Review of International Literature

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Aubert, A.E., Verheyden, B., Beckers, F., Tack, J., Vandenberghe, J. (2009). Cardiac autonomic regulation under hypnosis assessed by heart rate variability: spectral analysis and fractal complexity. *Neuropsychobiology, 60*(2):104-112. This study examines the autonomic psychophysiology of hypnotic experiences. The authors proposed that hypnosis would be accompanied with changes in heart rate variability. Previous research by Stephen Porges and others has shown that heart rate variability is a predictor of hypnotic ability. The authors studied the effects of hypnosis on 12 participants as they had their heart rate activity assessed by EKG and other psychophysiological measures. The authors reported finding that “an enhanced parasympathetic modulation, accompanied by a reduction of the sympathetic tone” accompanied the heart rate data of the participants experiencing hypnosis (p. 104). These results seem highly consistent with previous research into the psychophysiology of hypnosis as well as other related experiences such as meditation. Most traditional approaches to hypnosis do seem designed to encourage relaxation related effects. This study gives us another look at the specific cardiovascular psychophysiological components that may underlie feelings of relaxation in hypnosis and related experiences. Address for reprints: Dr. Andre Aubert, Laboratory of Experimental Cardiology, University Hospital Gasthuisberg, KU Leuven, Leuven, Belgium. Email address: andre.aubert@med.kuleuven.be.

Butler, L. D, Koopman, C., Neri, E., Giese-Davis, J., Palesh, O., Thorne-Yocam, K.A., Dimiceli, S., Chen, X. H., Fobair, P., Kraemer, H. C., & Spiegel, D. (2009). Effects of supportive-expressive group therapy on pain in women with metastatic breast cancer. *Health Psychology, 8*(5):579-587. This is study from the laboratory of David Spiegel at Stanford University which uses methods of group therapy and hypnosis to help breast cancer patients. The study was aimed at determining if a group intervention using hypnosis could help provide breast cancer patients with pain reduction and improvements in their quality of life. The investigators were also interested to discover if the participants’ level of hypnotic ability might be a predictor or moderator of the therapeutic efficacy of hypnosis. The study was a randomized clinical trial which compared the effects of group therapy with hypnosis to an education-only control condition for 12 months. The patients were 124 women with metastatic breast cancer. The authors reported that the intervention group’s pain intensity responses did not seem to increase as significantly compared to the education-only group. However, the intervention did not demonstrate any
significant effects on the “frequency of pain episodes or the amount of constant pain” (p. 579). The authors also reported that hypnotic ability did not appear to moderate the clinical benefits of the intervention overall. However, within the intervention group, the participants with high hypnotic ability did report enjoying the experience in a variety of ways more than other participants did in a variety of ways. For instance, the high hypnotizables in this group were likely to report practicing self hypnosis more frequently than the other patients. The authors conclude that “These results augment the growing literature supporting the use of hypnosis as an adjunctive treatment for medical patients experiencing pain” (p. 579). Address for reprints: Dr. David Spiegel, Department of Psychiatry & Behavioral Sciences, Stanford University School of Medicine., Psychosocial Treatment Laboratory, 401 Quarry Road, Stanford, CA 94305-5718 USA. Email Address: ldbutler@buffalo.edu.

Dienes, Z., Brown, E., Hutton, S., Kirsch, I., Mazzoni, G., & Wright, D. B. (2009). Hypnotic suggestibility, cognitive inhibition, and dissociation. Consciousness and Cognition. Aug 24, 2009. [ePub ahead of print]. This paper revisits the “context effect” issue that has been debated in several past and present studies of hypnosis. The “context effect” issue arose initially from a debate amongst researchers about studies in the area of personality and hypnosis. There have been a large number of studies which searched for personality traits that can predict a person’s ability to experience hypnosis. However, only a few personality traits have demonstrated any promise in predicting hypnotic ability. The list of promising candidates is fairly short and includes traits such as absorption, dissociation, and more recently empathy and schizotypy.

A classic early study on the context effect issue was done by Jim Council and his colleagues. This study found that the correlation between a person’s scores on the Tellegen Absorption Scale and measures of hypnotic ability could be affected by whether or not the measures were completed in the same session. In this original study it was found that the correlation between absorption and hypnotic ability was greater when the measures were administered together rather than separately in an “out of context” condition. It has been argued by a variety of socio-cognitive theorists that these context effects call into question whether traits like absorption are true personality predictors of hypnosis. However, there is still a great deal of debate as to how strong context effects are influencing the correlations obtained in many personality and hypnosis related studies.

