

HYPNOSIS IN PSYCHOTHERAPY: EFFICACY AND MECHANISMS

Irving Kirsch

University of Connecticut, Storrs

ABSTRACT

Meta-analyses have established that different psychotherapies have different outcomes. Cognitive-behavioural therapies are significantly more effective than psychodynamic therapies, and their superiority increases when long-term follow-up is assessed. Hypnosis enhances the efficacy of both psychodynamic and cognitive-behavioural psychotherapy, and this effect is especially strong in long-term outcome of treatment for obesity. The paucity of procedural differences between hypnotic and non-hypnotic treatments in many of the studies demonstrating a substantial advantage for hypnosis suggests that the effect depends on the use of the word 'hypnosis'. Hypnosis can be regarded as an empirically-validated, non-deceptive placebo, the effects of which are mediated by response expectancies.

INTRODUCTION

First [the Dodo] marked out a race-course, in a sort of circle, ('the exact shape doesn't matter,' it said) and then all the party were placed along the course, here and there. There was no 'One, two, three, and away!' but they began running when they liked and left off when they liked, so that it was not easy to know when the race was over. However, when they had been running half-an-hour or so, and were quite dry again, the Dodo suddenly called out, 'The race is over!' and they all crowded round it, panting, and asking, 'But who has won?'

This question the Dodo could not answer without a great deal of thought, and it stood for a long time with one finger pressed upon its forehead, (the position in which you usually see Shakespeare, in the pictures of him), while the rest waited in silence. At last the Dodo said '*Everybody* has won, and *all* must have prizes.'

(From Lewis Carroll, *Alice's Adventures in Wonderland*.)

The Dodo's verdict is commonly applied to the contest between various approaches to psychotherapy. Reviewers of the literature often conclude that psychotherapy is generally effective and that all methods of psychotherapy are equally effective. But the results of research, especially as revealed in meta-analyses, tell a different story (summarized in Kirsch, 1990; Kirsch, Montgomery & Sapirstein, 1995). Meta-analyses consistently indicate that cognitive-behavioural therapies are more effective than psychodynamic therapies and that adding hypnosis to either further increases their effectiveness to a substantial degree. The effect sizes of these treatments (and of placebo treatment), averaged across meta-analyses, are presented in Table 1.

The most recent of these meta-analyses (Kirsch *et al.*, 1995) was an examination of 18 studies in which a cognitive-behavioural therapy was compared to the same therapy augmented by the addition of hypnosis. Adding hypnosis to these treatments produced an effect size of 1.37 standard deviations, indicating that the average client treated by hypnosis showed greater improvement than 90% of clients receiving the same cognitive-behavioural treatment without hypnosis. A particularly large effect

was found for treatments of obesity, for which an effect size of 1.96 standard deviations was found. These large effects for hypnosis in the treatment of obesity were only found at long-term follow-up. As the obesity studies were the only ones in which long-term (up to 2 years) follow-up data were collected, it is impossible to know whether the effect indicates that hypnosis is particularly useful in treating obesity or that the advantages of adding hypnosis to cognitive-behavioural treatment increases over time, regardless of presenting problem.

Table 1. Comparative efficacy of various psychotherapies.

Type of treatment	Effect size (<i>d</i>)	%
Placebo	0.63	70
Psychodynamic	0.74	75
Cognitive-Behavioural	1.18	85
Psychodynamic + Hypnosis	1.82	95
Cognitive-Behavioural + Hypnosis	2.55	99.5

% indicates the percentage of untreated people whose degree of improvement is surpassed by the typical client who has received the indicated treatment.

Another interesting aspect of our meta-analysis is that in about half of the studies, relaxation training was included in the non-hypnotic treatment. In these studies, the only salient difference between hypnotic and non-hypnotic treatment was the use of the word 'hypnosis'. Surprisingly, the advantage of using hypnosis was as great in these studies ($d = 1.51$) as it was in the studies in which relaxation training was not part of the non-hypnotic treatment ($d = 1.15$). Similarly, the advantage of using hypnosis held regardless of whether suggestions given in the hypnotic treatment were also included in the non-hypnotic treatment. Two conclusions can be drawn from this aspect of the data. First, the advantage of using hypnosis in therapy is not due to the relaxing aspects of the induction procedure. Second, most of the advantage of hypnosis is due to the use of the 'hypnosis' label and is independent of any specific procedural components.

