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ABSTRACT
A recent international survey discovered that clinicians who use hypnosis in their practice rarely assess the hypnotizability of their patients or clients. This contrasts sharply with the practice in laboratory research. One reason offered for this discrepancy is that hypnotizability does not strongly predict clinical outcome. But a comparison of this relationship with similar correlations in other domains shows that this criticism is misleading – especially when the treatment capitalizes on the alterations in perception, memory, and voluntary control that characterize the domain of hypnosis. Routine assessment of hypnotizability improves clinical practice by enabling clinicians to select patients for whom hypnosis is appropriate; and it improves clinical research by providing important information about the mechanisms underlying hypnotic effects.

Introduction

The survey conducted by the Task Force for Efficacy Standards in Hypnosis Research is an important contribution to the advancement of clinical hypnosis (Palsson et al., 2023; in this issue, p. 94). Previous surveys of hypnosis practice were limited in terms of clinical specialty or geographical coverage. Now, for the first time, we have a truly international survey of clinicians, from Australia to Ukraine, who use hypnosis in their practice, including a wide variety of professions, from physicians to marriage and family counselors. We can hope that the survey will be repeated and expanded in the future and that even more clinicians will respond to it. For now, however, the survey provides a useful snapshot of the various ways that hypnosis is used in clinical practice today.

Reading the paper as an experimental researcher, albeit one with clinical training and interests, one fact stood out from all the rest: the limited role that assessments of hypnotizability play in clinical practice. Only about 25% of respondents consider individual differences in hypnotizability "very" or "extremely" important to therapeutic success (Palsson et al., 2023: Table 9, p. 104), or even to "successfully producing the phenomenon of hypnosis" (Palsson et al., 2023: Table 10, p. 104); and only about 20% routinely assess hypnotizability in their patients or clients.

Such assessments are critical to basic research on hypnosis, and no basic researchers would even consider conducting a study that did not assess hypnotizability and include that information in their publications. As Jack Hilgard used to say, *there is no point in studying hypnosis in subjects who cannot experience it.* In his pioneering dissertation research, Young

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(1925) employed pretesting to ensure that his subjects could easily enter hypnosis and sustain a certain depth (unresponsive subjects served as controls). Hull (1933) likewise employed a variety of tests in preselection, including the then-new Davis-Husband Scale (Davis & Husband, 1931) developed by a colleague of his at Wisconsin. Even Milton Erickson, at least in his early experimental work, preselected subjects for their ability to respond to hypnosis (e.g., Erickson, 1938; Huston et al., 1934).

The Stanford Hypnotic Susceptibility Scales, Forms A, B, and C (SHSS:A, B, C; Weitzenhoffer & Hilgard, 1959, 1962), as well as the Harvard Group Scale of Hypnotic Susceptibility Scale, Form A (HGSHS:A; Shor & Orne, 1962) brought increased psychometric rigor to the assessment of hypnotizability. In addition, the data collected during the standardization studies, comparing hypnotizable and insusceptible subjects' responses to the various suggestions, provided Hilgard (1965) with the first comprehensive description of the phenomena constituting the domain of hypnosis (Hilgard, 1973; Kihlstrom, 2008). Investigators such as Theodore Barber and Nicholas Spanos, while generally taking a "skeptical" stance toward hypnosis, nevertheless developed their own parochial scales to use for subject selection (Barber, 1965; Spanos et al., 1983). Put another way, the assessment of individual differences has become thoroughly institutionalized within the basic research community.

Qualms About Hypnotizability

If there is no point in studying hypnosis in those who cannot experience it, it might also be true that there is no point in treating a patient with hypnosis who cannot experience it. So why are clinical hypnotists so reluctant to assess hypnotizability? The Task Force survey is silent on this issue, but we can consider some possible reasons. In this discussion, I exclude economic considerations. The reluctance of third parties to pay for psychological testing is a scandal (Eisman et al., 2000). Presumably, that situation will improve as insurers are convinced that such assessments really make a difference to the outcome of treatment. And that evidence cannot accrue unless clinicians who use hypnosis routinely assess hypnotizability in their patients and clients.

