occur, they could prepare themselves beforehand to use a specific strategy; thus, block size was varied so as to increase the unpredictability of stimulus presentation.

Words were shown in uppercase letters 2 cm tall with a letter thickness of 4 mm. All words were specified such that they occupied the same length of 11.75 cm when centered on the screen. Viewing distance was 130 cm.

The timing sequence of each individual trial, following the previous trial, commenced with a 1-s blank screen followed by the instruction, either "word" or a bar outline, which appeared on the screen for 500 ms. Another 400-ms blank preceded the critical stimulus, which remained on the screen until subjects spoke their response into a voice key. Response time to the nearest millisecond was recorded by the computer. Each instruction, whether "word" or the bar outline, was 4.5 cm long, 1 cm high, and was displayed in white, centered on the computer screen.

Both the word-reading and color-naming trials were administered in blocks for each of the three conditions. A short auditory signal occurred at the onset of each instruction where instructions represented a change from word reading to color naming, or vice versa. The next trial sequence was activated when the experimenter pressed one of two buttons to code responses as either correct or incorrect.

On the Stroop task, instructions were given to each subject in printed form, so as to maintain consistency. Specifically, subjects were told that they were required to name aloud either the color of the ink or the word itself in each slide, and one example was given to familiarize subjects with the use of the bar outline or "word" as stimulus cues, the presentation of stimuli in blocks of varying lengths, and the relevance of the audio signal. Finally, subjects were reminded to give their responses as quickly and as accurately as possible.

The experiment was administered in two sessions. The waking and hypnosis conditions were counterbalanced in the first session; the strategy manipulation in hypnosis condition was given in the second session, one week later. The procedures of induction followed those of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962), and all subjects were tested on the tasks of hand lowering, moving hands apart, mosquito hallucination, dream, age regression, and posthypnotic amnesia. In both the hypnosis and waking sessions, subjects first were given a full practice testing of 110 trials to reduce practice effects and obtain a steady-state response rate.

In the strategy manipulation condition, the suggested strategy was designed specifically to lessen the interference effect attributable to the strong tendency to read words. This was to be done by instructing subjects to narrow and position their field of vision so that perception of the word as a semantic unit was made more difficult. Specifically, instructions for attempting to reduce the Stroop effect were as follows:

When you hear the noise pip and see the instruction "word," just let your vision relax to take in the whole screen and everything shown on it, so that you can read the word easily and without effort. So with "word," I want you to relax your vision. When you hear the noise pip and see the box-shaped instruction, I want you to switch your eyes towards the *right-hand side* of the screen, and focus all your attention and effort down on the bottom portion of the last letter of the word, when it appears, so that you are aware only of the color. *The color is the only thing you can see by concentrating all your vision at that particular spot, and you will find that you will be able to call out the color very, very quickly without any confusion at all.*

Finally, all subjects in each condition received a postexperimental in-

quiry to explore their perceptions of the study. In this inquiry, subjects were asked to describe in detail any specific approaches that they used to solve the task, or to make it easier for themselves. Specifically, subjects were instructed to recall their experience of the task and whether they used "any technique (or strategy) to make the task easier for themselves or to ensure they gave a correct reply." Under these instructions, subjects were generally accurate and did not give any "I don't remember" responses.

Results

The data analysis program first removed all trials on which an incorrect response was made. For this purpose, trials with response latencies of 2000 ms or greater were also counted as errors and their latencies were discarded from further analysis. The program then generated a median reaction time (RT) for each of the three within-subjects treatment conditions (waking, hypnosis, and strategy manipulation in hypnosis). In deriving the dependent measure, the first color-naming interference trial was excluded from computations because of orienting effects accompanying the change from word reading to color naming.

Analysis of Stroop Performance

We will examine the error data before turning to the response times, the data of primary concern. Overall, error rate on color-naming trials was very low, as the individual condition proportions shown in parentheses in Table 1 demonstrate. A 3×2 mixed analysis of variance produced no significant main effect of susceptibility, nor did susceptibility interact with instructional condition (both F 's < 1). However, the main effect of instructional condition was significant, $F(2, 44) = 4.23, p < .05$.¹ For both high- and low-susceptibility subjects, error rate was slightly higher in the hypnosis-alone condition. Because performance was also slowest in this condition (as discussed later), the error results assure us that there was no speed-accuracy trade-off, so we will not consider them further.

