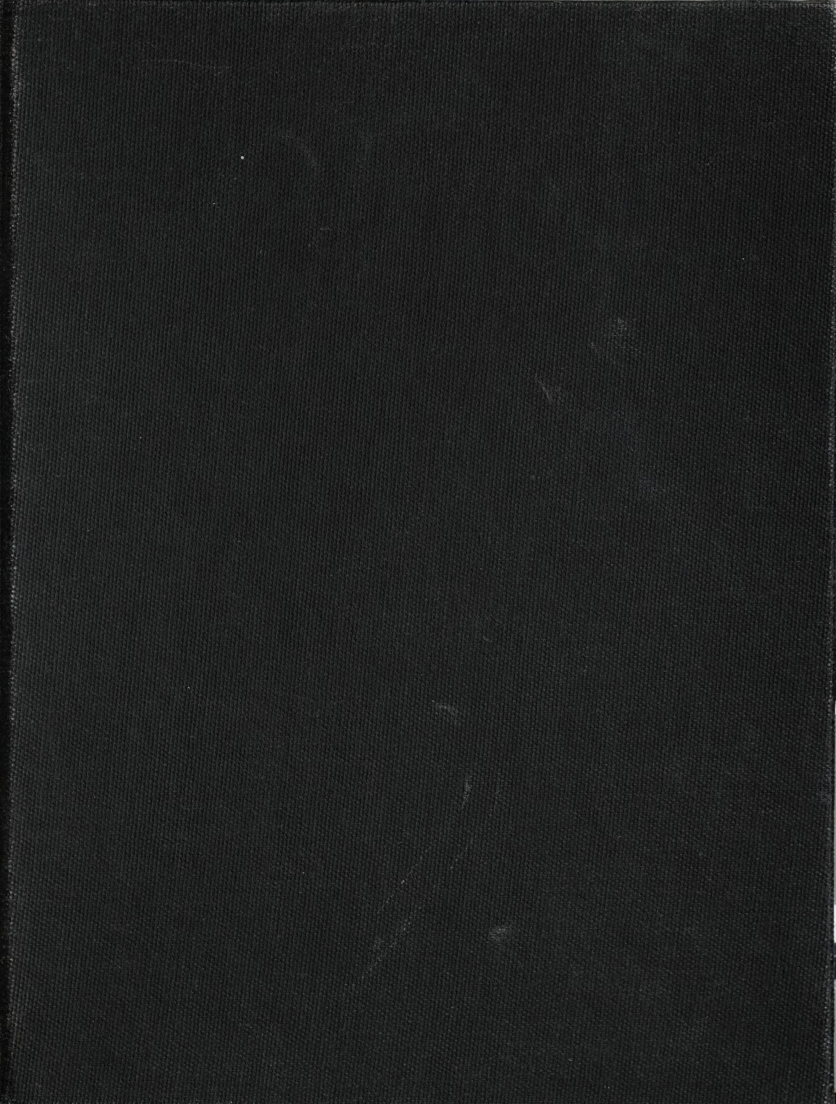




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REGRESSIVE TRANSFERENCE, HYPNOSIS,
AND THE PLACEBO EFFECT

By

Diane Margaret Denman

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

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ABSTRACT

REGRESSIVE TRANSFERENCE, HYPNOSIS, AND THE PLACEBO EFFECT

By

Diane Margaret Denman

The experiment was designed to investigate the relationship between the factors of subject impasse, experimenter role, and regressive transference (Freud). Eighty-eight subjects were assigned to high (HI) or low (LI) impasse conditions based on manner of recruitment and instructional set. High Impasse subjects were required to be at impasse in the course of working on an academic, vocational, or personal problem or project while participating in the study. No financial rewards or academic credits were offered. Low Impasse subjects were drawn from Introductory Psychology classes at MSU, and they received academic credits in exchange for participation in research. Two experimenters played both low protective-competence (LPC) and high protective-competence (HPC) roles with both subject groups. Subjects were offered an experience in imagery and problem-solving and were asked to produce a series of hypnotic dreams. The dependent variables indexing regressive transference included self-report measures and the Holt (1970) system for scoring primary processes in imagistic material.

HI subjects in the HPC condition showed significantly greater formal regression in hypnotic dreams than all other treatment groups on three of the five Holt indices. Dream content on the Dependence Subscale of the Holt gave direct evidence of regressive transference for HI subjects in the HPC condition. The HI group also showed significantly greater regression in hypnotic dreams than did the LI group on three of the five Holt indices. On self-report measures two weeks following hypnosis, however, HI groups reported significantly more criticism of the experimenter and more anxiety about their problem than did LI subjects, an unexpected finding.

Results suggested that self-report and behavioral measures of transference may be highly discrepant. An interpretation based on demand characteristics and transference was offered. The relation of findings to the "placebo effect" in medicine and psychotherapy was discussed.

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TABLE OF CONTENTS

	Page
LIST OF TABLES.....	vii
LIST OF FIGURES.....	ix
INTRODUCTION.....	1
Clinical and Experimental Hypnosis.....	6
Regressive Transference and the Placebo Effect.....	7
METHOD.....	17
Subjects.....	17
Experimenters.....	22
Procedure.....	27
Materials.....	40
RESULTS.....	49
Evaluation of Hypotheses.....	49
Scale Reliabilities.....	50
Manipulation Checks.....	51
Preliminary Analyses: Age Differences.....	56
Hypothesis 1: Regressive Transference Scales 1 and 2.....	59
Hypothesis 2: Problem-Solving Scale.....	62
Hypothesis 3: The State-Trait Anxiety Index.....	63
Hypothesis 4a: High versus Low Impasse Groups on the Total Libidinal Scale.....	71
Hypothesis 5a: High Impasse Subjects in the HPC Condition on the Total Libidinal Scale.....	71
Hypothesis 4b: High versus Low Impasse Groups on the Total Defense Scale.....	75
Hypothesis 5b: High Impasse Subjects in the HPC Condition on the Total Defense Scale.....	75
Hypothesis 4c: High versus Low Impasse Groups on the Anxiety Scale.....	76
Hypothesis 5c: High Impasse Subjects in the HPC Condition on the Anxiety Scale.....	76
Hypothesis 4d: High versus Low Impasse Groups on the Object Aggression Scale.....	77
Hypothesis 5d: High Impasse Subjects in the HPC Condition On the Object Aggression Scale.....	78



12

	Page
Hypothesis 4e: High versus Low Impasse Subjects on the Total Regression Scale.....	79
Hypothesis 5e: High Impasse Subjects in the HPC Condition on the Total Regression Scale.....	79
Hypothesis 6: High Impasse Subjects in the LPC Condition and Aggression toward Others in Hypnotic Dreams.....	81
Hypothesis 7: High Impasse Subjects in the HPC Condition and Aggression toward Others in Hypnotic Dreams.....	81
Additional Analyses: Age, Impasse, and the Regressive Transference Scale 2.....	82
DISCUSSION.....	87
Summary of Findings.....	87
Regressive Transference Immediately After Hypnosis and at Follow-up.....	91
Problem-Solving.....	93
Regressive Transference: Age, Impasse, and Ambivalence.....	94
State Anxiety.....	97
Regression in Hypnotic Dreams.....	102
Regressive Transference, Hypnosis, and the Placebo Effect.....	111
APPENDIX A.....	117
APPENDIX B.....	118
APPENDIX C.....	119
APPENDIX D.....	121
APPENDIX E.....	127
APPENDIX F.....	128
APPENDIX G.....	130
APPENDIX H.....	132
APPENDIX I.....	134
APPENDIX J.....	136
APPENDIX K.....	144
APPENDIX L.....	145
APPENDIX M.....	148
APPENDIX N.....	163
LIST OF REFERENCES.....	206

LIST OF TABLES

Table	Page
1 Reliability Scores for Holt Content Categories.....	52
2 Ratings of Experimenter Role Performance.....	55
3 Two-way Analysis of Variance for Time Spent Talking with Experimenter.....	148
4 Correlations and Partial Correlations with Age.....	57
5 Subjects per Cell in Three-way Factorial Design.....	59
6 Two-way Analysis of Variance for the Regressive Transference Scale 1.....	149
7 Three-way Analysis of Variance for the Regressive Transference Scale 2.....	149
8 Two-way Analysis of Variance for the Regressive Transference Scale 2.....	150
9 Two-way Analysis of Variance for the Problem-Solving Scale....	150
10 Two-way Analysis of Variance for the Trait Anxiety Index.....	151
11 Two-way Analysis of Variance for STAI1.....	151
12 Mean STAI Scores Across Time Intervals.....	66
13 Two-way Analysis of Covariance for Difference Scores, STAI1 - STAI2.....	152
14 Two-way Analysis of Covariance for Difference Scores, STAI1 - STAI3.....	153
15 Correlation of Libidinal Subscales with Total Libidinal Scale.....	71
16 Two-way Analysis of Variance for Holt Oral Subscale.....	153
17 Two-way Analysis of Variance for Holt Anal Subscale.....	154

Table	Page
18 Two-way Analysis of Variance for Holt Sexual Subscale.....	154
19 Two-way Analysis of Variance for Holt Exhibitionistic/ Voyeuristic Subscale.....	155
20 Two-way Analysis of Variance for Holt Homosexual Subscale.....	155
21 Two-way Analysis of Variance for Holt Dependency Subscale.....	156
22 Two-way Analysis of Variance for Holt Total Libidinal Scale...	156
23 Three-way Analysis of Variance for Holt Total Defense Scale...	157
24 Two-way Analysis of Variance for Holt Total Defense Scale.....	158
25 Two-way Analysis of Variance for Holt Anxiety Score.....	158
26 Two-way Analysis of Variance for Holt Object Aggression Score.....	159
27 Two-way Analysis of Variance for Holt Total Regression Scale.....	159
28 Two-way Analysis of Variance for Holt Subject Aggression Scale.....	160
29 Within-Cell Correlation of Age with the Regressive Transference Scale 2.....	83
30 Two-way Analysis of Variance for Age and Condition Within Low Impasse.....	160
31 Two-way Analysis of Variance for Age and Condition Within High Impasse.....	161
32 Three-way Analysis of Variance for Age, Impasse, and Regressive Transference.....	162
33 Mean Regressive Transference Scale 2 Scores Collapsed Across Condition.....	86
34 Correlation Matrix of Self-Report Indices and Hypnotic Dream Regression.....	90
35 State Anxiety Mean Scores and Variances.....	100
36 Problem-Solving Rationales among High Scoring Subjects on the Problem-Solving Scale.....	108

LIST OF FIGURES

FIGURE	Page
1 STAI at Different Times of Administration.....	66
2 Cumulative Frequency Distribution for State Anxiety.....	100



INTRODUCTION

Although the psychoanalytic literature is rich in clinical observations, its constructs have been difficult to demonstrate experimentally. In particular, the construct of regressive transference, stemming from early studies of hypnosis, appears to be relevant both to hypnotic phenomena and to the recently defined "placebo effect" in medicine and psychotherapy. Since few researchers have focused directly on the concept of transference, however, evidence generally tends to be indirect, and criteria of proof must be generated.

Freud (1953, 1959) originally conceptualized hypnosis as a transference manifestation, akin to love, and later psychoanalytic theorists have elaborated on his ideas (see Gruenewald, 1982). Despite differences in emphasis among varying authors, the psychoanalytic tradition has maintained that hypnosis is, above all, a special type of relationship. Features of this relationship include enhanced suggestibility and a regressive transference where the subject experiences the self as relatively dependent and helpless in relation to a caring, powerful other. Additionally, regression in the type of relationship formed by the subject is accompanied by regression in ego-function, including diminution in reflective



awareness and an increase in primary process modes of thinking (Fenichel, 1945, p. 47).

Reyher (1977, 1980) has formulated a two-step theory of hypnosis which allows operational definition of the concept of regressive transference. According to Reyher, there are two levels of heightened suggestibility, each brought about by differing mechanisms. All that is necessary for Level I hyper-suggestibility to occur is that the subject adopt a receptive, open-minded attitude of waiting silently for instructions. A further increase in suggestibility, termed hyper-suggestibility Level II, occurs when subjects capable of assuming a passive-receptive attitude undergo a regressive transference in relation to a suitable facilitator. The occurrence of hyper-suggestibility Level II depends primarily on two variables. First, the individual must be experiencing acute anxiety regarding his or her personal, social, or physical welfare, in circumstances where the individual does not know how to relieve the distress. Second, the available caretaker must assume a demeanor of unquestionable self-assurance, competence, and kindness in his or her approach to the suffering individual. Reyher (1980) hypothesizes that the above conditions reconstitute the circumstances of early childhood or infancy, which cue in a state-dependent manner reminiscences of being cared for by loving, omniscient parents. These reactivated remembrances constitute, in psychoanalytic terms, the regressive transference, which serves as a defense against anxiety and which mediates further suggestibility. These remembrances, however, are not discrete memories of specific persons or events. Rather, they are



more aptly characterized as longings or affectively toned strivings to find sanctuary in relationship with an accepting, strong, authoritative figure. The reactivation of childhood remembrances is accompanied by other indices of regression, including an increase in primary process thinking. Reyher (1977) has reformulated the concept of primary process functioning as a mode of representation integrated by lower cortical levels than those governing waking thought and behavior.

The advantage of Reyher's formulation is that, in specifying antecedent conditions necessary for a regressive transference to occur, the construct is available for experimental manipulation, and the nature of the evidence relevant to the construct becomes more clear. Subjects experiencing a regressive transference should be characterized by intense dependency strivings, conceptualized either as an enduring disposition or as the consequence of a stressful situation beyond the individual's resolution. The designated facilitator of such a transference, whether doctor, psychotherapist, or researcher, must be perceived as possessing sufficient protective competence to allow the individual to depend. In the process of establishing such a relationship, the individual is likely to overestimate the positive attributes of the facilitator and to show exquisite sensitivity (enhanced suggestibility) to his or her wishes. Similarly, fantasies produced by the subject should indicate reciprocal child-parent roles or other derivatives of a sheltering relationship. The organization of these fantasies should be

characterized by more primitive features than is typical of normal waking consciousness.

Experimental evidence regarding features of the hypnotist-subject relationship are not inconsistent with the concept of regressive transference. Studies in experimental hypnosis indicate that the good hypnotic subject is characterized by acquiescent and affiliative tendencies (Fourie, 1980; Levitt, Brady, & Lubin, 1963; Roberts & Tellegen, 1973), rather than the opposite, and responds best in a trusting relationship (Kramer, 1969; McDermott & Sheehan, 1976) with an operator perceived as warm (Greenberg & Land, 1971; Hartman, 1961), confident (Barber & Calberly, 1964), experienced (Balaschak, Blocker, Rossiter, & Perin, 1972), and prestigious (Small & Kramer, 1969). More suggestive evidence of transference, however, comes from a group of studies examining subjects' attributions of personality qualities to the hypnotist, exquisite sensitivity to the wishes of the hypnotist, and fantasy productions about the hypnotic experience.

Regarding attributions to the hypnotist, Land and Greenberg (1971) found that, independent of subjects' perceptions of an actual experimenter present in the room, the tape-recorded hypnotist was always viewed as highly competent, warm, and experienced. Crosswell and Smith (1974) compared responses of subjects in hypnotic, simulating, and control groups to a tape-recorded "hypnotist-storyteller." Results of the study suggested that the hypnotist was viewed by the hypnotic subject as a wise, powerful, knowledgeable, and parent-like figure, in marked contrast to the other groups.

Sheehan (1980) has used the term countering to express the tendency of some highly susceptible subjects to follow the intent of the hypnotist despite competing demands. This subset of subjects scores high on dependency and is extremely sensitive to the implicit wishes of the hypnotist in a way which differentiates them from subjects simulating hypnosis, low susceptibles, and un hypnotized controls (Dolby & Sheehan, 1977; Duncan & Perry, 1977; Sheehan, 1971; Sheehan & Dolby, 1975). The performance of these subjects deteriorated when the hypnotist acted to reduce rapport (Sheehan, 1980).

A third index of transference stems from subjects' fantasy productions during or after hypnosis. Sheehan and Dolby (1979) asked three groups of subjects given differing instructions to produce a dream under hypnosis. Dream imagery produced by hypnotic subjects portrayed the hypnotist as protective and guiding. This pattern was especially evidenced by the most highly motivated subjects in the hypnotic group, as previously indexed by countering behaviors. The authors commented that the results did suggest a "transference-like involvement" of some hypnotic subjects with the operator. Davé (1979) invited students at impasse with a self-defined problem to participate in a study of hypnotic dreams and creativity. In analyzing the dreams, Reyher (1980) found the material to be characterized by more references to powerful or fantastic adult figures, babies, and phallic symbols than a control group of dreams, while aggression was underrepresented.

Studies of attribution, enhanced suggestibility, and fantasy in hypnosis, then, do indicate that some hypnotic subjects become intensely involved with the hypnotist. The dreams of some hypnotic subjects do show archaic features and demonstrate reciprocal child-parent roles. The extent of regression taking place in the relationship, however, may depend on the motivational intensity of the subject as well as the nature of the setting in which hypnosis takes place.

Clinical and Experimental Hypnosis

Results from experimental studies in hypnosis may not always bear directly on the construct of regressive transference, due to the motivation of subjects participating in an experiment and the nature of the setting (August, 1967; Erickson, 1967; Reyher, 1977). First, regressive transference is a motivational construct in which an individual ready to experience a dependent state encounters a facilitator who meets the conditions necessary for that individual to relinquish autonomous self-control. College students who volunteer to participate in hypnosis research may be motivated by a number of factors, including curiosity or the desire to pass a class, which have little to do with specific dependency strivings activated by a particular situation. Second, there is considerable evidence that hypnosis is a multi-faceted event in which cognitive as well as motivational variables play a role. Cognitive variables have been alternately construed as receptive attention (Bowers, 1977; Reyher, 1977), capacity for absorption (Monteiro, MacDonald, & Hilgard, 1980), imaginative involvement (Spanos & McPeake, 1975), tolerance for

unusual experience (As, O'Hara, & Munger, 1962), and the like. It is possible that, in the experimental situation, cognitive factors may become more important in determining hypnotic response, while motivational strivings are less intense. Third, the laboratory setting is not one which invites subjects to regress. The subject knows the relationship with the examiner is temporary and that the experiment is not directly designed to benefit him or her. These contextual differences suggest that clinical and experimental hypnosis may, in fact, constitute relatively separate events. Perry and Sheehan (1978), for example, found that, in the laboratory, high susceptible subjects performed identically across videotaped and live induction presentations, whereas medium to low susceptible subjects were influenced adversely in performance by the videotaped induction. In a study of hypnotic responsiveness in hospitalized pain patients, however, Johnson and Weise (1979) found that medium and high susceptible subjects were most responsive when the operator was present than when given a videotaped induction, whereas low susceptible subjects showed no differences across conditions. The hypnotic subject, then, may respond in opposite ways to identical conditions of induction, depending on whether or not that subject is vulnerable and in pain.

Regressive Transference and the Placebo Effect

A body of research relevant to regressive transference which has largely taken place in a clinical setting with highly motivated subjects is that concerning the placebo effect. The placebo was defined by Shapiro and Morris (1978) as "any therapy or component of

therapy that is deliberately used for its nonspecific, psychological, or psychophysiological effect...but is without specific activity for the condition being treated" (p. 371). As reviewed by Shapiro and Morris (1978), placebo reactions have been demonstrated in every aspect of modern medicine. In the process of defining the psychosocial factors involved in this powerful effect, researchers (Kazdin, 1979; Strupp & Bergin, 1969) recognized the relevance of the paradigm to psychotherapy, redefining the placebo effect as a "nonspecific factor" common to all therapies. Currently, psychologists have argued for the elimination of the negative connotations associated with the concept of the placebo and have called for research illuminating its mechanism of action (Critelli & Neuman, 1984; Ross & Buckalew, 1979; Wilkins, 1984).

The antecedents of hyper-suggestibility Level II, as postulated by Reyher (1977, 1980), are very similar to the psychosocial factors associated with the placebo effect, suggesting that a regressive transference may be the mechanism underlying both the placebo effect and intense hypnotic experience. The placebo effect is most likely to occur among patients who are anxious and vulnerable (Beecher, 1968; Frank, 1974; Shapiro & Morris, 1978) and who expect to receive help from socially sanctioned authority figures (Frank, 1973; Goldstein & Shipman, 1961; Kazdin & Wilcoxon, 1976). In a manner analogous to hypnosis, the individual most likely to facilitate the placebo effect is the warm (Atoynatan, Goldstone, Goldsmith, & Cohen, 1954; Rickels et al., 1971), confident (Wheatley, 1968; Gryll & Katahn, 1978), and prestigious (Rosenthal, 1964; Shapiro, 1964) practitioner. It is the

client who is anxious, vulnerable, and at impasse, then, who is most likely to benefit from the relationship with a caretaker who offers hope, concern, and certainty.

The critical importance of a state of 'impasse and expectancy is also illustrated by the differences in results between placebo studies done in experimental versus clinical settings (Beecher, 1960; Shapiro & Morris, 1978). Beecher (1965), for example, found that pathological pain displayed by hospital patients yields ten times more to placebo than does experimental pain produced in the laboratory. These findings are complemented by research emphasizing the importance of the setting in facilitating placebo reactions (Rashkis & Smarr, 1957; Nash et al., 1964; Uhlenhuth et al., 1966) and suggest that a clinical environment may serve as an inherent "therapeutic stimulus," arousing expectancies of help. Reyher, Wilson, and Hughes (1979) have proposed that the shared expectancies of all participants function as a strong suggestion to the patient who is in a state of readiness to receive such suggestion.

Although evidence from placebo research is consistent with a transference interpretation, few studies of the placebo effect have focused directly on the concept of transference. Park and Covi (1965), however, in a "nonblind" placebo trial, were able to investigate patients' attributions to their doctors in conjunction with treatment outcome. Doctors participating in the study told patients seeking drug treatment for anxiety symptoms that they were being given a sugar pill with no active ingredient. This message was accompanied by the kindly statement, "I think this pill will help you, as it has helped so many others" (p. 337). Following one week, 13 out



of 14 patients showed marked improvement, with an overall 41% decrease in symptoms of anxiety. A subgroup of patients who fantasized the doctor as a beneficent protector standing in special relation to their particular needs, however, showed the most symptom relief. Rationales provided by patients for their improvement were ingenious and at times approached magical beliefs in the doctor's omniscience and beneficence. For example, a male patient, convinced he was given an active drug, thought the doctor told him he was receiving a placebo so that he would think he was helping himself.

LeBaron, Reyher, and Stack (1985) operationally defined transference by means of a Regressive Transference Scale designed to assess both the quality and intensity of positive and negative feelings toward the doctor and nurses responsible for the care of 57 females undergoing abortion. Patients were divided into paternalistic and egalitarian treatment groups based on the doctor's interpersonal style, and patient suggestibility was measured pre- and post-surgery. Results indicated that both suggestibility and transference scores were higher in the paternalistic than in the egalitarian treatment condition. Additionally, fewer objective signs of surgical shock were found in the paternalistic as opposed to the egalitarian condition. Results support the notion that a regressive transference heightens suggestibility and ameliorates physical symptoms following surgery.

In the arena of creative problem-solving, Davé (1979) found that subjects at impasse in solving a personally relevant problem reported the most success following participation in a hypnotic dream group, as opposed to a rational-cognitive group and a personality-interview control group. Similarly, Barrios & Singer (1981) reported that,

among 48 volunteers with creative blocks in artistic, literary, scientific, and professional projects, waking imagery and hypnotic dream conditions were most effective in promoting resolution of creative blocks. Reyher (1980), in a review of Davé's work, found that hypnotic dreams produced by subjects showed primary process distortions characteristic of regressive transference. In a study conducted by Reyher reported in the same article, the author additionally found that subjects reporting successful problem-solving were significantly more anxious, suggestible, and placating-submissive in personal style than were subjects who reported less improvement.

The present study was designed to investigate the relationship between the factors of subject impasse, experimenter role, and regressive transference. The study consists of a 3-way factorial design with one control and two experimental factors. The design is an adaptation and expansion of a study conducted by Davé (1979) on creative problem solving. Experimental factors included subjects and experimenter role. Subjects were divided into High and Low Impasse groups. Two experimenters played both low protective-competence (LPC) and high protective-competence (HPC) roles with both subject groups. The control factor, experimenters, was included to rule out the possible influence of personal qualities belonging to experimenters as a source of subject response. All factors were between-groups factors. It was anticipated that the experimenter factor would produce no significant interactions, so that the data could be collapsed and analyzed as a 2 X 2 factorial design. Hypotheses and conditions were framed upon this assumption.

No attempt was made in this study to determine which aspects of experimenter role were most important in producing regressive transference. Rather, role variables known from previous research to potentiate a "placebo" effect were combined in a package to study the mechanism involved.