The current study revisits this issue by looking at how context effects may be involved with measures of dissociation and cognitive inhibition. Dissociation is often cited as an important mechanism by which hypnotic processes are actualized in many theories of hypnosis such as the Neo-Dissociation models of Ernest Hilgard and others. The authors employed measures for hypnotic ability, dissociation, and cognitive inhibition in separate contexts. The participants were told that each of the conditions were unrelated to one another and that they were separate experiments. The authors reported finding that there was no significant relationship between measures of hypnotic ability, dissociation, and/or cognitive inhibition obtained in the “out of context” condition. The authors conclude that “the results are a challenge for existing theories of hypnosis.” Address for reprints: Dr. Irving Kirsch, Department of Psychology, University of Hull, Cottingham Road, Hull, HU6 7RX, UK. Email Address: i.kirsch@hull.ac.uk
McGeown, W. J., Mazzoni, G., Venneri, A., & Kirsch, I. (2009). Hypnotic induction decreases anterior default mode activity. *Consciousness and Cognition. [ePub ahead of Publication]* September, 2009. This study might well be sited frequently in the literature on hypnosis for some years to come. It addresses some of the critical questions that have emerged from the debate between state vs. non-state theories of hypnosis. The study provides a direct and important examination of the state vs. non-state issue using advanced methods of cognitive neuroscience and neuro-imaging. Let me begin to offer a brief background of the studies which have preceded this one so that readers can appreciate just how intriguing this study really is.

For many years non-state theorists have argued that hypnosis is, not by its nature, an altered state of consciousness. Non-state theorists have also put forth many interesting and compelling lines of evidence to support that claim. One common focus of the experiments in this area concerns the question of whether the induction of a hypnotic state is necessary to get subjects to experience various types of hypnotic suggestions. A variety of researchers including Theodore X. Barber have found that it turns out to be completely unnecessary to use a hypnotic induction to get people to respond to different types of hypnotic suggestions. Similar studies have also shown that hypnotic inductions do not seem to significantly enhance people’s responsiveness to common hypnotic suggestions. These two facts have often been cited by non-state theorists to argue against the concept that hypnosis should be thought of as an altered *state* of consciousness.

Many state theorists have sought to demonstrate the reality of the hypnotic state of consciousness as being distinct from a normal state of consciousness using various psychophysiological measures. An early approach to this type of study used EEG measures to demonstrate that hypnosis could be indexed by a predominance of Theta brain wave activity. However, subsequent research in the psychophysiology of hypnosis demonstrated that Theta or different measures of Alpha brain wave activity were not always a reliable index of the experience of hypnosis. Furthermore, the entire approach to indexing EEG frequencies to any experience or mental phenomena was called into question later by studies that demonstrated that EEG frequencies are highly conditionable. This means that it is theoretically possible to get people to experience some fairly profound mental states while still demonstrating Beta or Alpha brain wave frequencies. David Wark and others have offered demonstrations of how this phenomenon is even clinically useful by showing how hypnosis can be employed within an alert state paradigm.

More recently however, emerging methods and technologies in cognitive neuroscience have made it possible for us to get a better look at what is happening in the brain during various hypnotic tasks. There are a large number of studies documenting that hypnotic suggestions appear to have a unique effect upon altering the brain’s perceptual processes such as pain, vision, and audition. However, the question of whether a hypnotic state is necessary to achieve these results is still an open question. Do hypnotic inductions actually produce a hypnotic state which itself can actually be indexed by psychophysiological changes? This is the one of the central questions of the present study.

The participants in this study were screened for possessing high or low levels of hypnotic ability. Their subjective responses to hypnotic inductions, as well as their psychophysiological reactions to hypnotic inductions, were measured while they were engaged in visual tasks in and out of the hypnosis. The authors employed measures of functional magnetic resonance imagery (fMRI) to examine whether there was anything unique occurring within high hypnotizables compared with low hypnotizables.

The answer is yes. Hypnotic inductions do appear to create changes in the brain
International Literature Review

that may in fact index something which we might call an altered state of consciousness. The authors reported that the fMRI data revealed that anterior areas of the brain’s default mode circuit were decreased in high hypnotizables. Meanwhile no changes were seen in these brain regions’ level of activity for low hypnotizables.

This is an important finding since it also seems to address questions about what types of automatic processes may be affected by hypnosis. Default mode processes are processes that are typically disengaged by overt and goal directed activity. The evidence of this study seems to indicate that these automatic like processes were altered by a hypnotic induction just as has been theorized by some neo-dissociative theories of hypnosis.