These data should not come as a surprise. Think of the various procedures that have been used as inductions. Mesmer used magnets; Charcot used oriental gongs, flashing lights, and pressure applied to the patient's head; Braid used eye fixation; and Spiegel uses an eye-roll. Placebo pills have been used to induce hypnosis and found to produce the same effects as more traditional inductions (Baker & Kirsch, 1993; Glass & Barber, 1961). Even relaxation turns out to be unnecessary, as shown by the effects of Bányai and Hilgard's (1976) active-alert induction. As Sheehan and Perry (1976, p. 72) commented, 'It is not the procedural conditions per se that are important but whether or not the subject perceives them as part of a context that is "appropriate" for displaying hypnotic behaviour'.

When the effects of a pill do not depend on the specific ingredients that it contains, we call it a placebo. What, then, is the mechanism underlying the effects of hypnotic inductions, if those effects do not depend on the inclusion of any specific procedural components? Presumably, it is the same mechanism that gives rise to placebo effects.

McGlashan, Evans and Orne (1969) purported to demonstrate that hypnotic analgesia was more effective than a placebo among highly responsive subjects, thus

indicating that there was more to hypnosis than expectancy effects. Their conclusion, however, was based on the misconception that all placebos are equally effective. In fact, they are not. Placebo injections, for example, are more effective than placebo pills (Traut & Passarelli, 1957), and placebo morphine is more effective than placebo aspirin (Evans, 1974). The strength of the placebo effect depends on the degree of effect that is expected. The placebo in the McGlashan *et al.* (1969) study was presented as an analgesic and administered in same capsule in which Darvon (a common analgesic at the time) is the usually contained. It stands to reason that subjects who experienced hypnotically-induced hallucinations and amnesia during the selection procedure are likely to have expected greater pain relief from hypnosis than from Darvon. In a more recent study, a colleague and I replicated the superiority of hypnosis to placebo when the placebo was presented as a pain-relieving drug. However, placebo and hypnosis were equally effective when the placebo was presented as a drug that induces hypnosis (Baker & Kirsch, 1993).

Understanding the role of expectancy in producing hypnotic responses helps solve the problem of individual differences in hypnotic ability. Wickless and Kirsch (1989) tested an expectancy manipulation in which surreptitious manipulation of the environment was used to convince participants that they were highly responsive to hypnosis. For example, a response to the suggestion that the room was turning red was insured by means of a hidden red light bulb. Following this manipulation, 73%, of the participants scored in the high range (9–12) on Form C of the Stanford Hypnotic Susceptibility Scale (Weitzenhoffer & Hilgard, 1962), 27%, scored in the medium range (5–8), and none in the low range.

Many people in the field get upset by the suggestion that hypnotic inductions are equivalent to placebos. The word ‘placebo’ has negative connotations. It is associated with deception and ineffectiveness. These negative connotations are appropriate in the context of drug studies, from which the concept of placebo is derived. But they are inappropriate when considering expectancy effects in psychotherapeutic contexts.

In drug studies, placebos are used to control for the psychological effects of administering a treatment, so that the chemical effects can be evaluated accurately. In this context, placebo effects are all those that are due to psychological mechanisms. But all of the effects of psychotherapy, with or without hypnosis, are due to psychological factors. In this sense, they are placebo effects by definition, regardless of what psychological mechanisms are producing them. The effects of placebo drugs are widely assumed to be due to expectancy, and for this reason, expectancy has been devalued as a psychological mechanism. But why should expectancy be devalued? How is it any less legitimate a psychological factor than abreaction, insight, contingent reinforcement, modelling, or conditioning?

Expectancy and placebo effects are often classified as ‘non-specific’. This may largely be due to a historical coincidence. The term ‘specific’ was used for years as a noun indicating a medicine that was specifically indicated for a particular medical condition. Thus, anything that does not have physical properties affecting some physical condition is not a specific. In the more common use of the term, expectancy effects are very specific. Expectations of relaxation, for example, produce relaxation, whereas expectations for activation produce heightened arousal. Expectancy is non-specific only in that it affects a large number of responses. Among the conditions affected by placebos are asthma, anxiety, depression, panic, mirth, sexual arousal, tension, heart rate, blood pressure, warts, dermatitis, and bronchial constriction (Kirsch, in press). The fact that expectancy is routinely controlled for in investigating new medications indicates that it may be more powerful and pervasive than most

other psychological mechanisms. Clearly, this is not a good reason to discard or dismiss it.

