

Definitions of Hypnosis and Hypnotizability and their Relation to Suggestion

and Suggestibility:

A Consensus Statement

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In 1973, Ernest R. Hilgard wrote his influential article entitled “The Domain of Hypnosis,” in which he also referred to the broader “domain of suggestion.” Hypnosis is part of that broader domain, but it is [not](#) identical to it. The domain of suggestion also includes, for example, responses to placebo treatments, the effects of misleading information on memory, and sensory suggestibility. Although each of these constituent parts of the domain of suggestion has been studied intensively, with the exception of the pioneering work of Vladimir Gheorghiu (e.g., Gheorghiu et al., 1989), the importance of treating suggestion as an important domain in its own right has been largely ignored. The importance of these four domains (hypnosis, placebo, memory, and sensory suggestibility), combined with the fact that suggestion is central to each of them, makes it clear that suggestion itself should be studied as a domain composed of different sub-domains.

This contribution to the Festschrift honoring the life and work of Vladimir Gheorghiu is the result of an Advanced Workshop in Experimental Hypnosis held as part of the joint annual conference of the British Society of Medical & Dental Hypnosis (BSMDH) and the British Society of Experimental & Clinical Hypnosis (BSECH) in May, 2006. One of the topics addressed in this workshop was the dissociation between the operational definitions of hypnosis and hypnotizability in the experimental literature. The problem is not

a new one. It was first discussed by Andre Weitzenhoffer in 1980 and later resurrected by Kirsch (1997), but has otherwise been largely ignored. Despite the disparity of theoretical views of hypnosis represented by participants in the workshop—which ranged from non-state positions to strong versions of the altered state hypothesis—a consensus was reached on the nature of the problem and on the possible solutions. Differences remained on which of the solutions was preferable. The purpose of this consensus statement is to raise the issue for discussion within the international community of researchers into hypnosis and other suggestive phenomena, with a view to reaching eventual agreement on a solution.

The Problem

Since the beginning of systematic research in the field (Hull, 1933), hypnosis has been defined operationally by the administration of a hypnotic induction.² In contrast, hypnotizability has been operationally defined as responsiveness to suggestion following a hypnotic induction.³ The problem is that the induction of hypnosis has little impact on responsiveness to suggestion. Therefore, 'hypnotizability' scales mostly measure the effects of suggestion, not the effects of hypnosis (Weitzenhoffer, 1980).

The data on which this conclusion is based derive from a series studies using the most enduring research design in experimental hypnosis (Barber & Glass, 1962; Braffman & Kirsch, 1999, 2001; Caster & Baker, 1932; Glass & Barber, 1961; Hilgard & Tart, 1966; Hull & Huse, 1930; Jenness, 1933; Weitzenhoffer & Sjoberg, 1961; Williams, 1930). The underlying design of these studies is the administration of imaginative suggestions with and without

the prior induction of hypnosis. This design, which has been termed “the generally accepted approach to hypnotic research” (Orne, 1979, p. 523), is based on the contention that “no behavior following hypnotic induction can be attributed to hypnosis unless the investigator first knows that the response in question is not likely to occur outside of hypnosis in the normal waking state.” (Sheehan & Perry, 1976, 55).

The results of studies using this design indicate three things: 1) every suggestion that can be experienced following an induction can also be experienced without it, 2) hypnotic inductions increase suggestibility only slightly, and 3) hypnotic and waking suggestibility are very highly correlated, almost as highly correlated as the test-retest correlations of the scales with which they are measured. The means by which hypnotic inductions produce these relatively small changes in suggestibility are not clear. The change in suggestibility may be mediated by a hypnotic state and/or they may be a function of various social and cognitive variables (e.g., expectancy, motivation, etc.) that are activated by the induction procedure.

