THE INFLUENCE OF HYPNOTICALLY-INDUCED ELEVATION OF
MOOD ON LEARNED HELPLESSNESS DEFICITS

DISSERTATION

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By

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This study evaluated the efficacy of hypnotically-induced mood elevation techniques for individuals exposed previously to an experimental learned helplessness condition. The treatment conditions in this investigation included the mood elevation with hypnotic induction group as well as a mood elevation group without the benefit of hypnotic induction. As experimental controls, a group was exposed to hypnotic relaxation and an attention-only treatment group was used. Measures of treatment success included the administration of the Depression Adjective Checklist, backward digit span, and five-letter anagrams. In a series of factorial analysis of variance procedures no significant interaction was noted although the main effect for the presence of hypnotic induction was significant with the Depression Adjective Checklist. Post hoc analysis to examine gender differences demonstrated no significant performance discrepancy between the sexes. Limitations of the study were explored and avenues of further research discussed.
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THE INFLUENCE OF HYPNOTICALLY-INDUCED ELEVATION OF MOOD ON LEARNED HELPLESSNESS DEFICITS

Centuries before the term "hypnosis" was coined, priests, witchdoctors, shamans, and charlatans all practiced the techniques now included under the umbrella of hypnotherapy (Gorksky & Gorsky, 1981). Their practice, minus any mercenary intentions, was similar to that of the modern hypnotherapists: the amelioration of discomforting symptoms in order that the patient may lead a more enjoyable and productive life. These early practitioners of hypnosis probably did not know then that which is a common assumption today; i.e., that overt symptoms of psychological origins often mimic symptoms of physical etiology. Therefore, successful hypnotic treatment is, and unknowingly was, oriented toward these psychological precursors to the patient's distress. Current and historical conceptualizations of the influence of hypnosis on the alteration of mood states may illuminate how to explore its impact on clinical and experimental models of a common psychological disorder, depression.

Many individuals hold discrepant but equally credible theories regarding the essential nature or mechanism of hypnosis (Udolf, 1981). Although no strong consensus exists among theorists concerning the mechanism of hypnosis, most
all agree that it is not an artificial state of somnambulism in which the subject is in complete control of the hypnotist, nor is it considered a performance "put-on" by a compliant subject (Gilligan, 1982). Fromm and Shor (1972) cite how several prominent individuals in the field of hypnosis have posited different theories of the nature of hypnosis. While some theorists emphasize suggestibility (Hull, 1933; Weitzenhoffer, 1953), motivated involvement (Barber, 1965), and social roles (Sarbin, 1956), other theorists explain the state of hypnosis as dissociation (Hilgard, 1977), alterations in cognitive processing (Orne, 1972), or regression in services of the ego (Gill & Brenman, 1959).

While there may be a large discrepancy between the views held regarding the nature of hypnosis, most theorists seem to "agree to disagree" about specific issues rather than general principles for, as Gilligan (1982) stated:

Most (but not all) theorists share the general premise that hypnosis is an entirely naturalistic state in which the suggested development of relaxation enables complete absorption in suggested images, to the extent that actual physiological changes may result. (p. 3).

The acceptance of hypnosis, therefore, does not require an act of faith but, to the contrary, compliments the critical observer. Our scholastic forefathers in hypnosis have with each succeeding generation added to the body of scientific
information detailing the phenomenon associated with hypnosis.

Modern History of Hypnosis

The single most prominent individual associated with hypnosis, probably through his dramatic inductions and questionable practices as well as his popularization of "mesmerism," is Franz Anton Mesmer. Gorksky and Gorksky (1981) in their description of Mesmer and this theory suggest that much of the superstructure of animal magnetism was largely plagiarized from the earlier work of Richard Mead, a disciple of Sir Issac Newton who tried to describe living systems through natural laws. Mesmer expanded this theory and concluded that an invisible, cosmic, fluid force was present in all living things. This discovery served as a catalyst to the development of a new rationale to a familiar technique.

Since Mesmer insisted that this vital force was fluid and flowing throughout the body, he further asserted that disease resulted if the flow of the fluid was interrupted. It was this series of postulates that led Mesmer away from the conventional medical community to search for an external means through which the flow could be properly redirected and the symptoms remissed (Gorksky & Gorksky, 1981). Although such a theory seems ridiculous in light of our contemporary understanding, Mesmer's universal fluid theory reflected the science of the time which had just discovered
the invisible forces of gravity and electricity (Udolf, 1981). Independent of the naïveté of his theory, Mesmer developed a sophisticated, if somewhat theatrical, precursor to modern hypnotic techniques.

Mesmer's techniques are remembered not exclusively because of their flamboyance but also because the majority of his patients experienced relief from the variety of symptoms for which they sought treatment (Udolf, 1981). At first, Mesmer thought to produce a "crisis" (trembling and seizures) in a patient, and thus control the force, magnets should be applied to the patient in various ways (Gorksky Gorksky, 1981). Mesmer, however, is probably most famous for his mass treatment of individuals anxious to be healed through animal magnetism. His patients would gather around a banquet filled with iron filings, the power of magnetism, and grasp iron rods which protruded out from the tub or hold hands with the person next to them. Although Mesmer produced almost endless variants of treatment on the principle of animal magnetism, each emphasized redirecting the flow of the universal fluid (Watson, 1971).

The controversy and castigation that Mesmer encountered for many decades possibly serves as a sober reminder to current hypnosis theorists. For Mesmer acknowledged that he got essentially the same results without the use of the magnets. Yet he insisted that a physical basis for disease and his cures existed, and resoundingly rejected the
assumption that there might have been a psychological component, or even a psychological basis, for the treatment he perpetuated (Gorksky & Gorksky, 1981). Although often ridiculed and condemned, Mesmer's followers spread the theory and practice of animal magnetism across Europe, to England, and even to the United States by the mid-1800's. Although many followers of Mesmer were steadfast in their belief in animal magnetism, this theory became diluted with the changing spirit of the times (Udolf, 1981).

Mesmerism continued to be used for a variety of symptoms and many practitioners began performing experiments with mesmeric surgery. The use of hypnotic techniques as an anesthetic became increasingly popular and remained so until the introduction of pharmacological anesthesiology in the first decades of the nineteenth century (Rosen, 1946). As hypnosis began to become a topic of interest to an increasing number of reputable scientific investigators its credibility as a legitimate topic of research and therapy improved. However, hypnosis concurrently receded from the public domain and lost, possibly never to regain, the popularity that it experienced during the years of "Mesmerism" (Udolf, 1981).

An individual responsible for helping to turn the tide of skepticism about hypnosis from the scientific community was an English physician, James Braid. Braid coined the term "hypnotism" that was to replace the old term, mesmerism.
Renaming the phenomenon helped distance hypnotism from its associations to Mesmer and the kind of showmanship that the medical community of the 1800's found unprofessional and repugnant (Udolf, 1981). Braid's position as an accepted and conservative member of the medical establishment made the study of hypnosis more legitimate to this body of professionals (Watson, 1971). Another significant contribution of Braid's work was the realization that the hypnotist influenced the subject by suggestion rather than by any direct physiological effects. Braid refined this view to posit that the hypnotic experience is the narrowing of the subject's perceptual field by concentrating on a single idea (Udolf, 1981). Thus a foundation was laid for a psychological mechanism of hypnosis.

Psychotherapy and hypnosis achieved credibility as treatment modalities almost simultaneously. The pendulum of acceptance swung in favor of hypnosis just before the turn of the century due to the weight of influence of Jean Martin Charcot, a skilled neurologist and researcher (Watson, 1971). Gorksky and Gorksky's (1981) credit to Charcot for what he did for psychology also illuminates what he did for the study of hypnosis:

...by taking the last vestiges of human health and illness out of the hands of the priest and the purview of magic and placing them in the hands of the physician and the purview of rational science (p. 30).
Charcot initially argued that hypnosis could only be induced in patients suffering from hysteria, the hypnotic trance symptomatic of psychopathology. The work of Charcot and his students helped establish the existence of psychogenic factors in abnormal behavior and to forward psychological treatment of such disorders, including hypnotherapy.

The link between psychotherapy, hypnosis, and the treatment of exclusively mental disorders is personified in the theory and practice of one of Charcot's students, Sigmund Freud (Watson, 1971). First working with Charcot and later with the general practitioner, Josef Breur, Freud began to incorporate hypnosis into his practice. Breur was one of the first therapists to use hypnosis with neurotic patients in order to facilitate less inhibited speech. Freud adapted Breur's method to his practice of therapy. Finding that he did not need to make direct suggestions, Freud ultimately abandoned the use of hypnosis. For Freud, hypnosis was appealing not because of its therapeutic effectiveness, but because it led him to discover the unconscious, a discovery which permeates the way we understand human behavior today (Gorksky & Gorksky, 1981).

