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SALIENT FINDINGS IN THE HYPNOSIS LITERATURE:
APRIL 2002

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Abstract: Four important investigations were reported during the latter part of 2001. All address the biological impact of hypnotic interventions. Three of these studies focus specifically on if and how hypnotic interventions affect immune functions. A range of immune assays is employed, from allergic response to blood-based assays of immune functioning during nonlaboratory periods of stress. In all 3 cases, measurable shifts in immune functioning are associated with hypnotic interventions. A 4th compares the pattern of event-related brain potentials (ERPs) associated with hypnotic analgesia interventions and standard distraction protocols during exposure to pain.

The Salient Findings section of The International Journal of Clinical and Experimental Hypnosis features summaries of very important and very recent articles about hypnosis that have appeared in the general medical, general psychological, and broad scientific literatures. Although the article section of the Journal itself remains the primary professional venue for important developments in the field, it is helpful for readers to be apprised of other new developments in the field. Further, it is instructive to be cued to how hypnosis is faring in the broader scientific literatures. Entries into Salient Findings are highly selective. Inclusion means that the editorial staff believes that the article should not be missed by anyone. Typically, only about three or four such articles appear each quarter.

Four important investigations have been reported during the latter part of 2001. All four address the biological impact of hypnotic interventions. Three of these studies focus specifically on if and how hypnotic interventions affect immune functions (Gruzelier, Smith, Nagy, & Henderson, 2001; Kiecolt-Glaser, Marucha, Atkinson, & Glaser, 2001; Zachariae, Jorgenson, Egekvist, & Bjerring, 2001). A range of immune assays is employed, from allergic response to blood-based assays of immune functioning during nonlaboratory periods of stress. In all three cases, measurable shifts in immune functioning are associated with hypnotic interventions. A fourth article by Friederich, Trippe, Ozcan, Weiss, Hecht, and Miltner (2001) compares the pattern of event-related brain potentials (ERPs) associated with hypnotic analgesia interventions and
standard distraction protocols during exposure to pain. The pattern of brain activity during hypnotic analgesia appears to be different from that of nonhypnotic distraction.

**JOURNAL: Journal of Consulting and Clinical Psychology**


An interesting study conducted at Ohio State University Medical School examined whether a hypnotic relaxation intervention might reduce the immunological dysregulation that has been observed among medical students prior to and during exams. It is now well documented that immunological functioning is compromised even by the relatively routine stressors of the exam period. During exam periods, students are less likely to seroconvert after a single hepatitis-B vaccination, exhibit delayed wound repair, and evidence a decline in blood indices of immune functioning. The Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A) was used to screen 130 medical student volunteers. All subjects obtaining a score of seven or higher were then administered the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C). The 33 students scoring seven or higher on both tests were selected for the experiment. These students were then randomly assigned to the hypnosis group \( n = 7 \) or the control group \( n = 16 \). Blood was drawn on two occasions: (a) during the first few days of the quarter (baseline) and (b) 3 days prior to the first major academic examination. For the hypnosis group only, students began a five-session hypnotic relaxation intervention 8 days before the second blood draw. The controls received no such intervention. The hypnotic interventions were conducted weekly in small groups by experienced clinical psychologists. Each session was 25-40 minutes in duration. Induction and deepening instructions were used, and students were taught self-hypnosis. Results indicated that hypnosis subjects were, as a group, protected from the stress-related decrements that were observed among the controls. In addition, more frequent practice (self-hypnosis) was associated with higher percentages of CD3+ and CD4+ T-lymphocytes, which in fact replicates earlier work by the same senior author. It is interesting to note that a prior study (Kiecolt-Glaser & Glaser, 1988a) failed to find any effect whatsoever for hypnosis on immune function blood indices. The authors of the present study note that, unlike the previous studies, the present investigation selected highly hypnotizable subjects who were more likely to benefit from the intervention. Taken together, these findings suggest that
hypnotic intervention may reduce immunological dysregulation associated with acute stress, at least among individuals who are in general responsive to hypnotic suggestion. These findings are consistent with a recent review of the research literature on hypnosis and behavioral medicine (Pinnell, 2000).

