

## THE OBSERVER REMAINS HIDDEN

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### Abstract

The concept of ‘hidden observer’ is one of the most controversial issues in hypnosis research. Green, Page, Handley and Rasekhy (this issue) approach it by using an ideomotor task which has not previously been used in association with the hidden observer. We regard their experiment as interesting; however, there are conceptual and methodological problems that hamper the impact of their study. In our commentary, we take the opportunity to point out some problems in their paper as well as to stress the importance to integrate concepts used in hypnosis research to mainstream cognitive neuroscience and consciousness research. Copyright © 2005 British Society of Experimental & Clinical Hypnosis. Published by John Wiley & Sons, Ltd.

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**Key words:** hidden observer, ideomotoric response

### Introduction

The ‘hidden observer’ is probably one of the most fascinating but also one of the most controversial phenomena that have been reported in association with hypnosis. One main problem with the concept, already raised by Hilgard (1979), is that only highly hypnotizable subjects report hidden observers (and not even all of them). He also pointed out the strong compliance demands within the adopted hidden observer instructions. Therefore the low hypnotizables simulating hypnosis can very well predict the objective behavior of responsive high hypnotizables but the differences were clear, however, when subjective experiences were reported (Hilgard, Hilgard, Macdonald, Morgan and Johnson, 1978)

Along with further research on the hidden observer phenomenon, more and more questions have surfaced and the exact nature of the phenomenon has become increasingly unclear, so much so that doubts have been cast on the existence of the whole phenomenon. One of its problematic features is the finding that the exact wording of the instructions seems to significantly change the reports given by the hidden observer. For example pain is reported by the hidden observer either as greater or weaker, depending how the instructions are formulated (Spanos, Gwynn and Stam, 1983). This has led to speculations that the phenomenon itself is just a result of experimental demands (e.g. Spanos and Coe, 1992). Since it is only too easy for the subject to pick up the implicit suggestions from the instructions, the only behavioural difference between reals and simulators tends to be that the simulators exaggerate their reports compared with real subjects.

However, maybe the most difficult problem associated with the hidden observer is that the phenomenon is in conflict with most current models of consciousness arising from psychology and cognitive neuroscience. The hypothesis of two simultaneous streams of consciousness seems plausible only in split-brain patients whose cerebral hemispheres have been separated from each other and even in that case only in association with special

experimental conditions (Gazzaniga, 1972; 1995). Any model of consciousness arising in the field of hypnosis research should be consistent with the data from elsewhere in psychology and cognitive neuroscience. Therefore, also, the concept of 'dissociation' (of consciousness) should be used in hypnosis research in the same sense as elsewhere in cognitive neuroscience, and should be integrated with data and theories about other dissociations of consciousness (Kallio and Revonsuo, 2003). The hidden observer phenomenon, if it is genuine, should be describable and explainable in similar terms to other dissociations in neuropsychology and neuropsychiatry. Therefore, one is left wondering what kind of neurocognitive model might even begin to describe the hidden observer phenomenon. Are we supposed to hypothesize that somehow a virtual 'split-brain' (i.e. a cessation of normal communication between the cerebral hemispheres) is created when the hidden observer emerges during hypnosis? That might be implausible; but in any case, some sort of testable neurocognitive models are needed for cognitive neuroscience to take the hidden observer phenomenon seriously.

In their article Green, Page, Handley and Rasekhy (this issue) use the hidden observer paradigm to investigate the amount effort needed to maintain an arm outstretched for a 30-second period. Their experimental design is rather similar to the one used by Spanos et al. (1983) with the difference that instead of evaluating experienced pain the subjects were asked to evaluate experienced effort. Green et al. had also added a simulator group of low susceptible subjects. The main findings from the present study were in line with the previous studies using similar designs (e.g. Spanos et al., 1983).

There are, however, some questions that we would like to raise. First, how do we know that the highs in the experiment belong to the group that manifests a hidden observer in the first place? Second, the way 'ideomotor response' is defined in the present experiment may be somewhat misleading. Third, the instructions given to the subjects in the LA trial seem to have been rather confusing. Fourth, the theoretical idea behind the hidden observer phenomenon is that there are two different parts monitoring the state of affairs from two different perspectives *simultaneously* whereas in this experiment the monitoring happened in a series of different trials. We will discuss each of these problems separately.