Subjects were offered an experience in imagery and problem solving and were asked to produce a series of hypnotic dreams. The dependent variables indexing regressive transference included attributions made about the hypnotist, sensitivity to the wishes of the hypnotist, and extent of regression in the hypnotic relationship, as operationally defined. Attributions about the hypnotist were measured by process and interview data scored according to the Regressive Transference Scale (LeBaron, Reyher, & Stack, 1985). Sensitivity to the wishes of the hypnotist was indexed by reports of successful problem-solving, measured by the Problem-Solving Scale (adapted from Davé, 1979). Extent of regression in the hypnotic relationship, signified by the subject's perceived relief from anxiety following treatment and by features of the hypnotic dream, was measured, respectively, by the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) and by the Holt (Holt & Havel, 1960) system for scoring primary processes. Hypotheses regarding attributions about and sensitivity to the wishes of the hypnotist, along with regression as signified by anxiety reduction, were the following:

- H₁ : High Impasse subjects paired with a hypnotist demonstrating high protective competence view the hypnotist as being more powerful and more reassuring than all other experimental groups.



H₂ : High Impasse subjects paired with a hypnotist demonstrating high protective competence report greater success in problem-solving than all other experimental groups.

H₃ : High Impasse subjects paired with a hypnotist demonstrating high protective competence report greater relief from anxiety following experimental treatment than all other experimental groups.

The concept of regression in the hypnotic relationship includes that of formal regression, where primitive methods of representation replace the modes of daily waking thought (Freud, 1965, p. 587). Wiseman and Reyher (1973) have previously shown that the manifest content of hypnotic dreams induced by Rorschach cards show increased primary process characteristics relative to waking and simulating control groups. Reyher (1980) has noted that the hypnotic dreams of subjects at impasse and under pressure to become dependent show an atypical directness in the depiction of repressed strivings. Accordingly, the Holt (Holt, 1970; Holt & Havel, 1960) system for scoring primary processes in imagistic material was used to measure regressive features of the hypnotic dream. From this system, five variables were selected. These included libidinal expression, defensive manifestations, anxiety, and aggression, directed either toward the self or others. It was reasoned that subjects in both High Impasse groups, due to pre-existing intrapsychic conflict, would show greater libidinal expression and heightened defensive efforts in hypnotic dreams relative to Low Impasse groups. Similarly, it was also anticipated that, with the emergence of forbidden impulses, High Impasse subjects would form more anxiety-laden and self-punitive images in dreams than Low Impasse subjects. High Impasse subjects paired with a LPC hypnotist, however, given less opportunity to



regress in their relationship with the experimenter, should demonstrate fewer indices of libidinal expression in dreams along with reduced defensive efforts, anxiety, and aggression turned inward relative to High Impasse subjects paired with a HPC hypnotist. The comparison of High and Low Impasse groups under varying conditions of interpersonal interaction, then, should allow differentiation of intrapsychic and interpersonal sources of influence on dream content. ✓

It should be noted that the anxiety scale, as originally defined by Holt and Havel (1960), has relevance to the interpersonal aspects of regressive transference. The above authors defined the anxiety category as the depiction of a situation of helplessness in the face of impersonal danger. The portrayal of helplessness and jeopardy in hypnotic dreams implies both trust in the hypnotist and implicit strivings for protection on the subject's part. The anxiety category, then, was conceptualized as having relevance to both intrapsychic and interpersonal aspects of regressive transference.

It was also expected, given the satisfaction of dependency strivings, that High Impasse subjects in the HPC condition should show the least aggression directed toward others in hypnotic dream protocols than any other group (Reyher, 1980). In contrast, High Impasse subjects paired with a LPC hypnotist should experience frustration of dependency strivings, leading to enhanced aggression expressed toward others in hypnotic dream protocols. The formal statement of hypotheses regarding regression in hypnotic dreams is as follows:



H₄ : High Impasse subjects show more regression in hypnotic dreams than do Low Impasse subjects.

- (a) High Impasse subjects demonstrate more libidinal expression in hypnotic dreams than do Low Impasse subjects.
- (b) High Impasse subjects show more defensive manifestations in hypnotic dreams than do Low Impasse subjects.
- (c) High Impasse subjects express more anxiety in hypnotic dreams than do Low Impasse subjects.
- (d) High Impasse subjects show more aggression toward the self in hypnotic dreams than do Low Impasse subjects.
- (e) High Impasse subjects show more total regression in hypnotic dreams than do Low Impasse subjects.

H₅ : High Impasse subjects paired with a HPC hypnotist show higher indices of regression in hypnotic dreams than do all other treatment groups.

- (a) High Impasse subjects in the HPC condition show more libidinal expression in hypnotic dreams than do all other treatment groups.
- (b) High Impasse subjects in the HPC condition show more defensive manifestations in hypnotic dreams than do all other treatment groups.
- (c) High Impasse subjects in the HPC condition express more anxiety in hypnotic dreams than do all other treatment groups.
- (d) High Impasse subjects in the HPC condition show more aggression toward the self in hypnotic dreams than do all other treatment groups.
- (e) High Impasse subjects in the HPC condition show more total regression in hypnotic dreams than do all other treatment groups.

H₆: High Impasse subjects in the LPC condition show the most aggression toward others in hypnotic dream protocols.

H₇: High Impasse subjects in the HPC condition show the least aggression toward others in hypnotic dream protocols.

In summary, the present study attempts to manipulate the factors of subject impasse, experimenter role, and regressive transference. Regressive transference as a construct encompasses the notion of a reactivation of early parent-child images, experienced in the context of an appropriate relationship, along with an increase in the prevalence of more primitive, drive-dominated modes of thought. Subjects' attributions about the hypnotist, sensitivity to the wishes of the hypnotist, felt relief following treatment, and features of regression in hypnotic dream protocols were considered to index regression. It was hypothesized that the subject group experiencing high distress paired with a protective, competent hypnotist would show the highest scores on all indices of regressive transference. It was also predicted that subjects experiencing high distress would show greater regression in hypnotic dreams than Low Impasse subjects and that hypnotic dream content would demonstrate a relationship between the frustration of dependency needs and the portrayal of aggression in hypnotic dreams. The implications of the findings will also be considered with respect to creative problem-solving and treatment outcome.

METHOD

Subjects

Subjects included 88 male and female members of the Michigan State University community at large. Most participants were either undergraduate or graduate students attending the university. Subjects were divided into two experimental groups based on method of recruitment and instructional set.

Low Impasse Group. Subjects included 44 university undergraduates drawn from introductory psychology classes at MSU. Among these subjects, 21 were female and 23 were male. The mean age of the group was 19.32 years, with a range from 18 to 30 years of age. Low Impasse subjects volunteered to participate in research and received academic credit in exchange. The study was described as an experiment on imagery, hypnosis, and creativity, headed by the caption, "Adventures in Imagery." The phrasing of the notice was designed to attract intellectually interested and adventurous students, rather than those with help-seeking motivation. (See Appendix A for specific notices posted in classes).

High Impasse Group. The remaining 44 subjects were solicited by advertisements placed in the Michigan State University student newspaper, the State News; by letters sent to residents of university graduate housing; and by announcements in classes where credit was not given for research participation. Subjects included 22 females and 22



males. Because High Impasse subjects were not drawn from undergraduate classes alone, the mean age of this group, 23.23 years, was slightly higher than the Low Impasse group. Ages ranged from 18 to 40 years.

The High Impasse subjects were required to be at impasse in the course of working on an academic, vocational, or personal problem or project while participating in the study. No financial rewards or academic credits were offered. The study was described as an experiment on imagery, hypnosis and problem-solving, headed by the caption, "Creative Problem-Solving." It was assumed that the emphasis of the advertisement and the lack of tangible reward would draw subjects highly motivated to seek and expecting to receive help in resolving personal impasse. Samples of the advertisements and letter are included in Appendices B and C.

Initial contact. Initial contact was made between the subject and the author (E1) by phone, either by subjects' phoning in or E1 calling them in response to expressed interest. At this time, initial information was gathered from subjects according to the following brief interview schedule:

Name _____ Address _____ Phone: _____

Sex _____ Age _____ Occupation _____

How did you hear about this project? _____

What about the study interested you? _____

The latter question in the interview was designed as a manipulation check to determine whether or not subjects recruited in differing ways



did, in fact, express different reasons for participating in the study. Responses to the question were not used for group assignment.

Following these questions, subjects at impasse who responded to advertisements were given a description of the study identical to that contained in the letter to graduate students. The task was defined as resolving an impasse in problem-solving, as follows:

I am a graduate student at MSU in clinical psychology, and I am conducting research on imagery, hypnosis, and problem solving. Specifically, I am interested in the effectiveness of imagery in facilitating the ability to overcome an impasse or mental block encountered in the course of working on a problem or project. This could encompass a wide range of academic, professional, aesthetic, or personal concerns, from difficulty writing a paper to problems resolving a marital difficulty. The only requirements are (1) that you are currently working on a problem or project, and (2) that you are 'stuck' in some way which prevents you from reaching a satisfactory solution to that problem or from completing the project. Do you think your situation meets these criteria?

Subjects recruited from the classroom who were participating to gain academic credit were contacted after they had signed a list indicating interest in participating in the research. Upon phone contact, E1 gave the following information:

I am a graduate student at MSU in clinical psychology, and I am conducting research on imagery, hypnosis, and creativity. Specifically, I am interested in the effectiveness of imagery in



enhancing creativity. Creativity is not something that belongs exclusively to artists or great scientists. Rather, creativity is something that each of us uses in solving the problems of daily living. The first task of the experiment, then, is for you to select a project or problem on which you are currently working. This could encompass a wide range of academic, professional, aesthetic, or personal concerns, from writing a paper to solving a problem in a relationship. The main requirements are that (1) you are currently working on a problem or project, and (2) that you are 'stuck' in some way so that you have not yet reached a solution to that problem or have not yet completed the project.

I would like you to think back over the last two weeks to the problems you have confronted or the projects on which you are working. Then select one on which you would most like to work during the experiment. Do you think you can do that?

Appointment times for the experimental sessions were scheduled on a random basis during the initial phone contact. Subjects were assigned either to the Low or High Impasse group based on manner of recruitment and instructional set.

Problems and project presented. Subjects from both High and Low Impasse groups brought in a wide range of problems and projects covering academic, vocational, and personal concerns. Academic and vocational problems included career direction, procrastination, study habits, performance anxiety, and the completion of special projects such as a term paper, work of art, or job assignment requiring

creative effort. Personal problems included, among others, conflict in relationships, loss, shyness, insomnia, and habit disorders such as weight control, smoking, and nail biting. Although it was not possible to counterbalance precisely the nature of problems presented across experimental groups, habit disorder and academic, vocational, and relationship problems were represented in each experimental group.

Subject attrition. It was assumed that any subjects who declined participation in the experiment when given additional information were insufficiently motivated to continue. All subjects initially contacted by E1 in response to their interest agreed to participate. Eighteen subjects, however, cancelled or failed to appear for their scheduled appointment and were dropped from the study. Participating subjects, then, were considered to be roughly matched in motivational intensity, independent of type of motivation involved.

There is considerable evidence that capacity to dream during hypnosis involves both cognitive and motivational variables (Hilgard, 1965). Only subjects who were able to produce a dream series were included in the data analysis. A dream series was defined as the production of imagery on at least two out of the three hypnosis trials, with imagery consisting of at least one visual episode. A visual episode was defined as pictorialization of a person, object, or setting, with a change in persons, objects, setting or activity demarcating each episode. Twenty subjects were unable to have a hypnotic dream or dream-like experience which met the criteria for a dream series. These subjects were given post-hypnotic suggestions to dream and continued the latter phases of the experiment although their



data was not included in the analysis. The remaining subjects were thus considered to be roughly matched in hypnotic susceptibility. The inclusion of only susceptible subjects, operationalized as the capacity to have a dream series while hypnotized, however, limits the generalizability of the results of the study.

Experimenters

Two experimenters were trained by the principal investigator to administer the questionnaires, rationale, and hypnotic induction. The experimenters were advanced undergraduate students, both females. They were selected on the basis of interest in hypnosis and psychological research. Both intended to obtain advanced degrees in psychology.

Each experimenter was trained in performing both low protective-competence (LPC) and high protective-competence (HPC) roles. The experimenters varied roles across subject groups so that each conducted an equal number of sessions with High and Low Impasse subjects while playing LPC and HPC roles.

Experimental roles. HPC and LPC roles were designed to operationalize five variables found in previous research to have potent non-specific therapeutic effects. These include the status (Shapiro & Morris, 1978), warmth (Atoynatan, Goldstone, Goldsmith, & Cohen, 1954), and perceived competence (Shapiro, 1971) of the practitioner, in addition to the nature of the message given about the treatment (Gryll & Katahn, 1978) and the nature of the setting (Uhlenhuth et al., 1966).



The HPC role required that the experimenter dress in a professional manner, e.g., a tailored skirt and blazer with an expensive appearance, designed to give the impression of status and savoir faire (Gavrilides, 1980). In the LPC role, experimenters were instructed to dress casually, wearing bluejeans, as a student might. Regarding warmth, the HPC role emphasized empathic verbal interaction with the subject, whereas in the LPC role verbal dialogue was kept to a minimum. In the HPC role, experimenters were rehearsed toward smooth and error-free performance, giving an impression of competence and ease. In contrast, in the LPC role, experimenters were instructed to make a minor error in conducting the procedure, corrected in the presence of the subject, in order to give an impression of uncertainty and lack of familiarity with the method. The message given about the procedure by the HPC experimenter to the subject was positive and affirmative in wording, giving a strong suggestion that the treatment would be effective. In contrast, the LPC experimenter conveyed a balanced, neutral message about the procedure, allowing few conclusions to be drawn.

The nature of the setting also varied systematically with the role played by the experimenter. Subjects assigned to the HPC condition met with the experimenter in a clinical room in the building on campus which housed the Michigan State Psychological Clinic. The room contained a reclining chair as well as rug, pictures, and other signs of comfort. The clinical setting was anticipated to arouse expectations of care. In contrast, subjects assigned to the LPC condition met with the experimenter in a laboratory room in a



psychology research building on campus. The room was equipped with a comfortable reclining chair, a frame chair for the experimenter, and research equipment. The research setting was expected to arouse prospects of intellectual adventure. The major differences between HPC and LPC roles are summarized below:

<u>Experimenter Behavior</u>	<u>Construct</u>	<u>Treatment Condition</u>	
		<u>HPC</u>	<u>LPC</u>
attire	status	professional	casual
time spent talking with subject	warmth	much	little
personal manner	competence	smooth and fluent speech; error-free procedure	hesitancy in speech; error made in procedure
message about the procedure	suggestion	positive	neutral
context	expectancies	clinical care	intellectual adventure

Rationale given to the experimenters. The experimenters were kept blind regarding the hypotheses of the study. Since belief in the effectiveness of the method is an important nonspecific factor in therapeutic outcome (Shapiro & Morris, 1978), this variable was held constant. Both experimenters were told that there was considerable evidence demonstrating that the hypnotic method to be employed in the study was effective in enhancing creative problem-solving. The present study was described as an attempt to examine right and left-hemispheric contributions to creativity following a hypnotic dream series obtained under varying conditions of interpersonal interaction.



The differing roles were described to the experimenters as a contrast in egalitarian versus authoritative interpersonal styles. Both roles were described in equally positive, plausible ways, and the experimenters' enthusiasm was directed toward the importance of playing convincing roles. Specific information given to the experimenters was as follows:

We do not know under what conditions varying personality types will respond to imagery as a means of creative problem-solving. Some individuals are autonomous in personal style. No matter how pressured they may feel or appear to others, they prefer to rely on themselves to solve problems. When working with another person, they respond best in a low-key, egalitarian atmosphere where their autonomy is not threatened. Other people are more dependent in attitude. They look to others for direction and work best in a structured setting with an enthusiastic and authoritative leader. In this study, each of you will be trained to play both roles.

A detailed transcript of the rationale given to the experimenters is included in Appendix D.

Training. Detailed scripts following along with the procedure were written for the experimenters to define their performance throughout the experiment. Additional training in empathic listening (Gordon, 1975) and in the non-verbal accompaniments of a confident, competent attitude were given for the HPC role. Training in competence was based on the Personal Power Functions Profile developed by Reyher (1979). Both experimenters also received instruction in



experimental ethics and in responding to typical fears and misconceptions regarding hypnosis.

All sessions were audiotaped following subject consent. Tape recordings of the experimental sessions were monitored on a weekly basis by the principal investigator to ensure conformity to the script. Experimenters were supervised weekly by E1 and errors in procedure corrected. Following data collection, both experimenters were completely debriefed and the reasons for deception thoroughly explained.

Manipulation check. Naive observers unaware of the hypotheses of the study were asked to participate in the research as simulating subjects at two points during the experiment. During the sixth week of the experiment, two observers completed rating scales on each of the experimenters. The first observer acted as a subject for E2 in the HPC role and E3 in the LPC role, whereas the second observer acted as a subject for E2 in the LPC role and E3 in the HPC role. During the fourteenth week of the experiment, two additional observers repeated this procedure. The experimenters were unaware that these subjects were simulators instructed to rate their role behavior.

Rating scales were devised which asked the observers to estimate each experimenter's status, warmth, competence, and the nature of the message conveyed regarding the procedure. Inter-rater reliabilities were calculated for each pair of observers. The rating scale is included in Appendix L.

The manipulation check was designed to determine (1) if role behavior was significantly different across conditions for each



experimenter, and (2) if both experimenters were playing significantly similar roles within each condition. If the above conditions were fulfilled, it seemed reasonable to assume that the data generated by both experimenters could be combined.

Procedure

Introductory interview. Subjects in all conditions were greeted and given the following initial information about the research:

Let me tell you about the study. We are primarily interested in imagery, creativity, and problem-solving. This study also involves the use of hypnosis, which is an effective method for stimulating the imagination. We will use music and relaxation to help you get into hypnosis. Then, while your suggestibility is enhanced, you will have a series of dreams or dream-like experiences which may relate to your problem/project. Are you interested in continuing with the study?

Subjects were then asked to sign the Human Subject Consent Form and a waiver permitting audiotaping during the session. Both forms include the provision that consent to participate may be withdrawn at any time without penalty. Copies of the forms are included in Appendices E and F.

All subjects were then interviewed regarding the problem or project they had selected for the experiment according to the following format:

Can you briefly describe your project/problem to me? _____

Approximately when did you begin to work on/become aware of this project/problem? _____



Is there a deadline or time-pressure for completing/do you feel a time-pressure for solving your project/problem? _____

Can you describe what remains to be done on/what needs to happen to solve your project/problem as clearly as possible? _____

At this point, if subjects had difficulty defining a diffuse or multi-faceted dilemma, they were encouraged to select a focal point or one aspect of the problem to work on. All subjects were able to define their problem with sufficient focus to allow hypnosis to proceed.

The State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983) was then administered to subjects according to the following instructions:

We would like to know how anxious or disturbed you are by this problem/project on which you are working. I have here a form which describes how people feel when facing a difficulty. I would like you to fill out this side with regard to how you are feeling now about the problem/project you have described. Then fill out the other side according to how you generally or usually feel.

The STAI was administered to determine whether or not subjects self-selected as "at impasse" did characterize themselves as more anxious than student volunteers and to provide a basis for before and after treatment comparisons. Subjects were instructed not to put their names on the form which was given to them with only their experimental



number at the top. The experimenter left the room while the subject completed the form to ensure both confidentiality and privacy.

The procedure hereafter varied according to whether or not subjects were assigned to the high or low protective-competence condition.

High protective-competence condition. Upon re-entering the room, the HPC experimenter asked the subjects to discuss the problem or project in more detail, stating, "Before we begin the hypnotic procedure, I would like to ask you a few more questions about the problem you are presenting. OK?" Questions consisted of the following structured interview:

What methods have you tried using in order to solve your problem/complete your project? _____

Have these been at all successful? _____

What factors in the environment do you think might be contributing to any difficulties you are having in solving your problem/completing your project? _____

Do you sense or feel that there is anything about yourself that might be contributing to the difficulties you are having solving the problem/completing the project? _____

Questions were devised to increase rapport and were not scored in any way. Subjects in this group were allowed to talk for as long as 25 minutes about their project or problem. Length of the interview was discretely timed by E2 as a check on whether or not subjects actually used the time made available to them.



At the end of 25 minutes, if the subject continued to talk, the HPC experimenter commented, "I think I understand now something about what this problem/project means to you. I hesitate to interrupt, but we must keep an eye on the clock. Do you feel ready to go on with the experiment now?"

If the subject had finished the interview before the end of 15 minutes, the HPC experimenter simply said, "I think I understand now something about what this problem/project means to you. Do you feel ready to go on with the experiment now?"

The HPC experimenter then proceeded to describe the problem-solving rationale in highly positive terms, suggesting that others had found the technique helpful:

Let me tell you more about the rationale of the study. We know that hypnosis, imagery, and most creative functions are mediated by the right hemisphere of the brain. Most of us, however, rely on the left hemisphere when we try to solve problems. That is, we try to think, reason, and use words to find a solution. Often, however, solutions come not from the left hemisphere but from the right, in the form of dreams or images which provide new and unexpected perspectives. In previous investigations, we have been successful in providing the conditions necessary for creative problem solving to take place. Since music, imagery, and hypnosis are all mediated by the right hemisphere, we will use music to get you into hypnosis, or, into your right hemisphere. Then, you will have a series of dreams or dream-like experiences which should help you eventually to come to



satisfactory solution/completion of the problem/project facing you. Do you have any questions?

Any fears or misconceptions which the subject raised about hypnosis were addressed at this time.

Low protective-competence condition. Following administration of the STAI and upon re-entering the room, the LPC experimenter stated in a kind but matter-of-fact and businesslike manner:

I am sure there is more you could tell me about your problem/project. I am sorry that time does not permit my listening to each individual in detail. I would like to describe the rationale of the study in more detail to you now.

The LPC experimenter then proceeded to describe the problem-solving rationale in neutral terms, indicating that whether or not the method was helpful was a matter for scientific inquiry, as follows:

We think that hypnosis and imagery may be mediated by the right hemisphere of the brain. Creativity, however, may involve both left and right hemispheres. That is, some investigators propose that the left hemisphere thinks, reasons, and uses words, while the right hemisphere imagines and dreams. Although we are not sure which hemisphere is most important in problem solving, there is some evidence to suggest that most of us rely on the left hemisphere when we try to solve problems. That is, we try to think, reason, and use words to find a solution. Our experiment is designed to determine if stimulation of right-hemisphere functions, that is, the experience of imagery, can facilitate creative problem solving. Since music, imagery, and hypnosis all



may be mediated by the right hemisphere, we will use music and relaxation to help you get into hypnosis, or, into your right hemisphere. Then you will have a series of dreams or dream-like experiences. We hope to learn whether or not these dream-like experiences will have relevance to satisfactory solution/completion of the problem/project facing you. Do you have any questions?

Any fears or misconceptions about hypnosis that the subject raised were addressed at this time.

Hypnotic induction. Following this period, subjects in both groups were asked to recline in the overstuffed chair in which he or she was already sitting, to close his or her eyes, to relax, and to listen to the music and to E's voice. Music was selected as a means of induction because the procedure tends to arouse relatively little anxiety in subjects (Reyher, 1980) and has been demonstrated to induce hypnosis in previous research (Talone, Diamond, & Steadman, 1975). The music used to mediate the hypnotic induction was Oldfield's "Tubular Bells," played by cassette on a tape-recorder. This music was selected because its highly repetitive melody and driving rhythms make it suitable for capturing attention fully. The hypnotic induction and dream visualization procedure is based on a technique devised by Reyher (1980) for studying creativity.

The only difference between high and low protective-competence conditions at this point was the ease of transition into the hypnotic induction. Before inviting subjects to relax in the recliner, the LPC hypnotist appeared to fumble with her notes, looked down, and said,



"Let's see, where do we go next? Oh, yes. Would you like to make yourself comfortable now, and I will begin the music."

The music was accompanied by suggestions to relax and notice the quiet regularity of breathing along with suggestions of deepening relaxation as E counted from 1 to 10. Fifteen minutes into the hypnotic induction, the music was gradually phased out. At this point, S was operationally defined to be under hypnosis. In all conditions, E then gave the following suggestion to S:

Very soon I will turn down the music. As the music softens, you will find that an image of yourself in a pleasant and peaceful setting will come to mind. It may be a beach, a meadow, or any other place you like to be. When you see yourself in such a setting, please raise your hand about six inches.

Once the hand was raised, S was asked to describe what he or she saw, "You can lower your hand now. I would like you to describe to me what you saw." Following the subject's report, E then went on to suggest the following:

Soon a person, animal, or object, such as a car or boat, will enter the scene. When you see the person, animal, or object, please raise your right hand about six inches.

Again, once the hand was raised, S was asked to describe what he or she saw. Following the report, E continued:

Soon you will experience some kind of action, event, or happening which takes place (in the pleasant setting). When you see this action or event take place, please raise your right hand about six inches, as you did before, and then describe the event to me.



Once S had described the event, action, or happening, E then recapitulated the session in positive terms and provided the following instructions:

Good. You can lower your hand now [if the hand was still raised]. You have had a successful experience of imagery. You can rest for a moment now, simply enjoying the experience of relaxation.