Contemporary theorists are less extravagant in their claims and more guarded in their optimism concerning hypnosis. Nevertheless, an ever-increasing number of researchers, including prominent investigators at prestigious institutions, are exploring with vigorous enthusiasm, tempered
only by experimental rigor, the phenomenon of hypnosis. The work of Milton H. Erickson probably best personifies the "state of the art" in contemporary hypnotherapy (Fromm & Shor, 1979). Erickson's therapeutic approach emphasizes brevity and limited goals that do not require insight. Although Erickson was a clinician, applying principles of hypnosis to the amelioration of a multitude of symptoms--typically from retractable patients, his work has provided an impetus for further investigation by others (Udolf, 1981). Therefore, much like his hypnotherapy ancestors such as Mesmer, Braid, Breur, and Freud, Erickson's successful implementation of hypnosis has elicited in others the scientific curiosity necessary to promote hypothesis testing and ultimately theory construction.

**Hypnotic Induction of Mood States**

Hypnosis as an effective agent in the alteration of mood states is well documented in the clinical and research literature. While clinical studies focused on the amelioration of emotional disorders, the experimental literature studied the influence of manipulating emotional states, through hypnotically-induced mood alterations, and assessing its impact on a series of cognitive, affective, and performance measures. A further distinction between the clinical and experimental alteration of mood states is the applied practitioner's tendency to provide a general treatment in order to facilitate a more global adaptive
functioning, whereas the hypnosis researcher generally uses hypnosis to induce experimentally specific moods such as sadness or happiness (Bower, Gilligan, & Monteiro, 1981).

Initial experimental investigations of mood alteration reported the production of anxiety via hypnotic methods. Levitt (1967) and his colleagues have extensively studied direct suggestion techniques for inducing anxiety. Branca and Podolnick (1961), Reyher (1967), and Solovey and Milechnin (1957) also report studies of hypnotically-induced anxiety. The presence of the hypnotically-induced suggested anxiety was manifest in the investigations cited above by a series of psychological (e.g., Rorschach technique, T.A.T. cards, Taylor Manifest Anxiety Scale), and physiological measures (e.g., electrodermal response, heart rate, respiration rate). These studies and many others helped document the profound influence hypnotic mood states could exert on an individual's behavior.

As more sophisticated methods of training subjects to discriminate different degrees of an emotion have been developed (Blum & Wohl, 1971), more specific research questions could be asked. Some of the techniques initially investigated have become legitimate techniques fostering further studies. For example, the Velten technique (Velten, 1968) for the induction of transient depressive mood states has been better validated than any other mood induction technique, with or without hypnosis (Mukherji, Abramson, &
Martin, 1982). The mood states induced by the Velten technique have been shown to influence peoples' judgment of control as well as their performance. The induction of various emotional states and the measure of their influence on cognitive processes and physical performance constitutes a large area of research in the field of experimental hypnosis.

The induction of affective states other than anxiety or depression has also been well documented in the literature. Early investigations into the authenticity of hypnotically-induced affect such as happiness, sadness, and anger were carried out by Girdo-Frank and Bull in the 1950’s (Gilligan, 1982). Damaser, Shor, and Orne (1963), using a comprehensive battery of psychological and physiological measures, were able to successfully develop emotional states of fear, calm, happiness, and depression using hypnotic suggestions. Further evidence supporting the validity of hypnotically-induced affective states includes the work of Eickhorn and Tarckter (1955), Fisher and Marrow (1932), Hepps and Brady (1967), Kehoe and Ironside (1963), and Zimbardo, Maslach, and Marshall (1972).

Sarbin and Slagle (1972) provided evidence that similar emotional responses could be elicited in non-hypnotized subjects. They also found that subjects instructed to simulate a hypnotic trance sometimes responded to hypnotic mood inductions in ways indistinguishable from hypnotized
subjects (Sarbin & Slagle, 1972). However, asserting a naturalistic orientation toward the hypnotic state, their conclusions should not be surprising. Other techniques also proven effective in the manipulation of mood states independent of a formal hypnotic suggestion include a procedure in which subjects read a number of self-referential mood statements (Velten, 1968), manipulations of success and failure to induce positive or negative moods (Mischeal, Ebbesen, & Zeiss, 1973), and audiotaperecorded descriptions of deeply emotional events (Thompson, Cowan, & Rosenhan, 1980). Hypnosis should therefore, be regarded as one of a number of effective techniques for altering an individual's mood.

Out of these studies came two important conclusions and directions for further research. First, the validation of hypnosis as an active agent of legitimate mood alteration. Secondly, and possibly more importantly, it allowed researchers to make specific conclusions regarding the influence of emotional states on various psychological and physical functions. Hypnotically-induced emotional states allowed investigators to add considerably more control in their experiments by reducing the potentially confounding influences often associated with emotional states research. Furthermore, these studies provide a model of emotional state development which has found legitimate use in the consulting room as well as the psychology laboratory.
Emotionally-Mediated Learning

The alteration of mood states becomes of research interest only when it differentially influences observable behavior, be it physical performance or self-report. The selectivity of learning influenced by mood states is an expanding area of investigation in several different branches of psychology (Gilligan, 1982; Bower, et. al., 1981). In a review of their work, Bower, et. al. (1981) report that they have generally found that cognitive processes (i.e., learning, memory, expectations, and free associations) are biased in the direction of the subject's prevailing mood. For example, a "happy" subject tends to recall more happy than sad memories, learns material that has a pleasant emotional tone, and makes more positive predictions about personal and world events (Gilligan, 1982). While the reliability of the general effects of hypnotic mood manipulation has been demonstrated repeatedly, the specific mechanisms underlying them are still undefined.

The influence of experimental manipulation on task performance learning, expectation and attributions is reported in studies far removed from the hypnosis literature but with strikingly similar conclusions. Levine (1971), in his famous studies on hypothesis testing and discrimination learning, found that well-motivated subjects responding to a sample from a set which does not contain a correct hypothesis would subsequently behave as though the relevant
stimuli were literally absent—despite ideal stimulus-response contingencies of reinforcement. Hiroto and Seligman (1975) replicated Levine's (1971) experiment but included measures to evaluate performance and affect as well as cognitive processes. These authors found the generality of the debilitation produced by uncontrollable events across tasks and motivational systems pervasive and independent of reinforcement, an induced characterological "trait" (Hiroto & Seligman, 1975).

As research on learned helplessness was expanded to include progressively more and more studies using human subjects, the inadequacy of the theoretical constructs originating in the animal learned helplessness paradigm was found especially in relation to the clinical symptoms of depression (Garber & Seligman, 1980). The reformulated hypothesis states that when people find themselves helpless, they implicitly or explicitly ask why they are helpless and

...the causal attributions they make influence the generality and chronicity of the learned helplessness deficits as well as later self-esteem (Garber & Seligman, 1980, p. 5).

The learned helplessness hypothesis provides a unified account of the debilitating consequences of experience with controllable events in humans and animals (Benson & Kennelley, 1976).
The integration of these two divergent areas of psychological research becomes significant only in light of the fact that the Learned Helplessness paradigm as outlined and explored by Hiroto and Seligman (1975) has been identified as an accurate model of the cognitive, performance, and affective deficits noted in clinically depressed individuals. The learned helplessness model of depression has frequently illustrated the similarities between the laboratory phenomenon and clinical depression. The comparison has been typically made across the four dimensions of symptomology, etiology, treatment, and prevention (Garber & Seligman, 1980). The similarity of the symptomology has received the most support empirically as individuals from both the experimental and clinical groups seem to possess deficits in motivation, cognition, and emotion (Hiroto & Seligman, 1975). Along the remaining three dimensions the clinical and experimental models appear to become more differentiated. Due to the apparent complexity of the clinical phenomenon of depression, it is currently assumed that depression modeled after laboratory helplessness may represent a subclass of a larger, heterogeneous diagnostic category (Garber & Seligman, 1980).

The reformulated model of learned helplessness that humans adopt a depressive orientation when confronted with the apparent futility of their behavior is also described in the cognitive theory of depression posited by Aarron
Beck (1974). Beck conceived of negative expectations as being the basis for depressive mood states. For example, Beck (1974) reasoned that negativistic thoughts attenuate an individual's striving and thus result in a state of depression, creating a vicious cycle of impaired interpersonal activity that accompanies depression. Beck has found this conceptualization effective not only in discriminating the etiology of depression but also as a framework for implementation of a successful treatment package. Others have recently adopted this theoretical model and have begun to develop new modes of treatment to ameliorate the potentially devastating clinical symptoms of depression.