A 2×3 mixed analysis of variance was conducted to examine RT differences for high- and low-susceptible subjects under each of the three instructional conditions (waking, hypnosis, and hypnosis plus instruction). Post hoc comparisons were undertaken using the Scheffé method with alpha set at .01. The main effect of susceptibility was not significant, $F(1, 24) = 0.02, p > .20$, with highs only slightly slower than lows overall (716 ms vs. 711 ms, respectively). However, the main effect of instructional condition was highly significant, $F(2, 48) = 19.57, p < .001$, with the hypnosis condition (765 ms) slower overall than either the waking condition (692 ms) or the hypnosis-plus-instruction condition (683 ms). Qualifying these main effects was a significant interaction, $F(2, 48) = 7.01, p < .002$, which is evident in Table 1 and discussed later.

Results in Table 1 show that the Stroop effect for both groups increased in the hypnosis condition as compared with the waking condition, though the increase was significant only for high-susceptible subjects ($p < .01$). In fact, high-susceptible subjects

¹ The error analysis was based on data from 11 high- and 13 low-susceptible subjects. Error data for the remaining 2 high-susceptible subjects were accidentally erased from a data disk.

Table 1
Mean Response Times (RT) and Proportions of Errors (E)
for Subjects in the Three Conditions

Subjects' susceptibility	Condition		
	Waking	Hypnosis	Hypnosis + strategy
High RT E	704 .01	788 .02	655 .01
Low RT E	681 .01	741 .02	710 .01

performing under hypnosis showed the slowest performance of any condition. These results contradict the hypothesis that attentional processing in hypnosis should reduce, rather than increase, the Stroop effect when color and word conflict.

Turning to the results for the positional instruction in hypnosis, data showed that performance improved for high-susceptible subjects, who recorded the fastest times of any condition. High-susceptible subjects were significantly faster in the hypnosis-plus-instruction condition than in the hypnosis-only condition ($p < .01$), although the same contrast was not significant for low-susceptible subjects ($p > .05$). The performance of high-susceptible subjects was not significantly different from low-susceptible subjects in the instruction-and-hypnosis condition ($p > .05$), but a definite trend emerged for a difference in favor of the high-susceptible group. In addition, the performance of high-susceptible subjects in the manipulation condition did not differ appreciably from the performance of the same group in the waking condition ($p > .05$), where initial testing may be taken as a measure of the baseline Stroop effect.

Collectively, these data suggest that high-susceptible subjects were able to fully utilize the processing strategy suggested in hypnosis, but low-susceptible subjects were not. The introduction of hypnosis alone, however, was of no benefit to susceptible subjects; indeed, it increased the Stroop effect. Analysis of the postexperimental inquiry data indicated that all high-susceptible subjects found the suggested strategy easy to use and effective as an aid to processing, whereas low-susceptible subjects typically reported that they found considerable difficulty in using the strategy that was suggested. We turn now to a more detailed examination of data gathered in the postexperimental inquiry.

Identification of Response Strategies

Analysis of the postexperimental inquiry data used a system of content analysis suggested by Blanchard, Scott, Young and Edmundson (1974) and subsequently used by Qualls and Sheehan (1981a, 1981b). Briefly, the method involved recording every response reported by each subject in the postexperimental inquiry on a separate card. A set of categories of responses was then generated and the cards were sorted into these categories. A category was retained if it included at least 5% of the total number of responses. The three categories of strategy so identified were labeled *positional*, *rehearsal*, and *no strategy*.

The reliability of the sorting procedure was determined by having the cards sorted by two other people who were not acquainted with the experimental hypothesis or the general research area, but who were briefed on the general content analysis procedure. The percentage of agreement was calculated, based on correct inclusion in each of the three categories, and was found to be 96%, 98%, and 93%, respectively. We will now consider each category in more detail.

Positional. This category included responses (a) in which subjects maintained their eyes on one small spot at the center of the screen and waited, with each change of stimulus, for a small portion of the colored letter to fill that spot, or (b) in which subjects attended only to a portion of the last colored letter of the word, or concentrated intensively on a spot above where the word would appear. In this way, the word was located at the periphery of vision, and in soft focus, so that the letters of the word merged as a single color.