I have argued that placebo effects reveal a basic psychological mechanism — that of the self-confirming nature of response expectancies (Kirsch, 1985, 1990). Response expectancies are anticipations of our own non-volitional responses or reactions — responses such as anger, fear, alertness, etc. Response expectancies influence our voluntary behaviour in the same way that stimulus expectancies do. We ask for a cup of coffee because we expect to obtain one in that manner; expecting to receive a cup of coffee is an example of a stimulus expectancy. We drink the coffee because it will feel good; expecting to feel good is an example of a response expectancy. Stimulus expectancies do not usually cause the expected outcome to occur. Response expectancies often do. The expectancy of feeling the effects of caffeine can produce those effects, when one is not aware that the coffee that one has consumed is decaffeinated (Kirsch & Rosadino, 1993; Kirsch & Weixel, 1988).

Self-confirming response expectancies are not only important elements of psychological treatment. They are also causes of many of the psychological distresses for which treatment is sought. The expectancy of fear causes phobic individuals to avoid situations in which the fear is anticipated and to experience fear when they encounter those situations; the expectancy of remaining depressed forever is a very depressing thought that keeps many people depressed; fear of not being able to fall asleep can produce insomnia; and the expectancy of erectile dysfunction is sufficient to prevent an erection from occurring. Because response expectancies are causal factors in the maintenance of these disorders, they are also a necessary part of their cure. Thus, it is not surprising that the therapeutic effects of exposure to the feared situation can be blocked by disguising the therapeutic intent of the procedure (Southworth & Kirsch, 1988). Nor is it surprising that approximately 75%, of the effects of giving antidepressant medications are duplicated by placebos (Kirsch, *in press*).

Given the effectiveness of placebos for many conditions, it would seem good to be able to use them as treatments. They are cost-effective, and they avoid the side-effects and other dangers associated with many drugs. The problem is that the administration of placebos entails deception. Not only does the use of deception raise ethical concerns, but it also may be self-defeating. If response expectancy is one, specific, effective mechanism of psychotherapy, client trust is certainly another. So the question is: 'How can we exploit the therapeutic mechanism underlying placebo effects without deceiving our clients?' Hypnosis provides one solution to this dilemma. Unlike the administration of placebos, no deception is needed for the induction of hypnosis.

Despite the opposition that I have encountered in stressing response expectancy as central to hypnosis, I think most of us have implicitly understood its importance all along. Why else would we construct hypnosis scales with the suggestions presented in order of difficulty? Why do we suggest the occurrence of naturally occurring responses, if not to convince clients that they are successfully experiencing hypnosis? And why do we suggest double binds, that make a failure to respond impossible?

There is one mistake, however, that most clinical hypnotists continue to make, and that is the continued use of the altered state concept and terminology. The idea of going into a trance scares many clients and inhibits them from experiencing hypnotic effects. In contrast, debunking the altered state myth and presenting hypnosis from a cognitive behavioural perspective enhances subsequent responsiveness. That is why non-state explanations of hypnosis are included in effective hypnotizability training programmes (e.g., Gorassini & Spanos, 1986).

Not only does trance terminology scare clients away from the potential benefits of hypnosis, it also scares many professionals needlessly. There are hospital administrators who prohibit the use of hypnosis in their institutions and therapists who are reluctant to put their clients into an altered state, fearing that the clients might get stuck in that state. Despite the involvement of such prominent figures as Binet, Freud, Hull, and Hilgard, hypnosis remains stigmatized as a mysterious, quasi-mystical procedure. The trance concept surely deserves at least some of the blame for this unfortunate state of affairs.

The altered state concept is not only detrimental to the clinical use of hypnosis, the available data also indicate that it is wrong. No markers of the hypothesized state have been found despite more than a half century of sustained research. Sarbin (1950) and Barber (1969) were the first modern researchers to challenge the altered state concept. Subsequently, Hilgard (1969) abandoned the hypothesis that responses to hypnotic suggestions are caused by an altered state. Since then, the trance hypothesis has been ignored or rejected by virtually all hypnosis researchers (see Kirsch & Lynn, 1995). Clinicians, however, continue to hold on to this outmoded concept.