Lewinsohn and Shaw (1970) have postulated that the depressive effect of a low rate of response contingent reinforcement could be mediated by the subject's recording of mastery and pleasure producing behaviors, with behavioral scheduling to increase the positive responses to non-depressive behavior. Cautela (1971) has extended such a procedure and has established a method of covert positive reinforcement (CPR). In CPR, external positive reinforcers have been replaced in some operant techniques by internal, cognitive, reinforcers. Thus Cautela (1971) proceeds from the assumption that

...stimuli presented in imagination have similar functional relationships to covert and overt behavior
as do stimuli presented externally. It is further assumed that the manipulation of covert processes can directly influence overt responses in a predictable manner (p. 111).

In the application of Cautela's (1971) CPR, through imagery conditioning, the desired adaptive responses are encouraged or reinforced by associating them with an imagined, pleasurable stimulus (Matheson, 1979). Gauntz, Unestahl, and Berglund (1975) adapted this model to a hypnotic approach in order to determine whether an individual's behavior could act as a stimulus to evoke a positive emotion, thus serving to reinforce and increase the frequency of adaptive behavior. In this investigation, during hypnosis, the suggestion was given that the same "sense of happiness" which was evoked by imagining the past, would occur accompanying a specific behavior (Gauntz, et. al., 1975). The results of this study supported the modifying effect of the evoked emotion in altering the frequency of behavior.

Representing the current literature concerning the hypnotic treatment of depression through imagery conditioning, Matheson (1979) explored the use of a hypnotically-released emotion in a case report of depression. In all the cases reviewed, Matheson (1979) concluded that a post-hypnotically released emotion served to increase the level of activity of the depressed patient. As is the criticism of all case study reports, the influence of internal and external
extraneous variables in the Matheson study may temper the conclusions. However, these case study results seem to add a clinical dimension of efficacy to the experimental manipulations of Cautela (1971) and Gauntz, et. al. (1975).

Rationale of Current Study

The study of hypnotic induction and treatment currently provides the necessary measures and theory to support the differential influence of alternate hypnotic conditions. Thus the nonspecific factors that no doubt biased the results of the practice of Mesmer, Braid, and others have been articulated, attenuated, or abandoned. The specificity of outcome conditions currently available provides the researcher with an increased sense of experimental rigor, allowing the systematic dissection of potential contributing factors in the investigation of hypnotic treatment. This investigation seeks to exploit the differentiation of hypnotic influence in order to more accurately define the parameters of influence as related to the mediation of cognitive and emotional inhibitions.

Investigations at the gray areas on the clinical-experimental continuum of psychological research often counter methodological and ethical considerations that must be addressed. Providing an experimental treatment strategy to a psychiatric population involves practical as well as ethical complications concerning experimental control. The increased validity and applicability of such a study is
achieved only through the compromise of more rigorous control and the undetermined influence of extraneous variables.

The analogue study of psychiatric phenomenon has provided an alternative to the dilemma of clinical investigations (Rimm & Masters, 1979). While the external validity of the analogue study is attenuated, the increased experimental efficacy allows for the investigation of nonspecific influences and confounding variables. Thus, for the purpose of this investigation, the learned helplessness induction procedure will represent the deficits associated with many forms of clinical depression (Garber & Seligman, 1980).

The research literature is replete with reports confirming the presence and persistence of motivational, emotional, and performance deficits following participation in response noncontingent aversive conditions (as reported in Garber & Seligman, 1980). Likewise, the efficacy of hypnotically-influenced mood states has been resoundingly confirmed in a multitude of well-controlled studies (as reviewed in Gilligan, 1982). Furthermore, research has recently begun to investigate the contribution of hypnotically-influenced mood states in the modification of depressive symptoms (Matheson, 1979). It was the intent of this investigation to contribute to the articulation of the influence of manipulated mood states on experimentally-produced cognitive and emotional deficits.
In order to more accurately assess the influence of hypnotically-induced mood states several conditions were controlled. The discrimination of mood elevation from the general influence of hypnotic induction was controlled by a hypnotic treatment condition that does not benefit from mood elevation suggestions. This treatment group was defined as "hypnotically-induced relaxation" in order to more accurately represent the imagery suggested. Furthermore, the efficacy of hypnotically-elevated mood states was contrasted with a treatment condition implementing a mood elevation procedure without a hypnotic induction. To control for nonspecific influences that might have contributed to the results, such as experimenter presence and participation, an attention control condition was also included. The statistical hypothesis states that hypnotically-induced elevation of mood states will not have a significantly different influence on any of the outcome measures. However, the research hypotheses assert that 1) Hypnotically-induced elevation of mood procedure will contribute to positively influence post-treatment measures in comparison to the other treatment conditions; 2) Elevation of mood without hypnosis procedure will exhibit greater post-treatment measures than the hypnotically-induced relaxation condition; and, 3) Hypnotically-induced relaxation procedure will not differentially influence post-treatment measures compared to the attention condition.
Method

Subjects

The subjects for this study were drawn from a pool of hypnosis research volunteers representing undergraduate students at North Texas State University. The sample included 24 male (age range 18 to 34 years, mean of 24) and 16 female subjects (age range 18 to 45 years, mean age of 22). Subjects were solicited by advertisements in the school newspaper and undergraduate psychology classes. In various psychology courses students received credit toward their final grade for participation in this investigation. In the initial screening procedure all subjects responding to the advertisement were administered the 168-item version of the Minnesota Multiphasic Personality Inventory (MMPI-168; Overall, Higgins, & de Schweinitz, 1975). Since it is unethical to induce depression in people who already have depressive tendencies or insufficient psychological resources, as reflected on the MMPI-168, only subjects scoring within 2.0 standard deviations from a mean of 50 were considered for inclusion in this study. Furthermore, for the purpose of this investigation students were administered the Harvard Group Scale of Hypnotic Susceptibility, Form A (Shor & Orne, 1962). Those individuals that scored within the moderately high to high susceptible range (eight-12) were permitted to participate in the study. Subjects meeting the above criteria were
randomly assigned to one of the four experimental conditions with placement terminating when each of the group cells were successfully filled.

**Instruments**

The **MMPI-168**. This abbreviated edition of the standard 566-item MMPI (Hathaway & McKinley, 1951) has demonstrated diagnostic utility in a number of clinical and research applications (Overall, Higgins, & de Schweinitz, 1975). This measure includes only the first 168 items of the MMPI. Overall and Gomez-Mont (1974) found that the scores obtained from the MMPI-168 correlated highly with the clinical scale scores of the standard administration and suggest that much of the reliable variance of the standard MMPI clinical scales is concentrated in the first 168 items.

In a study to determine the discriminant validity of the MMPI-168, Overall, et. al. (1975) provided evidence to suggest that this abbreviated version actually produced slightly better discrimination than the longer parent instrument. Thus, Overall, et. al. (1975) concluded that the MMPI-168 can provide a general psychiatric screening tool just as valid as the considerably longer standard MMPI. Ward (1980) reports that the MMPI-168 has been shown to relate well to independent external criteria in clinical studies. Therefore, the administration of the MMPI-168 as a device to screen individuals that may be inappropriate
for inclusion in this study seems to be warranted by the literature.

The Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS: A; Shor & Orne, 1962). The HGSHS: A is the group administered version of the Stanford Hypnotic Susceptibility Scale, Form A (SHSS: A; Weitzenhoffer & Hilgard, 1959). The HGSHS: A allows for the assessment of 20 or less subjects with its scoring based upon a retrospective self-scoring method. The range of possible scores was from 0 to 12, with a score of 0 indicating low susceptibility and a score of 12 representing very high susceptibility. Bentler and Hilgard (1963), with the scores of independent observers, found that the self-scoring method of the HGSHS: A correlated highly for group as well as individual administration with the scores of independent observers.

Laurence and Perry (1982) have recently confirmed the earlier work of Shor and Orne (1963) establishing the HGSHS: A as an efficient evaluation tool for determining initial ratings of hypnotic susceptibility. The normative data derived from a series of investigations using the HGSHS: A (as reported in Laurence & Perry, 1982) consistently yield congruent results. Thus the HGSHS: A has been repeatedly shown to be reliable and valid when used for normative evaluation of hypnotic susceptibility. Therefore, the literature seems to support the use of the HGSHS: A as
an index of hypnotic susceptibility and for the screening of individuals for further hypnotic training.

The Field Inventory of Hypnotic Depth (FIDH; Field, 1965). The FIDH is a 38-item true-false questionnaire which assesses a subject's self-report of the intensity of experience change as a consequence of the hypnotic induction. Derived from a pool of over 300 items describing experiences during hypnosis, Field (1965) abstracted 38 of the most commonly experienced and encompassing statements.