**JOURNAL: Allergy**


For several years now, it has been known that mood influences histamine and immediate-type skin reactions. Greater flare and sometimes wheal reactions are associated with sadness. The authors of this study used a within-subjects design to investigate whether hypnotically induced emotions (Maccallum, McConkey, Bryant, & Barnier, 2000) could influence allergic skin reactions in this way. The subjects for this study were 15 highly hypnotizable graduate students screened from an original pool of 125 volunteers. All 15 selected subjects scored between 9 and 12 on the Danish version of the HGSHS:A. Subjects first received a standard histamine prick before any hypnosis was done. The histamine-induced wheal and flare reactions were then video-monitored at 1, 2, 3, 4, 5, 10, and 15 minutes after the prick. Then the subjects were administered a hypnotic induction followed by suggestions for mood alteration (either sadness, anger, or happiness). A histamine prick was then administered, followed by the measures of reactivity at 1, 2, 3, 4, 5, 10, and 15 minutes. This process of prick followed by measurement of reactivity was repeated two more times until all three mood conditions were administered. The order of the mood conditions (i.e., sadness, anger, and happiness) was counterbalanced. Analysis of the data revealed that during the initial phase (1 to 3 minutes past histamine prick), the flare response was greater during hypnotically induced sadness than during happiness. This squares with earlier work by other investigators showing histamine skin reactions to be inversely related to mood (more sadness, more reactivity). Of course, hypnosis may or may not have played a necessary role in this process. What suggests it did play a role is that the extent of the flare response was correlated with hypnotizability. This is no small feat, given the small group size and the attenuated range of hypnotizability among these 15 highly hypnotizable subjects (HGSHS:A range of 9 through 12). Interestingly, hypnotizability scores predicted changes in flare response at baseline. Finally, there were no effects for the wheal reaction. This finding converges with the
previous work of these authors but conflicts with those of others. The authors note that the flare response is a neurogenic reflex that may be impacted by the central nervous system. The wheal response is typically understood as involving local mechanisms.

**JOURNAL:** *International Journal of Psychophysiology*


The authors of this study reference the work of Kiecolt-Glaser and her colleagues concerning the effect of relaxation hypnosis on immune functioning and stress among medical students. The study’s aims were to replicate these earlier studies (Kiecolt-Glaser & Glaser, 1988a, 1988b, 1992) and to focus more thoroughly on hypnosis as the sole intervention. The investigators also standardized the hypnotic interventions very carefully. Twenty-eight British medical students (mean age = 20.1) were administered the HGSHS:A. All volunteers agreed that if they were assigned to a treatment group they would practice the intervention three times a week, monitored with a diary. These subjects were divided into two groups: a control group \( n = 12 \) of subjects who scored across the range of hypnotizability (HGSHS:A mean = 6.14) and a hypnosis intervention group \( n = 16 \). This group consisted of two subgroups: 8 high hypnotizables (HGSHS:A mean = 9.35) and 8 low hypnotizables (HGSHS:A mean = 2.25). Baseline blood samples with immune assays were taken 4 weeks prior to the examination period. All hypnosis intervention subjects then attended a group hypnosis intervention, were given an audiotape of the procedure, and instructed to listen three times a week to the audiotape during the next 3 weeks leading up to the examination period. The group procedure and audiotape included a hypnotic induction, with a number of deepening and relaxation exercises. During the examination period, subjects in both groups (the 12 control subjects and the 16 hypnotic-intervention subjects) had their blood sampled once again. Results documented that the immune functioning of control subjects was compromised from baseline to examination period. In addition, there was a decline in mood and an increase in emotional upset among controls. In general, it appears that the hypnosis intervention subjects were buffered from both the immunological and the emotional impact of the examination period. Low and high hypnotizables seemed to do equally well in this regard. There was no effect for level of hypnotizability on any of the dependent measures. The authors note that this relatively inexpensive intervention imparted significant benefit to healthy, high-achieving students confronted with routine, but
substantial, stress. This study’s indexing of both immune function and self-report is a vast improvement on studies that measure only one or the other.

JOURNAL: Psychophysiology


The cognitive mechanisms underlying hypnotic analgesia have been the focus of many studies and much debate. One of the ongoing controversies is whether hypnotic analgesia is essentially explained by distraction (Montgomery, DuHamel, & Redd, 2000; Wright & Drummond, 2001). That is, are the attentional resources of the hypnotic subject so involved with the experience of hypnosis that they fail to attend to the pain and hence report little or no pain. Several studies have compared distraction with hypnotic analgesia to determine if these two techniques result in equivalent reductions in reported pain. The results have been mixed, but even if two procedures impart equivalent benefit, it does not necessarily follow that the mechanisms are the same or even similar. The authors of the present study approach the problem of mechanism in a refreshingly different manner. They used event-related brain potentials (ERPs) to monitor attentional processes under two conditions: when subjects were distracted and when these same subjects were administered suggestions for hypnotic analgesia. Two hundred twenty subjects were initially screened with a German translation of the HGSHS:A. From this sample, 36 subjects who scored between 9 and 12 were administered the German translation of the SHSS:C. The 20 subjects who scored 9 to 12 on the SHSS:C constituted the experimental group. Four subjects presented with significant EEG artifacts and were excluded from the database, leaving 16 subjects in the final experiment. Each subject was administered in counterbalanced order the following three conditions: (a) a baseline condition; (b) a hypnotic analgesic condition; and (c) a distraction condition. In all conditions, subjects received brief, painful heat pulses from a red helium laser beam pointing to the left hand. During the hypnotic analgesia condition, subjects reported significant decreases in pain aversiveness and intensity. During the distraction condition, aversiveness was decreased significantly but not intensity. More importantly, although late ERP amplitudes did change from baseline during distraction, they did not change significantly during hypnotic analgesia suggestion. Distraction and hypnotic analgesia both appreciably reduce the experience of pain. However, this effect is achieved via different brain mechanisms.
REFERENCES