If S failed to visualize two out of the three suggested scenes, he or she was given a post-hypnotic suggestion for nocturnal dreams and then was formally awakened. The post-hypnotic suggestion consisted of the following:

Every night, including tonight, for the next seven nights, the elements of your project/problem will become very lively and represent themselves in your dreams in one way or another. You will be able to remember everything about these dreams once they are over. If you understand what I have just said, please nod your head. [If S failed to nod, the instructions were repeated.] I will now count backward from five to one. When I reach the count of one, you will be fully awake.

Once awakened, S was informed that the experimenter would telephone one week from the date of the session for a brief follow-up interview. The S was also told that, following the call, an additional appointment with the principal investigator would be scheduled.

If S completed two out of three imagery tasks, however, E then provided the following instructions:



Now I would like you to picture in your mind's eye all the elements of _____ [project/problem was referred to by name, for example, "your M.A. thesis" or "the poem you are trying to write"]. When you see all of these in your mind's eye, raise your right hand about six inches to let me know.

Once the hand was raised, S was asked to describe what he or she saw. E then stated, "Now drop your hand [or "nod your head", if S had already dropped the hand] when these things disappear from your mind's eye." Following S's indication, E stated the following instructions:

Even though you cannot see these elements any longer, they are still very alive in the back of your mind, out of sight. In fact, they have a life of their own where you can't see them, and when I count to three, they will cause a dream or dream-like experience to come into your mind's eye. Please raise your right hand when this dream or dream-like experience ends. If you understand what I have just said, please nod your head. [If S failed to nod, the instructions were repeated.] OK, I will now begin to count. One...two...three...

If S did not raise his or her hand within two minutes, E stated, "I am going to count, and by the count of ten your dream will come to some conclusion. One...two...three...four...five...six...seven...eight...nine...ten."

S was then asked to describe his or her dream. Following the dream report, one minute was taken to rest. E then repeated the instructions asking S to dream, beginning in the following way: "Soon you will have another dream. Even though you cannot see the elements



of your problem any longer, they are still very alive in the back of your mind, out of sight...." The remainder of the paragraph was repeated verbatim. The instructions were repeated twice, giving S a total of three problem-solving dreams or dream-like experiences.

Once the final dream was recorded, S was given the identical post-hypnotic suggestion described previously and was then formally awakened. Once awakened, S was given time to become oriented to his or her surroundings. E inquired, "How do you feel?" in order to give S the opportunity to make any spontaneous comments about E or about the procedure. S was then asked to complete the STAI again, regarding how anxious or disturbed the subject felt at present regarding the problem or project brought to the experiment. As before, the form was given to S with only an experimental number at the top, and E left the room while S completed the form. Upon completion of the STAI, S was informed that E would telephone precisely one week from the date of the session for a brief follow-up interview. As before, S was also told that, following the call, an additional appointment with the principal investigator would be scheduled.

Follow-up inquiry. Ss in all conditions were telephoned one week following the experimental session by the experimenter who had conducted the session. At that time, an inquiry was made along the following lines:

What is the current status of your project/problem? _____

[If S was still at an impasse, he or she was thanked for participating, and the experimenter scheduled an appointment for S



with the principal investigator during the following week. If S reported a change in status, the interview proceeded.]

What solution did you implement to overcome the problem? _____

How did you arrive at this solution? _____

Are you satisfied with your solution as it now stands? _____

Have you had any outside assessment of your solution (grade, critique, etc.)? _____ If so, please elaborate _____

Regarding scheduling the final interview with the principal investigator, subjects were told that the interview would involve the completion of some additional questionnaires along with gathering S's impressions of the experiment and answering any questions S might have. All interviews were scheduled to take place within seven days following phone contact.

Verbatim notes of the phone interview were taken by the experimenter who had tested the subject. Transcripts were later scored by independent raters according to a set of criteria entitled the "Problem-Solving Scale," adapted from Davé (1979) (see Appendix G). Scores on this scale ranged from -1 to +3. A -1 was scored if the subject indicated that the problem was worse. A zero score was given if no change in the status of the project or problem was reported. A +1 was scored if the subject reported change in the status of the project/problem toward solution, if the subject was able



to relate the solution to the experiment, and if the subject felt fully satisfied with the solution as it stood. Points were added when each criteria was met to obtain the final score. Any objective information available about problem-solving was recorded if available. Although the efficacy of the treatment was not at issue here, groups were expected to differ in their report of success or failure and their ability to generate a solution related to the experiment depending on the nature of their relationship with the experimenter.

Final interview. Upon greeting the subject, E1 expressed thanks for the time S had spent on the experiment. The STAI form and a questionnaire asking for subjects' reactions to the experiment were then introduced:

I would like you to fill out the Self-Evaluation Questionnaire again with regard to how you are feeling now about the problem or project you described during the experiment. You only need to fill out side Y-1. In addition, I have a questionnaire which asks about your reactions to and feelings about the experiment. What I would like you to do is fill out this questionnaire as frankly and completely as possible. Do not put your name on the questionnaire. When you have finished, put the materials into this envelope with your experimental number at the top, seal it, and return it to this collection box. You can be sure that your responses will remain confidential. Following completion of the questionnaires,



we can discuss the experiment in more detail, and I will answer any questions you might have.

Ensuring confidentiality was considered important in order to give Ss the freedom to express any feelings about the experiment which otherwise might be suppressed in order to please a prestigious "principal investigator." The collection box was a large cardboard box with a lid containing a slot into which envelopes could be dropped. The subject completed the questionnaires in a room separate from E1's office to mitigate further any interpersonal pressure.

The semi-structured questionnaire, titled "Subject's Post-experimental Questionnaire," was adapted from LeBaron, Reyher, and Stack (1980) and included the following questions:

In general, what were your impressions of the experiment? _____

Did you have any specific responses to or feelings about the hypnotic procedure? _____

How did you feel about or respond to the experimenter? _____

In your opinion, did the experimenter do a good job? Please explain. _____

Was there anything the experimenter said or did that might have made you feel worried or uncomfortable during the procedure? If "yes", please explain. _____

Was there anything the experimenter did or said that was especially helpful or gratifying to you during the procedure? If "yes", please explain. _____



Were there any times during the procedure when you worried about your welfare or safety? If "yes", please explain. _____

Were there any times during the procedure when you especially felt a sense of hope, reassurance, or enjoyment? If "yes", please explain.

If you have any additional comments, please feel free to make them here. _____

Subject's responses to this questionnaire became the basis for scores on the Regressive Transference Scale, described below.

E1 then explained the objectives of the study. Subjects were in all cases reassured that their behavior and feelings about and during the experiment were completely appropriate whatever they had been. The necessity of deception in order to ensure that the research was fully relevant to actual therapeutic situations was explained, and the value of the Ss' participation emphasized. Subjects who continued to express considerable distress over any unresolved impasse in their problem/project were referred to the appropriate counseling service for further help, if requested. (See Appendix H and I for debriefing procedures). Subjects were not allowed to leave until E1 was satisfied that S had accepted his or her participation in the research with equanimity.

Materials

State-Trait Anxiety Inventory. The STAI (Spielberger et al., 1983) is a well-known instrument for measuring state and trait anxiety with demonstrated construct and concurrent validity and high



reliability. The STAI was used to measure anticipated differences in state anxiety between High and Low Impasse subject groups upon first entering the experimental situation and at two points upon completion of the treatment. Difference scores between pre- and post-treatment measures of anxiety for all groups were measured, under the assumption that the High Impasse/HPC group would show the greatest reduction in anxiety. Although difference scores between any two occasions contain the error components of both initial and final scores, making difference scores less reliable, the use of an initially highly reliable test provides a credible rationale for the use of difference scores.

The STAI A-state scale assesses qualities of tension, worry, and apprehension. In developing the A-state scale, it was found that feelings of anxiety were highly correlated with the absence of feelings of calmness, content, and the like (Spielberger, Lushene, & McAdoo, 1977). The most recently developed form of the test (Spielberger et al., 1983), then, consists of ten anxiety-present and ten anxiety-absent items. Anxiety-present items include statements such as "I am tense" or "I feel strained," which are rated by the subject on a continuum from 1 to 4. Anxiety-absent items include statements such as "I feel content" and "I feel comfortable," also rated on a continuum of 1 to 4. Scoring weights for anxiety-absent items are reversed, giving a range of a minimum of 20 and a maximum of 80 in state-anxiety scores. Low scores indicate states of serenity and satisfaction, intermediate scores reflect moderate levels of tension, and high scores indicate states of fearfulness verging on



panic (Spielberger, Lushene, & McAdoo, 1977). Recent factor analyses of the A-state scale (Spielberger et al., 1983, p. 31) indicate that anxiety-present and anxiety-absent items constitute two separate factors.

Ceiling and baseline limitations on scores as an artifact of test construction do not appear to be a problem under usual experimental conditions, because the A-state scale allows a wide range of scores and measures two factors -- contentment and anxiety. A minimum score of 20 reflects not simply the absence of anxiety but a state of serene contentment, whereas a maximum score of 80 measures not only the existence of severe anxiety but the absence of any experience of security and satisfaction. Neither extreme is likely to be encountered in waking daily experience except under highly unusual conditions.

In line with this perspective, Spielberger et al. (1983) report means and standard deviations on the A-state scale for a variety of populations. Extremely high or low scores are very infrequently attained. The mean A-state score attained in a normative sample of 855 college students tested under resting conditions was 36.47 for males and 38.76 for females, with standard deviations, respectively, at 10.02 and 11.95. Mean A-state scores earned in another normative sample of 900 college students tested under resting and exam conditions were 40.02 and 54.99 for males and 39.36 and 60.51 for females, respectively. In a comparison of A-state scores in a population of 197 undergraduate students tested in situations ranging from relaxation-training to severe stress, mean scores varied,



respectively, from 32.7 to 50.03, with standard deviations ranging from 9.02 to 12.48. The A-state scale has similarly shown sensitivity in differentiating between varying diagnostic groups. In summary, then, the A-state scale has proved to be an effective method for detecting differences in reported anxiety across a range of scale values. The majority of subjects can demonstrate either increase or decrease in scores depending on experimental manipulations.

The Regressive Transference Scale. The Regressive Transference Scale (Appendix J) was originally developed by LeBaron, Reyher, and Hayes (LeBaron, Reyher, & Stack, 1985) at Michigan State University. The scale was designed as an operational definition of regressive transference and assesses the quality and intensity of positive and negative feelings toward the practitioner involved with a client or subject.

Since the scale was developed in order to infer the existence of dependency strivings among subjects under particular conditions, the validity of the scale can be established only by its ability to differentiate subjects systematically according to their group membership. Similarly, its reliability can be established only by repeated replication of such differentiation in similar studies. In two experiments, the scale has shown significant differences between subject groups hypothesized to vary in dependency strivings toward the experimenter according to experimental group membership (Hayes, 1982; LeBaron, Reyher, & Stack, 1985).

In this study, the Regressive Transference Scale was expanded to include three dimensions: (a) nurturance, (b) competence, and



(c) hypnotic regression. High scores were assigned to comments which suggested dependency and attributions of competence to the hypnotist. Low scores were assigned to overtly critical comments about the hypnotist or the experiment, such as questioning the hypnotist's concern or credentials.

The attitude of the subject toward the hypnotist was measured at two points during the experiment. Following hypnosis, the experimenter asked the subject upon awakening, "How do you feel?" The subject's spontaneous comments were transcribed from audiotapes of the session and were scored according to the Regressive Transference Scale. This index was designed to serve as a manipulation check regarding the role impact of the experimenters as well as a measure of ongoing relatedness during the session. As Ericsson and Simon (1980) have shown, concurrent verbalizations can be a more valid index of subject response than verbal reports requested following a time delay.

The Regressive Transference Scale was also scored from written responses to the "Subjects' Post-experimental Questionnaire" administered during the final interview. The questionnaire inquired regarding subjects' feelings of safety or distress during the experiment and subjects' opinions regarding the competence of the hypnotist.

Transference scores for both measures were computed for each subject by assigning a rating to all statements made about the experiment or the experimenter. Phrases that appeared to be explanatory and unrelated to the experiment or experimenter were not scored. A statement was defined simply as a complete sentence,



including autonomous declarative phrases (ellipses¹) beginning with a capital letter and ending with a period. The ratings were summed and divided by the total number of statements, giving a mean transference score for each subject.

Dream scales: Holt content and defense scores. The Holt system for scoring primary and secondary processes in imagistic material was originally designed for use with the Rorschach. In this context, Aronow and Reznikoff (1976) report that scores have adequate reliability and validity, with content scales showing the most reliability from the standpoint of statistical robustness and psychological meaningfulness. Holt (Holt & Havel, 1960) has argued that his scoring categories can be applied to any sample of visual imagery (p. 267). Reyher and his associates (Reyher & Smeltzer, 1968; Wiseman & Reyher, 1973) have used aspects of the Holt system in scoring visual imagery. They report inter-rater reliabilities ranging from .94 to .99 with experienced scorers across a number of different studies.

The content and defense variables of the Holt system are designed to measure drive activation as indicated by the pictorial content of response. Content variables include libidinal, aggressive, and anxiety/guilt categories (Holt & Havel, 1960). Libidinal categories include oral, anal, sexual, exhibitionistic-voyeuristic, homosexual, and miscellaneous content. Aggressive content includes aggression

¹ellipsis (noun): (1) the omission of a word or words necessary to complete a sentence or expression; (2) a sudden jump from one thought or subject to another without inclusion of logical connectives. Doubleday Dictionary, Doubleday & Co., Garden City, NY: 1975.



toward the self and aggression toward others as distinct categories. Aggression is further scored as happening in the past, present, or future. The anxiety category is defined as the depiction of feelings of utter helplessness in the face of impersonal or unspecified dangers.

Defense variables are conceptualized as attempts on the subject's part to disguise expressed content which has come too close to awareness. The defense scores which appeared most relevant to hypnotic dream protocols gathered from an earlier study (Davé, 1979) included remoteness and miscellaneous (mostly pathological) defenses. The remote category was scored if imagery was distanced from the here and now in time, place, person, or level of reality. The pathological defense category comprised a multiplicity of defenses involving cognitive and/or emotional reversal, such as denial, minimization, evasion, undoing, and isolation.

In the 1970 revision of the scoring of primary process manifestations, Holt (1970) discarded the anxiety category, placing depictions of "nightmarish helplessness" in the category of aggression directed toward the self. While there is certainly theoretical justification for this revision, in the present study the anxiety category was retained because of its special relevance to regressive transference. The portrayal of a situation of helplessness and jeopardy in hypnotic dreams, along with the corresponding inhibition of aggression, imply both trust in the hypnotist and implicit strivings for protection on the subject's part, which index regressive transference. Holt's definition of the anxiety category as placing

special emphasis on helplessness in a situation of impersonal danger was also retained, and additional examples were generated for inclusion in the scoring. These additional examples are included in Appendix K.

Holt (1970) defined the "miscellaneous" libidinal category as a collection of infrequent responses which were libidinally tinged, including, for example, "eggs," "embryos," and "urination." For purposes of the study, the miscellaneous category was confined to content having to do with birth and youth, including embryos, infants or baby animals, eggs, young things organically growing, the self as a child, rebirth, or resurrection. Previous research (Reyher, 1980) has suggested that the portrayal of youth in hypnotic dreams may index regression, providing an indirect statement of the subject's feeling in relation to the hypnotist. Accordingly, the miscellaneous category was renamed the dependency category for use in the study.

In all other respects, Holt's (1970) revised manual was followed in scoring hypnotic dream material. The six libidinal categories were scored separately and were then combined into one "libidinal score" for purposes of analysis. Holt's three types of aggressive content (subject, object, and time of activity) were collapsed into two scores reflecting either aggression expressed by the subject (subject category) or aggression expressed toward the subject (object category). Scores in the Anxiety Category were tallied separately. Remote and pathological scales were scored separately and were then combined to form one overall "defense score."



Drive scores were assigned to each visual episode in the dream narrative when appropriate. A visual episode was defined as a change in persons, objects, setting, and/or activity. Each drive-laden content item was weighted depending on whether it fell in Level 1 (two points) or Level 2 (one point) categories. Each defensive content item was scored as either present (one point) or absent (zero points). Length of dreams was recorded in terms of total number of visual episodes in the dream. Scores in libidinal, aggression, anxiety, and defense categories were divided by the total number of visual episodes portrayed in order to obtain mean scores on each scale for each subject. A summary score for total regression in hypnotic dreams was obtained by adding the mean scores in libidinal, object aggression, anxiety, and defense categories. The subject aggression category was not included in the total regression score because predictions for the subject aggression category ran counter to hypotheses made for the other content categories.



RESULTS

Evaluation of Hypotheses

Hypotheses regarding one treatment cell were tested by a weighted means analysis comparing the mean of that cell with all other treatment means. Differences between the mean scores were evaluated by calculating the mean square of the difference divided by the error mean square for the whole group, giving an F-ratio (Keppel, 1982, pp. 112-114, 209). Hypotheses regarding High and Low Impasse groups were tested by a weighted-means analysis comparing the means of each treatment group, equivalent to the F-ratio for subgroups of the 2 x 2 analysis of variance. All tests were two-tailed, and a probability level of $p < .05$ was adopted for determining significance of results. Additionally, an over-all 2 x 2 analysis of variance was conducted for each variable. Any significant findings not predicted by hypothesis are reported following the description of results for the hypothesis in question. Tables for all analyses of variance conducted are located in Appendix M.

With the exception of the State-Trait Anxiety Index, dependent variables were based on ratings of interview and projective material. For varying reasons, distribution of scores on these variables were often mildly to markedly skewed, violating the normality assumption underlying the F-test. However, Norton's (cited in Keppel, 1982, p. 86, and Lindquist, 1953, pp. 79-91) Monte Carlo experiments have

1
C
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g

demonstrated that the F-ratio is insensitive to non-normality if within-group distributions are homogeneous in form and within-group variances are homogeneous. Consequently, frequency distributions for all of the treatment groups on each dependent variable were graphed and examined for homogeneity of form. Within-group variances across treatment groups were compared by means of Hartley's test (Winer, 1971, p. 206). If distributions were homogeneous in form and variance, the data was analyzed within the analysis of variance format without adjustments. For heterogeneity in form or variance, Norton (cited in Lindquist, 1953, pp. 83-87) has provided tables estimating the probable percentage of error in the F-ratio. Under these conditions, the probability level required for significance was adjusted to accommodate percentage of error.

Scale Reliabilities

All scale ratings were made independently by two advanced undergraduate students trained by E1. The raters were blind to the hypotheses of the study and the group membership of subjects. Inter-rater reliability scores were calculated by a Pearson correlation coefficient.

Ratings for the Problem-solving Scale were based on subjects' responses to a structured telephone interview made one week following the experimental session by the experimenter who had conducted the session. The inter-rater reliability was .94 ($p < .001$.)

Scores for the Regressive Transference Scale were based on two sets of data. Inter-rater reliability for Regressive Transference Scale 1, based on subjects' spontaneous comments upon awakening from



hypnosis, was .98 ($p < .001$). Inter-rater reliability for Regressive Transference Scale 2, based on written responses to the Subject's Post-experimental Questionnaire, was also .98 ($p < .001$).

Reliability coefficients were calculated for 15 content and defense scales on the Holt, including summary scores in libidinal and defense categories. Inter-rater reliabilities are given in Table 1. Scoring of the visual episodes in dream protocols was done by E1. In order to estimate the reliability of visual episode units, 36 protocols, including nine from each treatment group, were randomly selected and scored by a second rater. The inter-rater reliability for visual episodes was .95 ($p < .001$).

All inter-rater reliability scores were above .86. The research scales used in the study appear to allow reliable differentiation among subjects. For purposes of analysis, rater scores were averaged, giving one score per subject.

Manipulation Checks

Three preliminary tests were made to verify assumptions of the experimental design. These assumptions relate to subject motivation and experimenter role behavior.

Subject motivation. It was assumed that Low Impasse subjects recruited from introductory psychology classes would choose to participate in the study primarily out of interest in hypnosis. High Impasse subjects, on the contrary, were expected to be motivated by their need for help in solving a problem. When initial contact was made between subjects and E1, S was asked, "What about the study interested you?" Answers were classified into three groups:

11

Table 1

Reliability Scores for Holt Content Categories

<u>Scale category</u>	<u>Inter-scorer reliability</u>
Libidinal	
Oral	.97*
Anal	.95*
Sexual	.90*
Exhibitionism	.97*
Homosexuality	.94*
Dependency	.90*
Total	.95*
Anxiety	.86*
Aggression	
Against others	.95*
Against the self	.93*
Defense	
Remoteness	.97*
Pathological	.94*
Total	.97*
Total Regression	.97*

*p < .001



(1) interest in hypnosis, (2) desire to solve a pressing problem, or (3) both. Among High Impasse subjects, 27 mentioned only the need to solve a personal problem, and 17 mentioned both interest in hypnosis and desire to solve a problem. Among Low Impasse subjects, all 44 indicated only an interest in hypnosis. Data were arranged in a 2 x 3 contingency table. A chi-square test indicated that High and Low Impasse groups differed significantly in their response to the interview question, with $X^2(2,88) = 88, p < .001$.

Experimenter role behavior. Results of analyses from ratings of experimenter role behavior and from time spent talking with subjects indicated that data from both experimenters could be combined and the experimental hypotheses tested within a 2 x 2 factorial format.

Two pairs of simulating subjects blind to the hypotheses of the study originally provided ratings of the role behavior of the experimenters in both LPC and HPC conditions. Raters 1 and 3 observed E2 in the HPC condition and E3 in the LPC condition. Raters 2 and 4 observed E2 in the LPC condition and E3 in the HPC condition. However, Rater 3 became hypnotized and had to be dropped from the study. Comments made by this rater indicated an enthusiasm for hypnosis and an involvement in the simulated problem brought to the experiment which made objective observation impossible. Since obtaining inter-rater reliability scores requires pairs of observers, data provided by Rater 4 also could not be used. Inter-rater reliability scores, then, were based on ratings made by Raters 1 and 2 during the sixth week of the experiment.



Ratings were based on four scales which asked the observer to estimate the degree of status, warmth, competence, and credibility demonstrated by the experimenter in role. Each scale ranged from 0 - 15 points, giving a maximum total of 60 points for the four scales combined. Each rater produced eight scale scores across experimental conditions. The scores of Rater 1 and Rater 2 were compared by means of a Pearson correlation coefficient. Overall inter-rater reliability was .78 ($p < .05$). Ratings of experimenter role performance are shown in Table 2.

In order to determine if the experimenters were demonstrating significantly different role behaviors across conditions, the eight scale scores given by raters within each condition were averaged and their means compared. The mean score for experimenters in the LPC condition was 9.38 (maximum scale score = 15), with standard deviation at 1.83. The mean score for experimenters in the HPC condition was 12.75, and the standard deviation was 1.39. A one-tailed test resulted in a $t(6)$ score of 5.46, $p < .005$, indicating that the experimenters were performing according to their assigned roles.

Experimenter role behavior was also monitored by comparing the time subjects spent talking with the experimenter in each condition. The length of each interview in minutes was obtained from audiotape recordings of sessions. The means for Low and High Impasse groups in the LPC condition were 5.41 and 6.14 minutes, respectively. The means for Low and High Impasse groups in the HPC condition were 13.09 and 13.55 minutes respectively. A 2 x 2 fixed factor analysis of variance showed a large condition effect with $F(1,84) = 59.40$, $p < .001$.



Table 2

Ratings of Experimenter Role Performance

<u>Condition</u>	<u>Scale</u>	<u>Experimenters</u>		<u>Average</u>
		<u>E2</u>	<u>E3</u>	
		<u>Rater 1</u>	<u>Rater 2</u>	
HPC	Status	11	13	
	Warmth	13	13	
	Competence	15	14	
	Credibility	11	12	
	Sum	50	52	
	Mean	12.5	13	12.75
LPC	Status	<u>Rater 2</u>	<u>Rater 1</u>	
	Warmth	9	9	
	Competence	10	11	
	Credibility	8	10	
	Sum	10	38	
	Mean	9.25	9.5	9.38



Contribution of subgroup membership (High or Low Impasse) to the overall variance was minimal, with $F(1,84) = .36$, $p = \text{NS}$ (See Table 3, Appendix M). Results show that the experimenters were encouraging High Impasse subjects in conversation while effectively limiting the interview with Low Impasse subjects.

Preliminary Analyses: Age Differences

Age differences between High and Low Impasse groups could not be controlled during the experiment and presented a challenge in analyzing the data. Age differences between Low ($M = 19.32$ years) and High ($M = 23.23$ years) Impasse subjects were highly significant, with $t(86) = 5.40$, $p < .005$. The Pearson correlation coefficient of age with impasse as a factor was $.44$, $p < .001$ (biserial $r = .63$, $p < .005$). Results indicated that age was potentially confounded with impasse, obscuring interpretation of 2×2 factorial tests.

Generation of a correlation matrix for all variables indicated that age was significantly ($p < .03$) correlated with four dependent variables, including the Regressive Transference Scale 2 and three of the Holt indices. These four variables were subjected to a partial correlation procedure. Results are displayed in Table 4. With factors of both subgroup and condition controlled, age was still correlated with the Regressive Transference Scale 2, $r = -.30$ ($p < .003$) and with the Total Defense Scale on the Holt, $r = .19$ ($p < .036$). Results suggested that age might constitute a third factor affecting these two dependent variables.