Field (1965) reports a total score range on the total 38 items from 0 to 36 with a mean of 14.54 and a standard deviation of 9.05. In evaluations of reliability, the FIDH produced a split-half (Spearman-Brown prophecy formula) reliability of .92 and a test-retest reliability of .87. In comparison to other measures of hypnotic experience, the Pearson r concurrent validity coefficient between the FIDH and the HGSHS: A is .75 (Field, 1965). However, Tellegen (1978) reports a correlation of .83 between these two measures. Tart (1978) reported a correlation of .66 between the FIDH and mean depth reports from the SHSS: C. Thus the FIDH should provide an acceptable measure of each subject's intensity of hypnotic experience.

The Depression Adjective Checklist (DACL; Lubin, 1967). The DACL is a rapidly administered, objectively-scored measure of depressive affect which is standardized for non-psychiatric college students (DACL scores ranging from 7.7
to 8.8) as well as hospital depressives (scores between 14.0 and 20.4). The DACL is composed of 32 descriptors of mood which the subject may endorse, such as "unhappy," "broken," and "glum," with a total score derived from the number of items endorsed. The advantage of the DACL over similar measures is that several forms are available and the alternate-form reliability is robust (.80 to .93) with a minimum of item redundancy either within or across forms (Lubin, 1967).

The high intercorrelations between alternate forms indicate that their equivalence is sufficient for use in studies in which an instrument is needed for retest assessment of depression with only a brief interval between test administration (Lubin, 1965). Furthermore, the DACL is associated with common measures of depression (r's = .56 and .49, p < .001, with the Beck Depression Inventory and Scale 2 of the MMPI, respectively; Lubin, 1967). Goldstein and McNair (in Buros, 1972) report that the alternate forms of the DACL represent a sensitive measure of depression, including more transient depressive affect. However, McNair cautions that the DACL seems to measure a constellation of emotional factors that may not be exclusively related to depression (Buros, 1972). Since the DACL possesses adequate reliability and validity and can be administered to subjects in two-three minutes, its inclusion in this investigation seemed appropriate.
Backward Digit Span. Benson and Kennelly (1980) suggested that one of the most sensitive measures of learned helplessness deficits was the backward-recall of an increasing number of verbally-presented digits. This provided the pre- and post-treatment measure of learned helplessness. Administration resembled that outlined by Wechsler (1955).

The Learned Helplessness Treatment (LHT). In order to successfully induce in each subject the deficits noted in learned helplessness conditions, insoluble discrimination problems similar to those used by Hiroto and Seligman (1975), Levine (1971), and Benson and Kennelly (1976) was used. This treatment was composed of a series of paired four-dimensional stimulus patterns. Each of the four pattern dimensions had two values; e.g., (a) the border was either a solid or dashed line; (b) the letter size was either large or small; (c) the letter was either an X or a T; and, (d) the letter was either red or black (Levine, 1971). Each of the five problems were made on ten cards, each card being 20.2 by 12.7 centimeters, white index cards contained in a two-ring binder. Since each problem was insoluble no consistently correct response was available.

Anagram Test. In order to evaluate a dimension of cognition as well as the dimension of affect, a test including a series of 20 five-letter anagrams similar to those used by Hiroto and Seligman (1975), and Hayslip (1977)
was used. The letter order for all anagrams was the same, five-three-one-two-four, with each anagram being composed of 1.0 centimeter white sheet of paper. The subjects' responses were recorded and the final score was the total number of correct solutions.

Procedure

Each individual participating in this study was included in all of the preliminary screening assessment and hypnotic-induction treatment independent of ultimate placement in a treatment condition. Therefore, each subject was administered the MMPI-168 and the HGSHS: A. Each subject then participated in a hypnotic induction technique as outlined in Kroger and Fezler (1976). Since more than one experimenter was used, subjects were randomly assigned to experimenters. Following successful hypnotic induction, as assessed by the FIDH, a post-hypnotic suggestion facilitating subsequent trance induction was employed.

Although the initial LHT was identical across all groups, subjects were randomly assigned to a treatment condition at this time to facilitate a smooth transition from the LHT to the manipulated treatment conditions. Therefore, each subject entered a room with the experimenter and each had a seat. When the subject was seated comfortably the general instructions began

We are interested in determining the influence of hypnosis on problem-solving ability, a component of
overall intelligence. During the course of this session, I will administer a number of these tasks to you. I have found that individuals do not, under all circumstances, perform consistently, even on the same task. Thus, I will administer each of these tasks to you a number of times, under slightly varying conditions.

Immediately following these instructions the subjects read the instructions for the Levine discrimination problems (Benson & Kennelly, 1976) which was followed by a five-trial discrimination problem. On each trial the subject was required to verbally indicate which of the two stimulus patterns on the card contained the correct value, responding either "left" or "right." The maximum time a subject was allowed for any trial was 15 seconds.

The subjects experienced 70 percent negative-30 percent positive feedback which was reported to be sufficient to induce an adequate sense of learned helplessness (Hiroto & Seligman, 1975). Therefore, the following randomized correct (C) and incorrect (I) trail by trial feedback was given:

for problem one, I-C-I-I-I-C-I-I-I; problem two, I-C-I-I-I-C-I-C-I-I; problem three, I-I-C-I-C-C-I-I-I-I-C; problem four, I-C-I-I-I-C-C-I-I-I-I-C; and problem five, I-C-I-I-I-C-I-C-I-I-I. After the subject made a response indicating which item was correct, the subject was informed either "that's a correct answer," or "that's a wrong answer."
Immediately following the LHT phase of the experiment, the subject was administered the pre-treatment backwards digit span test. Following completion of this pre-treatment measure the subsequent experimental conditions were dependent upon group assignment.

Individuals randomly assigned to the attention-control group sat comfortably while the experimenter read to them a brief article on hypnosis (Goleman, 1977). Piedmont (1981) found this to be an effective control for the influence of an experimenter's presence and participation without the contribution of a confounding influence of suggestion. The second treatment group consisted of individuals listening to a statement approximately 15 minutes in length, in the experimenter's voice, that is similar to the mood elevation protocol of the hypnotically-induced elevation of mood treatment group (see Appendix A).

The third treatment group was asked to enter a hypnotic trance via the post-hypnotic suggestion made at the time of the initial induction (Sheehan & Orne, 1968). This group was instructed to engage in relaxation imagery as outlined in Kroger and Fezler (1976, Appendix C) without any suggestion of mood alteration. The fourth treatment condition was requested to enter a hypnotic trance via the post-hypnotic suggestion made at the first induction. This group was then instructed specifically to recall a happy time in their lives and to then focus on the emotion rather than the event.
This mood alteration technique was similar to the one used by Gilligan (1982; see Appendix B).

Immediately following the treatment conditions the subjects were administered the post-treatment backwards digit span test, the DACL, Form D and the anagram test. Following completion of these post-treatment measures the subject was asked, "Can you explain the rationale of this study," with any spontaneous comments made by the subjects regarding their mood and its influence being noted. All subjects were then debriefed and dismissed from the study.

Data Analysis

The data resulting from this investigation were analyzed by implementing a series of two-way analysis of variance procedures (Kerlinger, 1973). Using the post-treatment measures of the DACL, backward digit span, and five-letter anagrams the interaction of mood induction by hypnotic induction was evaluated. This resulted in a 2 x 2 factorial design (absence or presence of mood induction by absence or presence of hypnotic induction). A one-way analysis of variance with repeated measures was included to determine the influence of the LHT and the subsequent treatment conditions. The dependent measures included were the pre- and post-treatment digit-span backwards scores. Collapsing across treatment conditions a post hoc analysis of subject's gender was analyzed by a series of two-way analysis of variance procedures (Kerlinger, 1973) including the dependent
measures of the DACL, backward digit span, and five-letter anagrams. The resulting 2 X 2 factorial design included subject sex (male or female) by hypnotic induction (absent or present).

Results

Comparison of Treatment Conditions

In the initial analysis three dependent measures, backward digit span, the Depression Adjective Checklist (DACL), and five-letter anagrams, were used to assess the influence of the treatment conditions. These dependent variables were selected for their ability to measure different components of psychological functioning. Table 1 includes the means and standard deviations for each of the dependent measures for the four treatment conditions. Three 2 X 2 analysis of variance procedures (Kerlinger, 1973) were implemented comparing the interaction between the absence of presence of hypnotic induction and the absence or presence of mood elevation.