Another issue is the time it takes to undertake such an assessment. According to best practice, proper assessment of hypnotizability in the laboratory entails an initial group session with the HGHS:A, to familiarize subjects with hypnosis and obtain an initial estimate of their hypnotizability, followed by individual testing with the SHSS:C, which surveys more demanding hypnotic suggestions and permits deeper inquiry into the subjects' experiences. The Stanford Profile Scales of Hypnotic Susceptibility, Forms I and II (SPSHS:I, II; revised by Weitzenhoffer & Hilgard, 1967) were originally intended to assess subtle individual differences within the range of medium-to-high hypnotizability (Kihlstrom, 2015; Terhune, 2015). The SPSHSs have fallen into disuse, supplanted by a version of SHSS:C "tailored" to include an additional item of special interest, such as analgesia or posthypnotic suggestion (Hilgard, Crawford, Bowers et al., 1979). In the laboratory, administering the HGSHS:A followed by the SHSS:C can take as much as 3 hours (adding one or the other form of SPSHS would add another hour). That is, admittedly, a lot of time – though maybe not, considering the amount of time consumed administering tests like the Minnesota Multiphasic Personality Inventory (MMPI) and Rorschach that do nothing to predict how people will respond to hypnosis.

Fortunately, we now have available alternative versions of the standardized scales specifically intended for clinical use. The Stanford Hypnotic Clinical Scale, available in different forms for adults and children, is an adaptation of the SHSS (SHCS:A&C; Morgan & Hilgard, 1978–1979a, 1978–1979b). The Elkins Hypnotizability Scale is similar to the SHCS but with a continuous rather than dichotomous scoring system that takes account of both objective behavior and subjective experience (EHS; Elkins et al., 2015; Kekecs et al., 2016, 2022, 2021). Either scale can be administered in less than half an hour. Even shorter scales are available, such as the Hypnotic Induction Profile (HIP; Spiegel, 1972, 1977; D. B. Stern et al., 1979) and the Stanford Hypnotic Arm Levitation Induction and Test (SHALIT; Hilgard, Crawford, Wert et al., 1979).

Some clinicians may worry that, if subjects score low on a test of hypnotizability, that will reduce their motivation for a treatment that involves hypnosis (e.g., Sacerdote, 1982a, 1982b). Frankel and his colleagues found that this and other misgivings about hypnotiz-ability testing were dispelled by the actual experience, over 6 years and more than 300 patients, of routinely administering one or another of the standardized scales as part of routine psychological testing (Frankel, 1982; Frankel et al., 1979). After all, patients do not know the precise criteria by which their hypnotizability is being evaluated, and may find a suggestion to be subjectively successful despite what would count as an objective failure in the eyes of the hypnotist (Register & Kihlstrom, 1986). Most patients, like most experi-mental subjects, apparently find the hypnotizability scales to be pleasant and interesting – regardless of how they respond in objective terms.

On the other hand, Milling et al. (2018) found that, while hypnosis improved the effectiveness of cognitive-behavioral therapy for obesity, the effect of hypnosis was dimin-ished when hypnotizability was assessed at the outset of treatment. Such a finding might argue against assessing hypnotizability at all, and simply employing hypnosis in the hope that it will help. However, a more recent, greatly expanded meta-analysis of studies in which hypnosis was used as an adjunct to cognitive-behavioral therapy did not confirm this finding (Ramondo et al., 2021).