One possibility that has been raised about the data showing relatively small differences in responding as a function of inducing hypnosis is the possibility that participants in the waking condition might spontaneously slip into trance (Hull, 1933). Hilgard and Tart (1966) controlled for this possibility by assessing trance depth before and after each suggestion. In Experiment I, participants in the waking condition were brought back to their “normal state” if they reported being hypnotized or relaxed. In Experiment II, state reports were obtained without any effort to keep participants from spontaneously slipping into hypnosis. In both experiments, participants were able to respond

to suggestion without the induction of hypnosis. In addition, the results of the second experiment revealed that less than 1% of participants given imagination instructions reported feeling hypnotized, compared to 32% of participants given a hypnotic induction.

If the induction of hypnosis has relatively little impact on individual differences in responsiveness to suggestion, as the data reviewed above strongly indicate, then conventional definitions of hypnosis and hypnotizability are inconsistent. If hypnosis is defined by the inclusion of an induction, then 'hypnotizability' scales do not measure its effects (Weitzenhoffer, 1980). Instead, they measure imaginative suggestibility following a hypnotic induction.

The seriousness of this disjunction can be appreciated via analogies to other areas of research. Establishing rapport prior to administering an IQ test has the effect of increasing IQ scores to a slight but significant degree, which is not unlike the enhancement of suggestibility produced by the induction of hypnosis. Nevertheless, interpreting IQ scores as a measure of rapport would be a fundamental mistake.

Here is another analogy that demonstrates the problem with assessing the effects of an intervention using only post-intervention data (as is done in standard measures of hypnosis). Suppose one wished to measure placebo responsiveness among depressed patients. The patients are given placebo treatment for a suitable period of time, following which, the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is administered. Scores on the BDI are then interpreted as placebo responsiveness. In fact, the effect of placebo on depression appears to be

substantially greater than the effect of hypnosis on suggestibility (Kirsch, Moore, Scoboria, & Nicholls, 2002). Nevertheless, the BDI would not be considered a measure of placebo responsiveness. To use it as such, one would have to measure depression before, as well as after, the administration of a placebo. Placebo responsiveness would be the difference in BDI scores before and after the administration of the placebo.

Solutions

Hypnotizability refers to individual differences in the effects of hypnosis. Hence, the definition of hypnotizability depends on the definition of hypnosis. Given the conventional operational definition of hypnosis as the administration of a hypnotic induction, hypnotizability would be defined operationally as some change (e.g., an increase in suggestibility) brought about by that induction. Alternatively, we could adopt a broader definition of hypnosis, which would allow us to retain the current operational definition of hypnotizability as that which is measured by conventionally used scales (e.g., Spanos, Radtke, Hodgins, Bertrand, & Stam, 1981; Weitzenhoffer & Hilgard, 1962).

Contemporary definitions of hypnosis (e.g., Green, Barabasz, Barrett, & Montgomery, 2003) can be seen as elaborations of that proposed by Kihlstrom (1985 p. 385):

Hypnosis may be defined as a social interaction in which one person, designated the subject, responds to suggestions offered by another person, designated the hypnotist, for experiences involving alterations in perception, memory, and voluntary action.

There is a degree of ambiguity in this definition. Is an induction required for a procedure to be considered hypnotic? Does hypnosis include responding to imaginative suggestions without a hypnotic induction suggestion (i.e., waking suggestions)?

The traditional narrow operational definition of hypnosis implies that the answer is yes to the first question and no to the second. However, hypnosis can also be defined more broadly as the administration (or self-administration) and experience of imaginative suggestions, regardless of whether a trance induction has been administered (Kirsch, 1997). Thus defined, it would include 'waking hypnosis' (i.e., responding to suggestions without a trance induction; Wells, 1924). Hypnosis would be distinguished from other suggestive phenomena (e.g., sensory suggestions, the placebo effect and the misinformation effect) by the nature of the suggestions. Hypnotic suggestions are those that load on the primary suggestibility factor in factor analyses and have variously been termed prestige suggestions, direct suggestions, and imaginative suggestions (Eysenck & Furneaux, 1945; Hull, 1933; Kirsch & Braffman, 2001). They are suggestions for a change in subjective experience independent of any changes in stimulus conditions (i.e., in the external world).⁴