As noted in Table 2, no significant two-way interaction was achieved with the DACL dependent measure. However, the DACL analysis yielded a significant difference between groups on the main effect of hypnotic induction. Individuals participating in the treatment conditions utilizing hypnotic inductions scored significantly lower on the DACL than subjects in the mood elevation or attention-control groups ($p < .01$).
Table 1
Means and Standard Deviations of Dependent Variables by Treatment Conditions

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>DACL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>2.8</td>
<td>7.9</td>
<td>5.1</td>
<td>8.7</td>
</tr>
<tr>
<td>S. D.</td>
<td>1.32</td>
<td>4.23</td>
<td>4.2</td>
<td>5.42</td>
</tr>
<tr>
<td>Digit Span</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.6</td>
<td>4.7</td>
<td>4.7</td>
<td>3.2</td>
</tr>
<tr>
<td>S. D.</td>
<td>1.34</td>
<td>1.89</td>
<td>1.95</td>
<td>1.23</td>
</tr>
<tr>
<td>Anagrams</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>10.5</td>
<td>10.1</td>
<td>11.0</td>
<td>8.6</td>
</tr>
<tr>
<td>S. D.</td>
<td>4.58</td>
<td>4.41</td>
<td>5.81</td>
<td>4.14</td>
</tr>
</tbody>
</table>

Note. Group 1 = Hypnotic mood elevation; Group 2 = Mood elevation; Group 3 = Hypnotic relaxation; and, Group 4 = Attention-control.

In similar two-way analyses of variance procedures using the dependent measures of backward digit span and five-letter anagrams, no significant two-way interactions were noted. Furthermore, for each of these two dependent variables no significant main effects were established (Tables 3 and 4). In this analysis comparing the interaction of mood elevation and hypnotic induction, the subject's performance on backward digit span and five-letter anagrams seemed to be independent of the influence of participation in any particular treatment group.
### Table 2
Two-Way Analysis of Variance Summary Table
For Mood by Hypnosis with DACL

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>213.25</td>
<td>2</td>
<td>106.63</td>
<td>6.4**</td>
</tr>
<tr>
<td>Hypno</td>
<td>189.23</td>
<td>1</td>
<td>189.23</td>
<td>11.363**</td>
</tr>
<tr>
<td>Mood</td>
<td>24.03</td>
<td>1</td>
<td>24.03</td>
<td>1.44</td>
</tr>
<tr>
<td>Two-Way Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypno Mood</td>
<td>5.63</td>
<td>1</td>
<td>5.63</td>
<td>0.34</td>
</tr>
<tr>
<td>Explained</td>
<td>218.88</td>
<td>3</td>
<td>72.96</td>
<td>4.38**</td>
</tr>
<tr>
<td>Residual</td>
<td>599.49</td>
<td>36</td>
<td>16.65</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>818.37</td>
<td>39</td>
<td>20.98</td>
<td></td>
</tr>
</tbody>
</table>

Note. **p < .01.

### Table 3
Two-Way Analysis of Variance Summary Table for Mood
by Hypnosis with Backward Digit Span

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>9.8</td>
<td>2</td>
<td>4.9</td>
<td>1.83</td>
</tr>
<tr>
<td>Hypno</td>
<td>4.9</td>
<td>1</td>
<td>4.9</td>
<td>1.83</td>
</tr>
<tr>
<td>Mood</td>
<td>4.9</td>
<td>1</td>
<td>4.9</td>
<td>1.83</td>
</tr>
<tr>
<td>Two-Way Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypno Mood</td>
<td>6.4</td>
<td>1</td>
<td>6.4</td>
<td>2.39</td>
</tr>
<tr>
<td>Explained</td>
<td>16.2</td>
<td>3</td>
<td>5.4</td>
<td>2.02</td>
</tr>
<tr>
<td>Residual</td>
<td>96.2</td>
<td>36</td>
<td>2.67</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>112.4</td>
<td>39</td>
<td>2.88</td>
<td></td>
</tr>
</tbody>
</table>
Table 4
Two-Way Analysis of Variance Summary Table
For Mood by Hypnosis with Anagrams

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>22.1</td>
<td>2</td>
<td>11.05</td>
<td>0.48</td>
</tr>
<tr>
<td>Hypno</td>
<td>19.6</td>
<td>1</td>
<td>19.6</td>
<td>0.86</td>
</tr>
<tr>
<td>Mood</td>
<td>2.5</td>
<td>1</td>
<td>2.5</td>
<td>0.11</td>
</tr>
<tr>
<td>Two-Way Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypno Mood</td>
<td>10.0</td>
<td>1</td>
<td>10.0</td>
<td>0.44</td>
</tr>
<tr>
<td>Explained</td>
<td>32.1</td>
<td>3</td>
<td>10.7</td>
<td>0.47</td>
</tr>
<tr>
<td>Residual</td>
<td>821.79</td>
<td>36</td>
<td>22.83</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>853.89</td>
<td>39</td>
<td>21.89</td>
<td></td>
</tr>
</tbody>
</table>

Comparison of Learned Helplessness Effect

The one-way analysis of variance with repeated measures illuminated the significant difference between pre- and post-treatment digit span backward scores \( (p < .01) \). Table 5 provides means and standard deviations for each treatment condition while Table 6 includes summary information for the analysis of variance.

Comparison of Subject's Gender and Treatment Conditions

Collapsing across treatment groups, the subject's gender was included in a post hoc analysis comparing the interaction of the subject's sex and either the absence or presence of hypnotic induction treatment with the dependent measures of DACL, backward digit span, and five-letter
Table 5
Means and Standard Deviations of Pre- and Post-Treatment Backward Digit Span By Treatment Conditions

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.80</td>
<td>3.70</td>
<td>4.30</td>
<td>3.30</td>
</tr>
<tr>
<td>S. D.</td>
<td>1.13</td>
<td>1.25</td>
<td>2.21</td>
<td>1.16</td>
</tr>
<tr>
<td>Post-Treatment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.60</td>
<td>4.70</td>
<td>4.70</td>
<td>3.20</td>
</tr>
<tr>
<td>S. D.</td>
<td>1.35</td>
<td>1.89</td>
<td>1.95</td>
<td>1.23</td>
</tr>
</tbody>
</table>

Note. Group 1 = Hypnotic mood elevation; Group 2 = Mood elevation; Group 3 = Hypnotic relaxation; and Group 4 = Attention-control.

Table 6
One-Way Analysis of Variance with Repeated Measures Summary Table for Pre- and Post-Treatment Backward Digit Span by Treatment Conditions

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1304.11</td>
<td>1</td>
<td>1304.11</td>
<td>307.55**</td>
</tr>
<tr>
<td>Group</td>
<td>17.74</td>
<td>3</td>
<td>5.91</td>
<td>1.39</td>
</tr>
<tr>
<td>Error</td>
<td>152.65</td>
<td>36</td>
<td>4.24</td>
<td></td>
</tr>
<tr>
<td>Pre/Post</td>
<td>5.51</td>
<td>1</td>
<td>5.51</td>
<td>7.80**</td>
</tr>
<tr>
<td>PG</td>
<td>3.53</td>
<td>3</td>
<td>1.18</td>
<td>1.67</td>
</tr>
<tr>
<td>Error</td>
<td>25.45</td>
<td>36</td>
<td>0.71</td>
<td></td>
</tr>
</tbody>
</table>

Note. **p < .01.
anagrams. Table 7 provides the means and standard deviations for each of the dependent measures for the male and female participants. No significant two-way interactions were found using these dependent variables. The main effect of hypnosis was significant when the DACL was the dependent measure of treatment conditions ($p < .01$). The backward digit span and five-letter anagrams yielded no significant main effects in this analysis. No differences between male and female subjects was established with any of the dependent measures included in this study. These results are summarized in Tables 8 through 10.

### Table 7

**Means and Standard Deviations of Dependent Variables by Subject Gender**

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>DACL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>6.29</td>
<td>5.87</td>
</tr>
<tr>
<td>S. D.</td>
<td>5.18</td>
<td>3.63</td>
</tr>
<tr>
<td>Digit Span</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.33</td>
<td>4.25</td>
</tr>
<tr>
<td>S. D.</td>
<td>1.66</td>
<td>1.81</td>
</tr>
<tr>
<td>Anagrams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>10.12</td>
<td>9.94</td>
</tr>
<tr>
<td>S. D.</td>
<td>4.59</td>
<td>4.96</td>
</tr>
</tbody>
</table>
Table 8
Two-Way Analysis of Variance Summary Table For Sex by Hypnosis with DACL

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>206.76</td>
<td>2</td>
<td>103.38</td>
<td>6.08**</td>
</tr>
<tr>
<td>Hypno</td>
<td>205.09</td>
<td>1</td>
<td>205.09</td>
<td>12.07**</td>
</tr>
<tr>
<td>Sex</td>
<td>17.53</td>
<td>1</td>
<td>17.53</td>
<td>1.03</td>
</tr>
<tr>
<td>Two-Way Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypno Sex</td>
<td>0.004</td>
<td>1</td>
<td>0.004</td>
<td>0.0</td>
</tr>
<tr>
<td>Explained</td>
<td>206.76</td>
<td>36</td>
<td>16.92</td>
<td>4.06**</td>
</tr>
<tr>
<td>Residual</td>
<td>611.61</td>
<td>36</td>
<td>16.99</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>818.37</td>
<td>39</td>
<td>20.98</td>
<td></td>
</tr>
</tbody>
</table>

Note. **p < .01.