Rehearsal. This category referred to those responses in which the subject, noting the instruction preceding each target stimulus, silently rehearsed "word" or "color" (depending on the required response), until the target appeared and the correct response had been made. Responses were included in the rehearsal category when subjects replied that they had actively used the auditory signal to make the task easier for themselves. This was done on the basis that the use of the signal involves a memory-maintenance or rehearsal activity, in which the stimuli (whether in the auditory or visual modality) are fully encoded.

No strategy. Finally, responses in which subjects declared that they used no strategy or an ill-defined one were allocated to the no-strategy category.

Spontaneous Use of Strategies

Summary data on spontaneous strategy reports of subjects for the waking and hypnosis (no-strategy manipulation) conditions are listed in Table 2. No between-group differences (high- vs. low-susceptible subjects) were found in naturally occurring patterns of strategy reporting under waking instruction, $\chi^2(1) = 0.22, p > .05$.² However, the pattern of change in strategy reports of subjects across sets of instructions was distinct. When low-susceptible subjects were compared from waking to hypnosis conditions, virtually no performance difference was reported, $\chi^2(1, N = 13) = 0.22, p > .05$. However, when high-susceptible subjects were compared across these two conditions, the difference was appreciable, $\chi^2(1, N = 13) = 6.68, p < .05$. High-susceptible subjects all reported no awareness of any strategy when hypnotized, whereas low-susceptible subjects reported almost the identical pattern in both conditions. Corroborating this, the association between level of susceptibility and change in reported strategy use under hypnotic instruction was highly significant, $\chi^2(1) = 12.58, p < .001$.

These data are not consonant with the hypothesis that high-susceptible subjects are primarily engaged in an active process of strategic enactment in hypnosis. It is especially significant

² If chi-squares with cell frequencies under 5 are questionable (but see Hopkins & Glass, 1978, for an opposite view), there nevertheless seems value in reporting them for completeness.

Table 2
*Summary of Data on Reports of Spontaneous Strategy Usage
 for Subjects in Two Conditions (Session 1)*

Strategy	Subjects' susceptibility	
	Low	High
Waking condition		
Positional	4	4
Rehearsal	5	4
No strategy	4	5
Hypnosis condition		
Positional	4	1
Rehearsal	4	0
No strategy	5	12

that high-susceptible subjects moved from a strong sense of using strategies to being aware of no strategies at all in hypnosis, whereas low-susceptible subjects receiving hypnotic instruction continued with the same strategies they had used outside the hypnotic setting.

Discussion

Our data bear somewhat provocatively on the hypotheses under consideration. First, the results indicate that hypnosis worsens Stroop performance, rather than improves it, when color and word conflict. The data tend to negate any prediction based on the assumption that hypnosis by itself will reduce Stroop interference because of the special operation of processes of attention that are aroused spontaneously. This conclusion is strictly relevant, however, only in a context where specific strategies to cope with Stroop interference were not suggested to hypnotic subjects beforehand.

Results are difficult to reconcile with a strict compliance account of hypnosis. They do not, for example, lend themselves readily to the view that sociocognitive factors operate in hypnosis primarily to shape subjects' reactions in a purely compliant or conforming way. In terms of Spanos's (1986a, 1986b) theory, which distinguishes between conformity and compliance, our results are generally antagonistic to the notion that hypnosis can be explained mainly on the basis of the process of strategic enactment. Spanos's work on amnesia, pain, and other major hypnotic phenomena suggest that strategies are aroused naturally by subjects in hypnosis. The relevant phenomenon of major interest in the present study is the total absence of reported strategies for high-susceptible subjects in hypnosis, coupled with the increased interference that these subjects displayed. If very susceptible subjects are highly active strategic responders (a common notion in both Wagstaff's, 1981, and Spanos's account of hypnotic performance), then strategies should have been used by high-susceptible subjects under hypnotic instruction, even when they were not instructed to use them. High-susceptible subjects, of course, could have enacted strategies under hypnotic instruction that resulted in increased interference on the Stroop task because they thought this was what the hypnotist wanted, but given that high-susceptible subjects were

not aware of using strategies, this hypothesis could only be sustained if subjects were unconsciously meeting implicit demands. The design that would answer this important theoretical question is one that systematically varies the direction of change (increased vs. decreased interference) and manipulates demand independently of the attentional strategy that is suggested.