Finally, there is the question of the mechanism underlying any therapeutic effect of hypnosis. Modern medicine abjures purely empirical treatments, whose efficacy is clear but whose underlying mechanisms are unknown. We know from clinical trials that hypnosis "works" in a wide variety of clinical situations. Of course, hypnosis affords substantial relief from clinical pain (E. R. Hilgard & Hilgard, 1975; Jensen & Patterson, 2014). In particular, randomized clinical trials (RCTs) show that the adjunctive use of hypnosis decreases the need for chemical analgesia, reduces negative side effects, and actually reduces the cost of care (e.g., Lang et al., 2000). Similarly, several meta-analyses have found a significant advantage when hypnosis is used adjunctively in cognitive-behavioral therapy for a number of problems (e.g., Lynn et al., 2000; Ramondo et al., 2021; Valentine et al., 2019).

Studies like these speak to the question of efficacy, but they do not demonstrate that hypnosis affords a specific advantage, over and above placebo-like effects mediated by patients' expectations and beliefs. A treatment effect may be enhanced simply by being embedded in a "hypnotic induction ceremony" (Frischholz et al., 1981, p. 55), even if the patient is not hypnotizable. Or it may be mediated by relaxation, guided imagery, self-directed reverie, or even transference (what Shor, 1979, called "archaic involvement"), rather than the suggested alterations in perception and memory that constitute the domain of hypnosis. In order to address this question, we may invoke what has come to be called

"Bowers's Doctrine" (so named after Kenneth S. Bowers; see Woody, 1997; Woody & Barnier, 2008): any specific effect of hypnosis should be correlated with hypnotizability. If hypnosis, *qua* hypnosis, contributes to treatment efficacy, then clinical outcomes should be correlated with hypnotizability.

Hypnotizability as Predictor

Given the practical and theoretical importance of the relation between hypnotizability and the outcome of hypnotherapy, it is somewhat surprising that there is very little empirical research on the question. In an early meta-analysis of treatment outcomes, Flammer and Bongartz (2003) identified only seven studies, out of a total 57 RCTs surveyed, that correlated hypnotizability with treatment outcome: these studies yielded an average effect size of $r = 44$.

In a later meta-analysis, Montgomery et al. (2011) identified just 10 out of 80 RCTs that correlated outcome with hypnotizability. They found a smaller overall average effect size of just $r = .24$. Such an outcome might justify not assessing hypnotizability at all prior to treatment, and simply adding hypnosis in the hope that it will help. However, this overall value was suppressed by two studies employing the HIP to evaluate hypnotizability, which yielded a mean correlation of $r = .12$ (none of the studies surveyed by Flammer and Bongartz employed HIP). Examining only those studies that employed SHCS, the mean correlation essentially doubled to $r = .47$, with individual *r*s ranging as high as $r = .82$ – a considerable improvement, and a value that comports with that obtained earlier by Flammer and Bongartz.

Effect sizes in the mid-.20s would be considered "low" by the usual standards, and those in the mid-.40s would be considered only "moderate" (Cohen, 1988). We can put these values in context, however, if we consider the task of predicting clinical outcome from hypnotizability to be analogous to the classic problem of predicting behavior in some specific situation (in this case, treatment response) from knowledge of an individual's personality traits (in this case, hypnotizability). Such predictions are notoriously poor. In fact, Mischel (1968) suggested that the upper limit of such a prediction, which he dubbed the "personality coefficient" (p. 78), corresponded to a correlation of approximately $r = .30$.

Additional perspective is provided by a study by Meyer et al. (2001), who tabulated a number of such correlations derived from everyday life. For example, for major league baseball players, the correlation between an individual's batting average and the likelihood of scoring a hit at any time at bat is $r = .06$ (Palsson et al., 2023: Table 1, Entry 7, p. 98); the correlation between ratings from employment interviews and actual job success was $r = .20$ (Entry 31); and the validity of screening interviews for personnel selection was $r = .27$ (Entry 40). Overall, across 60 different domains, the average unweighted correlation was $r = .23$, and the median correlation was $r = .20$. More to the point, Meyer et al. (2001) examined 144 validity coefficients in which some test score was used to predict some specific outcome. For example, and famously (even notoriously), the Scholastic Aptitude Test correlates only $r = .20$ with undergraduate grade point average (Palsson et al., 2023: Table 2, Entry 43, p. 99); extraversion measured by various questionnaires correlates with sales success at only $r =.08$ (Entry 17); and scale scores on the MMPI predict actual diagnosis of a depressive or psychotic disorder at $r = .37$ (Entry 94). Across the entire corpus of studies, which included a large number of popular medical tests (e.g., Entry 96, accuracy of home pregnancy testing, $r = .37$), the unweighted average $r = .32$, median $r = .30$.