Table 9
Two-Way Analysis of Variance Summary Table For Sex by Hypnosis with Backward Digit Span

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Effects</td>
<td>4.94</td>
<td>2</td>
<td>2.47</td>
<td>0.83</td>
</tr>
<tr>
<td>Hypno</td>
<td>4.87</td>
<td>1</td>
<td>4.87</td>
<td>1.64</td>
</tr>
<tr>
<td>Sex</td>
<td>0.04</td>
<td>1</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>Two-Way Interaction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypno Sex</td>
<td>0.6</td>
<td>1</td>
<td>0.6</td>
<td>0.2</td>
</tr>
<tr>
<td>Explained</td>
<td>5.54</td>
<td>3</td>
<td>1.85</td>
<td>0.62</td>
</tr>
</tbody>
</table>
In this investigation on the influence of different treatment conditions on the remediation of learned helplessness deficits, no significant interaction was noted between treatment groups using hypnotically-enhanced suggestions and the treatment groups using mood elevation.
or attention-control techniques. The two treatment conditions using hypnosis, when combined for this analysis, yielded a significant main effect on the post-treatment DACL measure. Backward digit span and five-letter anagrams failed to discriminate any significant differences between the groups.

However, as the repeated measures analysis of variance demonstrated, a significant difference was found between pre- and post-treatment backward digit span administrations which could be accounted for by the intervention of the various treatment conditions. A survey of the group means reveals pre- and post-treatment performances consistent with the hypothesized influence of each treatment condition. While the effects of the LHT are notably transitory, it appears to have been of sufficient duration to illuminate the respective strengths of each of the treatment conditions included.

When sex of the subjects was included in the post hoc analysis of the data, no significant interaction or main effect for sex was found on any of the post-treatment measures. The DACL again yielded a significant main effect between hypnotic and non-hypnotic treatment conditions. The results of this investigation suggest several interesting conclusions and implications concerning the research and practice of hypnotically-induced elevation of mood.
The use of a hypnotic induction technique seemed to discriminate the difference between groups independent of mood elevation. Some of the deficits of learned helplessness seemed to be attenuated to a greater extent in the treatment conditions utilizing hypnotic mood elevation and hypnotic relaxation. However, these differences between groups were found with only the dependent measure of the Depression Adjective Checklist. It is interesting to note that the tests of cognitive abilities, i.e., backward digit span and five-letter anagrams, failed to discriminate between groups. Several hypotheses are forwarded from such apparently counterintuitive results.

The Depression Adjective Checklist (Lubin, 1967) is a 32-item, self-report measure in which an individual endorses descriptors of dysphoria or contentment. The influence of the treatment conditions utilizing hypnotic induction techniques on this dependent measure may be accounted for in several different, but complementary, ways. For example, the Levine (1971) discrimination problems presented in the pre-treatment phase of this study may represent an influential loss of self-esteem to the participating subject. The influence of hypnotic mood elevation is intuitively obvious, but hypnotic relaxation may also be influential by attenuating the anxiety that potentially accompanies such blows to self-esteem (Rimm & Masters, 1979). Furthermore, individuals
participating in this study exhibited a strong interest in "experiencing" a hypnotic induction; therefore, subjects not included in the treatment conditions using a hypnotic induction may have felt disappointed. Such feelings of disappointment could have influenced the DACL scores to some unknown extent.

Backward digit span (Benson & Kennelly, 1976) and five-letter anagrams (Hayslip, 1977) have represented in the literature sensitive measures of learned helplessness deficits. In this study neither of these post-treatment measures were able to discriminate a significant difference between the treatment conditions. However, a review of the cell means for these post-treatment measures reveals a difference between the treatment conditions and the attention-control group with these measures, although these differences were unable to reach statistical significance.

The progressive administration from three digits to eight digits of the post-treatment backward digit span may have attenuated any differences that this measure is sensitive to concerning learned helplessness cognitive deficits. Since the "helpless" situation in this study was, of necessity, very transitory, successive presentation of backward digit span to increasingly more difficult series of numbers may have provided the sense of mastery which helped overcome the temporary influence of the Levine (1971) discrimination task. Garber and Seligman (1980)
report that such successive approximation toward increased mastery is the treatment of choice for learned helplessness deficits. Therefore, the pre-treatment administration of backward digit span may have influenced the subsequent measures due to potential lessening of the learned helplessness induction.

Five-letter anagrams also did not successfully discriminate statistically between treatment groups. This may be accounted for by the nature of the anagrams concerning the influence of learned helplessness deficits on fluid and crystallized mental abilities. Hayslip (1977) reports that anagrams representing different levels of difficulty selectively required the use of either fluid or crystallized mental efforts. Thus, the easier anagrams use an individual's crystallized mental functions while more difficult anagrams require more fluid mental abilities. Fluid mental abilities are reported to be most influenced by learned helplessness inductions (Benson & Kennelly, 1976). Therefore, the selection of five-letter anagrams may not have controlled for the influence of crystallized mental performance or been sensitive enough to the measure of fluid mental ability deficits.

The implications for the efficacy of hypnotically-influenced mood elevation for the treatment of depression as represented in this study provide useful avenues of investigation for the practicing clinician as well as the
hypnosis researcher. Without yielding to the temptation to speculate beyond the parameters of these results, several important inroads into the study of hypnosis may be inferred and suggestions for further research offered.

The use of hypnosis to enhance psychotherapeutic treatment is quite prevalent in the hypnosis literature. Hypnotherapists have reported cases in which a modification of a conventional psychotherapeutic technique to include a hypnotic induction has greatly improved the efficacy of treatment in terms of symptom remission, expediency, and follow-up treatment outcome (Boudin, 1981; Matheson, 1978). Although in this study the analysis did not allow for any discrimination between the two hypnotically-enhanced treatment conditions, clear evidence was obtained which suggests that the inclusion of hypnosis greatly facilitates the efficacy of the intervention technique.

Special implications for the use of hypnosis in the treatment of depression results from the reported symptom cluster of this disorder. Garber and Seligman (1980) describe depressed individuals as not only exhibiting deficits in the domains of cognition, affect, and behavior, but also the manifest inability to successfully image, with their thoughts focused on tragedy and their catastrophic state of affairs (Beck, 1974). As Kroger and Fezler (1976) outline in their text, hypnosis can be seen as imagery
conditioning—training the (depressed) subject to more accurately and successfully attend to thoughts that produce more positive results.

Hypnosis can therefore offer to the depressed individual a much needed skill which allows selective focusing on more pleasant associations and ideas. Taking this concept of increasing imagery ability and improving revivification of pleasant memories into the consulting room with clinically depressed patients, Matheson (1979) and Gaunitz, et. al. (1975) were able to successfully ameliorate the most severe symptoms of this disorder. The efficacy of a psychotherapeutic intervention which includes hypnosis is obvious when compared to the time-constraints of psychoanalysis or the potential side-effects of psychiatric methods.

The obvious limitations of this study restrict the number of possible clinical implications that can be drawn for use by the hypnosis practitioner. However, this study was designed and undertaken in order to help establish some empirical basis for reported clinical practices. As with any analog study, external validity, the ability to generalize to clinical syndromes and clinical populations, was attenuated in order to maximize as much as possible the internal validity of this study (Rimm & Masters, 1979). Furthermore, as noted previously, the learned helplessness model of depression represented in this investigation may
represent but a subclass of the significantly larger and more heterogenous symptom cluster known as depression. It is uncertain what were the factors influencing change and whether the factors are exclusive to hypnosis.

Future studies into the influence of hypnotic mood states and psychological disorders should provide useful information along two complementary research issues. First, the investigation of mood states, such as the learned helplessness paradigm of Hiroto and Seligman (1975) which provides an experimental model of some of the deficits found in clinically depressed patients, can provide useful models of psychological disorders. Once these models have been established their heuristic utility may be succeeded by the development of empirically-based methods of remediation. Elaboration of this study to encompass these two goals should include not only more "laboratory-based" analog studies but also carefully controlled research with clinical populations.