As a precaution, data from the Regressive Transference Scale 2 and Total Defense Scale on the Holt was first analyzed by means of a



Table 4

Correlations and Partial Correlations with Age

<u>Age with</u>	<u>Zero-order Partial</u>	<u>p</u>
Regressive Transference Scale 2	-.3746	.001
Holt Anxiety Scale	.1997	.031
Holt Total Defense Scale	.3218	.001
Holt Total Regression Scale	.2249	.018
<u>Age with</u>		
Regressive Transference Scale 2	-.2887	.003
Holt Anxiety Scale	.1443	.091
Holt Total Defense Scale	.2043	.029
Holt Total Regression Scale	.0701	.259
	<u>Controlling for Condition</u>	
<u>Age with</u>		
Regressive Transference Scale 2	-.3822	.001
Holt Anxiety Scale	.1984	.033
Holt Total Defense Scale	.3153	.001
Holt Total Regression Scale	.2143	.023
	<u>Controlling for Both</u>	
<u>Age with</u>		
Regressive Transference Scale 2	-.2970	.003
Holt Anxiety Scale	.1427	.095
Holt Total Defense Scale	.1943	.036
Holt Total Regression Scale	.0509	.321



three-way analysis of variance to determine whether or not age was a significant factor influencing results. Factors included subgroup, condition, and age. Subjects were divided into High and Low age groups. The High age group was defined as those subjects with age above the total group mode (20 years) plus one-half the mode. The Low age group was defined as subjects with age below the mode plus one-half the mode. Scores in the modal category were randomly assigned in pairs to High and Low age groups. Before random assignment, modal scores were paired, highest with lowest, to avoid chance build-up of high or low modal scores in any one treatment group. This manner of assignment of subjects to groups appeared to be the only way of insuring a sufficient number of subjects in each cell. Division at the total group mean (21.27), mode (20.00), or median (19.88) left either empty cells or cells containing only two subjects. With the modal category divided, cells contained unequal numbers, but there were enough subjects per cell to provide an estimate of within-group variance. Number of subjects per cell based on age assignment for these variables is displayed in Table 5.



Table 5

Subjects per Cell in Three-way Factorial Design

Subgroup (Factor B)	<u>Condition (Factor A)</u>			
	LPC		HPC	
	<u>Age</u>		<u>Age</u>	
	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>
Low Impasse	17	5	18	4
High Impasse	6	16	5	17

Self-report Indices

Hypothesis 1: Regressive Transference Scales 1 and 2

Results failed to provide support for the hypothesis that High Impasse subjects paired with a hypnotist demonstrating high protective competence view the hypnotist as more powerful and reassuring than other experimental groups. Instead, the data show marked differences between face-to-face and written evaluations of the experimenter and an unexpected partial reversal of the hypothesis.

Face-to-face interaction: Regressive Transference Scale 1.

Scores on the Regressive Transference Scale 1 were moderately skewed to the left. Frequency distributions for all groups were homologous, however, and within-group variances were homogeneous. Total N on the



Regressive Transference Scale 1 was 80, with 20 subjects per cell.² Negative numbers on the scale were eliminated by adding +4 to each score, giving the scale a range of 0-8 points.

Data failed to confirm the hypothesis that High Impasse subjects in the HPC condition view the hypnotist as being more powerful and more reassuring than all other experimental groups. A weighted-means comparison of the mean for High Impasse subjects in the HPC condition with the combined means of all other treatment groups resulted in $F(1,84) = .09$, $p = \text{NS}$. The mean score for High Impasse subjects in the HPC condition was 5.43. The mean score for all other treatment groups combined was 5.35. The mean square for the comparison was .10, with the error mean square at 1.13.

Written evaluation: Regressive Transference Scale 2. Data from the Regressive Transference Scale 2 was analyzed by a three-factor least squares regression analysis of variance. Negative numbers on the scale were eliminated by adding +4 to each score, with scale range from 0 - 8 points. None of the F-tests for main effects or interaction were significant (see Table 7, Appendix M). Since age did not appear to be of consequence in the analysis, the three-way design was collapsed to a 2 x 2 factorial table with equal numbers of subjects in each cell.

²Data for seven subjects was lost due to the theft of audiotapes from a storage locker before transcription was complete. Fortunately, the loss was distributed equally among experimental groups, with two subjects missing from three cells and one subject from the fourth. An additional subject was dropped at random from the fourth cell to provide equal numbers of subjects in each experimental group.

Results of the analysis did not support the hypothesis that High Impasse subjects in the HPC condition view the hypnotist as being more powerful and reassuring than do other experimental groups. A weighted-means comparison between scores of High Impasse subjects in the HPC condition and the combined scores of all other treatment groups gave an $F(1,84)$ ratio of .47, $p = \text{NS}$. The mean of the High Impasse group in the HPC condition was 4.69. The mean for all other treatment groups combined was 4.82. The mean square for the comparison was .35, and the error mean square was .76.

Additional findings. A 2×2 analysis of variance of scores on the Regressive Transference Scale 1 showed no significant F-ratios for condition, subgroup, or interaction effects (see Table 6, Appendix M). Mean scores for all four groups fell between 5.22 and 5.62 points, with standard deviations ranging from .94 to 1.19. In face-to-face interaction, then, there were no significant differences among treatment groups in their verbal response to the hypnotist immediately following hypnosis.

In contrast, a 2×2 analysis of variance of scores on the Regressive Transference Scale 2 revealed a highly significant main effect for subgroup, with $F(1,84) = 7.58$, $p < .007$, in a direction which partially reversed the hypothesis. Means for Low Impasse subjects in LPC and HPC conditions, respectively, were 5.06 and 5.02, with standard deviations at .89 and .59. Means for High Impasse subjects in LPC and HPC conditions were, respectively, 4.37 and 4.69, with standard deviations at .92 and 1.02 (see Table 8, Appendix M). High Impasse subjects across conditions, then, were significantly more

critical of the experimenter in written evaluations following hypnosis than were Low Impasse subjects.

An inspection of the mean scores indicates that the High Impasse group in the LPC condition produced the lowest average score. A weighted means comparison of scores of High Impasse subjects in the LPC condition with the combined scores of all other treatment groups gave an F-ratio of 6.65, significant at the .025 probability level. High Impasse subjects in the LPC condition, then, were the most critical of the experimenter among all treatment groups in written evaluations following hypnosis.

The discrepancy between findings on the Regressive Transference Scales 1 and 2 suggests that in face-to-face interaction with the experimenter, the desire to please and conform takes precedence. Out of sight of the experimenter, suppressed negative feelings may emerge. That the High Impasse group was most subject to such reversal in feeling, however, was a striking and unexpected finding. The behavior of High and Low Impasse groups in varying conditions on other experimental measures may provide a context for interpretation.

Hypothesis 2: Problem-Solving Scale

Results did not support the hypothesis that High Impasse subjects in the HPC condition report greater success in problem-solving than all other groups. Rather, a weighted-means analysis showed no significant differences between comparison groups in reports of successful problem-solving.

Frequency distributions for each treatment population on the Problem-Solving Scale were skewed to the left, but distributions were



homologous, and within-group variances were homogeneous. In order to eliminate negative numbers, +1 was added to each score, giving the scale a range of 0 - 4 points. The mean for the High Impasse group in the HPC condition was 2.89, and the mean for all other treatment groups combined was 2.55. The mean-square for the comparison was 1.87, and the error term was 1.33. The resulting $F(1,84)$ ratio was 1.40, $p = \text{NS}$.

Hypothesis 3: The State-Trait Anxiety Index

The hypothesis that High Impasse subjects in the HPC condition report greater relief from anxiety following experimental treatment than all other experimental groups was not supported by the data. Instead, treatment groups expressed equal relief immediately following hypnosis. After a two-week interval, High Impasse subjects across conditions showed significantly less reduction in anxiety relative to initial anxiety scores than did Low Impasse subjects, an unexpected finding.

The State Anxiety Index was administered immediately following the first four questions of the initial interview (STAI1), immediately following hypnosis (STAI2), and two weeks later before the debriefing session (STAI3). Subjects were asked to complete the Trait Anxiety Index only during the first administration. On the State Anxiety indices, subjects were asked to rate each time how they felt now about the problem brought to the experiment.

Trait and state anxiety as measured by the STAI are highly correlated (Spielberger, Lushene, & McAdoo, 1977), and persons who are characterologically disposed to experience anxiety report greater

changes in state anxiety when in ego-threatening situations than do others (Endler, 1981). Initial differences in trait anxiety, then, could constitute a subject factor necessitating a within-subjects design. However, a 2 x 2 analysis of variance of Trait Anxiety scores with $F(1,84)$ showed no significant differences between treatment groups and no significant interaction terms (see Table 10, Appendix M). There did not appear to be any loading of unusually anxious subjects in one treatment cell, and there was no appreciable effect of treatments on scores. The absence of significant differences between treatment groups indicates that subjects were reasonably equated in Trait Anxiety, so that state anxiety and difference scores could be analyzed by means of a two-factorial between-groups analysis of variance.

The initial State Anxiety Index was given to allow before and after treatment comparisons and to determine whether subjects self-selected as at impasse did in fact characterize themselves as initially more anxious regarding their problem than did student volunteers. Means for all groups on the STAI1 ranged between 45.27 and 46.93, with standard deviations between 11.59 and 14.55. An $F(1,84)$ test showed no significant differences between treatment populations and no significant interaction terms (see Table 11, Appendix M). There was no relationship, then, between self-defined impasse and level of anxiety on the STAI1. Self-report indices of anxiety may not measure adequately the notion of being "at impasse," defined operationally in this study by active help-seeking behavior in the absence of external reward.

Because there were no significant effects of experimental treatments on initial State Anxiety scores, the STAI1 was included as a covariate in the analysis of difference scores. The covariate adjustment provides a way of correcting final means for initial differences (McNemar, 1979, p. 428) and is a defensible procedure when it is known that the experimental treatments have not influenced the covariate (Keppel, 1982, p. 492). For planned comparisons, treatment means were adjusted for differences among the means on the covariate. The adjusted mean-square for the comparison was tested over the adjusted mean-square for error (Keppel, 1982, pp. 500-502; Winer, 1971, p. 779).

Difference scores between initial and later administrations of the State Anxiety Index were computed as a measure of net change (McNemar, 1979, pp. 96-98). STAI2 scores were subtracted from STAI1 scores, giving a measure of relief from distress immediately following hypnosis. STAI3 scores were subtracted from STAI1 scores as an indication of longer lasting relief. Since STAI1 scores fell in the moderate range, ceiling and baseline effects were not expected to influence results.

Mean scores on STAI1, STAI2, and STAI3 for each treatment population are presented in Table 12. Results are shown graphically in Figure 1. As demonstrated by Figure 1, all groups showed a pattern of immediate relief from distress after contact with the hypnotist, followed by increase in anxiety over time. The pattern is very similar to results obtained by Frank (1974) in a study of the reported

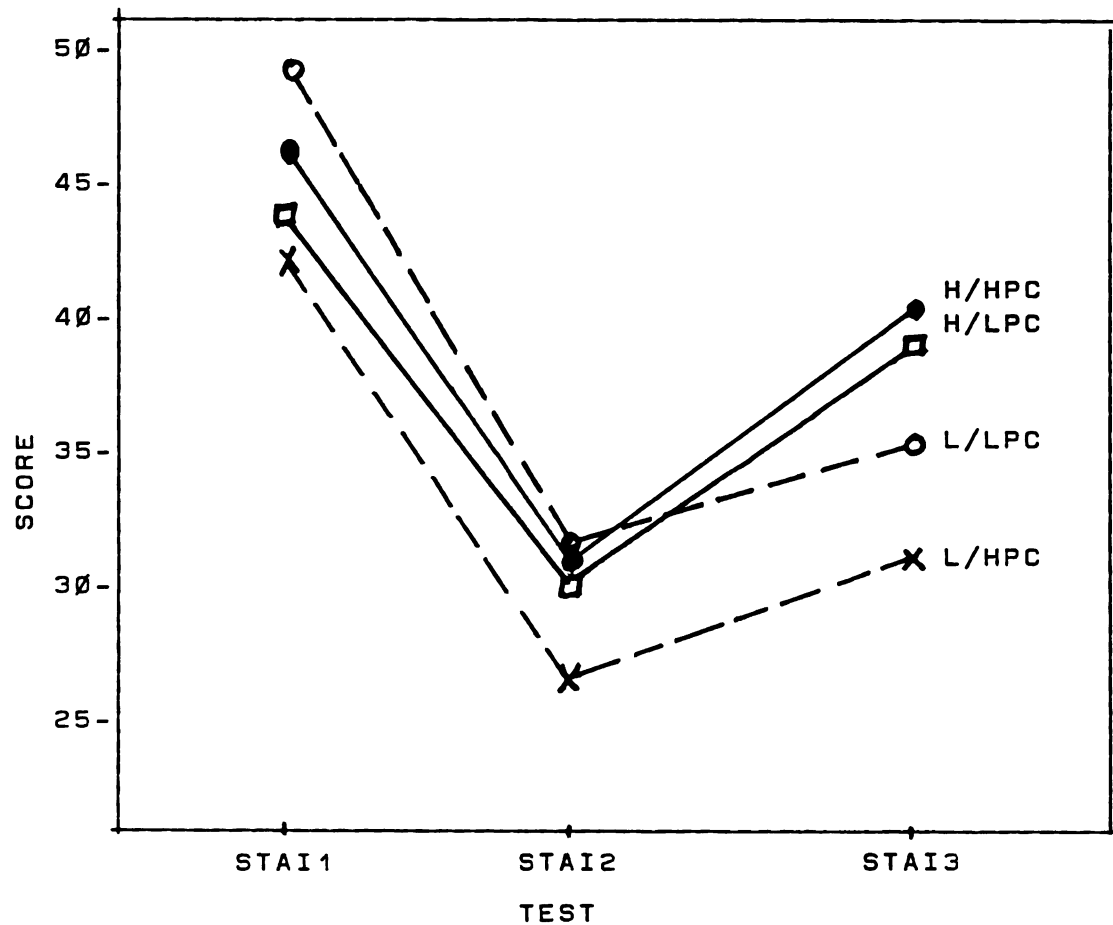


Figure 1

STAI at Different Times of Administration

Table 12

Mean STAI Scores Across Time Intervals

	Group			
	H/LPC	L/LPC	H/HPC	L/HPC
<u>Test</u>				
STAI1	44.55	49.32	46.59	43.95
STAI2	30.28	31.18	31.36	27.41
STAI3	38.41	35.77	39.64	30.96



relief of anxiety over time following administration of a drug placebo to psychiatric outpatients.

Level of anxiety immediately following hypnosis. Contrary to hypothesis, High Impasse subjects in the HPC condition did not demonstrate more relief from anxiety following hypnosis than did all other groups. A weighted-means comparison of the adjusted mean score for the High Impasse group in the HPC condition versus the adjusted mean of all other groups combined resulted in $F(1,83) = .05$, $p = NS$. The adjusted mean difference score for High Impasse subjects in the HPC condition was 14.83, and the adjusted mean difference score for all other groups combined was 14.42. The mean-square for the comparison was 2.72, and the adjusted mean-square for error was 57.21.

Level of anxiety two-weeks following hypnosis. Similarly, results did not support the hypothesis that High Impasse subjects in the HPC condition demonstrate more relief from anxiety two-weeks following hypnosis than do all other groups. The F-test for a weighted-means comparison of adjusted mean difference scores for High Impasse subjects in the HPC condition versus all other treatment groups combined gave $F(1,83) = .89$, $p = NS$. The adjusted mean for High Impasse subjects in the HPC condition was 6.59. The adjusted mean for all other groups combined was 9.20. The mean-square for the comparison was 112.43, and the adjusted mean-square for error was 125.87.

Additional findings. A 2 x 2 analysis of covariance of difference scores between first and second administration of the State



Anxiety Index showed no significant differences between treatment populations and no significant interaction term (see Table 13, Appendix M). After a two-week interval, however, there was a significant main effect for subgroup, with $F(1,84) = 6.18$, $p < .02$, in a direction which partially reversed the hypothesis (see Table 14, Appendix M). Mean difference scores for Low Impasse subjects in LPC and HPC conditions, respectively, were 13.55 and 13.00 points. Mean difference scores for High Impasse subjects in LPC and HPC conditions, respectively, were 6.14 and 6.95 points. High Impasse subjects across conditions, then, showed less reduction in anxiety following treatment relative to initial anxiety scores than did Low Impasse subjects.

The latter finding parallels results for the High Impasse group on the Regressive Transference Scale 2. On self-report measures two weeks following the experiment, High Impasse groups reported significantly more criticism of the experimenter and more anxiety about their problem than did Low Impasse subjects.

Regression in Hypnotic Dreams

A cursory inspection of the hypnotic dreams of Low and High Impasse subjects demonstrates clear differences between the samples in amount of primary process activity in dreams. A few characteristic examples from each group will illustrate these differences. The following dreams are from Low Impasse subjects:

1. Female, age 20, Dream 2

I'm showing at a fashion show. It has all my clothes in it that I just designed. I'm really proud. All the models are showing my outfits. People are looking up to me. They think I am successful, beautiful, intelligent.



2. Male, age 20, Dream 2

I can see myself struggling hard with my schoolwork. I feel very frustrated about it. I almost quit and give up. It just seems that if I did, it would be the answer to what I feel so frustrated about. But I don't want to quit. Then I finally work through it. I have a career or some type of job that doesn't need math skills. I can do very well at it, but I think that this is not really true, it is just my imagination. I think that no matter what I want to do, that I won't be able to do it because I'm having a hard time doing well in school and on tests.

In contrast, the following dreams are from High Impasse subjects:

1. Male, age 23, Dream 2

I saw a tower growing very fast like clay, playdough. It just went zoom through space... climbing at phenomenal speed...I cut it, but it still kept growing. Then it arc-ed around, came back down to the earth, hit the earth, and took off another way, straight out. I rode it like a snake or a horse, and I just kept zooming. I hit a planet very hard, and...I went into the heart of the planet. I wanted to become a sun...

2. Female, age 35, Dream 3

It was a jet plane flying in the sky. I was outside of the jet plane watching it objectively. The plane was completely filled with people, all different people...each with their own life. I was outside of the plane, but I was also part of all those people. The plane was flying along, and it exploded. Everything in it exploded into tiny little pieces. And I was outside the plane and I was all the people. There was nothing left, just little bits. I felt it both from the outside and from the inside. I wondered as I watched it, if I still exist. And I did.

Of course, there were also individual differences within each sample. Some Low Impasse subjects brought in problems which were anxiety-provoking for them and produced complex dreams. Some High Impasse subjects struggled with the dream process and remained on the surface.

The Holt scales were devised as measures of regression in hypnotic dreams which might capture differences between and allow comparisons among treatment groups. Scores in content and defense



categories on the Holt were tallied and divided by the total number of visual episodes in the hypnotic dream, giving an average score for each content category per visual episode for each subject. Since all scores were adjusted for length of the hypnotic dream and were expressed as a function of the same unit (the visual episode), scores on the Holt are comparable across categories. Category and scale scores have been multiplied by ten to facilitate interpretation during statistical analyses. Results for hypotheses related to each scale on the Holt are presented in order, following a brief description of the scale.

The Total Libidinal Scale

Libidinal scores in each of the six content categories were tallied and divided by the number of visual episodes in the hypnotic dream, giving an average score for each libidinal category per visual episode. A given content could not be scored twice, for example, as both sexual and exhibitionistic, but had to fall into one or the other libidinal category. The Total Libidinal Scale score was the sum of the average scores in each of the six categories, otherwise referred to as subscales. The range of obtained scores on the Total Libidinal Scale was 0 - 7.35 points. Scores on the Total Libidinal Scale were mildly skewed to the right. However, distributions for all groups were homogeneous in form and variance. Pearson correlations of each of the subscales with the Total Libidinal Scale are presented in Table 15. Very few responses were obtained in anal and homosexual categories.

Table 15

Correlation of Libidinal Subscales with Total Libidinal Scale

<u>Subscale</u>	<u>r</u>	<u>p</u>
Oral	.5361	.001*
Anal	.0864	.212
Sexual	.4535	.001*
Exhibitionistic/Voyeuristic	.6699	.001*
Homosexual	.1679	.059
Dependency	.3580	.001*

*significant p

Hypothesis 4a: High versus Low Impasse Groups on the Total Libidinal Scale

Scores on the Total Libidinal Scale of the Holt did not support the hypothesis that High Impasse subjects demonstrate more libidinal expression in hypnotic dreams than do Low Impasse subjects. A weighted-means comparison between High and Low Impasse groups on the Total Libidinal Scale resulted in an $F(1,84)$ ratio of .02, $p = NS$. Means for the Low and High Impasse subgroups, respectively, were 2.29 and 2.35. The mean-square for the comparison was .08, and the mean-square for error was 4.00 (see Table 22, Appendix M).

Hypothesis 5a: High Impasse Subjects in the HPC Condition on the Total Libidinal Scale

Contrary to hypothesis, there was no evidence on the Total Libidinal Scale that High Impasse subjects in the HPC condition show

more libidinal expression in hypnotic dreams than do all other treatment groups. The $F(1,84)$ ratio resulting from a weighted-means comparison between the High Impasse group in the HPC condition and all other treatment groups combined was 2.47, $p = \text{NS}$. The means for the High Impasse group in the HPC condition and for all other groups combined were, respectively, 2.90 and 2.13. The mean-square for the comparison was 9.87, with the error term at 4.00.

Other findings. To determine whether there were differences among treatment groups in type of libidinal content expressed in dreams, a 2×2 analysis of variance was conducted for each subscale. Libidinal subscales included oral, anal, sexual, exhibitionistic-voyeuristic, homosexual, and dependency categories. The range of obtained scores on subscales was from 0 - 5.82 points. Frequency distributions for all subscales were skewed to the right. Oral, sexual, and exhibitionistic-voyeuristic subscales were homogeneous in form and within-group variances. Anal, homosexual, and dependency subscales demonstrated heterogeneity in form and within-group variances. Following Norton (cited in Lindquist, 1953, pp. 83-87), where forms and variances were heterogeneous, the probability level required for significance at $p < .05$ was set at .03 to allow for a two-percent error in estimation.

Results showed no significant differences among groups for five of the six libidinal subscales (see Tables 16 - 21, Appendix M). For the Dependency Subscale, however, the analysis of variance found a significant subgroup and condition interaction, with $F(1,84) = 6.84$, $p < .001$. The main effect for condition was also significant, with

$F(1,84) = 5.73$, $p < .019$ (see Table 21, Appendix M). An examination of the means revealed that the condition effect was due primarily to the high mean score produced by High Impasse subjects in the HPC condition.

A weighted-means comparison between scores of High Impasse subjects in the HPC condition and the combined scores of all other treatment groups was conducted. The probability level of .05 was reduced to .03 to compensate for heterogeneity of within-group variance. The resulting $F(1,84)$ ratio was 15.22, $p < .001$, exceeding the required significance level. The mean for High Impasse subjects in the HPC condition was .57, and the mean for all other groups combined was .09. The mean-square for the comparison was 4.30, with the mean-square for error at .28. High Impasse subjects in the HPC condition produced significantly more imagery related to youth than did all other groups.

Only fourteen subjects (16%) out of the total sample produced imagery scorable in the dependency category. Eleven of these subjects were in the HPC condition, and nine of these were High Impasse subjects in the HPC condition. Given the infrequency of youth imagery in the sample as a whole, results are rather striking and warrant examples. Among High Impasse subjects, imagery scored as related to youth included, among others, the following excerpts:

I saw a large brown eagle, fierce-looking, strong...It landed in a nest. Lifted its wings up, as if it was feeding its young.

I'm in (a friend's) office, playing with a little baby...I started to play with the baby with the crayons. The baby is drawing on the paper, seated on the floor...

A big strong wind, like a hurricane...It's a southern, tropic scene, like southern Alabama or the Florida coast. I was in a hurricane there once when I was small.

A deer walked in, a little fawn with spots. The mother deer came, and she took him away, because my dog was barking.

Hypnotic dream images suggest a reactivation of affectively-toned remembrances of childhood which constitute regressive transference.

The Total Defense Scale

Remote and pathological defense scores were tallied separately and divided by the total number of visual episodes in the hypnotic dream, giving an average score per defense category per visual episode. The Total Defense Scale score was the sum of the average scores in each defense category. The Remote Subscale ($r = .89$, $p < .001$) and the Pathological Defense Subscale ($r = .84$, $p < .001$) were correlated almost equally with Total Defense Scale scores. The range of obtained scores on the Total Defense Scale was 0 - 15.23. Distributions of scores on the Total Defense Score were moderately skewed to the right. Form of the distributions was homologous, but variances were heterogeneous. Therefore, the probability level required for significance at $p < .05$ was set at .03 to allow for a two-percent error in estimation.

Data from the Total Defense Scale was first analyzed by a three-factor least squares regression analysis of variance in order to determine the effect of agegroup on scores. The resulting $F(1,80)$ tests showed a significant main effect for subgroup but no significant effects for agegroup, condition, or interaction terms (see Table 23, Appendix M). Since age did not appear to be a factor in the analysis,

the three-way design was collapsed to a 2 x 2 factorial table with equal numbers of subjects in each cell.