The narrow definition of hypnosis is consistent with the operational definition of hypnosis in the research literature since Hull (1933), but is inconsistent with current operational definitions of hypnotizability. To maintain logical consistency, we would need to rename and reconceptualize existing hypnosis scales; these would be regarded as measures of suggestibility, rather than of hypnotizability. Hypnotizability would be the change in

suggestibility scores produced by inducing hypnosis (or some other measurable change that results from the induction). Because change scores are unreliable and are affected by regression artefacts (Campbell & Kenny, 1999), measuring hypnotizability as a change in responsiveness poses some challenges, but these are not insurmountable. They could be handled as they are in other areas (e.g., treatment outcome research) in which the focus of study is a change in scores. For example, one could use baseline scores as a covariate in statistical analyses (as in Braffman & Kirsch, 1999).

The broad definition of hypnosis retains traditional use of 'hypnotizability' to denote what is measured by hypnosis scales, but it changes the way hypnosis has been operationalized in the research literature. We would no longer be able to say that hypnosis enhances suggestibility, because responding to suggestion (subjectively as well as behaviorally) would be the definition of hypnosis.

Deciding Between Alternative Definitions

Both the traditional narrow definition and the proposed broader definition of hypnosis are theoretically neutral, at least with respect to the altered state issue. Specifically, both are consistent with the following conceptions of hypnosis, which exemplify the various positions that have been taken in the altered state debate:

- There is a hypnotic state of consciousness that enables direct suggestions to produce non-veridical experiences (James, 1890; Naish, 2006; Woody & Bowers, 1994).

- There is a hypnotic state that is necessary for the experience of difficult suggestions (e.g., hallucinations), but not easier suggestions (Kallio & Revonsuo, 2003).
- There is a hypnotic state that increases responsiveness to suggestion, although it is not necessary for the experience of any particular suggestion (Hilgard, 1965; Hull, 1933).
- “Hypnotic state” is a shorthand term that simply denotes the experiencing of non-veridical imaginative suggestions in a hypnotic context (Hilgard, 1975; Kihlstrom, 1985). As such, it is definitional and not subject to empirical test.
- Following hypnotic inductions, some people have the experience that their state of consciousness has been altered, and this can occur even if the induction does not contain specific suggestions about the nature of the hypnotic state (Cardeña, 2005). However, this so-called trance state is an epiphenomenon. It is merely a response to a particular suggestion (i.e., the suggestion to enter hypnosis) and has no direct causal impact on the experience of other suggestions (Barber, 1969; Sarbin & Coe, 1972; Spanos, 1986; Wagstaff, 1998).

Although the two definitions are theoretically neutral with respect to the altered state issue, there are arguments that can be made for each of them. In the remainder of this section, we consider some of these arguments.

Arguments for a Narrow Definition of Hypnosis

Although a narrow definition of hypnosis requires reinterpreting hypnotizability scales (because they do not measure the effect of hypnosis *per se*), the logical rigor that derives from it may be worth that sacrifice.

Hypnotic suggestion might involve mechanisms that are different from waking suggestion. Derbyshire and colleagues (Derbyshire, Whalley, Stenger, & Oakley, 2006), for example, reported that the neurological correlates of suggestion-induced altered pain reports differed as a function of whether hypnosis had been induced, despite similarity in self-reported changes in pain. By confounding hypnosis and suggestion, adoption of the broad definition may inhibit further comparisons of responses to the exact same suggestion administered in and out of hypnosis.

Another possibility is that there is a subset of hypnotic phenomena that are produced by different mechanisms than those involved in the production of most of the phenomena observed in hypnotic settings. For example, a change in the background state of consciousness may be a requirement only for the most difficult and rare responses to hypnosis (Kallio & Revonsuo, 2003). A narrow definition might facilitate empirical validation of this hypothesis.

