

Hypnosis, psi, and the psychology of anomalous experience

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The Rao & Palmer (R & P) hypothesis that "a reduction of ongoing sensorimotor activity may facilitate ESP detection" (Abstract) is based in part on the purported enhancement of ESP performance through the use of special techniques such as hypnosis, and in part on the subjective experiences of "successful psi subjects." *BBS* readers should understand, however, that there is *no* acceptable scientific evidence for the hypnotic facilitation of ostensibly paranormal abilities.

R & P cite Schechter's (1984) review of 25 hypnosis-ESP experiments as evidence for the hypnotic enhancement of ESP. This type of claim is not new; there have been similar enthusiastic claims for hypnosis since at least the eighteenth century (Laurence & Perry, in press). From the time of the early mesmerists, hypnotized individuals have been said to possess clairvoyant powers, to be able to diagnose illness by "seeing" internal organs, to read with their eyes closed, to read the thoughts of others, to see into the future, and to age regress to time of birth and even to supposed past lives (for reviews, see Ellenberger 1970; Hull 1933; Perry et al. 1986). We now know that these apparently supranormal effects of hypnotic pro-

cedures are due to a complex interaction among generalized cultural beliefs, specific contextual cues, individual differences within the subject population, and the motivation of both subject and hypnotist. Nevertheless, the belief that hypnotized individuals can transcend normal capacities continues to persist.

What is new in Schechter's (1984) approach is the statistical evidence he marshals to support the replicability of apparently hypnotically elicited extrasensory perception. His vigorous attempt to rescue a methodologically deficient literature, however, is fundamentally misguided. In essence, Schechter's argument relies on the *lack* of a relation between design flaws evident from published studies and the presence of either significant ESP results or nonsignificant results in the predicted direction. As Diaconis (1978) has forcefully argued, however, no amount of statistical analysis will save a poorly designed study or, indeed, a series of studies. Diaconis, a professional magician and statistician, argues further that his personal observations of more than a dozen paranormal experiments revealed design flaws that were not apparent from published reports, an observation that buttresses the inadequacy of Schechter's approach. More to the point, one crucial design flaw is more than sufficient to contaminate a study, a lesson learned from more conventional psychological experiments.

True (1949), for example, found that hypnotized subjects regressed to the day of their tenth, seventh, and fourth birthdays accurately identified the day on which it fell 92%, 84%, and 62% of the time, respectively. Numerous failures to replicate the findings were puzzling, until it was discovered that part of True's procedure was omitted from the final report in *Science* without his prior consent (Orne 1982; Perry et al. 1986). Rather than ask subjects what day it was, the experimenter, who had a perpetual calendar before him, asked, "Is it Monday? Is it Tuesday?" and so on. It became apparent that subtle cues from the experimenter ("sensory leakage" in Schechter's terms) were causing the effect, and not hypnosis at all. In this instance, the offending flaw was discovered; it is no easy task to find the culprit in every instance. It should be noted that a number of replications of the effect could conceivably have been obtained had the methodological flaw remained intact in subsequent studies. We concur with Alcock that better studies are the answer to critics of psi experiments, not attempts to dismiss design inadequacies. Because Schechter's (1984) review also highlighted methodological deficiencies other than the possibility of subtle cueing (e.g., failure to assess individual differences in hypnotizability, questionable randomness of target stimuli, and failure to counterbalance hypnosis and control conditions), the hypnosis-ESP literature offers no persuasive evidence either for the reality of psi or for its hypnotic facilitation.

At the same time, we wish to stress that the failure to support the ontological status of parapsychological phenomena does not undermine the subjective reality of the psi experience. We agree with Alcock and others (Reed 1972; Zusne & Jones 1982) that the study of anomalous experience can profitably be approached from a psychological perspective using the paradigms of normal science. Although mainstream psychology has been slow to examine these experiences, a number of observations appear to warrant more vigorous interest. As noted in both target articles, personal reports of ostensibly paranormal phenomena are widespread, and quasidelusional beliefs in their objective reality are even more prevalent (see Kihlstrom & Hoyt, in press).

Experimental evidence suggests that beliefs concerning personal efficacy with at least some of these phenomena (e.g., telepathy and psychokinesis) can be shaped by situational variables such as choice of target stimuli, prior discussion between "sender" and "receiver," and instructional set (Ayeroff & Abelson 1976; Benassi et al. 1979), although it is not clear whether these types of manipulations engender transient or more permanent beliefs. There is evidence that already existent

beliefs in paranormal and related phenomena are extremely resistant to long-term change, even in the face of contradictory scientific evidence (Gray 1985). The relative stability of these beliefs suggests that they may be related to past and ongoing experience and to relatively stable attributes of the individual (Nadon et al., in press). Support for this view has come from the study of individual differences in hypnotic talent.