Hypothesis 4b: High versus Low Impasse Groups on the Total Defense Scale

Scores on the Total Defense Scale confirmed the hypothesis that High Impasse subjects show more defensive manifestations in hypnotic dreams than do Low Impasse subjects. A weighted-means comparison between High and Low Impasse subgroups resulted in a highly significant F-ratio, with $F(1,84) = 11.10$, $p < .001$ (see Table 24, Appendix M). Means for Low and High Impasse groups, respectively, were 1.81 and 3.80. The mean-square for the comparison was 87.12, and the error term was 7.85.

Hypothesis 5b: High Impasse Subjects in the HPC Condition on the Total Defense Scale

Data also supported the hypothesis that High Impasse subjects in the HPC condition show more defensive manifestations in hypnotic dreams than do all other treatment groups. A weighted-means analysis comparing the scores of High Impasse subjects in the HPC condition with the combined scores of all other treatment groups was performed. The probability level of .05 was reduced to .03 to compensate for heterogeneity of within-group variance. The resulting $F(1,84)$ ratio was 5.77, $p < .025$. The mean for the High Impasse group in the HPC condition was 4.04 points, and the mean for all other groups combined was 2.39. The mean-square for the comparison was 45.32, with the mean-square for error at 7.85. The hypothesis that High Impasse

subjects in the HPC condition show more defensive manifestations in hypnotic dreams than all other groups was accepted.

The Anxiety Scale

The Anxiety Scale score was the sum of anxiety scores within a protocol divided by the total number of visual episodes. The range of obtained scores was 0 - 4.44. Scores were skewed to the right. Although distributions were homologous, within-group variances were heterogeneous. Accordingly, the probability level required for significance was adjusted to $p < .03$.

Hypothesis 4c: High versus Low Impasse Groups on the Anxiety Scale

Results failed to confirm the hypotheses that High Impasse subjects express more anxiety in hypnotic dreams than do Low Impasse subjects. The $F(1,84)$ ratio resulting from a weighted-means comparison between High and Low Impasse subgroups was 2.30, $p = NS$ (see Table 25, Appendix M). Means for Low and High Impasse groups, respectively, were .34 and .60. The mean-square for the comparison was 1.42, and the mean-square for error was .62.

Hypothesis 5c: High Impasse Subjects in the HPC Condition on the Anxiety Scale

Data did not support the hypothesis that High Impasse subjects in the HPC condition express more anxiety in hypnotic dreams than do all other treatment groups. A weighted-means comparison of High Impasse subjects in the HPC condition with all other groups combined resulted in $F(1,84) = .002$, $p = NS$. The mean for High Impasse subjects in the HPC condition was .05. The mean for all other groups combined was

.04. The comparison mean-square was .001, and the error term was .62.

The Object Aggression Scale

Object aggression was scored if the subject portrayed victims of active aggression in hypnotic dreams. These could include hurt, unhappy, frightened, or dead persons and animals or damaged objects. The scene is pictured from the standpoint of or emphasizing the victim, indicating the subject's identification with the injured one. The Object Aggression Scale score was the sum of object aggression scores within a protocol divided by the total number of visual episodes. The range of obtained scores was 0 - 5.00. Scores on the Object Aggression Scale were moderately skewed to the right. Within-group variances were homogeneous, but frequency distributions for treatment groups varied in form. The probability level was adjusted to $p < .03$ to compensate for heterogeneity of form.

Hypothesis 4d: High versus Low Impasse Groups on the Object Aggression Scale

Results provided support for the hypothesis that High Impasse subjects express more aggression toward the self in hypnotic dreams than do Low Impasse subjects. The F-test for a weighted-means comparison between Low and High Impasse groups resulted in $F(1,84) = 7.77$, $p < .007$ (see Table 26, Appendix M). Means for Low and High Impasse groups, respectively, were .70 and 1.43. The comparison mean-square was 11.62, with the error mean-square at 1.50.



Hypothesis 5d: High Impasse Subjects in the HPC Condition on the Object Aggression Scale

Data also confirmed the hypothesis that High Impasse subjects in the HPC condition express more aggression toward the self in hypnotic dreams than do all other treatment groups. A weighted-means comparison between High Impasse subjects in the HPC condition and all other treatment groups combined was conducted. As before, a probability level of .03 was adopted for evaluation of results. The resulting $F(1,84)$ ratio of 8.61, $p < .01$, exceeded the probability level required for significance. The mean for the High Impasse group in the HPC condition was 1.73. The mean for all other treatment groups combined was .84. The mean-square for the comparison was 12.96, and the mean-square for error was 1.50. The hypothesis that High Impasse subjects in the HPC condition show more aggression directed toward the self in hypnotic dreams than do all other treatment groups was accepted.

The Total Regression Scale

The Total Regression Scale score was the sum of Total Libidinal, Total Defense, Anxiety, and Object Aggression Scale scores. Since each scale score consisted of the average for that content category per visual episode, the Total Regression scale score represented the average overall regression index per visual episode. Correlations of each scale with the Total Regression Scale were the following:

(1) Total Libidinal Scale, $r = .48$, $p < .001$; (2) Total Defense Scale, $r = .79$, $p < .001$; (3) Anxiety Scale, $r = .26$, $p < .007$; and (4) Object Aggression Scale, $r = .42$, $p < .001$. The range of obtained

scores on the Total Regression Scale was 0 - 18.2. Distributions for treatment populations were mildly skewed to the right and were homologous. Within-group variances fell below Hartley's critical region.

Hypothesis 4e: High versus Low Impasse Subjects on the Total Regression Scale

Results on the Total Regression Scale confirmed the hypothesis that High Impasse subjects show more overall regression in hypnotic dreams than do Low Impasse subjects. A weighted-means comparison between High and Low Impasse groups gave a highly significant F-ratio, with $F(1,84) = 14.80$, $p < .001$ (see Table 27, Appendix M). Means for Low and High Impasse groups, respectively, were 5.14 and 8.17. The mean-square for the comparison was 202.10, and the error mean-square was 13.66.

Hypothesis 5e: High Impasse Subjects in the HPC Condition on the Total Regression Scale

Data also confirmed the hypothesis that High Impasse subjects in the HPC condition show more overall regression than do all other treatment groups. A weighted-means contrast between the scores of High Impasse subjects in the HPC condition and the combined scores of subjects in all other groups gave an $F(1,84)$ ratio of 13.97, $p < .001$. The mean for High Impasse subjects in the HPC condition was 9.20. The mean for all other groups combined was 5.80. The comparison mean-square was 190.79, with the error mean-square at 13.66.

Additional findings. Although a condition effect across subgroups was not predicted, subjects in the HPC condition showed significantly more overall regression than did subjects in the LPC condition. A 2 x 2 analysis of variance revealed a significant main effect for condition, with $F(1,84) = 6.18, p < .015$. Means for Low Impasse subjects in LPC and HPC conditions, respectively, were 4.21 and 6.06, with standard deviations at 2.35 and 4.50. High Impasse subjects in LPC and HPC conditions, respectively, attained mean scores of 7.13 and 9.20, with standard deviations at 3.51 and 4.07. Subjects in the HPC condition, then, independent of initial motivation, responded with deeper regression in hypnotic dreams to the hypnotist in a clinical setting who played a protective and competent role.

Results demonstrate the effect of both crisis and condition on extent of regression in hypnotic dreams among subjects. High Impasse subjects self-defined as in crisis showed greater regression than Low Impasse subjects across conditions. Within the High Impasse group, subjects in the clinical (HPC) condition attained higher overall regression scores than did all other treatment groups combined. Student volunteers in the Low Impasse group who were not in crisis nonetheless regressed more deeply in hypnotic dreams when presented with a clinical rather than an experimental situation.

The Subject Aggression Scale

Subject aggression, or aggression toward others, was scored if the individual portrayed persons, animals, or things initiating or completing an aggressive act in hypnotic dreams. The scene is

pictured from the standpoint of or emphasizing the aggressor, indicating the subject's identification with the aggressive one.

The Subject Aggression Scale score was the sum of subject aggression scores within a protocol divided by the total number of visual episodes. The range of obtained scores was 0 - 3.21. Scores on the Subject Aggression Scale were skewed to the right. Frequency distributions for treatment groups were homologous, however, and within-group variances were homogeneous.

Hypothesis 6: High Impasse Subjects in the LPC Condition and Aggression toward Others in Hypnotic Dreams

Data did not support the hypothesis that High Impasse subjects in the LPC condition show more aggression toward others in hypnotic dreams than do all other groups. A weighted-means comparison of High Impasse subjects in the LPC condition with all other groups combined resulted in $F(1,84) = .01$, $p = \text{NS}$. The mean for High Impasse subjects in the LPC condition was .04, and the mean for all other groups combined was .06. The mean-square for the comparison was .007, with the error mean-square at .68.

Hypothesis 7: High Impasse Subjects in the HPC Condition and Aggression toward Others in Hypnotic Dreams

Results did not provide support for the hypothesis that High Impasse subjects in the HPC condition show the least aggression toward others in hypnotic dreams. The F-ratio for a weighted-means comparison between High Impasse subjects and all other treatment groups combined was .005, $p = \text{NS}$. The mean for the High Impasse group in the HPC condition was .07, and the mean for all other treatment

groups combined was .05. The comparison mean square was .003, with the error mean-square at .68.

Overall, there was no apparent relationship between the frustration of dependency needs and the expression of aggression toward others in hypnotic dreams. There were no significant differences between comparison groups in the absolute amount of aggression expressed toward others in hypnotic dreams.

Additional Analyses: Age, Impasse, and the Regressive Transference Scale 2

Because within-cell correlations of age with the Regressive Transference Scale 2 were high and negative in three out of four experimental cells, additional analyses probing the relationships among age, impasse, and written evaluation of the experimenter were performed. A two-way least squares regression analysis of variance contrasting the factors of age and condition was conducted for Low and High Impasse groups separately. Age groups were redefined by dividing subjects into low and high samples at the mean age represented in each Impasse subgroup. Among Low Impasse subjects, there were no significant differences between treatment groups in scores on the Regressive Transference Scale 2. Within the High Impasse group, however, subjects older than 23 years were significantly more critical of the experimenter than were subjects younger than 23 years of age. High Impasse subjects above 23 years of age in the LPC condition were more critical than all other groups. A three-way least squares regression analysis of variance comparing the factors of agegroup, subgroup, and condition indicated that both subgroup membership and

age were significant determinants of scores on the Regressive Transference Scale 2.

Despite the fact that agegroup did not appear to be a significant factor influencing results in the entire sample, within-cell correlations of age with the Regressive Transference Scale 2 were high and negative in three out of the four experimental cells. The within-cell correlations of age with the Regressive Transference Scale 2 are presented in Table 29. From inspection of the table, age accounts for between 12% to 25% of the within-cell variance of scores in all cells except the Low Impasse group in the LPC condition.

Table 29

Within-cell Correlation of Age with the Regressive Transference Scale 2

		<u>CONDITION</u>	
		LPC	HPC
LOW	r	= .041	r = -.474
	R ²	= .002	R ² = .225
	p	< .427	p < .013
	N	= 22	N = 22
<u>IMPASSE</u>			
HIGH	r	= -.497	r = -.349
	R ²	= .247	R ² = .122
	p	< .009	p = .056
	N	= 22	N = 22

It appeared that the need to divide age groups at the mode (age 20) in the whole sample reduced the probability of detecting the effect of age on Regressive Transference Scale 2 scores within each Impasse subgroup. High and Low Impasse groups differed in both variance and range of ages represented in each sample. Among Low Impasse subjects, age range was between 18 - 21 years, with two outliers at 23 and 30 years of age. Among High Impasse subjects, age range was between 18 - 35 years, with one outlier at age 40. Therefore, High and Low Impasse subgroups were analyzed separately, and age groups were defined by dividing subjects into low and high groups at the mean age represented in each sample.

Among Low Impasse subjects, the mean age for the subgroup was 19.32. Subjects aged 19 and below constituted level 1 and subjects aged 20 and older constituted level 2 of the age factor. A least squares regression analysis of variance found no significant effects of either age or condition on Regressive Transference Scale 2 scores (see Table 30, Appendix M). Means for younger subjects in LPC and HPC conditions, respectively, were 4.94 and 5.13, with standard deviations at .90 and .59. Means for subjects over 20 years of age in LPC and HPC conditions, respectively, were 5.33 and 4.72, and standard deviations were .88 and .53. The interaction of age with condition also was not significant.

Among High Impasse subjects, the mean age for the subgroup was 23.23. Subjects aged 23 and below constituted level 1 and subjects older than 23 years constituted level 2 of the age factor. A least squares regression analysis of variance showed a significant main

effect for age, with $F(1,40) = 7.49$, $p < .009$ (see Table 31, Appendix M). Means for subjects 23 years of age or below in LPC and HPC conditions, respectively, were 4.55 and 4.98 points. Means for subjects older than 23 years in LPC and HPC conditions, respectively, were 3.76 and 4.06. An analytical contrast between the mean score of the High Impasse group in the LPC condition and the combined means of all other groups resulted in an $F(1,40)$ of 4.49, $p < .05$. Older subjects in the High Impasse group were significantly more critical of the experimenter two weeks following hypnosis than were younger subjects, and the tendency was particularly pronounced among High Impasse subjects in the LPC condition.

Results of the two-way analyses indicated that age was a significant factor influencing scores on the Regressive Transference Scale 2 among High Impasse subjects. In order to compare the relative strength of the factors of age and impasse in determining outcome, a three-way least squares regression analysis of variance was conducted. Low Impasse subjects aged 19 and below and High Impasse subjects aged 23 and below constituted level 1 of the age factor. Low Impasse subjects aged 20 and above and High Impasse subjects older than 23 years of age constituted level 2 of the age factor.

Results of the three-way analysis showed significant main effects for subgroup, with $F(1,80) = 12.07$, $p < .001$, and for age group, with $F(1,80) = 4.71$, $p < .033$. The interaction between subgroup and agegroup was also significant, with $F(1,80) = 4.51$, $p < .037$ (see Table 32, Appendix M). Mean scores for the interaction are displayed in Table 33. An inspection of the means indicates that



the main effect for age was produced primarily by the very low mean score of High Impasse subjects in the high age group (above 23 years).

Outcome of the three-way analysis indicated that both subgroup and age were important in determining scores on the Regressive Transference Scale 2. High Impasse subjects across age groups were significantly more critical of the experimenter than were Low Impasse subjects. In addition, High Impasse subjects above 23 years of age were significantly more critical than all other groups.

Table 33

Mean Regressive Transference Scale 2 Scores Collapsed Across Condition

		<u>IMPASSE</u>	
		LOW	HIGH
<u>AGE</u>	LOW	M = 5.03	M = 4.76
	HIGH	M = 5.02	M = 3.91

DISCUSSION

Summary of Findings

The central hypothesis of the experiment, comprising Hypotheses 1, 2, 3, and 5, was that subjects experiencing high distress paired with a protective, competent hypnotist show the highest scores on all measures of regressive transference. Results for Hypotheses 1, 2, 3, and 5, however, showed a marked discrepancy between self-report and behavioral measures of regressive transference. None of the self-report indices designed to measure transference, including the Regressive Transference Scales 1 and 2, the Problem-Solving Scale, and the State-Trait Anxiety Index, supported the hypothesis. In fact, additional findings revealed that on self-report measures two weeks following hypnosis, including the Regressive Transference Scale 2 and the State Anxiety Index, High Impasse groups were significantly more critical of the experimenter and more anxious about their problem than were Low Impasse subjects. On the Regressive Transference Scale 2, both age of subjects and level of distress contributed to scores. High Impasse subjects across age groups were significantly more critical of the experimenter than were Low Impasse subjects. High Impasse subjects above 23 years of age were more critical of the experimenter than all other groups.

Measures of regression in hypnotic dreams, however, confirmed Hypothesis 5 on three out of five scales. Subjects in crisis paired

with a hypnotist demonstrating high protective-competence showed more formal regression in hypnotic dreams than did all other subjects on Total Defense, Object Aggression, and Total Regression Scales. In addition, High Impasse subjects in the HPC condition produced significantly higher scores on the Dependency Subscale than did all other groups. The nature of the hypnotic dream images reported on the Dependency Subscale gave direct evidence for regressive transference among High Impasse subjects in the HPC condition.

A subsidiary hypothesis of the study (Hypothesis 4) was that subjects in distress, due to pre-existing intrapsychic conflict, would show greater regression in hypnotic dreams than would Low Impasse subjects. The hypothesis was confirmed on three out of five hypnotic dream scales, including the Total Defense, Object Aggression, and Total Regression Scales.

On the Subject Aggression Scale (Hypotheses 6 and 7), there was no evidence for a relationship between the frustration of dependency needs and the expression of aggression toward others in hypnotic dreams among High Impasse subjects.

In general, findings suggest the operation of demand characteristics that attenuate differences among treatment groups on self-report measures and of special conditions (age) that may influence the relationship between independent and dependent variables.

Self-Report versus Behavioral Measures of Transference

One of the most intriguing features of the experimental results is the discrepancy between self-report and hypnotic dream indices of

transference. In Table 34, Pearson correlations and significance levels are presented for the State Anxiety Index over three administrations, the Problem-Solving Scale, Regressive Transference Scales 1 and 2, and the Total Regression Scale on the Holt.

As indicated by Table 34, self-report measures are highly intercorrelated, but there are no significant correlations of any of the self-report measures with the Total Regression Scale of the Holt. Furthermore, with the exception of some rather unexpected findings on the Regressive Transference Scale 2 and the State Anxiety Index, none of the self-report indices have any relation to the independent variables manipulated in the study. In contrast, the independent variables of subject impasse and experimenter role had a major impact on most, but not all, of the behavioral-imagistic measures of regression in hypnotic dreams. These findings suggest that self-report and behavioral-imagistic indices are measuring different domains (Rockstroh, Elbert, Birbaumer, & Luzenberger, 1982; Zeldow, Clark, & Daugherty, 1985, p. 490).

Scrutiny of the correlation matrix in Table 34 reveals a number of interesting features. Those who report the highest initial level of anxiety tend to report more liking for the hypnotist in written evaluations (Regressive Transference Scale 2). Those who experience considerable relief from anxiety immediately following hypnosis (STAI2) also tend to report successful problem-solving, enthusiasm for hypnosis (Regressive Transference Scale 1), and liking for the hypnotist. Similarly, those who report more successful problem-solving also report more liking for the experimenter in written

Table 34: Correlation Matrix of Self-Report Indices and Hypnotic Dream Regression

Scale	STAI1 : Initial Anxiety	STAI2 : Treatment Anxiety Reduction	STAI3 : Anxiety at Follow-Up	Problem- Solving	Regressive Transference After Hypnosis	Regressive Transference At Follow-Up
STAI1 : Initial Anxiety						
STAI2 : Treatment Anxiety Reduction	.293***					
STAI3 : Anxiety at Follow-Up	.289***	.472***				
Problem- Solving	.139	-.183*	-.275**			
Regressive Transference After Hypnosis	.145	-.354**	-.008	.410***		
Regressive Transference At Follow-Up	.203*	-.223*	-.251**	.494***	.334***	
Total Hypnotic Dream Regression	.048	.072	.045	-.029	-.027	-.036

* $p < .05$ ** $p < .01$ *** $p < .001$



evaluations and reduced anxiety levels two weeks following the experiment (STAI3).

The correlation matrix appears to be describing a powerful disposition to please, conform, and elicit help and reassurance from others which enters into the pattern of results on all self-report measures as a confounding factor. Reyher (1977) has described these security operations (Sullivan, 1953), or maneuvers designed to maintain self-esteem in the face of interpersonal anxiety, in detail. In a study of problem-solving, Reyher (1980) found that subjects reporting successful problem-resolution were significantly more anxious, more suggestible, and more likely to utilize placating-submissive security operations than were subjects who reported less improvement.

Attempting to differentiate the effects of security operations from regressive transference is the focus of the discussion of self-report indices.

Regressive Transference Immediately After Hypnosis and at Follow-up

The Regressive Transference Scale 1 was based on subjects' spontaneous comments upon awakening from hypnosis in the immediate presence of the hypnotist. Under these conditions, the obtained frequency distribution was skewed to the left. The mean for the whole group was 5.37, skewed toward the upper end of the scale. The range of the scale was restricted on the negative end. Sixty-four percent of the subjects earned scores between four and six points on the scale. Only five percent of subjects scored below four points, whereas 31% scored above six points.

In contrast, the Regressive Transference Scale 2 was based on subjects' written evaluations of the experimenter two weeks following hypnosis. Subjects answered the questionnaire alone in a classroom and placed the completed questionnaire in a collection box. Under these conditions, the obtained frequency distribution was moderately skewed to the right. The mean for the whole group was 4.78. Scores were restricted at the positive rather than the negative end of the scale. Sixty-seven percent of the subjects earned scores between four and six points on the scale. Twenty-four percent of subjects scored below four points, whereas nine percent scored above six points.

The shape of the frequency distribution of scores on the Regressive Transference Scale 1 as compared to the frequency distribution of scores on the Regressive Transference Scale 2 suggests that the interpersonal nuances of face-to-face interaction with the hypnotist were more powerful factors than treatment conditions in determining results. Specifically, both subject and experimenter are implicitly aware of the role (Orne, 1970; Rosenthal, 1964, 1969) and interpersonal (Reyher, 1977) demands of the situation. The subject does not wish to look like a failure and would like to please the experimenter, who has just spent an hour attempting to hypnotize him or her. In the same way, the experimenter wishes to be a successful hypnotist, does not want to receive feedback to the contrary, and does not want to embarrass the subject. Both parties subtly collude to avoid interpersonal distress, suppressing negative percepts and limiting the range of communication.

Hamernik (1985), in a study of figure drawings and stories produced by subjects, found that subjects reporting their wish-fulfilling stories orally demonstrated more anxiety on polygraph ratings than did subjects who wrote their stories. Masling (1960), in a review of situational and interpersonal variables influencing projective test results, reported that with the examiner absent, subjects tended to show more involvement in stories and produced more sad themes and outcomes in stories on the TAT than when the examiner was present. The latter studies appear to present complementary findings which support the interpretation given above. Face-to-face interaction with the experimenter can be accompanied by interpersonal anxiety which arouses security operations and limits the range of interaction. When alone, subjects show more immersion in their affect-laden subjective processes and allow themselves to express more negative feelings than when they are in the presence of the experimenter.

Although security operations may accompany a regressive transference, they are present in all interpersonal encounters and do not necessarily index transference.

Problem-Solving

Phone interviews requesting information about problem-solving were conducted one week following hypnosis by the experimenter who had hypnotized the subject. Similar to the distribution of scores on the Regressive Transference Scale 1, the frequency distribution of scores for the Problem-Solving Scale was markedly skewed to the left. The majority of subjects reported that they had made some progress toward

solution of their problem. Twenty-five percent of subjects reported full satisfaction with the solution achieved and attributed positive outcome to the experiment. Thirty-two percent reported substantial progress toward solution but either were not fully satisfied with the results or did not attribute results to the experiment. Twenty-four percent indicated that there had been some change in the status of the problem toward solution, but no results had been achieved. Fourteen percent reported no change, and five percent indicated the problem had intensified.

The highly skewed nature of the frequency distribution of scores for the whole group again suggests that the desire to please the experimenter and conform to expectations was more influential in determining results on the Problem-Solving Scale than were subgroup or condition factors. It appears that in direct interaction with the hypnotist, most subjects are hesitant to express negative feelings.

Regressive Transference: Age, Impasse, and Ambivalence

Another initially puzzling finding of the study was the fact that, although the Holt indices supported the hypothesis that High Impasse subjects show greater regression in hypnotic dreams than do Low Impasse subjects on the majority of dream scales, High Impasse subjects were less positive in evaluating the hypnotist than were Low Impasse subjects two weeks following hypnosis. In short, those subjects who allowed themselves to depend the most on the experimenter during hypnosis were also the most critical of the hypnotist following the experiment. This tendency was particularly pronounced among High Impasse subjects over the age of 23 years and among older High Impasse

subjects in the LPC condition. What do age, condition, impasse, and regression in hypnotic dreams have to do with the evaluation of the hypnotist?

The relationship between enhanced dependency during hypnosis, indicated by regression in hypnotic dreams, and criticism of the experimenter following hypnosis suggests that High Impasse subjects were deeply invested in the hypnotic relationship and may have experienced frustration of regressive longings aroused during the hypnotic dream phase of the experiment. Two studies in the literature support this interpretation.