Meyer and his colleagues assembled their collection of correlations in order to address a criticism of traditional personality theory that had been instigated by Mischel's (1968) critique – namely, that assessments of general personality traits, of the sort favored by traditional personality researchers, simply did not predict actual behavior very well. Meyer et al.'s response was to show that this problem was not unique to personality testing. A surprisingly large number of real-world correlations, including some that play an important role in health policy, are no larger: e.g., aspirin and reduced risk of a heart attack, $r = .02$ (Palsson et al., 2023: Table 1, Entry 2, p. 98); low-level lead exposure and reduced childhood IQ, $r = .12$ (Palsson et al., 2023: Table 1, Entry, p. 98); smoking and lung cancer, $r = .08$ (Palsson et al., 2023: Table 1, Entry 12, p. 98); alcohol use in pregnancy and premature birth, $r = .09$ (Palsson et al., 2023: Table 1, Entry 15, p. 98).

At the same time, some of the results gathered by Meyer et al. provide an aspirational benchmark for psychological tests and interventions. For example, the differentiation of dementia from normal aging by means of neuropsychological tests such as the Wechsler Memory Scale yielded an average effect size of $r = .68$ (Meyer et al. 2001: Table 2, Entry 137), which counts as a strong effect by the usual standard; the comparable figure for MRI testing was $r = .57$ (Meyer et al. 2001: Table 2, Entry 130). As noted by McGrath and Meyer (2006), however, the association between neuropsychological tests and dementia may have been inflated by oversampling of patients with dementia (Dawes, 1993). Once the effect size is corrected for the relatively low base rate of dementia in the elderly population, McGrath and Meyer (2006) suggested the true effect size might fall to $r = .49$ or even $r = .30$.

By comparison, then, the effect of hypnotizability on the outcome of hypnotic treatment ($r = .47$) uncovered by Montgomery et al. (2011) looks pretty good. At the same time, there are reasons to suspect that this summary effect size might itself be an underestimate. If a particular condition is not amenable to treatment by hypnosis, we would not expect outcome to be correlated with hypnotizability. More important, applying the label "hypnosis" to a treatment does not make it so. If a "hypnotic" treatment involves little more than instructions for relaxation, which is not a necessary part of hypnosis (Bányai & Hilgard, 1976; Bányai et al., 1993; Capafons, 2004; Cardeña et al., 1998; Vingoe, 1973), hypnotizability is unlikely to be associated with outcome. This is also true when treatment involves guided imagery or spontaneous reverie: neither vividness of mental imagery nor daydreaming are substantially correlated with hypnotizability (Glisky et al., 1995; Hoyt et al., 1989). These factors and others will likely attenuate the correlation between hypnotizability and outcome.

Most important, even though a treatment (or treatment component) is labeled "hypnosis" does not necessarily mean that it capitalizes on the alterations in perception, memory, and action that lie at the core of hypnosis. Pain provides a classic example. It is well known from early laboratory research that hypnotic suggestions for analgesia can lead to substantial pain relief, especially in subjects who are hypnotizable (e.g., Hilgard, 1969; J. A. Stern et al., 1977; for a recent review, see Thompson et al., 2019). But how well do these laboratory findings translate to the clinic? Very well indeed. A meta-analysis by Milling et al. (2021) of 42 studies in which hypnosis was used in the alleviation of clinical pain found that hypnotizability was a significant moderator of the effect, yielding a mean weighted effect size of $r = .53$. This finding, by itself, confirms that higher hypnotizability is associated with greater pain reduction in the clinic as well as in the laboratory. But this overall value included two studies which employed the HIP to measure hypnotizability. Excluding those

two studies, the effect of hypnotizability rose to $r = .67$ – approaching the "benchmark" for the discrimination of dementia by neuropsychological tests discussed above. Hypnotizability matters – at least when treatment capitalizes on the phenomena that constitute the domain of hypnosis.

