Salient Findings: Extraordinary Examples of Tailoring the Design to the Question in Laboratory and Practice

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SALIENT FINDINGS:
Extraordinary Examples of Tailoring the Design to the Question in Laboratory and Practice

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Abstract: A summary of 3 papers of special interest to researchers and clinicians that appeared in the general scientific and medical literatures. All are robust, empirically grounded studies, however, each differs in its approach and design. These studies are exemplars of customizing design to the question asked and the opportunities afforded by setting. The first addresses delusions of alien control in the human brain; the second examines mechanisms accounting for the efficacy of hypnosis in the treatment of irritable bowel syndrome; the third is an extraordinarily clever empirically grounded N-of-1 case study tracking the behavioral treatment of a teenager with motor and vocal tics. Taken together, these three studies illustrate the variety of research designs that can be used to bring evidence to bear on important matters of theory and practice.

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 findings in the field, it is helpful for readers to be apprised of emerging developments published elsewhere. Entries in Salient Findings are highly selective. Inclusion means that the editorial staff believes that the article should not be missed by anyone.

Three especially interesting hypnosis articles have appeared in the scientific and medical literatures over the past few months. They are in the finest tradition of our field, both recent (Kihlstrom, 2002a, 2002b, 2003) and remote (Franklin et al., 2002). The current papers are empirical studies with three very different types of designs: The first is a PET-scan study of delusional movement using a single-group, within...
subject design (Blakemore, Oakley, & Frith, 2003); the second is a clinical efficacy study (hypnosis for IBS) using a standard, two-group randomized assignment, clinical-trial design (Simren, Ringstrom, Bjornsson, & Abrahamsson, 2004). The third study applies a single-case time-series design to track a teenager’s response to treatment for motor and vocal tics (Dillenburger & Keenan, 2003). Taken together, these three empirical studies illustrate the variety of powerful research designs that can be used to bring evidence to bear on important matters of theory and practice. It is also noteworthy that all three studies were conducted in Europe.

A Laboratory Study of Neural Mechanism Underlying Delusion of Control
JOURNAL: Neuropsychologia

Delusions of control or agency characterize a number of disorders, including schizophrenic, dissociative, and conversion disorders (Bryant, Guthrie, Moulds, Nixon, & Felmingham, 2003; DuHamel, Difede, Foley, & Greenleaf, 2002; Moene, Spinhoven, Hoogduin, & Van Dyck, 2003; Roelofs, Hoogduin, & Keijsers, 2002). The study tested the notion that the cerebellum and parietal cortex are involved in generating the feeling that a movement is externally produced. In so doing, the study embodies one of the ways Barnier and McConkey describe neuroscience profiting by its interface with hypnosis research (Barnier & McConkey, 2003). Positron emission tomography (PET) was carried out with 8 highly hypnotizable male subjects (prescreened for hypnotizability) as they responded during hypnosis across three conditions. In the active-movement (AM) condition, subjects simply raised and lowered their left arms in response to an instruction to do so; in the real-passive (RP) condition, the left arm of each subject was moved up and down by means of a pulley system; in the deluded-passive-movement (DP) condition, subjects were told that their left arm was being moved by the pulley system, but in fact the subjects were responding to a hypnotic suggestion. Indeed, the pulley system was inactivated. Hence, in the DP condition, the subjects were in fact actively moving the arm but attributed the movement to the pulley, not to themselves. By design then, both the active-movement condition and the deluded-passive-movement condition involved the subject actually moving his or her arm. The only difference was that during the DP condition, the subject believed the arm was moving via the pulley. Comparison of the pattern of rCBF distribution across conditions revealed that there was greater activity in the parietal cortex during the DP condition. This squares with the observation that “higher levels of activation occur in the cerebellum and parietal operculum when tactile stimulation is external compared with when
it is self-produced’’ (p. 1065) and with observations that damage to the parietal lobe is sometimes associated with difficulty in the patient distinguishing self from other. The study builds on an interesting and provocative brain-hypnosis literature that is beginning to demonstrate yield for both research literatures (Benham, Smith, & Nash, 2002; Montgomery, Weltz, Seltz, & Bovbjerg, 2002; Rainville & Price, 2003; Ray & De Pascalis, 2003; Ray & Oathes, 2003; Ray & Tucker, 2003; Spiegel, 2003; Woody & McConkey, 2003; Woody & Szechtman, 2003).

A Hospital-Based Random Assignment, Clinical Trial of Hypnosis for Irritable Bowel Syndrome