Before discussing the pertinent findings, it is necessary to touch briefly on some current theories of hypnosis. Foremost, hypnosis is a social interaction in which a person experiences anomalies of perception, memory, and action that have been suggested by the hypnotist (Kihlstrom & Hoyt, in press). The ability to experience these anomalies has been shown to be a relatively stable characteristic of the individual (Hilgard, E. R. 1965; Perry 1977); measures of hypnotic talent appear to index the degree to which a person can set aside critical judgment (without relinquishing it completely), and indulge in the make-believe and fantasy conveyed by hypnotic suggestions (Hilgard, E. R. 1977). What unites the various phenomena of hypnosis is that all involve compelling subjective experiences that do not correspond to objective reality; this is particularly so for individuals who fall in the upper range of hypnotic responsiveness as assessed by standardized measures. Orne (1959) has argued that the "essence" of hypnosis lies partially in the hypnotizable subject's tolerance for this logical incongruity. To this extent, hypnosis has been conceptualized variously as *believed-in imaginings* (Sarbin & Coe 1972), *involvement in suggestion-related imaginings* (Barber et al. 1974), and *imaginative involvement* (Hilgard, J. R. 1979). A similar notion was proposed by Sutcliffe (1961), who characterized the hypnotizable person as deluded in a descriptive, nonpejorative sense, and viewed the hypnotic situation as providing a context in which subjects who are skilled at make-believe and fantasy are given the opportunity to become engaged in both what they enjoy doing and what they are able to do especially well (see also Kihlstrom 1985; Sheehan & McConkey 1982; Sheehan & Perry 1976).

It has been known at least since Faria (1819) that various abilities associated with hypnotic responsiveness are available to individuals in everyday contexts and that these may manifest themselves in a variety of ways. One of the ways appears to involve subjective experiences that are often thought to be paranormal. The capacity to experience hypnotic suggestions, for example, has been found to correlate with belief in the supernatural (Diamond & Taft 1975; Nadon et al., in press). Similarly, in an extensive interview study of very highly hypnotizable women (perhaps the top 4%), Wilson and Barber (1982) found that 92% of these excellent hypnotic subjects considered themselves to possess psychic abilities or sensitivity. Although they differed markedly in personality makeup, all shared a nonpathological syndrome the authors labeled "addiction to fantasy." These subjects reported frequently experiencing unusual subjective events such as telepathy, precognition, automatic writing, and seeing spiritual apparitions. It is interesting to note that most of these subjects also reported a distinct tendency to confuse memories of fantasies with memories of real events in a manner predicted by reality-monitoring theory (see, e.g., Johnson & Raye 1981). This pattern sharply contrasted with that of the low and medium hypnotizable control subjects, only 16% of whom reported similar experiences (see also Lynn & Rhue 1986). Although this difference may be inflated by sampling bias, it indicates a connection between responsiveness to hypnosis and a propensity to believe in the reality of imaginative, illusory, and hallucinatory experiences.

We have pursued this line of inquiry by developing a reliable self-report measure of paranormal experiences with more than 1,000 subjects (Nadon et al. 1987). Results with this measure, which was based in part on Palmer's (1979) work, confirmed that many college students report these types of experiences. More significantly, we found that these reports correlated substantially ($r = .51$; $p < .001$) with a measure of "imaginative in-

volvement" in sensory and aesthetic experiences (Tellegen's [1981] "Absorption" Scale). We also found (with a subsample of 219 subjects) that reports of paranormal experiences correlated with hypnotizability ($r = .22$; $p < .01$) as assessed by the Harvard Group Scale of Hypnotic Susceptibility, Form A (Shor & Orne 1962) and that they accounted for variance in hypnotizability over that accounted for by Tellegen's measure.

Thus, methodological and statistical tools presently available appear to offer an opportunity to fulfill the promise of William James's interest in parapsychological phenomena. Although he has been castigated for what some have regarded as an overly credulous approach, it was the *experience* that primarily interested James for what it could tell us about the mind. From this perspective, future research needs to elucidate the cognitive nature of anomalous experiences and to explore further the situational and dispositional factors implicated in their occurrence.

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