More specifically, the hypnosis studies to follow should begin to articulate the phenomenon observed in this "ground-breaking" study and others like it. Hypnosis for too long has been considered a single, specific technique. The absurdity of such a premise is highlighted with an analogy to the term "psychotherapy." Once considered an esoteric, proscribed treatment, psychotherapy has now come to include an almost-endless array of techniques, theories,
and individuals. Thus, the study of hypnosis should begin to proceed in a similar fashion, investigating the differential influence of selected hypnotic techniques and thereby establishing a foundation of empirical substantiation.
Appendix A

We have all experienced happiness in so many different ways. For example, the happiness of the young child mastering the skill of riding a bike or rollerskating, the happiness of a birthday party, the exuberance of a wild success, the satisfaction of a warm friendship, the pleasant feeling of a tired body after a good workout or game, and so happiness can be experienced at different levels of intensity. What I'd like you to do right now is allow yourself to remember a mildly happy experience, one in which you feel very happy and yet very calm, at a low level of arousal. I don't know and you don't know exactly which memory you will begin to become aware of, but I do know you really can enjoy that memory, letting yourself begin to experience that sense of calm happiness once again. Because as you remember that memory, all the happy feelings that were then become now again an utter actuality. And when you've remembered such an experience you can signal by nodding your head. But just allow yourself to take your time in revivifying that memory, knowing it can develop gradually over the next minute or so.

You can really enjoy that memory. And as you do, you can imagine an emotional intensity scale from 1 to 10, with 1 being the low end and 10 being the high end. And on that 1 to 10 intensity scale you can imagine that the low end is one of very low arousal, very little emotional
excitement, yet one at which you can experience an emotion quite undeniably. And the high end—9 and 10—can represent a very intense, incredibly intense emotional arousal level. And the numbers in between can represent different levels of arousal, with 5 and 6 being the midrange on that sliding scale. What I'd like you to do is let yourself adjust the emotional arousal level of that happy experience you're now enjoying to about 1 or 2 on that sliding scale—a very calm, very relaxing, very pleasant state of happiness, with very low arousal. Very relaxed, very peaceful—to about a 1 or 2 on that 1 to 10 scale.

And you really can continue to enjoy that state of calm and peaceful, low-level arousal state of happiness. But why confine yourself to any particular experience? What a nice thing to know that in here you can let go of attaching to any single experience and simply let that state of low-arousal happiness continue in a very generalized fashion. A general, free-floating, secure state of calm and peaceful happiness, without any need to attach it to this experience or that experience. And as you continue to attend to that feeling of mild, peaceful happiness, and you can shift back to it easily later on when I ask you to do so. When I ask you to develop it again later on, you'll be able to not only develop it fully, but sustain and maintain it until I ask you to do otherwise.
Appendix A—Continued

But for right now what I'd like you to do is let yourself remember a different happy memory, this one involving a medium level of arousal—about a 5 or 6 on the sliding scale. You don't have to try to remember—just let your unconscious do the work for you, accessing a happy memory from the past, one in which you were quite happy and pretty excited, but not overly excited. Take all the time in the world in the next minute to let those feelings from that memory become revivified. And as that memory becomes revivified, so the feelings associated. Feel that growing sense of happiness. Let it happen—why deny it? You really can feel that happiness growing, growing to about a 5 or 6 on the sliding intensity scale, to about mid-range.

In experiencing that sense of undeniable happiness, you need not confine yourself to just one specific experience. Why not let that happiness become generalized? Let yourself develop a state of happiness without any attachment to a particular or specific memory, a state of unabashed good feeling at about 5 or 6 on the scale. Let that particular memory drift away for now, and simply involve yourself in that generalized state of medium-arousal happiness. And you can remember this intensity level of happiness also and return back to it later on when I ask you to do so, knowing you can maintain and sustain it until I ask you to do otherwise.
Appendix A—Continued

But for right now, what I'd like you to do is recognize that there are so many other happy memories stored in your unconscious, some being intensely happy in nature. So what I'd like you to do is let yourself call to mind a memory from your past that was filled with incredibly ecstatic and blissful happiness. You don't have to use any effort, just let your unconscious bring back to mind an incident in which you really felt euphoric, an intensity that was at least a 9 or 10 on that 1 to 10 scale. Take all the time in the world over the next minute to let that memory develop. I don't exactly know when and how you will begin to revivify it in the coming moments, but you can really recognize that intense happiness that once and is now once again an undeniable reality. You can feel it, you can feel it beginning to develop. Because as you remember that experience, those intensely happy feelings become active once again. You can feel it, the intensity of the happiness rising to a 9, perhaps to a 10, perhaps even beyond—because why limit yourself? Feel that intense state of arousal, let yourself revel in that sense of unabashed, ecstatic bliss.

And just as you don't have to limit that intensity level, you don't have to confine yourself to any specific memory. Let that intense feeling of happiness generalize. Let that specific memory drift away for now and simply let
Appendix A—Continued

yourself develop a generalized state of undeniably intense happiness, intensity level at about 9 or 10 on the scale. Really let yourself feel that generalized state. And you can remember this feeling of intense happiness, knowing you can return back to it later on, maintaining it until I ask you to do otherwise.

And so you really do have the ability to experience happiness at different levels of happiness. You're learning to let your emotional intensity alter in accord with the needs of the situation.

You can develop a low-level of arousal level of happiness, a mild, calm, yet undeniably happy state which you can maintain during various learning processes in which I ask you to engage. And you can develop also a medium-level, medium-arousal level of generalized happiness, and know equally well that you can maintain it without any conscious awareness while doing some things I ask you to learn. And so why not congratulate yourself on a job well done. And in doing so let yourself orient back to an emotional state and an intensity level appropriate for you. You can feel quite good, quite relaxed, knowing that you can choose that emotional state and intensity level that you select as natural and appropriate.
Appendix B

(Introduction of previous induction.) We have all experienced happiness in so many different ways. For example, the happiness of the young child mastering the skill of riding a bike or rollerskating, the happiness of a birthday party, the exuberance of a wild success, the satisfaction of a warm friendship, the pleasant feeling of a tired body after a good workout or game, and so happiness can be experienced at different levels of intensity. What I'd like you to do right now is allow yourself to remember a mildly happy experience; one in which you feel very happy and yet very calm, at a low level of arousal. I don't know and you don't know exactly which memory you will begin to become aware of, but I do know you can really enjoy that memory, letting yourself begin to experience that sense of calm happiness once again. Because as you remember that memory all the happy feelings that were then become now again an utter actuality. And when you've remembered such an experience, you can signal by nodding your head. But just allow yourself to take your time in revivifying that memory, knowing it can develop gradually over the next minute or so. (Repeat general suggestions until head nod is given.)

(With head nod.) That's right...you can really enjoy that memory. And as you do, you can imagine an emotional intensity scale from 1 to 10, with 1 being the low end and
Appendix B—Continued
10 being the high end. And on that 1 to 10 intensity scale, you can imagine that the low end is one of very low arousal, very little emotional excitement, yet one at which you can experience an emotion quite undeniably. And the high end—9 and 10—can represent a very intense, incredibly intense emotional arousal level. And the numbers in between can represent different levels of arousal, with 5 and 6 being the mid-range on that sliding scale. And what I'd like you to do is let yourself adjust the emotional arousal level of that happy experience you're now enjoying to about 1 or a 2 on that sliding scale—a very calm, very relaxing, very pleasant state of happiness, with very low arousal. Very relaxed, very peaceful—to about a 1 or 2 on that 1 to 10 scale. And just let your head nod when you've done that (wait for head nod).

(With head nod.). That's right. And you really can continue to enjoy that state of calm and peaceful, low-level arousal state of happiness. But why confine yourself to any particular experience? What a nice thing to know that in trance you can let go of attaching to any single experience and simply let that state of low-arousal happiness continue in a very generalized fashion. A general, free-floating, secure state of calm and peaceful happiness, without any need to attach it to this experience or that experience. So just let your head nod again when
Appendix B—Continued

you've accomplished that. (Repeat general instructions until nod is given.) That's right. And as you continue to attend to that feeling of mild, peaceful happiness, and you can shift back to it easily later on when I ask you to do so. When I ask you to develop it again later on, you'll be able to not only develop it fully, but sustain and maintain it until I ask you to do otherwise.

But for right now, what I'd like you to do is let yourself remember a different happy memory, this one involving a medium level of arousal—about a 5 or 6 on the sliding scale. You don't have to try to remember—just let your unconscious do the work for you, accessing a happy memory from the past, one in which you were quite happy and pretty excited, but not overly excited. Take all the time in the world in the next minute to let those feelings from that memory become revivified. And as that memory becomes revivified, so the feelings associated. Feel that growing sense of happiness. Let it happen—why deny it? You really can feel that happiness growing, growing to about a 5 or 6 on the sliding intensity scale, to about mid-range. And you can again let your head nod when you've accomplished that. (Repeat general suggestions until signal is given.)