Research based on the narrow definition also has the potential of revealing a background state of consciousness that can be assessed and operationalized independently of the administration of a suggestion to become hypnotized. The presence of this measurable state of consciousness would then become the definition of hypnosis. Hypnotizability would then refer to the differing propensity of individuals to enter the trance state. In that case, we would also be able to redefine the term 'hypnotic induction'. Rather than being a suggestion to enter an altered state of consciousness, it would be any procedure that in fact produces that state.

Arguments for a Broad Definition of Hypnosis

Most published data suggest that the perceptual and cognitive distortions produced by imaginative suggestion are part of the same natural kind, regardless of whether they were preceded by an induction procedure. For example, Raz and colleagues (Raz, Kirsch, Pollard, & Nitkin-Kaner, 2006) reported similar modulation of Stroop inhibition by suggestion regardless of whether hypnosis had been induced. If hypnotic and nonhypnotic responding belong to the same natural kind, then they should share a common category name. In this sense, the broad definition is similar to Hilgard's (1973) notion of hypnosis as a domain of characteristic phenomena.

The hypothesis that a hypnotic state is needed only for the most difficult and rare responses (Kallio & Revonsuo, 2003) also provides a reason for adopting a broad definition. If this hypothesis is correct, the narrow definition would render hypnosis a phenomenon of very limited clinical utility, as most clients or patients would be incapable of experiencing it. Furthermore, if social-cognitive theorists (e.g., Barber, 1969) are correct, a narrow definition of hypnosis would lead to the conclusion that it does not exist at all. The broad definition avoids these problems by including compelling subjective responses to imaginative suggestion, including the suggestion to experience a hypnotic state, as part of the domain of hypnosis

Finally, the broad definition retains the notion of hypnotizability as that which is measured by current scales assessing hypnotic suggestibility. Assessing hypnotizability as a change in suggestibility, as required by the narrow definition, is problematic. Because response to suggestion without the induction of hypnosis is so common, ceiling effects would preclude people who are highly suggestible without hypnosis from showing large effects due to

hypnosis (Hilgard, 1981). Also, some people score lower in the hypnosis condition than in the waking condition. Would these be considered negatively hypnotizable?

Toward Consensus

We could ignore the problem of dissociated definitions, as we have for decades. In the long run, however, the consequences for the field of hypnosis could be severe. If ostriches really did bury [their](#) heads in the sand, they might long ago have joined the dodo bird. The alternative is to make a choice between the broad and narrow definitions of hypnosis and make our definition of hypnotizability consistent with that choice.

Despite our agreement on the nature of the problem (i.e., that current operational definitions of 'hypnosis' and 'hypnotizability' are inconsistent) and the parameters of the solution (that one of these must be changed), we are divided in our preferences about which change to make. Specifically, some of us have a strong preference for the narrow definition of hypnosis (Mazzoni, Oakley), some prefer the narrow definition less strongly (Derbyshire, Kallio, Kirsch, Whalley), some lean toward the broad definition (Cardeña, Heap, Naish), and some have a strong preference for the broad definition (Dienes,). In addition, two of us define hypnosis as a context that can be established either by using a hypnotic induction or by directly or indirectly indicating that the procedure is 'hypnosis' (Potter, Walters).

In as much as definitions are established by consensus, further discussion within the hypnosis community is needed. We could adopt a narrow definition or a broad definition of hypnosis, but in either case, our

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definition of hypnotizability needs to be logically consistent with our definition of hypnosis.

Footnotes

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²The components of a hypnotic induction vary widely and may include instructions for relaxation, alertness, absorption, focussed attention, etc. The common ingredient to all of these procedures is an explicit or implicit suggestion to enter a hypnotic state. From a traditional trance theory perspective, hypnosis would refer to an altered state of consciousness produced by this induction. However, this definition rules out non-state conceptions of hypnosis. More important, markers by which the presence of this hypothesized state can be reliably assessed have not yet been found, and in their absence, hypnosis has been operationalized by the inclusion of the induction suggestion.

³Both the induction procedure and subsequently administered suggestions can be self-administered, in which case the process is termed “self-hypnosis.”