Newman, Katz, and Rubenstein (1960), in an early clinical study of implanted conflict and the hypnotic dream, found that the dreams of subjects expressed intense ambivalence about the hypnotist and the experimental situation. The authors concluded that their subjects were motivated, often without awareness, by a need for help. Ambivalence was produced by a conflict between their un verbalized expectations and what was explicitly offered by the experimenters. Shevrin (1979) compared 13 female hypnosis subjects with 13 female non-hypnotic controls on stories told to Card 12M (the "hypnosis card") on the TAT. In interview, hypnotic subjects described the hypnotic experience as pleasant and relaxing. On the TAT, however, only one hypnotic subject described a clearly positive interaction between the figures on the card. The remaining 12 told stories emphasizing hostile interactions. The one subject who told a positive story was the only one who had a continuing relationship with the hypnotist. In contrast, the non-hypnotic control group produced five

positive, seven neutral, and one negative story to the same card on the TAT. The author suggests that the hypnotic induction arouses in subjects the regressive longing to be unconditionally loved and cared for and to have all of their troubles "washed away." When the experiment was over and the fantasied gratifications were not forthcoming, frustration and anger were produced, reflected by negative stories on the TAT.

The conditions of the present experiment parallel those reported in the studies by Newman et al. (1960) and Shevrin (1979). High Impasse subjects were at impasse with a personally relevant problem and were actively seeking care, conditions hypothesized as necessary for the instigation of regressive transference. If the hypnotic induction intensified the regressive aspect of subjects' dependency strivings among High Impasse subjects, arousing longings for parental care, those longings would inevitably be frustrated by the limits of the experimental situation. Frustration would be greatest, however, among those unable to transfer the image of a parental surrogate on to the hypnotist, thereby obtaining some gratification of needs in fantasy. Both age and the presence of an experimenter playing an egalitarian role could complicate the development of a transference relationship, arousing frustration and anger, reflected in written evaluations of the hypnotist following the experiment. Some supporting evidence for the impact of age differences comes from a study by Simon (1973), who found that among a sample of 169 subjects ranging in mean age from 25 to 40 years, older therapists were preferred to younger therapists.



Although conclusions must remain tentative, the diffidence and at times frank hostility displayed by High Impasse subjects on the Regressive Transference Scale 2 suggest the presence of un verbalized longings for parental care, aroused by the inception of a regressive transference during hypnosis and frustrated by the realistic aspects of the experimental situation.

State Anxiety

Initial State Anxiety. The State Anxiety Index was initially administered following the first four questions of the interview during the experimental session. Scores on the State Anxiety Index at first administration failed to differentiate between subjects self-defined as at impasse and subjects who volunteered to participate in research for credit. The State Anxiety Index is a global measure that does not differentiate between interpersonal and intrapsychic sources of anxiety. It is possible that different sources of anxiety characteristic of Low and High Impasse groups in the experimental setting served to attenuate any actual differences between groups. Allen (1970) has demonstrated that State Anxiety scores are influenced by demand characteristics. Students receiving credits for research knew they were supposed to bring in a "problem" and may have unintentionally inflated scores out of concerns regarding their ability to be "good subjects" (interpersonal anxiety). In contrast, Frank (1973) has shown that the anxiety scores of psychiatric outpatients seeking treatment dropped over 20 points within one-half hour simply as a function of being attended to by a professional. Subjects participating in research under pressure from an unresolved

problem may have felt reassured in the presence of a helper, lowering scores (intrapsychic anxiety).

State anxiety immediately following hypnosis. The State Anxiety Index was administered a second time by the hypnotist immediately following the subject's awakening from hypnosis. Although responses were written and the subject was not in the immediate presence of the hypnotist while taking the test, subjects returned the form to the examiner. Subjects could easily interpret the scale as a form of feedback to the experimenter regarding how well she had performed as a hypnotist.

The cumulative frequency distributions for the State Anxiety Index over three administrations of the test are shown in Figure 2. The corresponding means and variances are given in Table 35. As demonstrated by Figure 2, the frequency distribution of scores on the STAI2 was markedly skewed to the right for the whole group, and the range of scores was restricted. On the STAI1, the 25th percentile occurred at the score of 37 points, the 50th percentile at 44 points, and the 75th percentile at 57 points, with scale range encompassing 53 points total. On the STAI2, the 25th percentile occurred at 25 points, the 50th percentile at 29 points, and the 75th percentile at 32 points, with scale range covering 37 points. A comparison of the variances of STAI1 scores with STAI2 scores resulted in $F = 2.73$, $p < .11$. The most obvious factor in the situation powerful enough to affect the whole group appears to be the subject's desire to please and protect the hypnotist.



State anxiety at follow-up. The State Anxiety Index was administered along with the Regressive Transference Scale 2 by E3 two weeks following hypnosis and immediately before the debriefing session. The subject completed the questionnaires in a classroom separate from E3's office and was instructed to place the completed forms in a cardboard box in the classroom.

Results on the STAI3 paralleled findings for the Regressive Transference Scale 2. For the whole group, the mean anxiety score on the STAI3 was higher, the variance was greater, and a larger percentage of subjects attained scores on the negative (heightened anxiety) end of the scale relative to scores on the STAI2 (see Table 35 and Figure 2). Whereas the Holt scales indicated that High Impasse subjects allowed themselves to depend more deeply on the hypnotist during the hypnotic dream phase of the experiment, State Anxiety scores two weeks following hypnosis found that High Impasse subjects showed less reduction in anxiety about their problem following treatment relative to initial anxiety scores than did Low Impasse subjects.

A number of interpretations, not mutually exclusive, spring to mind. First, the heightened anxiety scores of High Impasse subjects relative to the Low Impasse group may simply reflect the gradual return to baseline in feelings of anxiety and depression characteristic of subjects who have received a placebo. Frank (1973), for example, found that mean discomfort scores of psychiatric

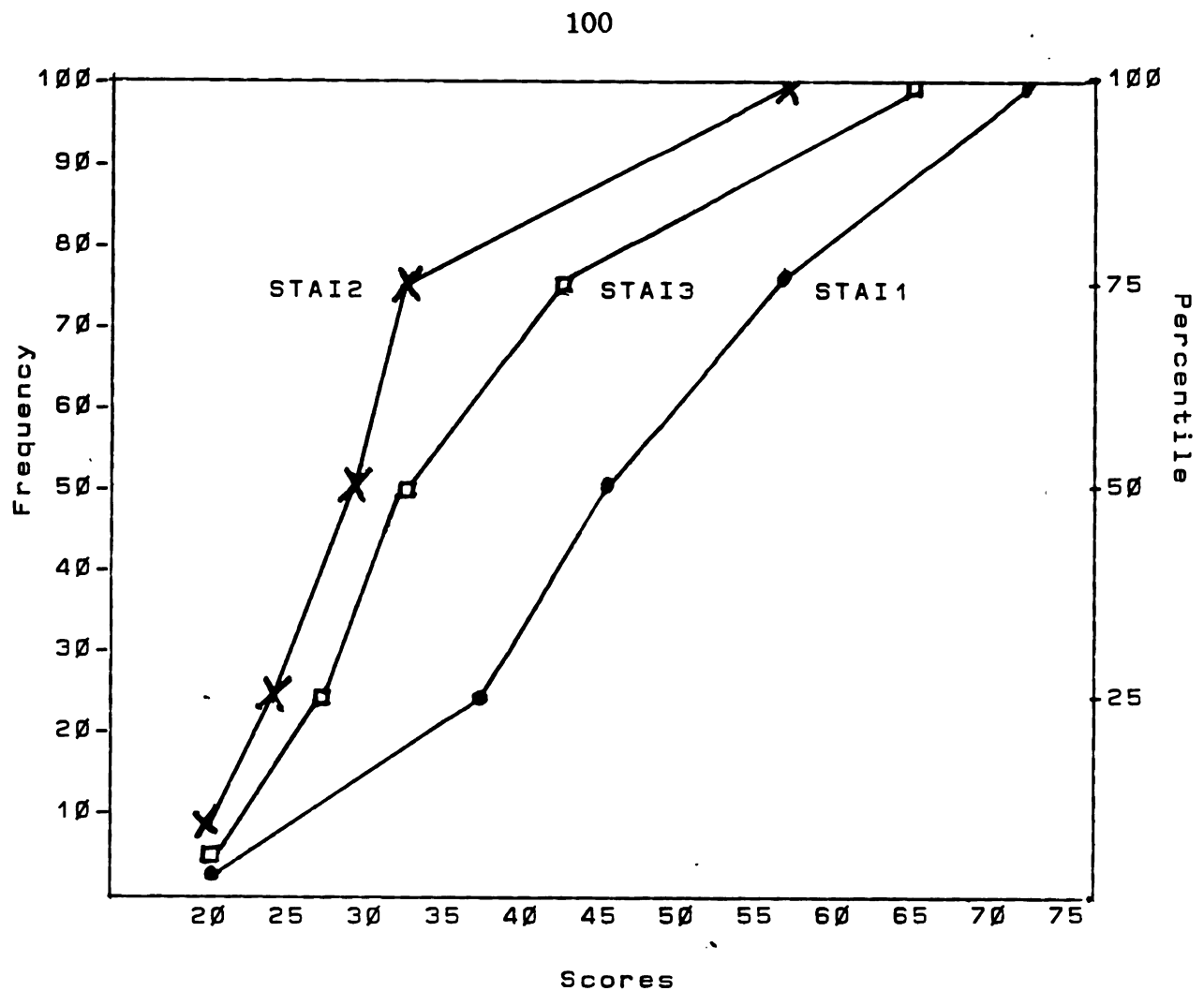


Figure 2

Cumulative Frequency Distribution for State Anxiety Scores

Table 35

State Anxiety Mean Scores and Variances

<u>Test</u>	<u>Mean</u>	<u>SD</u>	<u>Variance</u>
STAI1	46.10	12.98	168.42
STAI2	30.06	7.85	61.66
STAI3	36.19	11.93	142.32

outpatients given a medical placebo, following an immediate drop, gradually rose over a period of two weeks to approximately half of the original difference between baseline discomfort and initial relief scores. An examination of the mean scores of High Impasse subjects on the STAI1, STAI2, and STAI3 (Table 12) indicates that the mean score for STAI3 is almost precisely half the difference between STAI1 and STAI2. A second possibility, following the transference interpretation given for scores on the Regressive Transference Scale 2, is that the State Anxiety scores for High Impasse subjects were inflated by feelings of frustration or abandonment by the experimenter. These interpretations are not mutually exclusive, in that the gradual rise in discomfort scores among psychiatric outpatients reported by Frank (1973) may similarly be due to these patients' need for ongoing relationship with a parental surrogate. Third, the scores of Low Impasse subjects may reflect the effect of interpersonal anxiety, rather than intrapsychic anxiety created by personal impasse. If so, initial State Anxiety scores for Low Impasse subjects would be elevated due to concerns regarding one's ability to be a good hypnotic subject in a problem-solving experiment, and scores on the third administration would be lowered for the same reason. The curve (see Figure 1) for Low Impasse subjects may be reflecting the influence of security operations, whereas the curve for High Impasse subjects may be reflecting the effects of both security operations and regressive transference.

Regression in Hypnotic Dreams

The independent variables were effective in predicting regression in hypnotic dreams. Subjects at impasse paired with a hypnotist demonstrating high protective-competence showed more regression in hypnotic dreams than all other groups combined. Subjects at impasse and seeking help showed more regression in hypnotic dreams than did students volunteering to participate in hypnosis research for academic credit. On the Total Regression Scale, student volunteers showed greater regression in hypnotic dreams when paired with a HPC hypnotist than when paired with an LPC hypnotist.

Total Libidinal Scale. The failure to find differences among treatment groups on the Total Libidinal Scale was initially perplexing. Wiseman & Reyher (1973) found significant differences on the Holt libidinal indices in favor of a hypnotic dream group versus waking controls upon administration of the Rorschach.

Upon examination of hypnotic dream protocols, however, there appeared to be qualitative differences in libidinal imagery produced by subjects. In the first type of image, the subject described a pleasant experience of gratification in prosaic terms, similar to reminiscing or daydreaming. In the second type of image, libidinal impulses are expressed but they are distanced, disguised, or negated, sometimes taking on a nightmarish quality. The following examples demonstrate the two types of libidinal imagery with content expressing sexual impulses:

It was over the summer when my boyfriend and I went to the beach for the day. I could see us playing with a ball in the sand. We went swimming in the water. We were playing frisbee together,

and he would swim under and grab my legs and dump me...I can remember what a good time we had, just all by ourselves.

I was at the foot of a flight of stairs, and somebody threw a red carpet down the stairs that unrolled as it pulled down the stairs. As I climbed up the stairs, there was a king's throne at the top of the flight of stairs. It looked like maybe one of the church fathers carved in stone...Then it seemed like I was about to enter into a dance, a kind of formal 18th century dance. But I never really accepted the dance, so it ended.

Both types of imagery receive libidinal scores. In the second dream, however, defensive operations, including the remote setting and the subject's negation of any desire to join the dance, overwhelm the libidinal content, "dance." The second type of dream, where allusions to libidinal events were accompanied by massive defensive efforts, was more common among High Impasse than Low Impasse subjects. High Impasse subjects may have earned lower scores on the Total Libidinal Scale relative to other Holt indices, then, because a larger proportion of the dream was characterized by primary process distortion.

As a rough check on this interpretation, the Total Libidinal Scale score was subtracted from the Total Defense Scale score for Low and High Impasse subjects, giving a mean difference score for each group. Negative scores indicated the relative predominance of libidinal content over defensive content, whereas positive scores indicated the opposite. The mean difference score for Low Impasse subjects was $-.49$, and the mean difference score for High Impasse subjects was 1.45 . A $t(1,86)$ test of the difference between the mean difference scores (McNemar, 1969, p.98) resulted in $t = 2.69$, $p < .01$. The pooled error term was $.72$. Results of the comparison supported the interpretation given above.

Anxiety. The Anxiety Scale was originally seen as having special relevance to regressive transference, because the portrayal of a situation of helplessness in hypnotic dreams implies strivings for protection on the subject's part. However, the portrayal of the self as humiliated, unwanted, or injured by others in hypnotic dreams, scored in the Object Aggression category, was difficult to distinguish conceptually from images scored in the Anxiety category. The following examples are characteristic of image sequences scored, first, in the object aggression category and, second, in the anxiety category:

I was riding my bike...down the hill. I came around the corner and the postman came out of the post office. He waved at me, and all I could think about was how he always told me there wasn't any mail. I get not very far past the post office, and I fall off my bike into the street. There's kids in the park... so I was pretty embarrassed.

It was nighttime, and I was walking through the woods along a lane leading me nowhere. It was really dark. I couldn't find my way, and I realized I was lost. I was really scared.

Both images present the self as vulnerable and make an implicit appeal for the hypnotist's protection and support. Despite original conceptualization, for the purposes of the present study, there seemed to be little rationale for maintaining the Anxiety Scale as a separate category.

Dependency. Contrary to expectations, the Dependency Scale, rather than the Anxiety Scale, proved to be of special relevance to regressive transference. Findings corroborate those of Reyher (1980), who found that the hypnotic dreams of subjects at impasse contained more references to infants and powerful adult figures than did control subjects. Sheehan & Dolby (1979) also found that the dreams of

hypnotized subjects portrayed the hypnotist as an authority providing protective care and guidance more than did the imaginative products of task-motivated or waking-imagination control subjects. This was especially true for a subset of 11 subjects who were highly motivated, as indicated by their expectancy behaviors in previous tests of hypnotic susceptibility.

Sheehan & Dolby (1979) conclude that their data demonstrate more "the positive transference-like aspects of subjects' motivated cognitive commitment to the task of dreaming than an infantile wish fulfillment reflecting obedience to an authority, as the psychoanalytic account of dreaming would suggest" (p. 582). The construct of regressive transference, however, does not refer to themes of obedience in the interpersonal relationship between hypnotist and subject but rather to the reactivation of early memories of being cared for by loving, omniscient parents. These reactivated remembrances constitute the regressive transference, which serves as a defense against anxiety elicited by a situation which the individual feels is beyond his or her coping capacity. Some of the hypnotic dream transcripts presented by Sheehan and Dolby (1979), like some of the excerpts from hypnotic dreams presented earlier in this study, illustrate the dynamic of the hypnotist's protection of the subject from anxiety explicitly.

Imagery and problem-solving. An alternative hypothesis regarding findings from the Problem-Solving Scale is that the hypnotic procedure was a highly effective means of problem-solving for all subjects, overriding differences in subject motivation and

experimenter role. Davé (1979), who developed the procedure adapted for the current study in conjunction with Reyher (1980), compared 24 subjects in three problem-solving conditions, including a hypnotic dream group, a rational-cognitive group, and a personality-interview control group. Results indicated that participants in the hypnotic-dream group showed a significantly higher level of creative problem-resolution than did subjects in other conditions. Davé concluded that the success of the treatment was due to the mediating role of imagery. Similarly, Barrios and Singer (1981) compared 48 volunteers reporting creative blocks in artistic, literary, scientific, and professional projects in four different problem-solving treatments. Waking Imagery and Hypnotic Dream conditions were most effective in promoting resolution of creative blocks. The authors conclude that the imagination may have greater adaptive potential than has been acknowledged by most behavioral scientists. Reyher (1980), however, in reviewing Davé's work, found that obvious imagery-mediated solutions did not occur among hypnotic dream subjects and that hypnotic dreams produced by subjects showed formal and content features of regressive transference. Reyher suggested that subjects were so highly motivated to earn the approval of the hypnotist that they lowered their criteria for defining resolution of impasse. He concluded that favorable treatment outcome in problem-solving through imagery can best be explained by non-specific effects, including strivings for approval, transference, and shared expectations of success.

At issue here is the question of whether or not the high rate of report of successful problem-solving in this experiment was brought about by the mediation of imagery produced during hypnotic dreams. Although the present experiment was not designed to focus on problem solving per se, an attempt was made to approach the question by categorizing the problem-solving rationales provided by subjects who earned a score of four points on the Problem-Solving Scale. In order to achieve a four-point score, the subject had to indicate full satisfaction with the solution achieved, whether that solution was a concrete achievement or a change in attitude, and had to attribute positive results to the experiment or experimenter in some way.

Table 36 lists the group membership, sex, type of problem presented, rationale given, and type of solution achieved (concrete versus attitude change) among high-scoring subjects. The twenty-two subjects (25%) from the total sample who attained a four-point score were evenly distributed among treatment groups. Six were Low Impasse subjects in the LPC condition, and four were Low Impasse subjects in the HPC condition. Five were High Impasse subjects in the LPC condition, and seven were High Impasse subjects in the HPC condition.

Rationales provided fell into four categories. Two subjects attributed change to a specific image experienced during hypnosis. An 18-year old female student volunteer struggling with procrastination felt that her dream of a ladder during hypnosis made her think of putting her priorities in order. She then bought a datebook and organized her schedule. A 20-year old female who responded to an ad in the newspaper indicated that dreaming of herself in an impermeable

Table 36

Problem-Solving Rationales among High Scoring Subjects on the Problem-Solving Scale

Group	Sex	Problem Presented	Type of Solution	Rationale
HLPC	M	Career choice	Attitude	State
HLPC	M	Poor concentration	Concrete	None
HLPC	F	Relationship	Attitude	Image
HLPC	F	Career goal	Concrete	State
HLPC	F	Weight control	Attitude	Focus
LLPC	F	Procrastination	Concrete	Image
LLPC	F	Bulimia	Concrete	None
LLPC	M	Procrastination	Concrete	None
LLPC	F	Smoking	Concrete	Focus
LLPC	M	Choice of residence	Concrete	Focus
LLPC	M	Relationship	Concrete	Focus
HHPC	M	Ideas for advertising	Concrete	None
HHPC	F	Procrastination	Concrete	None
HHPC	F	Relationship	Concrete	None
HHPC	M	Insomnia	Concrete	None
HHPC	M	Religious preference	Attitude	Focus
HHPC	F	Bulimia	Concrete	None
HHPC	F	Weight control	Concrete	None
LHPC	F	Weight control	Concrete	None
LHPC	M	Poor concentration	Concrete	None
LHPC	M	Performance anxiety	Attitude	State
LHPC	M	Procrastination	Attitude	Focus

bubble helped her tolerate the time she had to spend apart from her boyfriend. As described, from the two subjects providing an imagery rationale, one achieved concrete change and one experienced a change of attitude.

Three subjects referred to aspects of the state of hypnosis as responsible for change. Of these, one mentioned that the state of relaxation had helped him to feel less anxious and more confident so that he could approach the problem with a new attitude. The second provided a behavioral rationale, stating that visualizing himself performing successfully on stage with his guitar while in a state of deep relaxation made him feel confident that he would give a successful performance the next time he was on stage. The third said that the sense of freedom she experienced during hypnosis made her realize she was trying to conform too much to the expectations of other people. The realization allowed her to make a career choice she felt was right for her. Among these three subjects, one achieved a concrete change, and two indicated a change of attitude.

Six subjects stated that simply focusing on the problem had forced them to take action. Among these six subjects, three found concrete solutions to their problems, including quitting smoking, finding a better place to live, and resolving a conflict in a relationship. The remaining three stated they had found a new attitude which they felt certain would bring positive results.

Eleven subjects (50%) out of the twenty-two high scorers provided no rationale at all beyond the fact that they experienced major change following hypnosis. These subjects implicitly attributed change to

magical cure and frequently communicated an attitude of awe and incredulity along with their statements. A few examples will suffice to communicate the qualitative aspect of these subjects' experiences. A 20-year old male High Impasse volunteer suffering from insomnia told the experimenter the following:

I just seem to be falling asleep easier now. I haven't done anything new. Basically, I'm just freaked out because it's been so easy to fall asleep.

A 21-year old female subject who had responded to an ad in the student newspaper and who wanted to lose weight stated the following:

I'm just not eating as much...I noticed it a couple of days after I was at the session with you...I'm losing weight. I really don't know why this is happening. I've only had to eat once a day.

All eleven of these subjects reported having achieved a concrete solution to their problem. In ten out of the eleven, this solution represented a complete "remission of symptoms" associated with poor concentration, procrastination, overeating, or ambivalence in a relationship.

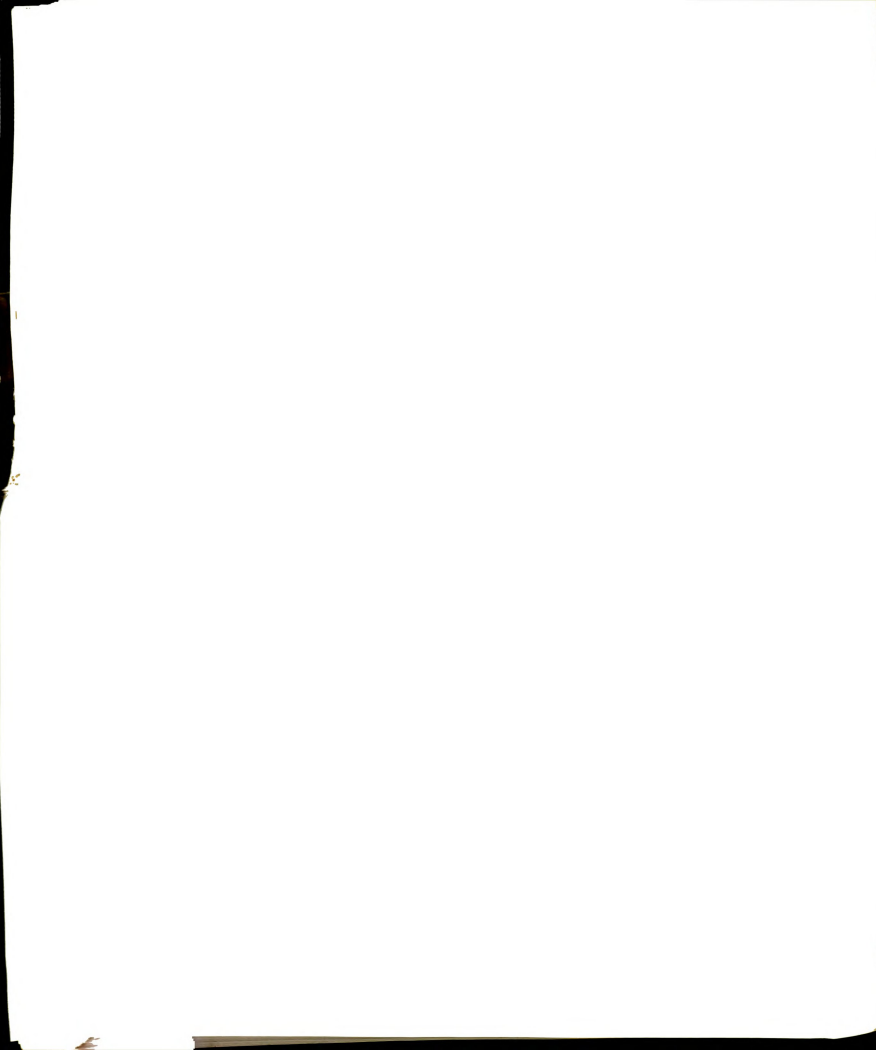
Out of 22 subjects reporting problem-resolution and relating change to the experiment, then, two attributed results to specific imagery, nine attributed results to other aspects of the experiment, and 11 provided no rationale beyond noting sudden and major changes in their behavior following the experiment. From the 22 subjects reporting success, six lowered their criteria for defining resolution of impasse (change of attitude). Regarding treatment group membership, 33% of Low Impasse subjects in the LPC condition, 50% of Low Impasse subjects in the HPC condition, 20% of High Impasse subjects in the LPC condition, and 86% of High Impasse subjects in the

HPC condition implicitly attributed problem-resolution to the "magical cure" rationale. The resulting $X^2(3)$ was 6.05, $p < .12$, a provocative finding.