The current findings need to be examined closely and replicated by other labs. It is worth noting however, that it is doubtful that this finding emerged as a kind of experimenter bias or demand characteristic. One of the authors of this study (Kirsch) is a leading proponent of the socio-cognitive model of hypnosis. Socio-cognitive models of hypnosis have traditionally eschewed theories that rely upon state-like descriptions of hypnosis. Therefore, I certainly must applaud the authors for publishing this data. They have followed the highest ethical requirements of the scientific tradition by publishing data that potentially disconfirms aspects of their previous theories of hypnosis. What better testimony is there to the integrity and wisdom of a scientist than their willingness to publish data that potentially disconfirms their previous theorizing? Address for reprints: Dr. Irving Kirsch, Department of Psychology, University of Hull, Cottingham Road, Hull, HU6 7RX, UK. Email Address: i.kirsch@hull.ac.uk.

Myerson, J., & Konichezy, A. (2009). Out-of-illness experience: hypnotically induced dissociation as a therapeutic resource in treating people with obstinate mental disorders. American Journal of Psychotherapy, 63(2):133-46. The authors of this paper describe their clinical approach to treating patients with various intractable and chronic forms of mental illness. Their approach utilizes a hypnotically based treatment that they call hypnotically induced dissociation. They present 3 cases of patients in which they employed hypnotically induced dissociation. The 3 patients were all successfully treated with issues such as chronic depression, obsessive-compulsive disorder, and personality maladjustment. The authors provide recommendations for those who would like to use their methods of hypnotically induced dissociation with similar patients. The interesting feature of this paper is that it utilized dissociation to aid in the patients’ recovery. Email address for reprints: meyersoj@netvision.net.il.

Schnur, J. B., Kafer, I., Marcus, C., & Montgomery, G. H. (2009). Hypnosis to manage distress related to medical procedures: A meta-analysis. Contemporary Hypnosis, 25(3-4):114-128. This is an important new meta-analysis of the effects of hypnosis in medical settings. The paper pulls together the available studies which have examined how hypnosis could help patients reduce the experience of distress during medical procedures. The authors identified 26 studies in the literature which met their criteria for inclusion in the meta-analysis. These 26 studies were all randomized controlled trials of hypnosis interventions for patients undergoing distress of various types related to their medical treatment. The meta-analysis included data from 2,342 participants across the 26 studies. The authors reported finding a large effect size of 0.88 (95% CI = 0.57-1.19) which demonstrated the substantial benefits of using hypnosis in medical settings for relieving patients’ distress. The authors reported that children benefitted more from the hypnotic interventions than adults did. This is a beneficial
study for those working in medicine to have on hand anytime that you are talking with colleagues about the benefits of hypnosis. It demonstrates how useful hypnosis is in helping patients manage their distress across a variety of medical settings. Address for reprints: Dr. Julie Schnur, Department of Oncological Sciences, Box 1130, Mount Sinai School of Medicine, 1 Gustave L. Levy Place, New York City, NY 10029-6574. E-mail address: julie.schnur@mssm.edu.

Sidman, J., Lechtman, M. D., Lyster, E. G. (2009). A unique hypnotherapeutic approach to interstitial cystitis: a case report. *Journal of Reproductive Medicine, 54*(8):523-524. This is a case report of a patient who suffered from interstitial cystitis. The patient is reported to have been helped quite substantially by a psychotherapeutic approach that utilized hypnosis. The authors discuss that interstitial cystitis is a condition of the urinary bladder attended with inflammations and ulcerations. These patients therefore suffer from significant problems with pain, urinary frequency and urinary urgency. The patient in this case study was reported to have suffered from interstitial cystitis for 9 years. Previous therapies had been reported to be ineffective in helping her. The authors reported that the patient became asymptomatic after 6 sessions of a hypnotically facilitated treatment which was administered by the lead author. The authors also report that the patient is still free of significant symptoms of interstitial cystitis 5 years following her treatment with hypnosis. Address for reprints: Jacqueline Sidman Health Foundation, 4199 Campus Drive, Suite 550, Irvine, CA 92612, USA. Email address: drjacqueline@sidmansolution.com.

Wesa, K. M., & Cassileth, B. R. (2009). Is there a role for complementary therapy in the management of leukemia? *Expert Review of Anticancer Therapy*. 9(9):1241-1249. This review article addresses how a number of complementary therapies might be employed in helping leukemia patients. The article is critical of many alternative types of treatments for leukemia and provides an empirical basis for that criticism. The authors recommend hypnosis by saying “For patients with leukemia, the complementary therapies that are always appropriate include mind-body interventions, such as self-hypnosis, meditation, guided imagery and breath awareness” (p. 1241). Address for reprints: Integrative Medicine Service, Memorial Sloan-Kettering Cancer Center, 1429 First Avenue, NY 10021, USA. Email address: wesak@mskcc.org.