### **All high hypnotizable individuals do not manifest the hidden observer phenomenon**

One of the important characteristics of the hidden observer pointed out by Hilgard (e.g. 1977, 1979) was that all high susceptible subjects do not report them. He studied the phenomenon widely e.g. in association with suggested deafness and analgesia. In association with analgesia studies he states the following:

A hidden observer has been reported in half of those subjects studied in pain experiments who were able to reduce their overt pains by at least a third in hypnotic analgesia. No obvious differences in hypnotizability or responsiveness to amnesia suggestions can be detected to separate those who do and those who do not report hidden observers. (Hilgard 1979: 61)

He has furthermore clearly stated (Hilgard 1977) that hidden observers can not be predicted in advance by selecting high subjects on the basis of test scores. For example in a cold pressor study (Hilgard, Morgan and Macdonald 1975) of 20 highly hypnotizable subjects selected without regard to a special capacity to show covert responses, there were only eight out of 20 who gave evidence of hidden observer.

Given this, it is very surprising that Green et al. did not include the criteria of 'showing previous evidence of the hidden observer phenomena' in their list of how subjects were selected to the final sample (however, neither did Spanos et al. 1983). A scenario we cannot rule out is that in the study by Green et al. there was not a single subject who would have shown evidence of the phenomena of 'hidden observer' in the first place, had it been tested independently and prior to the actual experiment.

### **What is an ideomotor response?**

Green et al. (this issue) studied the ideomotor response with the hidden observer paradigm to further test the hypothesis that the wording of instructions changes the reports of the hidden observer. As keeping an arm stretched out for a certain period of time is not what is commonly considered as an 'ideomotor response', let us take a closer look at the concept. Green et al. refer to Kirsch and Lynn (1995) as one of the grounds to choose ideomotor responses as their object of study as this aspect of hypnotic experiences had not been tested in association with a hidden observer. What Kirsch and Lynn (1995: 853) stated in their paper was 'To our knowledge hidden observers have not been asked to report on their experience of ideomotor responses, but neodissociation theory should predict that they would report their movement as volitional'. Here we have a clear testable hypothesis which reflects Hilgard's original conception of the hidden observer well. It supposes that the hidden observer still experiences the world as it is while the hypnotized part which is conscious, experiences the suggested state of affairs. The logic behind the idea by Kirsch and Lynn is that even though the subject does not experience doing anything volitionally in association with the ideomotor movement, there has to be 'a real state of affairs' and thus the hidden observer would report that (from its point of view) the movement was fully volitional.

This leads to the question of what exactly is meant by the notion 'ideomotor response'. Hilgard (1965: 526) referred to William James (1890/1950) who discussed the principle of how thinking about a movement tends to lead to the execution of the very movement in the following way:

We may then lay it down for certain that every representation of a movement awakens in some degree the actual movement which is its object; and awakens it in a maximum degree whenever it is not kept from so doing by an antagonistic representation present simultaneously to the mind.

Without going into more detail in analysing William James's statement, our point is that according to him ideomotor response is based on the delicate balance between two opposing representations of a motor *movement*. When the balance shifts towards executing (rather than inhibiting) the movement, the appropriate motor program will be automatically launched and the movement thus performed.

It follows from this original definition of ideomotor movement that, first, it is indeed a dynamic *movement* (of a limb, for example) that is required, and second, that launching the movement should be experienced by the subject as requiring *no special effort or volition*. The execution of a genuine ideomotor motion is coupled by an experience of involuntariness. A similar physical movement coupled with the experience of voluntariness and conscious effort would not be called ideomotor, by contrast, it would be regarded as an ordinary voluntary movement.

In the experiment by Green et al. the subjects held their hand in a static position throughout the trial. We understand the logic behind the idea that isomotor muscular

tension includes two representations, i.e. keeping the hand up or letting it drop down. However, to use this somewhat controversial static task instead of a clear dynamic ideomotor response (execution of a movement of the limb) raises the question to what extent the present task can be regarded as involving an ideomotor component at all.

It should be noted that Green et al. chose the highs so that they experienced less effort in association with hypnosis compared to the baseline condition. Thus, this aspect of subjective experience was explicitly taken into account in the study. Nevertheless, the isomotor task resembles something like a pain-inducing experiment where one hand is held in ice-cold water rather than a paradigmatic ideomotor task where a movement is executed. Keeping a hand stretched out is easy at first but after a while becomes increasingly intolerable.