From these results, it is apparent that the majority of subjects did not attribute problem-solving to the presence of specific imagery in dreams. Furthermore, the high number of subjects in general and the large proportion of High Impasse subjects in the HPC condition willing to report change without a rationale and describing the sudden cessation of problematical behaviors within one week of the experiment suggest that these subjects were experiencing a regressive transference, or hypersuggestibility Level II (Reyher, 1977). When considered in the light of the markedly skewed frequency distribution of scores on the Problem-Solving Scale, the informal survey of problem-solving rationales strongly suggests that results on the Problem-Solving Scale were determined primarily by subject's motivation to please the experimenter, intensified in at least some cases by the presence of regressive transference.

Regressive Transference, Hypnosis, and the Placebo Effect

The main premise of the study was that a regressive transference may be the mechanism underlying both intense hypnotic experience and the "placebo effect" or non-specific effects in psychotherapy. Factors seen as necessary for the establishment of a regressive transference included an individual at impasse in resolving a personally significant problem and the presence of a warm, competent caretaker giving a positive message. Dependent variables thought to index regressive transference included attributions made about the



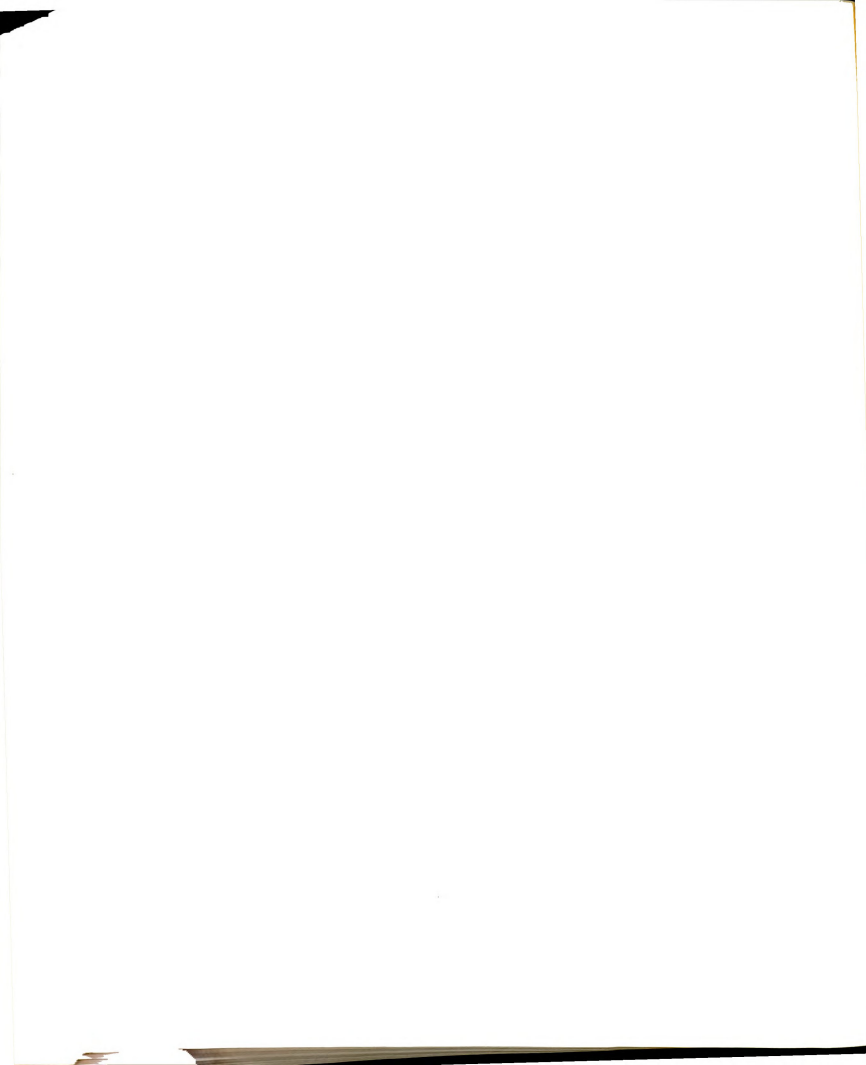
hypnotist, sensitivity to the wishes of the hypnotist, and extent of formal regression in hypnotic dreams.

The independent variables manipulated in the study were effective in bringing about intense hypnotic experience as indicated by regression in hypnotic dreams. A subgroup of High Impasse subjects in the HPC condition reported imagery directly depicting a parent-child interaction or the reactivation of memories of youth. High Impasse subjects in general reported greater anxiety and less liking for the therapist two weeks following treatment than did Low Impasse subjects, perhaps reflecting frustration of dependency strivings aroused by the inception of a regressive transference during hypnosis. The evidence suggests that intense hypnotic experience is accompanied by a regressive transference.

The relation of regressive transference to the "placebo effect" in medicine and to non-specific factors in psychotherapy, however, is unclear. Self-report and behavioral measures of transference were not significantly correlated and appear to index different domains. Subjects who reported complete satisfaction with problem-solving and, in some cases, who presented all the features of a "transference cure" did not necessarily show greater regression in hypnotic dreams than did others, nor were these subjects necessarily at impasse in problem-solving. Likewise, subjects who demonstrated features of regressive transference during the hypnotic dream did not report greater problem-solving or liking for the hypnotist than did others. The most obvious conclusion is that the establishment of a regressive transference does not depend on the capacity to regress in hypnotic dreams.

Data from the present study does indicate, however, that before any conclusions can be drawn regarding the relationship of regressive transference to non-specific effects in medicine and psychotherapy, demand characteristics of the setting (social domain) and security operations active among both subjects and experimenters (interpersonal domain) must be defined and controlled. Shapiro & Morris (1978) have suggested that there may be multiple "placebo effects" depending on different conditions and resulting in different outcomes. It is possible that under some conditions the desire to please and meet the expectations of a significant other are sufficient conditions for motivating change without an accompanying reactivation of childhood reminiscences. Unless demand characteristics, security operations and transference are conceptually differentiated and criteria for their operational definition established, however, the question of multiple pathways cannot be addressed.

Security operations in this study were most apparent in the influence of the conditions of report on the content of subjects' reports. One important factor influencing the content of report was whether or not subjects gave direct feedback to the experimenter who had hypnotized them. When subjects were in face-to-face interaction with the experimenter (Regressive Transference Scale 1, Problem-Solving Scale) or knew that the experimenter had immediate access to their written report (STAI2), responses were either negatively skewed or were restricted in range. When evaluations were written and presented to E3, who did not work directly with subjects, responses (Regressive Transference Scale 2, STAI3) were either positively skewed



or a much greater range of response was obtained (see Figure 2, Table 35).

A second factor influencing content of report, which may be unique to research within the treatment outcome paradigm, is the timing and context of report. If the interpretation of scores for High Impasse subjects on the Regressive Transference Scale 2 in this experiment is correct, the report of outcome (STAI3) and liking for the experimenter (Regressive Transference Scale 2) may be powerfully influenced by the nature of the termination of the relationship. Those subjects who feel prematurely abandoned or frustrated by the loss of the therapist will report less satisfaction and less successful outcome than will subjects who are either less dependent on the therapist or who have an ongoing relationship with the therapist.

A third factor which may have a major influence on report, again within the treatment outcome paradigm, concerns whether or not the hypnotist, therapist, or physician supplies a concrete solution to the problem presented by the subject, client, or patient. A comparison of the results of this study with the findings of LeBaron et al. (1985) provides an illustration. LeBaron and his associates in a study of regressive transference in a medical setting found positive results on all three indices of transference operationalized in this study. Patients in the paternalistic treatment group had higher suggestibility scores (sensitivity to the wishes of the experimenter) and regressive transference scores (attributions) than did patients in the egalitarian condition. Additionally, patients showed fewer objective signs of surgical shock (behavioral) in the paternalistic as



opposed to the egalitarian condition. In this setting, patients were at impasse because they were unable to supply for themselves the medical treatment needed to relieve their distress. Like medical studies of the placebo effect in general, the required treatment, whether surgery or medication, was concretely offered them by the physician. In contrast, what was offered subjects in the present study was not a concrete solution to the problem presented but an experience related by rationale to a possible outcome. It was still up to the individual subject to follow through on his or her experiences during hypnosis. The lack of a concrete solution, requiring more activity on the subject's part, may frustrate the aim of the regressive transference, which is to have something done for one, affecting reports of satisfaction and positive outcome. Support for this interpretation is provided by Strupp (1977), who presents an excellent discussion of the problematic aspects of the dependency strivings of some patients, which cannot be met in the context of the psychotherapeutic relationship.

For future research, the prevalent role of security operations in this study emphasizes the importance of including in experimentation an operational measure of transference that is behavioral and relatively less under the individual's conscious control (Barrett, 1979; Kazdin, 1979) than self-report indices. A simulating control group not seeking therapy, like that suggested by Orne (1959) for studies in hypnosis, might index the social demand characteristics of therapy outcome research. An alternative, suggested by Nisbitt & Wilson (1977), is simply to ask subjects not participating in the

actual research what they think will happen. Security operations might be controlled by varying the conditions of report. This study appears to have made a contribution by documenting the differences between behavioral-imagistic and self-report measures as indices of transference in hypnosis and problem-solving.

APPENDIX A

NOTICE POSTED IN UNDERGRADUATE CLASSROOM

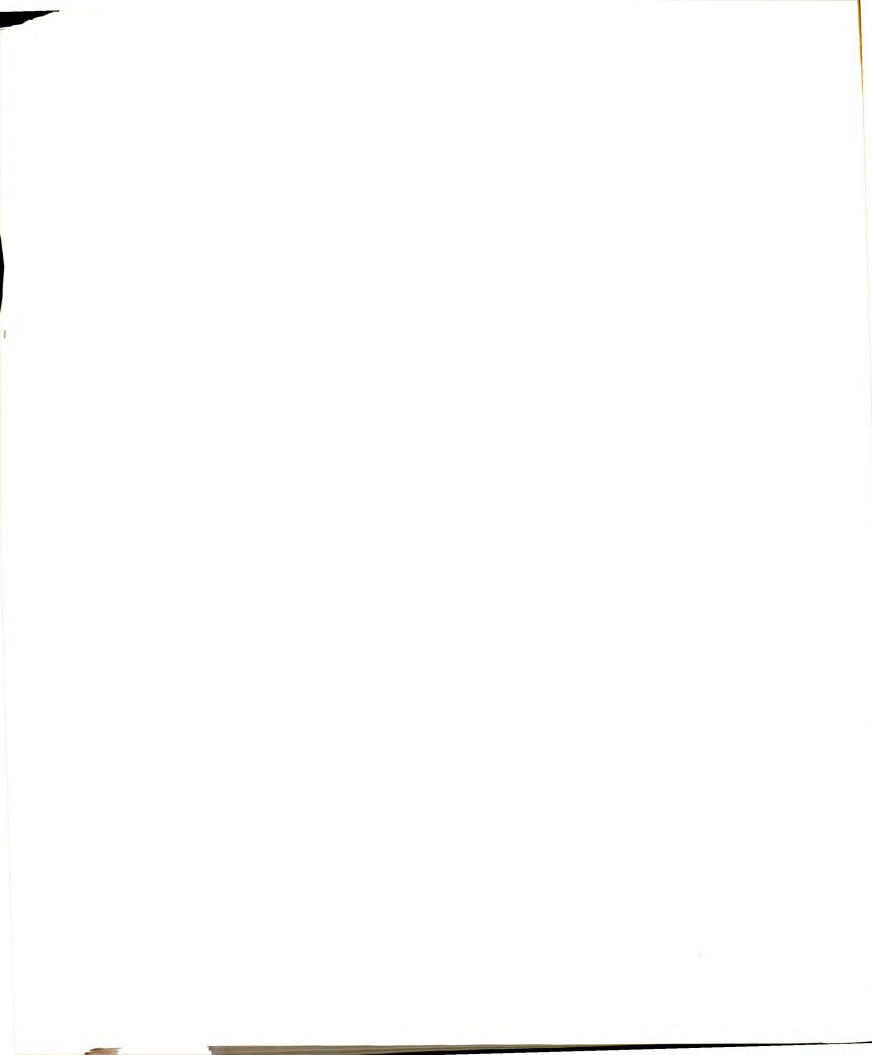


APPENDIX A

NOTICE POSTED IN UNDERGRADUATE CLASSROOM

ADVENTURES IN IMAGERY!!

Participate in an experiment on imagery, hypnosis, and creativity. Time required is a ~~maximum~~ of four hours spread over two to three weeks. If interested, please sign up, leave your phone number, and you will be contacted by phone. You may also call D. Denman at 351-1611. If I am not available, please leave a message and I will return your call as soon as possible.



APPENDIX B

DISPLAY ADVERTISEMENTS IN THE STATE NEWS

APPENDIX B

DISPLAY ADVERTISEMENTS IN THE STATE NEWS

Advertisement in the State News Classified Section

CREATIVE PROBLEM-SOLVING!!

ARE YOU STUCK?? Participate in an experiment on imagery, hypnosis, and problem-solving.

Participants need to be at impasse in some problem or project. Time required is a maximum of four hours spread over two to three weeks. If interested, call D. Denman at 351-1611. If I am not available, please leave a message, and I will return your call as soon as possible.

"It's What's Happening" Column, State News

ARE YOU STUCK?? Participate in research on imagery, hypnosis, and problem-solving.

Participants need to be at impasse on some problem or project. Time required is a maximum of four hours spread over two to three weeks. If interested, call D. Denman at 351-1611. If I am not available, please leave a message, and I will return your call as soon as possible.



APPENDIX C

LETTER TO MSU STUDENTS IN GRADUATE HOUSING

APPENDIX C

LETTER TO MSU STUDENTS IN GRADUATE HOUSING

Dear MSU Student,

I apologize for the impersonal nature of this letter. I am a graduate student at MSU in clinical psychology, and I am conducting research on imagery, hypnosis, and problem-solving. Specifically, I am interested in the effectiveness of imagery in facilitating the ability to overcome an impasse or mental block encountered in the course of working on a problem or project. This could encompass a wide range of academic, professional, aesthetic, or personal concerns, from difficulty writing a paper to problems resolving a marital difficulty. It is not necessary that you be an MSU student. The only requirements are (1) that you are currently working on a problem or project, and (2) that you are "stuck" in some way which prevents you from reaching a satisfactory solution to that problem or from completing the project.

My purpose in writing this letter is to invite interested persons to participate in the research. The amount of time requested of participants is a maximum of four hours spread over the duration of two to three weeks. If you would like to participate, or simply have questions, please call me at

351-1611. If I am unavailable, please leave a message on the answering machine, and I will return your call promptly.

Thank you for your time and attention. Sincerely,

Diane Denman



APPENDIX D

RATIONALE GIVEN TO THE EXPERIMENTERS

APPENDIX D

RATIONALE GIVEN TO THE EXPERIMENTERS

Purpose of the Experiment

Let me tell you something about the study I am conducting before going on to describe more specifically your tasks and responsibilities. The study concerns the effectiveness of imagery in enhancing creativity. Creativity is not something that belongs exclusively to great artists or scientists. Rather, creativity is something that each of us uses in solving the problems of daily living. Creativity is also related to current research on the right and left hemispheres of the brain. There is a large body of research demonstrating that the left hemisphere thinks, reasons, and uses words, while the right hemisphere imagines and dreams. We know, for example, that hypnosis and imagery are mediated by the right hemisphere of the brain, and hypnosis is an effective method for stimulating imagery. Our experiment is designed to determine under what conditions stimulation of right hemisphere functions, that is, the experience of imagery, can facilitate creative problem-solving.

I have operationalized or defined creativity for experimental purposes as the ability to solve a problem which the individual in some way finds perplexing. The criteria for including subjects in the

study, then, are two: (1) that the subject is currently working on a problem or project that can be defined in a focal way, and (2) that the subject is "stuck" in some way so that he or she has not yet reached a solution to the problem or has not yet completed the project. After subjects have been selected, the procedure will include inviting subjects while hypnotized to have a series of dreams or dream-like experiences. Since music, imagery, and hypnosis are all mediated by the right hemisphere, we use music and relaxation as the method of hypnotic induction.

Your job will be to schedule appointments, to administer pre- and post-treatment questionnaires, to conduct the hypnotic induction, and to collect the dream reports by audiotape. The procedure is straightforward but rather detailed. You don't have to worry about the detail, however, because I will write out the procedure for you, and we will rehearse it sufficiently until it seems second-nature to you.

There is considerable evidence that the method we are using in this experiment is effective in enhancing creative problem-solving. However, we do not know why the method is effective. One variable that we are attempting to measure in the study is the extent and type of right and left hemisphere contributions to problem-solving. The second variable that we are manipulating is that of the experimenter's role. We do not know under what conditions varying personality types will respond to imagery as a means of creative problem-solving. Some individuals are autonomous in personal style. No matter how pressured they may feel or appear to others, they prefer to rely on themselves to solve problems. When working with another person, they respond



best in a low-key, egalitarian atmosphere where their autonomy is not threatened. Other people are more dependent in attitude. They look to others for direction and work best in a structured setting with an enthusiastic and authoritative leader. In this study, each of you will be trained to play both roles. Let me describe each role more fully.

Egalitarian Experimenter Role

The role I would like you to adopt as an EGALITARIAN experimenter is a very simple and natural extension of interest in what happens during the experiment. It is as though you and the subject are both co-experimenters interested in learning about imagery, creativity, and problem-solving. This attitude will not be hard for you to assume because it is simply an extension of your own scientific interest.

Sharing responsibility versus taking responsibility. In the egalitarian role, you implicitly share responsibility for the results of the experiment with the subject. That is, you help the subject into hypnosis, but how far the subject is able to go in problem-solving is up to him or her. Your attitude is friendly but neutral and disengaged. You are simply curious about what will happen during the experiment, and you assume that the subject is an autonomous agent well able to look after him or herself.

Eliminating status barriers versus emphasizing status barriers. Also, artificial barriers between yourself and the subject should be avoided. Artificial barriers could include wearing clothing designating special status or adopting a superior attitude, pretending to have special knowledge that subjects do not have. Instead, you can



wear casual clothing that you would normally wear on campus. You behave in a friendly, natural, but not over involved way, as you might with an acquaintance. In fact, aspects of the procedure you will follow in the egalitarian role have been especially designed to break down artificial barriers which prevent the establishment of an open, permissive atmosphere.

Giving balanced information which lets the subject decide versus giving only the information needed to reassure subjects. In the egalitarian role, you share information freely with subjects about the nature of research, letting them know the issues are not fully resolved. You implicitly challenge subjects in this way to find out for themselves whether or not hypnosis and imagery can contribute to problem-solving.

Context. In keeping with the egalitarian role, you will meet with the subject in one of the experimental rooms in the Psychology Research Building.

Authoritative Experimenter Role

The AUTHORITATIVE role, in contrast, requires you to adopt an active, empathic, and caretaking attitude toward subjects during the experiment. It is as though you are a concerned and competent helper accustomed to listening to the problems of others. This role will not be difficult for you to learn, because it is a natural extension of concern and caring for other people.

Taking responsibility versus sharing responsibility. As an expert and a responsible caretaker, you do not assume that the subject can fully help him or herself apart from you. Your attitude is one of



attentive, empathic listening paired with concern for the subject. You want to know as much as possible about the subject's problem, as though you were in a position to advise him or her. Your dialogue with subjects is designed to guide them toward a positive experience during the experiment.

Emphasizing status barriers versus eliminating status barriers.

When people seek help with a difficulty, they expect to meet with an individual who fits the socially defined role of helper. This role is defined in many ways, including the clothing we wear, our physical surroundings, and our sense of ease and confidence when listening to the problems of others. In the authoritative role, then, status barriers are deliberately emphasized. You demonstrate an attitude of "professionalism", or, manifesting the qualities of your office. I would like you to dress somewhat formally and to emphasize competence in your manner.

Giving only the information needed to reassure subjects versus giving balanced information which lets the subject decide. In the authoritative role, you do not make subjects aware of the diversity of results in research. Instead, you summarize results and emphasize the positive. Like a doctor, you give only the information that is needed to reassure patients and help them get well.

Context. In keeping with the authoritative role, you will meet with your subjects in one of the clinical rooms at Olds Hall.

Keeping the Experimenter "Blind"

There are other features of the study, as well as some aspects of measurement, which I cannot reveal to you. This is called keeping the

experimenter "blind" to aspects of the experiment in order to prevent bias in results. Of course, I will give you all the information you need to do your job with competence and ease.

Confidentiality

I also want to alert you to the importance of confidentiality in research. It is important that you do not talk with friends about the details of your job until the experiment is over. Names of participating subjects must be kept confidential under all circumstances. After the experiment is over, I will brief you on the overall design and trends in the results of the study.

APPENDIX E

DEPARTMENTAL RESEARCH CONSENT FORM

APPENDIX E

MICHIGAN STATE UNIVERSITY

Department of Psychology

DEPARTMENTAL RESEARCH CONSENT FORM

1. I have freely consented to take part in a scientific study being conducted by DIANE DENMAN
under the supervision of: DR. JOSEPH REYHER
Academic Title: PROFESSOR, DEPT. OF PSYCHOLOGY
2. The study has been explained to me and I understand the explanation that has been given and what my participation will involve.
3. I understand that I am free to discontinue my participation in the study at any time without penalty.
4. I understand that the results of the study will be treated in strict confidence and that I will remain anonymous. Within these restrictions, results of the study will be made available to me at my request.
5. I understand that my participation in the study does not guarantee any beneficial results to me.
6. I understand that, at my request, I can receive additional explanation of the study after my participation is completed.

Signed: _____

Title of Exper. Hypnosis, Imagery,
and Creative Problem-Solving

Date: _____

APPENDIX F

AUDIOTAPE RELEASE FORM



APPENDIX F

AUDIOTAPE RELEASE FORM

CIG Misc. 74-32

Audio and/or video playback of clients or research subjects

Whenever audio and/or video tape of clients may be viewed by persons other than those directly involved in the taping and service delivery to the client, a release form of the type shown below is to be used. If the material is to be used in research and/or teaching, the client must be so informed and his/her written consent obtained using the Departmental Consent Form and a release form of the type shown below. In addition, the parental consent form is to be used when children are involved.

RELEASE

I, _____, hereby agree to permit films, kinescopes, videotape recordings, photographs or audiotape recordings portraying and depicting psychological interviews in which I appear to be used for demonstration and instructional purposes and for duplication for up to 20 years from the date noted below. I understand that I may withdraw my permission for use of these materials in general, and for any specific purpose or situation, at any time, by making a written request to Michigan State University or the Department of Psychology. I understand that the confidentiality of the material presented will be protected. I likewise authorize Michigan State University to use such materials so prepared for exhibition purposes with professional psychology groups and to permit

the right of use to other parties for such purpose so long as they also agree to protecting the confidentiality of the material. The materials recorded by the processes noted above will be stored and protected as confidential material by the researcher or therapist. The specific method for maintaining confidentiality and storage are determined by the professional supervisor and the student. When the materials are no longer useful for demonstration, instructional, or research purposes, or at my written request, they will be withdrawn from use, mechanically erased, or destroyed.

Signed: _____

Date: _____

Witness: _____

APPENDIX G

PROBLEM-SOLVING SCALE

APPENDIX G

PROBLEM-SOLVING SCALE

SCORE	STATEMENTS BY SUBJECT
-1	The subject indicates that the problem is worse than before hypnosis. No change has taken place in a positive direction. Instead, the problem has intensified, and the subject may complain of symptoms, e.g., the inhibition of dreaming.
0	The subject indicates that he/she is still at impasse on the problem or project brought to the experiment. No progress toward solution is indicated.
+1	The subject indicates that there has been a change in the status of the project or problem brought to the experiment or a change in attitude which moves the subject in the direction of resolving the impasse.
+1	The subject attributes positive results to the experiment or the experimenter in some way: (a) The subject may describe a solution used to overcome the impasse which is specifically related to the experimenter or experimental procedure, e.g., hypnotic dreams, nocturnal dreams, visual representation of elements of the problem, experimenter's interest, or any aspect of the experimental situation. (b) The subject experiences change following hypnosis which seems beyond understanding: "Since the experiment, I simply have not felt like eating." "I've been freaked out because I've been able to sleep every night since the experiment."



+1

The subject indicates full satisfaction with the solution achieved:

- (a) The subject indicates full satisfaction with changes in attitude experienced following the experiment, but he/she has not yet achieved a concrete solution.
- (b) The subject indicates full satisfaction with a concrete solution as it stands, e.g., the solution is not a temporary or partial step which requires revision or is without practical merit.

APPENDIX H

DE-BRIEFING PROCEDURE



APPENDIX H

DE-BRIEFING PROCEDURE

The de-briefing procedure was structured around providing information to subjects along with detecting and remediating any mistrust or disappointment among subjects stemming from disguise of the hypotheses of the study or unfulfilled expectations. Based on previous research (Barrios & Singer, 1981; Davé, 1979), no adverse effects related to the hypnotic procedure itself were anticipated.