⁴Note that hypnotic suggestions need not require involuntariness. Indeed they often include instructions to intentionally imagine the suggested change in experience (Kosslyn, Thompson, Costantini-Ferrando, Alpert, & Spiegel, 2000; Weitzenhoffer & Hilgard, 1962).

References

- Barber, T. X. (1969). *Hypnosis: A scientific approach*. New York: Van Nostrand Reinhold.
- Barber, T. X., & Glass, L. B. (1962). Significant factors in hypnotic behavior. *Journal of Abnormal and Social Psychology, 64*, 222-228.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 561-571.
- Braffman, W., & Kirsch, I. (1999). Imaginative suggestibility and hypnotizability: An empirical analysis. *Journal of Personality and Social Psychology, 77*(3), 578-587.
- Braffman, W., & Kirsch, I. (2001). Reaction time as a predictor of imaginative suggestibility and hypnotizability. *Contemporary Hypnosis, 18*(3), 107-119.
- Campbell, D. T., & Kenny, D. A. (1999). *Primer on regression artifacts*. New York: Guilford Press.
- Cardeña, E. (2005). The phenomenology of deep hypnosis: Quiescent and physically active. *International Journal of Clinical & Experimental Hypnosis, 53*, 37-59.
- Caster, J. E., & Baker, C. S., Jr. (1932). Comparative suggestibility in the trance and waking states--A further study. *Journal of General Psychology, 7*, 287-301.
- Derbyshire, S. W. G., Whalley, M. G., Stenger, V. A., & Oakley, D. A. (2006). *Revealing the neural signature of fibromyalgia pain using functional magnetic resonance imaging*. Paper presented at the Meeting of the British Society of Medical and Dental Hypnosis and the British Society of Experimental and Clinical Hypnosis.
- Eysenck, H. J., & Furneaux, W. D. (1945). Primary and secondary suggestibility: An experimental and statistical study. *Journal of Experimental Psychology, 48*, 485-503.
- Gheorghiu, V. A., Netter, P., Eysenck, H. J., Rosenthal, R., Fiedler, K., Edmonston, W. E., et al. (Eds.). (1989). *Suggestion and Suggestibility: Theory and Research: Proceedings of the First International Symposium on Suggestion and Suggestibility held at the University of Giessen, 1987*. Berlin: Springer-Verlag.
- Glass, L. B., & Barber, T. X. (1961). A note on hypnotic behavior, the definition of the situation, and the placebo effect. *Journal of Nervous and Mental Disease, 132*, 539-541.
- Green, J. P., Barabasz, A., Barrett, D., & Montgomery, G. H. (2003). Forging ahead: The 2003 APA division 30 definition of hypnosis. *International Journal of Clinical and Experimental Hypnosis, 53*, 259-264.
- Hilgard, E. R. (1965). *Hypnotic susceptibility*. New York: Harcourt, Brace & World.
- Hilgard, E. R. (1973). The domain of hypnosis: With some comments on alternate paradigms. *American Psychologist, 28*, 972-982.
- Hilgard, E. R. (1975). Hypnosis. *Annual Review of Psychology, 26*, 19-44.
- Hilgard, E. R. (1981). Hypnotic susceptibility scales under attack: An examination of Weitzenhoffer's criticisms. *International Journal of Clinical and Experimental Hypnosis, 22*, 258-259.