We in the hypnosis community have good reason to be proud of our accomplishments. In the face of professional hostility by skeptics, we have promoted and demonstrated the effectiveness of a powerful clinical tool. Now it is time to reject the outdated and self-defeating trance construct. It belongs in the dustbin of history, along with animal magnetism. In its place, we have the phenomena of hypnosis, a set of non-deceptive clinical procedures that make use of the power of social influence to enhance the effects of treatment.

REFERENCES

- Baker, S.L., & Kirsch, I. (1993). Hypnotic and placebo analgesia: Order effects and the placebo label. *Contemporary Hypnosis* **10**, 117–126.
- Bányai, E.I. & Hilgard, E.R. (1976). A comparison of active-alert hypnotic induction with traditional relaxation induction. *Journal of Abnormal Psychology* **85**, 218–224.
- Barber, T.X. (1969). *Hypnosis: A Scientific Approach*. New York: Van Nostrand Reinhold.
- Evans, F.J. (1974). The placebo response in pain reduction. In J.J. Bonica (Ed.), *Advances in Neurology*, Vol. 4. Pain (pp. 289–296). New York: Raven.
- Glass, L.B. & Barber, T.X. (1961). A note on hypnotic behaviour, the definition of the situation, and the placebo effect. *Journal of Nervous and Mental Diseases* **132**, 539–541.
- Gorassini, D.R. & Spanos, N.P. (1986). A social-cognitive skills approach to the successful modification of hypnotic susceptibility. *Journal of Personality and Social Psychology* **50**, 1004–1012.
- Hilgard, E.R. (1969). Altered states of awareness. *Journal of Nervous and Mental Disease* **149**, 68–79.
- Kirsch, I. (1985). Response expectancy as a determinant of experience and behaviour. *American Psychologist* **40**, 1189–1202.
- Kirsch, I. (1990). *Changing Expectations: A Key to Effective Psychotherapy*. Pacific Grove, CA: Brooks/Cole.
- Kirsch, I. (in press). Specifying non-specifics: psychological mechanisms of placebo effects. In A. Harrington (Ed.), *At the Crossroads of Mechanism and Meaning: New Interdisciplinary Perspectives on Healing and the Placebo Effect*. Cambridge, MA: Harvard University Press.
- Kirsch, I. & Lynn, S.J. (1995). The altered state of hypnosis: changes in the theoretical landscape. *American Psychologist* **50**, 846–858.
- Kirsch, I., Montgomery, G. & Sapirstein, G. (1995). Hypnosis enhances effectiveness of cognitive-behavioural treatment. *Clinician's Research Digest* **13**(8), 6.

- Kirsch, I. & Rosadino, M.J. (1993). Do double-blind studies with informed consent yield externally valid results? An empirical test. *Psychopharmacology* **110**, 437–442.
- Kirsch, I. & Weixel, L.J. (1988). Double-blind versus deceptive administration of a placebo. *Behavioral Neuroscience* **102**, 319–323.
- Sarbin, T.R. (1950). Contributions to role-taking theory: I. Hypnotic behaviour. *Psychological Review* **57**, 225–270.
- Sheehan, P.W. & Perry, C.W. (1976). *Methodologies of Hypnosis*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Southworth, S. & Kirsch, I. (1988). The role of expectancy in exposure-generated fear reduction in agoraphobia. *Behaviour Research and Therapy* **26**, 113–120.
- Traut, E.F. & Passarelli, E.W. (1957). Placebos in the treatment of rheumatoid arthritis and other rheumatic conditions. *Annals of the Rheumatic Diseases* **16**, 18–22.
- Weitzenhoffer, A.M. & Hilgard, E. (1962). *Stanford Hypnotic Susceptibility Scale: Form C*. Palo Alto, CA: Consulting Psychologists Press.
- Wickless, C. & Kirsch, I. (1989). The effects of verbal and experiential expectancy manipulations on hypnotic susceptibility. *Journal of Personality and Social Psychology* **57**, 762–768.

Address for correspondence:

Dr I. Kirsch,
Department of Psychology, U-20,
University of Connecticut,
Storrs,
CT 06269-1020,
USA