Which Scale to Use?

Given the decision to assess hypnotizability in clinical patients and clients, which scales to choose? Of the small proportion of survey respondents who assessed hypnotizability in their patients and clients, most employed the SHCS (the EHS had been introduced only very recently); about half used some variant of the HIP; none reported using the SHALIT.

The HIP and SHALIT both have the virtue of speed of administration, but this comes at a cost as both consist of only a single item: suggested arm levitation. For the SHALIT, response is scored on a 10-point scale, depending on the height to which the subject's arm rises. The scoring of the HIP is somewhat more complicated: the eye-roll sign (ER) is based on the amount of sclera (the white outer layer of the eyeball) visible when subjects are asked to roll their eyes upward; the induction score (IND) is based on various aspects of arm levitation, but the most important of these is the extent of levitation occurring following a posthypnotic suggestion. Because ER loads on a separate factor from IND (Spiegel et al., 1976; D. B. Stern et al., 1979), and all the subscores entering into the IND score are derived from arm levitation, we can consider the HIP, like the SHALIT, to be a one-item scale. The SHALIT, however, is much easier to score.

One problem with one-item scales is that they are inherently unreliable, even when that single item is scored on a continuum, because only multiple-item scales allow measurement error, inevitable in any single item, to average out (Nunnally, 1967; Wiggins, 1973). Similarly, although it is possible to assess the test-retest reliability of a one-item scale, it is not possible to measure its internal consistency. In turn, reliability imposes a ceiling on validity: a test score cannot correlate more highly with an external variable than it correlates with itself. This may be one reason why the HIP is a poor predictor of clinical outcome. Another may be that the HIP is often used in conjunction with cognitive-behavioral therapeutic approaches that, however effective they may be in their own terms, do not capitalize on the perceptual-cognitive alterations that characterize the domain of hypnosis.

The primary problem with one-item scales, however, is that they lack content validity, in that they do not provide an adequate survey of the whole domain of hypnosis. Arm levitation, the single item in both the HIP and SHALIT, is a relatively "easy" direct ideomotor suggestion, which can be passed even by many subjects of low hypnotizability, and does not adequately discriminate between subjects of medium and high hypnotizability or predict whether subjects will experience more difficult challenges or perceptual-cognitive suggestions. Multi-item scales such as the SHCS and EHS permit the assessment of both test-retest reliability and internal consistency and provide the breadth of assessment that is optimal for the assessment of hypnotizability in subjects and patients alike (Hilgard, 1982; J. R. Hilgard & Hilgard, 1979).

It is of course possible to conduct a preliminary assessment of hypnotizability with the HIP or SHALIT (either one is short enough to be included in an intake interview), followed by the more extensive and definitive assessment provided by the SHCS:A/C or EHS. In some respects, this would parallel the best laboratory practice, in which the preliminary

assessment provided by the HGSHS:A is confirmed by the SHSS:C. On the other hand, both the SHCS and EHS contain an arm-levitation suggestion (or its cognate, arm lowering), so using these multi-item scales alone would add to the efficiency of assessment. Practitioners interested in exploring the clinical implications of various HIP scores, such as the ER sign and "intact" vs. "nonintact" profiles, should still follow up with one of the multi-item scales. By employing a common set of instruments, clinical research on hypnosis can be put on a common measurement basis, much as laboratory research has been by the widespread use of the Harvard and Stanford scales.