(With signal.) And in experiencing that sense of undeniable happiness, you need not confine yourself to
Appendix B—Continued

just one specific experience. Why not let that happiness become generalized? Let yourself develop a state of happiness without any attachment to a particular or specific memory, a state of unabashed good feeling at about 5 or 6 on the scale. Let that particular memory drift away for now, and simply involve yourself in that generalized state of medium-arousal happiness. And let yourself nod your head when you've done that. (Repeat suggestions until signal is given.) Good. And you can remember this intensity level of happiness also and return back to it later on when I ask you to do so, knowing you can maintain and sustain it until I ask you to do otherwise.

But for right now, what I'd like you to do is recognize that there are so many other happy memories stored in your unconscious, some being intensely happy in nature. So what I'd like you to do is let yourself call to mind a memory from your past that was filled with incredibly ecstatic and blissful happiness. You don't have to use any effort, just let your unconscious bring back to mind an incident in which you really felt euphoric, an intensity that was at least a 9 or 10 on that 1 to 10 scale. Take all the time in the world over the next minute to let that memory develop. I don't exactly know when and how you will begin to revivify it in the coming moments, but you can
really recognize that intense happiness that once and is now once again an undeniable reality. You can feel it. You can feel it beginning to develop. Because as you remember that experience, those intensely happy feelings become active once again. You can feel it. The intensity of the happiness rising to a 9, perhaps a 10, perhaps even beyond—because why limit yourself? Feel that intense state of arousal, let yourself revel in that sense of unabashed, ecstatic bliss, knowing that you can signal by nodding your head when you've fully developed it. (Give general suggestions until head nod.)

That's right. And just as you don't have to limit that intensity level, you don't have to confirm yourself to any specific memory. Let that intense feeling of happiness generalize. Let that specific memory drift away for now and simply let yourself develop a generalized state of undeniably intense happiness, intensity level at about 9 or 10 on the scale. Really let yourself feel that generalized state, knowing that you can nod your head when you've done so. (General suggestions until nod.) That's right. And you can remember this feeling of intense happiness, knowing you can return back to it later on, maintaining it until I ask you to do otherwise.

And so you really do have the ability to experience happiness at different levels of happiness. You're
Appendix B—Continued

learning to let your emotional intensity alter in accord with the needs of the situation.

You can develop a low-level of arousal, a mild, calm, yet undeniably happy state which you can maintain during various learning processes in which I ask you to engage. And you can develop also a medium-level, medium-arousal level of generalized happiness, and know equally well that you can maintain it without any conscious awareness while doing some things I ask you to learn. And so why not congradulate yourself on a job well done. And in doing so let yourself orient back to an emotional state and an intensity level appropriate for you. You can feel quite good, quite relaxed, knowing that you can choose that emotional state and intensity level that you select as natural and appropriate. And in a moment I'm going to count from 1 to 10. As I do so you can orient back into a waking state gradually, so that by the count of one you'll have opened your eyes and reoriented back into the room in a refreshed, alert, and relaxed fashion.

Ten...nine...eight...seven...six...five...halfway there, four...coming back...three...two...one. Now. Hello.
Appendix C

Direct Induction Text

First, I want you to look at a fixed spot. Choose one on the wall or ceiling and keep staring at it. As you keep staring at it the first sensation that you will learn how to control is that of heaviness. Your lids are getting very, very heavy. Getting heavier and heavier. Your eyes are beginning to blink (if eyes blink or subject swallows, say, "See, you just blinked" or swallowed, as appropriate.) Your eyes just blinked and you just swallowed, that is a good sign that you are going deeper and deeper relaxed. And now at the count of three if you really wish to gain skill with hypnosis you will gently control the closing of your lids. At this point you will notice that you want to close your lids because they are getting very, very tired. Promptly, precisely and exactly at the count of three you will close your lids, not because you have to but because you really want to. Don't close your lids too rapidly, but close them gently at the count of three. One, your eyes are closing, two, your lids are closing tighter and tighter together, three, your lids are closed (if the eyes don't close say, "Let your eyes close now"). And I really want you to feel that tightness, good, this is still another sensation that you are gaining control over.
Appendix C—Continued

Now, let your eyeballs roll up into the back of your head. Now, let the eyeballs roll back down into their normal position. And as they return to their normal position you will notice that your lids are stuck even tighter and tighter together.

Now, I'd like to have you imagine that your entire body from your head to your toes is becoming very, very relaxed. However, your body will not relax just because you tell it to do so. Rather, it will only relax if you pair this suggestion with the memory which once produced the desired response. Perhaps it would be nice if you would imagine yourself relaxing on a beach and listening to the waves roll in, one after another. You are relaxing deeper and deeper. And the more vividly that you can see all the typical sights and hear the waves of your particular beach the deeper relaxed you will go. And the more vividly that you can see yourself on that pleasant, relaxing beach, the deeper relaxed you will go. And the more vividly that you hear the peaceful and relaxing waves down at the shore, the deeper relaxed you will go. You are doing fine, just fine. Your breathing is getting slower, deeper, more regular...slower, deeper, and more regular.

Now, if you really wish to go deeper, and gain more mastery over yourself so that you can gain other skills
that you wish to enjoy, you will first learn how to raise your arm in a controlled fashion. Listen very carefully for the following instructions. Carry these out to the best of your ability. The better you control the raising of your (nondominant) arm the better you will be able to control other areas of your life. Raise it in the following fashion. Here are the instructions for the raising of your arm. Listen carefully for the instructions. Raise your (nondominant) arm about two or three inches at a time and then pause 20 or 30 seconds. During this pause perhaps you might be willing to suggest that as your arm lifts higher and higher, with each cogwheel-like movement it will get lighter and lighter—another sensation that you are controlling. And the lighter your arm gets as it rises, the deeper relaxed you will go. You will raise your arm at the count of three, not because you have to but because you really want to. Now, do not raise it too rapidly...one...two...three, slowly the arm is lifting, lifting, lifting, lifting, and as it lifts higher and higher with each movement notice how your arm is getting lighter and lighter. And as the arm gets lighter and lighter notice how your state of relaxation is getting deeper and deeper. You are doing fine.

Your breathing is getting slower, deeper, more regular. (At this point the arm is allowed to slowly
rise. Occasionally say such things as, "lighter and lighter," and when the arm lifts, "that's right," and "higher and higher."

As your arm is now approaching a straight, vertical, perpendicular position you will notice that you can develop still another sensation, that of stiffness. Your arm is now lifting higher and higher to where your fingers, hand, forearm, and arm are all stretched straight toward the ceiling. Paradoxically, you will notice that the stiffer your arm gets from the fingers to the hand, to the wrist, to the elbow, to the shoulder, the deeper relaxed you will go.

Your arm is now stiff, very rigid, like a bar of steel from the fingertips down to the elbow to the shoulder. Notice the stiffness of your outstretched arm. You are doing fine.

Now, if you wish to control other sensations and gain still more mastery over your life, listen very carefully to the following suggestions. At the count of three you will slowly, ever so slowly, about an inch or two at a time allow your arm to fall to your side and with each two inches or so that it falls, your arm will become as limp as a wet noodle. It will become limper and limper as it slowly drops to your side. Is it not surprising how many sensations that you are gaining control over? Also, is it not remarkable how many sensations are built into your
body? One...two...three, now don't let the arm drop too rapidly. Allow it to drop very, very slowly. And with each motion that your arm moves downward, perhaps you might be willing to suggest to yourself than when your arm returns to your side or touches any part of your body, that will be a cue or signal for every muscle and every fiber in your body to develop complete relaxation. Now, as your arm is about to reach your side or touch the chair, perhaps you could allow that to be a cue for every muscle in your body to relax completely.

Now, you are in a very deep state of relaxation and I am going to give you several suggestions for terminating it. One route you will be able to control. The other route will be one that we can use here to help you gain the skills that you are seeking, provided that you give your permission. Whenever you are here to work with us, and it is appropriate, when one of us touches your right shoulder and says the word "relax," you will promptly close your eyes, let your eyeballs roll up into the back of your head. You will let your eyeballs roll up into the back of your head to prevent yourself from falling asleep. As you know, for any individuals lid closure can trigger the onset of sleep. We want to trigger the onset of super-alertness. Next you will let your eyeballs roll back down into their normal position and
Appendix C—Continued

you will quickly drop into a deep state of relaxation.

Now, as I count from one to five I want you to become more awake. When I say the number five you will open your eyes feeling wonderfully refreshed, alert, and wide-awake. One...waking up slowly...two...becoming more aware of the environment...three...feeling the circulation in your hands and feet, arms, and legs...four...almost awake, feeling refreshed, and five...eyes open, wide awake and alert.
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