There are also implications in the data for the relevance of the concept of cognitive "arousal." Pursuing the account of Edmonston (1981) where relaxation is said to be a major component of hypnosis, it is possible to argue that in hypnosis (relative to the waking state) subjects may experience a lowered state of cognitive arousal in which sensory inputs are registered more weakly. Also, there may be group differences in arousal where high-susceptible subjects (for example) are characterized by better skills at relaxation. Following this view, the data in Table 1 possibly illustrate the influence of low arousal in hypnotic subjects in which cognitive arousal is weakest (when reaction time is longest) in the hypnotic condition and for the high-susceptibility group.³ Considering the implications of these data, perhaps the conception of the actively cognizing hypnotic subject promulgated by sociocognitive theorizing should take much more direct account of the context of hypnosis, structured as a relaxing environment (Edmonston, 1981) and in which cognitive arousal is affected (Blum, 1967). When strategies are suggested, cognitive resources can be mobilized; when they are not suggested, however, these resources may not be mobilized at all in a context that substantially reinforces relaxed responding and in which cognitive arousal may be lowered. Furthermore, data are additionally compatible with an attentional account. It is possible, for instance, that hypnotized subjects have their attention "tuned," as it were, but that this is done by the hypnotist/experimenter, not spontaneously by the subject. Indeed, without such tuning, subjects who are hypnotized may give up a strategy that they use while awake.⁴

Finally, it should be noted that a number of rival hypotheses can account for the data. One can argue, for instance, that experimental effects obtained in this study may depend on the degree of similarity that exists between the naturally occurring strategy used by subjects in the waking condition and the particular strategy suggested by the experimenter in the strategy manipulation condition. That is, if subjects are naturally predisposed to use a positional strategy, they may have less difficulty in using a suggested strategy that is also positional. Evidence suggesting that this is not the case, however, can be seen in Table 2, which shows that high- and low-susceptible subjects use all strategies with comparable frequency in the condition that does not involve hypnosis. A further hypothesis that requires attention is that susceptible subjects in the study may have reverted to a mode of responding in the waking state where they were no

³ It is relevant here to draw attention to the evidence that exists on the relation between cognitive arousal with Stroop performance (for study of this issue in the posthypnotic setting, see Blum & Graef, 1971).

⁴ The fact that subjects who are highly susceptible to hypnosis can use instructions to help them with their tasks is not new. The significance of the present findings is that susceptible subjects may not necessarily use their attentional capacity to help them in hypnosis. Some form of "tuning" may thus be required to help susceptible subjects utilize their skills most effectively.

longer aware (as they might have been under hypnosis) of using any strategy. It is possible, for example, that very susceptible subjects may have experienced some difficulty in remembering what transpired previously under hypnosis because of the contextual differences between the hypnosis and the inquiry setting.

Conclusions

Several conclusions can be drawn from this study. First, hypnotic instruction alone does not reduce the Stroop effect when color and word conflict; rather, it increases it. Furthermore, the absence of reported strategies in high susceptibles under hypnotic instruction suggests the need to look critically at the viewpoint that hypnotic events ought to be conceptualized primarily in terms of strategic enactment. It appears also that strategy manipulation is effective for high-susceptible subjects and is more beneficial for high- as compared with low-susceptible subjects.

Evidence on Stroop effects prior to this study shows that it is very difficult to reduce Stroop interference significantly, at least within the standard task (see Dyer, 1973; MacLeod, 1988). In contrast, the present results indicate that the Stroop effect can be modulated, at least among individuals high in susceptibility to hypnosis when relevant strategies to handle the task are suggested to them in hypnosis. That this strategy manipulation, coupled with hypnosis, can affect such a powerful phenomenon attests the fact that people can exert some degree of control over their allocation of attention under hypnosis when they are instructed appropriately. Data also suggest the value of continuing studies on the role of attention in hypnosis and of the extent to which hypnosis can be used to control attention.

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