Hypnotizability Always Matters

Martin Orne used to caution that nobody should treat a patient with hypnosis who is not otherwise qualified to treat that patient *without* hypnosis. That way, the clinician's decision is not *whether* to treat the patient, but rather, *how best* to treat the patient. Assessing hypnotizability is one way to determine whether hypnosis may be appropriate in the individual patient. This view comports with that expressed in another Task Force report, which recommended that clinical investigators routinely assess hypnotizability in their patients and clients and report the correlation between hypnotizability and the outcome of treatment (Kekecs et al., 2022; see also Lynn et al., 2022; Lynn & Shindler, 2002). By making the assessment of hypnotizability a routine part of their practice and employing the best of the available methods, practitioners can put clinical hypnosis on a firmer scientific basis, and improve both the efficacy and general acceptance of what they do.

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Hypnotisierbarkeit in der klinischen Praxis aus Sicht des Forschungs-Labors

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Zusammenfassung: Eine kürzlich durchgeführte internationale Umfrage ergab, dass Praktiker, welche in ihrer Arbeit Hypnose verwenden, selten die Hypnotisierbarkeit ihrer Patienten oder Klienten untersuchen. Das steht in deutlichem Gegensatz zum Vorgehen der Forschung im Labor. Ein Grund, der für diese Diskrepanz angeführt wird, besteht darin, dass Hypnotisierbarkeit das klinische Ergebnis nicht zwingend voraussagt. Allerdings zeigt ein Vergleich dieses Zusammenhangs mit ähnlichen Korrelationen auf anderen Gebieten, dass dieser Vorbehalt irreführend ist – insbesondere, wenn die Behandlung das Schwergewicht auf Veränderungen der Wahrnehmung, des Gedächtnisses und der willentlichen Steuerung legt, die den Bereich der Hypnose kennzeichnen. Regelmäßige Überprüfung der Hypnotisierbarkeit verbessert die klinische Praxis, indem sie den Praktiker befähigt, diejenigen Patienten auszuwählen, für die Hypnose passend ist, und sie verbessert die klinische Forschung, indem sie wichtige Informationen über die zugrundeliegenden Wirkungen hypnotischer Effekte bereitstellt.

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L'hypnotisabilité en clinique, vue du laboratoire

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Résumé: Une enquête internationale récente a découvert que les cliniciens qui utilisent l'hypnose dans leur pratique évaluent rarement l'hypnotisabilité de leurs patients ou clients. Cela contraste fortement avec la pratique de la recherche en laboratoire. L'une des raisons avancées pour cette divergence est que l'hypnotisabilité ne prédit pas fortement le résultat clinique. Mais une comparaison de cette relation avec des corrélations similaires dans d'autres domaines montre que cette critique est trompeuse, surtout lorsque le traitement s'appuie sur les altérations de la perception, de la mémoire et du contrôle volontaire qui caractérisent le domaine de l'hypnose. L'évaluation de routine de l'hypnotisabilité améliore la pratique clinique en permettant aux cliniciens de sélectionner les patients pour lesquels l'hypnose est appropriée; et il améliore la recherche clinique en fournissant des informations importantes sur les mécanismes sous-jacents aux effets hypnotiques.

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Hipnotizabilidad en la Clínica, Vista Desde el Laboratorio

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Resumen: Una encuesta internacional reciente descubrió que los médicos que utilizan la hipnosis en sus prácticas, rara vez evalúan la hipnotizabilidad de sus pacientes o clientes. Esto contrasta marcadamente con la práctica en la investigación de laboratorio. Una de las razones ofrecidas para esta discrepancia es que la hipnotizabilidad no predice fuertemente el resultado clínico. Pero una comparación de esta relación con correlaciones similares en otros dominios muestran que esta crítica es engañosa, especialmente cuando el tratamiento capitaliza las alteraciones en la percepción, la memoria y el control voluntario que caracterizan el dominio de la hipnosis. La evaluación rutinaria de la hipnotizabilidad mejora la práctica clínica al permitir que los médicos seleccionen pacientes para quienes la hipnosis es apropiada, y mejora la investigación clínica al proporcionar información importante sobre el mecanismo subyacente a los efectos de la hipnosis.

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