- Hilgard, E. R., & Tart, C. T. (1966). Responsiveness to suggestions following waking and imagination instructions and following induction of hypnosis. *Journal of Abnormal Psychology, 71*, 196-208.
- Hull, C. L. (1933). *Hypnosis and suggestibility: An experimental approach*. New York: Appleton-Century Crofts.
- Hull, C. L., & Huse, B. (1930). Comparative suggestibility in the trance and waking states. *American Journal of Psychology, 52*, 279-286.
- James, W. (1890). *Principles of psychology*. New York: Holt.
- Jenness, A. F. (1933). Facilitation of response to suggestion by response to suggestion of a different type. *Journal of Experimental Psychology, 16*, 55-82.
- Kallio, S., & Revonsuo, A. (2003). Hypnotic phenomena and altered states of consciousness: A multilevel framework of description and explanation. *Contemporary Hypnosis, 20*, 111-164.
- Kihlstrom, J. F. (1985). Hypnosis. *Annual Review of Psychology, 36*, 385-418.
- Kirsch, I. (1997). Suggestibility or hypnosis: What do our scales really measure? *International Journal of Clinical and Experimental Hypnosis, 45*(3), 212-225.
- Kirsch, I., & Braffman, W. (2001). Imaginative suggestibility and hypnotizability. *Current Directions in Psychological Science, 10*(2), 57-61.
- Kirsch, I., Moore, T. J., Scoboria, A., & Nicholls, S. S. (2002). The emperor's new drugs: An analysis of antidepressant medication data submitted to the U.S. Food and Drug Administration. *Prevention and Treatment, 5*(23). Retrieved from <http://www.journals.apa.org/prevention/volume5/pre0050023a.html>
- Kosslyn, S. M., Thompson, W. L., Costantini-Ferrando, M. F., Alpert, N. M., & Spiegel, D. (2000). Hypnotic visual illusion alters color processing in the brain. *American Journal of Psychiatry, 157*, 1279-1284.
- Naish, P. L. N. (2006). Time distortion, and the nature of hypnosis and consciousness. In G. Jamieson (Ed.), *Hypnosis and conscious states: The cognitive neuroscience perspective* (pp. 271-292). Oxford: Oxford University Press.
- Orne, M. T. (1979). On the simulating subject as a quasi-control group in hypnosis research: What, why, and how. In E. Fromm & R. E. Shor (Eds.), *Hypnosis: Developments in research and new perspectives* (2nd ed., pp. 519-601). New York: Aldine.
- Raz, A., Kirsch, I., Pollard, J., & Nitkin-Kaner, Y. (2006). Suggestion reduces the Stroop effect. *Psychological Science, 17*, 91-95.
- Sarbin, T. R., & Coe, W. C. (1972). *Hypnosis: A social psychological analysis of influence communication*. New York: Holt, Rinehart & Winston.
- Sheehan, P. W., & Perry, C. (1976). *Methodologies of hypnosis: A critical appraisal of contemporary paradigms of hypnosis*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Spanos, N. P. (1986). Hypnotic behavior: A social-psychological interpretation of amnesia, analgesia, and "trance logic." *The Behavioral and Brain Sciences, 9*, 449-502.
- Spanos, N. P., Radtke, H. L., Hodgins, D. C., Bertrand, L. D., & Stam, H. J. (1981). *The Carleton University Responsiveness to Suggestion Scale*. Unpublished manuscript, Carleton University, Ottawa, Canada.

- Wagstaff, G. F. (1998). The semantics and physiology of hypnosis as an altered state: Towards a definition of hypnosis. *Contemporary Hypnosis, 15*, 149–165.
- Weitzenhoffer, A. M. (1980). Hypnotic susceptibility revisited. *American Journal of Clinical Hypnosis, 22*, 130-146.
- Weitzenhoffer, A. M., & Hilgard, E. R. (1962). *Stanford Hypnotic Susceptibility Scale: Form C*. Palo Alto, CA: Consulting Psychologists Press.
- Weitzenhoffer, A. M., & Sjoberg, B. M. (1961). Suggestibility with and without "induction of hypnosis". *Journal of Nervous and Mental Disease, 132*, 204-220.
- Wells, W. R. (1924). Experiments in waking hypnosis for instructional purposes. *Journal of Abnormal and Social Psychology, 18*, 389-404.
- Williams, G. W. (1930). Suggestibility in the normal and hypnotic states. *Archives of Psychology, 122*.
- Woody, E. Z., & Bowers, K. S. (1994). A frontal assault on dissociated control. In S. J. Lynn & J. W. Rhue (Eds.), *Dissociation: Clinical, theoretical and research perspectives* (pp. 52-79). New York: Guilford Press.