Journal: Psychosomatic Medicine


The authors of this study cogently observe that for almost 20 years hypnosis has been shown to be effective as an alternative treatment for patients with irritable bowel syndrome (IBS). We now know that it works; indeed, hypnosis is now formally categorized by Division 12 of the American Psychological Association as a ‘‘possibly efficacious’’ treatment for IBS (Chambless & Ollendick, 2001). What we do not know is how it works. The authors of this study set out to further test efficacy but also to examine what components of IBS are (and are not) impacted by hypnotic intervention. All this is important because, as the authors point out, IBS is probably the most common disorder encountered by gastroenterologists and, though generally benign, is chronic, dramatically affects quality of life, and is often refractory to pharmacological treatment. Twenty-eight IBS patients (mean age 42.0, roughly equally distributed between sexes) were randomly assigned to either the hypnotherapy group or the control group. All patients received tests that established baseline measures of the sensitivity and the motor components of IBS symptomatology. Patients assigned to the hypnotherapy group received ‘‘gut-directed hypnotherapy’’ for 1 hour per week for 12 weeks. Suggestions focused on normalizing the gastrointestinal function, with references to such images as rivers flowing smoothly or blocked rivers that eventually run free. Self-hypnosis was taught, and the patient was instructed to use self-hypnosis daily. Controls received supportive attention over the same period of time. This included dietary advice, information on relaxation, education, and emotional support. A barostat procedure was performed both before and after the treatment protocol. This procedure involved placement of a feeding tube in the descending part of the duodenum and a catheter in the midsigmoid colon using a flexible sigmoidoscope. Measures of
sensation and motility were taken during various stages of this procedure and during prescribed distention levels. One patient from each group discontinued participation in the study due to unwillingness to undergo the follow-up barostat procedure. Hypnotherapy appeared to reduce both the sensory and motor components of gastrocolonic response, at least as indexed by the barostat protocol. In addition to these changes in physiological response, 10 of the 14 treatment patients reported improvement over baseline, whereas only 5 of the 14 control patients reported improvement. The findings dovetail nicely with research on similarly stress-related medical conditions that appear to respond well to hypnotic interventions (Finkelstein, 2003; Jørgensen & Zachariae, 2002; Langenfeld & Cipani, 2002; Liossi & Hatira, 2003; Montgomery et al., 2002; Rucklidge & Saunders, 2002).

An N-of-1 Time-Series Design of Hypnosis for Multiple Tics Conducted by the Therapist


This is a cleverly conceived N-of-1 time-series design study that tracks the treatment of a 13-year-old female with a 5-year history of tic topographies, including eye rolling, finger twitching, foot jerking, grunting, and stomach sucking. As is not unusual in such cases, the patient did not display the tic behaviors in the presence of the psychologist or the psychiatrist. Of course, this hamstrings attempts to formulate the problem and craft an informed treatment plan. The parents rejected medication. A five-session course of acupuncture was to no avail. The authors chose to approach this case within the tradition of behavioral analysis, using a time-series approach to track symptom status through baseline and treatment phases. A number of recent papers have recommended this type of time-series design for practitioners who seek to make viable contributions to the clinical outcome literature (Borckardt, 2002; Borckardt & Nash, 2002; Nash, 2002a, 2002b, 2003). A novel twist in this study is that the authors used hypnosis during the assessment phase of the intervention to determine whether hypnosis might enable them to directly observe what no clinician had before—the tics themselves. In a 60-minute no-hypnosis condition, parents and therapist rated 12 5-minute baseline segments of the hour. No tics whatsoever were observed by anyone during any segment. However, as the hypnosis treatment began in earnest, the therapist rated one 5-minute interval per session during which the patient was in hypnosis. All five different tic topographies (see above) were abundantly evident during hypnosis. Treatment itself was home-based...
with nine consecutive weekly sessions followed by three fortnightly sessions. Each session was 1 hour. A booster session was offered at 19 weeks; there was a final interview at 25 weeks and a follow-up at 18 months. The treatment included standard behavioral habit-reversal components but supplemented with hypnosis. These procedures enabled the patient to be aware of her own tic behaviors, to initiate a competing response, and to relax. Outside hypnosis, there was self-monitoring and social support/contingency management. The parents reported the number of different tic topographies (out of the five at baseline) that were evident during each week of treatment. These data are graphed nicely by the authors and reveal that eye roll dropped out at Week 10, foot jerking at Week 12, grunting and stomach sucking at Weeks 13 and 14, and all tics ceased by Week 15. The patient was symptom-free by parent report at the 25-week final interview and at the 18-month follow-up. Practitioners of all theoretical persuasions can take instruction from this thoughtful and elegant contribution to the clinical research literature.

REFERENCES


Neue Forschungsergebnisse

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Découvertes essentielles

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Résumé: Un résumé de 3 communications d’un intérêt particulier pour les chercheurs et cliniciens qui ont été publiées dans la littérature médicale et scientifique générale. Toutes sont des études solides et fondées empiriquement avec cependant une approche et une conception spécifiques à chacune. Ces études sont des exemples de conception sur mesure liée à la question que l’on se pose et des possibilités offertes par le cadre. La première aborde les illusions d’un contrôle étranger dans le cerveau humain; la seconde examine les mécanismes responsables de l’efficacité de l’hypnose dans le traitement du côlon irritable; la troisième est une étude de cas N1 fondée empiriquement de façon extrêmement astucieuse qui suit le traitement comportemental d’un adolescent ayant des tics vocaux et moteurs. Présentées ensemble, ces trois études illustrent la variété de conception de recherches qui peut être mise en place afin de glaner des évidences sur des sujets importants de pratiques ou de théories.

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Hallazgos notables

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Resumen: Un sumario de tres trabajos de especial interés para investigadores y clínicos que aparecieron en las literaturas científica y médica generales. Todos los estudios son robustos y con un fundamento empírico, aunque cada uno difiere en su enfoque y diseño. Estos estudios son un modelo de individualizar el diseño a la pregunta planteada y las oportunidades presentadas por el contexto. El primero se refiere al delirio de control extraterrestre del cerebro humano; el segundo examina los mecanismos que explican la eficacia de la hipnosis en el tratamiento de síndrome de intestinos iritables; el tercero es un estudio de caso empírico extraordinariamente ingenioso que evaluó el tratamiento conductual de un adolescente con tics motores y vocales. En conjunto, estos tres estudios ilustran la variedad de diseños de investigación que se pueden utilizar para obtener evidencia sobre asuntos importantes de la teoría y práctica.

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