### How to interpret ‘being less aware than not aware at all’?

In order to be able to understand the results of Green et al.’s experiment it would be extremely important to know how the subjects interpreted the instructions they were given. The LA group received the following instruction/suggestion:

Your hidden observer is actually less aware of how much effort is needed to complete the arm suspension task. Your hidden observer is less aware than the hypnotized part of your mind about how much effort is really needed to hold your arm up in the air.

We feel that this kind of an instruction may be extremely confusing for the subjects. We have to note that the same problem appeared also in the experiment by Spanos et al. (1983). Let us assume that there is a certain amount of experienced effort ‘X’ typically needed in order to keep ones arm up for 30 seconds in a normal baseline condition. Then in the hypnosis condition the same task becomes ‘easy and effortless’ which means that the ‘hypnotized part’ does not have subjective access to the true amount of ‘X’. Therefore its *awareness* of the ‘true state of affairs’ has to be close to zero. From this it follows that if ‘the hidden part of the mind’ is even less aware of the ‘true state of affairs’ it would simply have to guess what ‘X’ is. According to this logic, the results should vary considerably around the true ‘X’ (i.e. both over and under).

Another way to interpret this instruction/suggestion is the following: the hidden observer is still somewhat aware of the true ‘X’ but at the same time is being also hypnotized. Therefore it would simultaneously feel no effort but somehow have some indirect clues revealing that there still is some effort which is truly needed. The result would then be that it reports the amount of ‘X’ as being less than it truly is. This seems to be how the subjects have interpreted the instruction.

As the authors state in their discussion it would have been very interesting to know how the subjects interpreted the instructions. Now we are left in the dark as to how the lows interpreted what feelings they should report as well as how the highs report what they truly felt.

### The hidden observer

In the experiment by Spanos et al. (1983) the subjects kept their hand in cold water and reports of the pain were given both by the conscious part as well as the hidden part. The conscious part reported the pain verbally by calling out numbers at 15 seconds intervals. The hidden part reported the amount of pain via a rather complicated method by indicating the amount of pain by tapping two buttons where the right key corresponded

the numbers 1–9 and the left key was 10. One important difference compared to Green et al. is that Spanos et al. (1983) asked the subjects to rate the experienced pain *simultaneously* by the conscious part and the hidden part. However, all except one subject could actually perform the required task simultaneously. Spanos et al. (1983) also asked the subjects about their subjective experiences and some of them indicated that the key tapping occurred automatically. Therefore, unlike the present study, Spanos's experimental design faithfully reflects Hilgard's idea of having two experiences at the same time: one of the streams of experience is conscious (accessed by the subject) and the other remains behind an amnesic barrier.

The present experiment designed by Green et al. suffers from a methodological problem. The amount of effort experienced by the subject and the hidden observer was reported serially rather than simultaneously. Thus, it provides no direct evidence that there were two truly simultaneous but dissociated streams of consciousness in the first place.

## Conclusion

The approach by Green et al. is interesting and important, as experimental studies of the hidden observer phenomenon would be necessary in order to truly understand this controversial but fascinating phenomenon. However, the results of the present study are rather difficult to interpret due to the conceptual and methodological issues that leave too many open questions.

As Green et al. state in their paper, a major limitation of their experiment was that the subjects were not asked to report their subjective experiences. Thus, we do not really know what was going on in their conscious minds during the experiment. If subjective reports had been collected, the interpretation of the results might have been much easier and the impact of the paper higher.

We therefore propose that in hypnosis research in general and in 'hidden observer' studies in particular, it would be crucially important to collect not only purely behavioural (third person) data, but also to collect detailed first person reports describing how the instructions and suggestions are interpreted and experienced by the subjects (Kallio and Revonsuo 2003). This would not only improve our understanding of hypnosis as a subjective phenomenon of consciousness, it would also connect hypnosis research more tightly with the current trends in the cognitive neuroscience of consciousness, where the goal is precisely to integrate third person data (about brain and behaviour) with first person data (about subjective conscious experiences) in order to understand consciousness in general (Chalmers 2004).

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