The de-briefing began as follows. After completion of the Subject's Post-experimental Questionnaire, all subjects were given a typewritten de-briefing sheet entitled Imagery, Hypnosis, and Creative Problem-Solving: Feedback to Subjects. The de-briefing sheet gave information regarding the actual objectives of the study. After S had finished reading the handout, E simply asked, "Do you have any questions for me about the experiment?" If S did not initiate conversation, E then shifted to the interview modality, stating,

I am wondering how you are reacting to the information I have given you. Do you have any responses, feelings, thoughts, or questions that you would like to discuss?

Issues of deception, disappointment, or any other questions raised by the subject were then addressed. If any subjects expressed feelings of resentment or embarrassment over having been deceived, E made

whatever efforts were necessary to restore S's self-esteem. It was conveyed to S that his or her experience had allowed the collection of information bearing on important theoretical and practical matters. Practical implications of the research, such as making those in the helping professions aware of the importance of the relationship formed with people at impasse were also described. If any subjects expressed continuing distress regarding inability to resolve an impasse in the problem brought to the experiment, E1 allowed the individual to talk more about the problem, adopting an attitude of empathic listening. Information regarding available counseling services was given if requested. The de-briefing interview continued until E1 was satisfied that the subject had accepted his or her participation in the research with equanimity.

APPENDIX I

DE-BRIEFING SHEET

APPENDIX I

IMAGERY, HYPNOSIS, AND CREATIVE PROBLEM-SOLVING: FEEDBACK TO SUBJECTS

The imagery technique you experienced during the experiment has proven helpful to people in previous research. Our actual focus in the experiment, however, was not on the imagery technique itself, but on the relationship formed between yourself and the experimenter. The experiment was designed to explore the nature of the relationship formed when a person feels at impasse with a problem or project.

There is currently a debate going on in psychotherapy research between what are called "common factors" and "specific factors" in the helping relationship. "Common factors" are those factors which occur in all helpful relationships. This type of relationship could include that formed between a student and a teacher, a patient and a doctor, a churchgoer and a church official, or a client and a psychotherapist. Common factors include the beneficial effects of simply having a supportive individual listen to you, take you seriously, and help you elaborate upon your problem or impasse. This supportive, attentive attitude occurs in all helping relationships.

"Specific factors" refer to those specific features in any helping technique which contribute to problem-solving. For example, behavioral therapies try to teach actively a new approach; psychoanalysis hopes to give a client insight. In this case, the "specific factor" refers to the effect of the experience of imagery on problem-solving.

To test our hypotheses, we needed four groups consisting of two groups of subjects and two experimenter types. The first group of subjects were students who signed up for an experiment and were assigned the task of defining a problem which they wanted to work on during the experiment. The second group of subjects responded to ads or letters looking for people who felt at impasse with a problem or project. On this basis, we reasoned that the second group was likely to be experiencing greater impasse than the classroom participants and might be more highly motivated to form a strong relationship with a warm and interested person.

Our experimenters were characterized as medium and high in rapport. The "medium" experimenter was instructed to spend about five minutes with subjects talking about their problem or project. The experimenter high in rapport was instructed to spend about 20 minutes with subjects talking about their problem or project. We wanted to see if the differences in experimenter attitude would make a difference in the amount of anxiety-reduction and problem-solving subjects experienced. We also wanted to know which factor, the imagery technique or the experimenter's attitude, was most important in creative problem-solving. The results of the study have not been completely analyzed, so we do not know whether or not our hypotheses have been confirmed.

We would appreciate your keeping the hypotheses of the study confidential, as the experiment is still in process. As you can imagine, if individuals have full awareness of the hypotheses of the study, this knowledge adds a new, uncontrolled factor to the experiment and can invalidate results.

Thank you for your participation in helping us gather information which has both theoretical and practical significance.

Diane Denman - Department of Psychology
135 Snyder Hall, MSU
Phone: 351-1611



APPENDIX J

REGRESSIVE TRANSFERENCE SCALE

APPENDIX J

REGRESSIVE TRANSFERENCE SCALE

SCORE	STATEMENTS BY SUBJECT
+4	(A) Statements implying a parent-child relationship 1. Words such as "father", "mother", or Godlike are used. 2. References to oneself as childlike: "I felt like a little kid." (B) Attribution of magical knowledge or power to the hypnotist 1. Statements that the hypnotist can do anything 2. Problem resolution is described in a magical way, without attempts to rationalize: "When we began talking, I just knew something was going to happen on my problem." 3. Statements that the subject felt the hypnotist had magical understanding of him/her: "I don't know why, but I felt we had known each other all of our lives." (C) Descriptions of hypnosis transcend the range of normal experience: "It was ecstatic." "I lost all contact with my body." "It was just like an LSD trip."
+3	(A) Indications of special gratification in the relationship 1. Statements worded in superlatives or hyperbole: "She's the greatest." "She's fantastic, terrific." "I have never felt safer." "I was extremely reassured." "I felt thoroughly understood."

- +3
2. Reluctance to break off relationship with the hypnotist or with hypnosis: "I wish she would come home with me every night and hypnotize me." "I want a copy of the tape." "Can she teach me hypnosis?" "I didn't want to wake up."
- (B) Attributions of special knowledge or power to the hypnotist; an experienced transfer of ego functions
1. Statements that the hypnotist's presence was decisive, essential, or led to renewed hope in problem resolution: "I couldn't have done it without her." "After talking with her, I felt I could come to terms with my problem."
 2. Assumptions that the hypnotist knows the meaning of the subject's hypnotic dreams: "Now will you tell me the meaning of all this?" "Why did I dream about a rabbit?"
- (C) Indications of regression during hypnosis
1. Statements referring to the power of the hypnotic experience: "Wow!" "It blew me away." "I didn't realize how affected I was by it."
 2. Statements referring to relative ego-loss during hypnosis: "I felt like I was floating." "I had no awareness of the passage of time."
 3. Statements describing hypnosis are worded in superlatives or hyperbole: "I felt just terrific afterwards!"
- +2
- (A) Indications of security and trust in the relationship
1. Statements indicating the subject felt safe, cared for, or reassured: "I felt safe at all times." "I felt she cared about what happened to me." "I felt accepted."
 2. Expressions of trust and confidence in the hypnotist: "She put me at ease." "I felt comfortable around her." "I was surprised I was able to relax without any difficulty in her presence."
 3. Statements indicating that the subject felt free to self-disclose in the relationship with the hypnotist



+2

- (a) Discussion of the problem with ease: "I talked about my boyfriend, and she helped me to get it all out."
 - (b) Sharing of life experiences not directly related to the problem at hand: "I told her about my trips to Lake Michigan after the experiment, and she seemed interested."
4. Statements indicating a desire to please the hypnotist
- (a) Protecting the experimenter from criticism; turning blame upon oneself: "I had trouble talking about my problem, but it was not her fault."
 - (b) Asking for evaluation: "How did I do?" "Does everyone have dreams like this?"
- (B) Statements expressing confidence in the experiment or in the hypnotist's knowledge and abilities
- 1. Acknowledging the hypnotist's effectiveness in performing her role: "She knew what she was doing." "I trusted her to manage the session." "I was impressed by the questions she asked."
 - 2. Acknowledging the effectiveness of the experimental procedure: "I was impressed by the experiment." "The whole procedure was gratifying."
 - 3. Statements that the subject was able to use the experiment in some way to work toward problem resolution: "After it was over, I felt more optimistic about my problem." "The visual images gave me insight."
- (C) Statements describing an experience of pleasurable relaxation during hypnosis
- 1. Comments indicating relaxation during hypnosis: "I felt relaxed." "I feel drowsy, sleepy." "I feel heavy." "I can't get up out of the chair."
 - 2. Expressions of pleasure following hypnosis, indicated by long, drawn-out tones. If asked, "Are you relaxed?", the subject replies: "Ummmmmmmm. Ohhh. Mmmm."



- +1 (A) Statements indicating a mildly positive relationship with the experimenter
1. Mildly positive statements: "She was nice." "She was pleasant and friendly." "She was professional." "I enjoyed participating."
 2. Descriptions of a positive incident: "She smiled." "She had a nice voice." "I liked the part about _____"
- (B) Statements complimenting the hypnotist's competence or the design of the study
1. Mildly positive statements: "She seemed competent." "She did a good job." "She performed well." "The experimental design was sound."
 2. Descriptions of a positive incident of competence: "She did the hypnosis well." "She explained the procedure adequately."
 3. Statements indicating that the experiment had aroused interest in hypnosis or psychology: "It was a very interesting new experience." "It was kind of exciting."
 4. Mildly positive statements regarding problem resolution: "The experiment might help in the long run." "I've felt some change, although I don't know if it was entirely due to the experiment."
- (C) Statements describing an experience of mild relaxation or interest during hypnosis. When asked "How do you feel?", the subject replies, "Relaxed." "It was neat."
- 0 In response to questions regarding the subject's experience, or questions regarding the subject's level of anxiety during the procedure, the subject appears to be responding to demand characteristics but does not reveal any affect. For example, the subject responds simply "yes" or "no" without further elaboration. In response to E's asking "How do you feel?", a comment such as "fine," "OK," "alright", or "I don't know," without further elaboration, is given. Other noncommittal comments, such as "It was interesting" or "The lights are bright," are also scored zero.
- 1 (A) Statements indicating mild discomfort in relationship to the experiment or the experimenter.



-1

1. Mildly negative global statements: "Things didn't go very well." "I was hoping for more of an experience." "It was strange, sort of unpleasant."
 2. Statements that the subject felt apprehensive or uneasy regarding the experiment or the experimenter: "I wasn't totally at ease." "I found it difficult to relax." "I was trying to impress her too much."
 3. Descriptions of negative events: "Whenever she told me I was enjoying hypnosis, I became somewhat anxious." "Being taped made me uncomfortable." "Some of the dreams were unpleasant."
 4. Descriptions of failure to produce requested images or dreams: "I didn't have the follow-up dreams." "I kept drawing blanks."
 5. Statements indicating feelings of inadequacy on the subject's part: "I felt stupid when I answered the questions too fast." "I worried if my images were 'right'."
- (B) Statements mildly criticizing the hypnotist's performance or the design of the study
1. Descriptions of incidents of disappointment in the hypnotist: "I couldn't hear her voice over the music." "She coughed."
 2. Statements suggesting improvements in the experimental procedure: "A discussion of general relaxation techniques would've been helpful."
 3. Statements suggesting changes in the setting: "Perhaps a more comfortable chair." "I didn't like the music."
 4. Expressions of doubt or uncertainty regarding the effectiveness of the experiment: "I don't know if it really helped with the problem." "I am unsure regarding the purpose of the experiment."
- (C) Expressions of doubt or disappointment regarding the experience of hypnosis
1. Statements questioning the depth of the hypnosis: "I was unsure if I was really hypnotized." "I kept wondering, 'When will it happen'."

- 1
 - 2. Disappointment in the hypnotic dream experience: "The pictures were drifting and unclear." "I didn't really have images, more like thoughts."
 - 3. Statements that hypnosis was not what the subject expected: "I thought I would be unaware while responding." "I didn't expect to remember any of my dreams."
- 2
 - (A) Indications of lack of trust and rapport with the experimenter
 - 1. Statements that the subject was uncertain about the experimenter's involvement and care: "She seemed to be in a rush." "She seemed detached." "She didn't seem to care what happened to me."
 - 2. Statements that the subject felt strong anxiety or fear: "I felt tense, like I couldn't get enough air." "I was concerned with the thought of losing consciousness." "I started crying."
 - (B) Indications of lack of confidence in the experimenter's abilities or in the experimental procedure
 - 1. Statements that the subject was dissatisfied with the hypnotist's role performance: "She needed to be a bit more forceful." "She could've been more relaxed and natural."
 - 2. Statements that the subject was uncertain about the experimenter's competence in handling problems: "She was a bit unprepared for my reaction to hypnosis." "I wasn't completely confident that she understood my problem."
 - 3. Statements that the subject was unable to use the procedure toward problem-solving: "It was frustrating to feel that I did not get anywhere with it."
 - (C) Descriptions of insecurity or fear during hypnosis
 - 1. Statements that the subject felt rushed during induction: "I needed more time to relax." "One time was not enough for hypnosis to occur."
 - 2. Statements indicating superficial compliance during hypnosis: "She thought I was more deeply hypnotized than I was."

- 3
- (A) Descriptions of feelings of alienation from the experimenter or the experiment
 - 1. Statements that the subject experienced the hypnotist as cold, rejecting, or grossly insensitive: "Her whole character was kind of cold." "I don't remember one word coming from her about my problem."
 - 2. Statements worded in superlatives or in hyperbole: "I felt she was extremely unsure of herself." "Her manner was mechanical." "The room was oppressive, the music jarring."
 - (B) Statements that the experiment was ineffective or the hypnotist unqualified or incompetent; an experienced inability to transfer ego functions
 - 1. Questioning the hypnotist's competence or credentials: "I don't think she was properly trained." "She wasn't very good at it." "She was too young and inexperienced to do hypnosis." "Someone more qualified would have had a stronger impact on me."
 - 2. Rejection of any positive influence stemming from the hypnotist or the experiment: "She didn't leave me with any sense of hope." "I thought it was supposed to help me solve my problem." "It didn't work."
 - (C) Rejection of the experience of hypnosis
 - 1. Statements that the hypnotist was unable to hypnotize the subject: "She wasn't able to hypnotize me." "I was never able to relax and go with the experience."
 - 2. Statements that the subject experienced no change in awareness: "I didn't feel in a trance." "There was no difference between this and relaxing on my own."
- 4
- (A) Statements indicating the subject experiences the hypnotic relationship in a coercive, sado-masochistic, or nightmarish way: "I felt she was forcing me to dream."
 - (B) Flat rejection or hostile derogation of the experiment or the experimenter: "I'll never do anything like this again." "Certainly nobody in the experiment was moved toward a solution." "The experiment did no good at all."



- 4 (C) Ridicule of the experience of hypnosis: "I thought it was fake." "I was never even close to hypnosis."

ABSTRACTED DIMENSIONS OF THE SCALE

- +4 An experienced relationship to an omnipotent other
- +3 Special gratification; an experienced transfer of ego functions
- +2 The experience of safety, security, trust
- +1 The experience of mild attachment; courtesy, compliments
- 0 No affect; evasion of comment
- 1 An experience of mild discomfort
- 2 The experience of insecurity and lack of trust
- 3 The sense of rejection; an experienced inability to transfer ego functions
- 4 An experience of malevolence; open criticism or hostility

APPENDIX K

HOLT CONTENT SCORING SYSTEM

APPENDIX K

HOLT ANXIETY/GUILT CONTENT SCORING: ADDITIONAL EXAMPLES

Insecure:	a man tied, helpless, falling into space; someone falling, crashing, stumbling; pile of rocks about to topple over; precarious setting
Frustration:	inability to obtain a desired goal or complete a desired act; reaching for object which retreats; impeded by glass barrier, mountain, impersonal object or situation
Entrapment:	a person enslaved by circumstances; feeling trapped, struggling to get out but cannot; helplessly burdened; snowed in; in a cocoon; in smothering clothing; buried alive
Out of control:	subjected to an uncontrollable storm, tornado, flood; being helplessly carried away by something, train, boat, with negative affect; subjected to pressures beyond one's control, being pulled in opposite directions, being pulled apart, feeling ready to explode
Confusion:	lacking direction; lost in a maze; in fog or dark; in a haze, lost in a cloud
Abandoned:	abandoned and alone or deprived but with no specific person noted; a child crying alone, lost in woods, forest

APPENDIX L

RATING SCALES: ROLE MANIPULATION CHECK

APPENDIX L

RATING SCALES: ROLE MANIPULATION CHECK

For each question, please put a checkmark on the category or unit of the scale that best represents your impressions of the experimenter.

Status

1. Based on the experimenter's appearance, what do you think the experimenter's educational level might be?

High school student	_____
Community college student	_____
University undergraduate	_____
Graduate student	_____
Professional status (Ph.D.)	_____

2. How old do you think the experimenter is?

17-18	_____
19-20	_____
21-22	_____
23-24	_____
25-above	_____

13. How would you rate the experimenter's attire?

High fashion shop (luxurious)	_____
Specialty store	_____
Department store	_____
Discount store	_____
Street person	_____

¹Adapted from the Personal Power Functions Inventory Profile, Reyher, 1979.

Warmth

1. Did the experimenter spend time talking with you about your problem in detail?

Definitely Somewhat Slightly Not at all
 YES _____:_____ : _____:_____ NO

2. How would you rate the examiner in the personal quality of warmth?

Very Somewhat Neither Somewhat Very
 FRIENDLY _____:_____ : _____:_____ HOSTILE
 COLD _____:_____ : _____:_____ WARM
 SENSITIVE _____:_____ : _____:_____ INSENSITIVE

Competence

1. Did the experimenter seem clumsy or make any errors in administering the procedure?

Definitely Somewhat Slightly Not at all
 YES _____:_____ : _____:_____ NO

2. How would you rate the experimenter in the personal quality of competence?

Very Somewhat Neither Somewhat Very
 INCOMPETENT _____:_____ : _____:_____ COMPETENT
 INTELLIGENT _____:_____ : _____:_____ UNINTELLIGENT
 CONFIDENT _____:_____ : _____:_____ LACKS CONFIDENCE

Positive Message

1. Did the experimenter leave you with the impression that the imagery technique was a sound one likely to bring positive results?

Definitely Somewhat Slightly Not at all
 YES _____:_____ : _____:_____ NO

²Semantic differential items were adapted from Assor, 1978.

2. How would you rate the experimenter regarding the certainty of the message conveyed about the experimental procedure?

Very Somewhat Neither Somewhat Very

UNTRUSTWORTHY	_____	:	_____	:	_____	:	_____	:	_____	TRUSTWORTHY
CONVINCING	_____	:	_____	:	_____	:	_____	:	_____	UNCONVINCING
INDECISIVE	_____	:	_____	:	_____	:	_____	:	_____	DECISIVE



APPENDIX M

ANALYSIS OF VARIANCE SUMMARY TABLES

APPENDIX M

ANALYSIS OF VARIANCE SUMMARY TABLES

Table 3

Two-way Analysis of Variance for Time Spent Talking with Experimenter

Source	SS	MS	F	p
Condition	1252.545	1252.545	59.403	.001*
Subgroup	7.682	7.682	.364	.548
Interaction	.409	.409	.019	.890
Residual	1771.182	21.085		
Total	3031.818	34.848		

*significant p

Table 6

Two-way Analysis of Variance for the Regressive Transference Scale 1

Source	SS	MS	F	p
Condition	.175	.175	.155	.695
Subgroup	.183	.183	.163	.688
Interaction	1.935	1.935	1.720	.194
Residual	85.518	1.125		
Total	87.811	1.112		

Table 7

Three-way Analysis of Variance for the Regressive Transference Scale 2

Source	SS	MS	F	p
Condition	.000	.000	.000	.983
Subgroup	1.675	1.675	2.266	.136
Age group	1.624	1.624	2.196	.142
C/S	1.930	1.930	2.610	.110
C/A	1.090	1.090	1.475	.228
S/A	.901	.901	1.218	.273
C/S/A	.992	.992	1.341	.250
Residual	59.155	.739		
Total	70.677	.812		



Table 8

Two-way Analysis of Variance for the Regressive Transference Scale 2

Source	SS	MS	F	p
Condition	.406	.406	.534	.467
Subgroup	5.752	5.752	7.576	.007*
Interaction	.743	.743	.978	.325
Residual	63.776	.759		
Total	70.677	.812		

*significant p

Table 9

Two-way Analysis of Variance for the Problem-Solving Scale

Source	SS	MS	F	p
Condition	.182	.182	.137	.712
Subgroup	.011	.011	.009	.927
Interaction	4.102	4.102	3.089	.082
Residual	111.568	1.328		
Total	115.864	1.332		

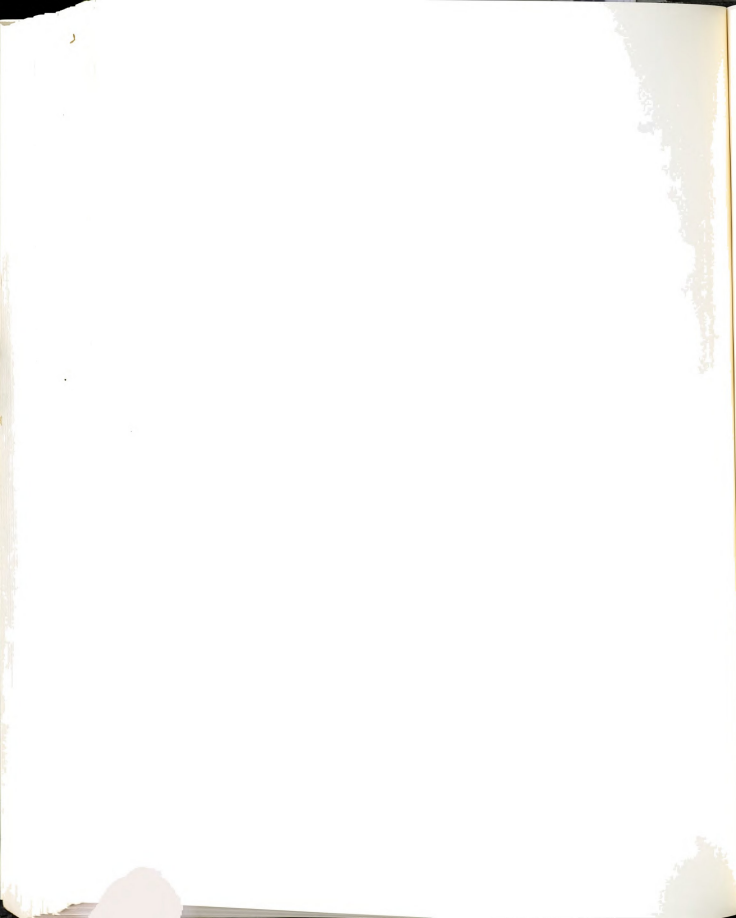


Table 10

Two-way Analysis of Variance for the Trait Anxiety Index

Source	SS	MS	F	p
Condition	294.557	294.557	3.025	.086
Subgroup	82.102	82.102	.843	.361
Interaction	294.557	294.557	3.025	.086
Residual	8178.500	97.363		
Total	8849.716	101.721		

Table 11

Two-way Analysis of Variance for STAI1

Source	SS	MS	F	p
Condition	60.557	60.557	.357	.552
Subgroup	25.102	25.102	.148	.702
Interaction	301.92	301.92	1.778	.186
Residual	14264.50	169.815		
Total	14652.08	168.415		

Table 13

Two-way Analysis of Covariance for Difference Scores, STAI1 - STAI2

Source	SS	MS	F	p
Covariate				
STAI 1	9924.162	9924.162	173.549	.001
Main effects				
Condition	24.017	24.017	.420	.519
Subgroup	64.366	64.366	1.126	.292
Interaction	70.828	70.828	1.239	.269
Residual	4746.235	57.184		
Total	14829.818	170.458		



Table 14

Two-way Analysis of Covariance for Difference Scores, STAI1 - STAI3

Source	SS	MS	F	p
Covariate				
STAI 1	7910.334	7910.334	62.879	.001
Main effects				
Condition	39.642	39.642	.315	.576
Subgroup	777.260	777.260	6.178	.015*
Interaction	91.416	91.416	.727	.396
Residual	10441.678	125.803		
Total	19261.273	221.394		

*significant p

Table 16

Two-way Analysis of Variance for Holt Oral Subscale

Source	SS	MS	F	p
Condition	.715	.715	.615	.435
Subgroup	1.596	1.596	1.374	.244
Interaction	.006	.006	.005	.944
Residual	97.552	1.161		
Total	99.868	1.148		



Table 17

Two-way Analysis of Variance for Holt Anal Subscale

Source	SS	MS	F	p
Condition	.085	.085	3.041	.085
Subgroup	.001	.001	.053	.819
Interaction	.001	.001	.053	.819
Residual	2.356	.028		
Total	2.444	.028		

Table 18

Two-way Analysis of Variance for Holt Sexual Subscale

Source	SS	MS	F	p
Condition	.077	.077	.100	.752
Subgroup	.081	.081	.105	.747
Interaction	.229	.229	.296	.588
Residual	64.944	.773		
Total	65.331	.751		



Table 19

Two-way Analysis of Variance for Holt Exhibitionistic/Voyeuristic
Subscale

Source	SS	MS	F	p
Condition	3.698	3.698	2.627	.109
Subgroup	.228	.228	.162	.688
Interaction	1.798	1.798	1.277	.262
Residual	118.264	1.408		
Total	123.989	1.425		

Table 20

Two-way Analysis of Variance for Holt Homosexual Subscale

Source	SS	MS	F	p
Condition	.002	.002	.162	.688
Subgroup	.010	.010	.741	.392
Interaction	.003	.003	.193	.661
Residual	1.138	.014		
Total	1.152	.013		



Table 21

Two-way Analysis of Variance for Holt Dependency Subscale

Source	SS	MS	F	p
Condition	1.615	1.615	5.733	.019*
Subgroup	.837	.837	2.970	.088
Interaction	1.926	1.926	6.840	.011*
Residual	23.658	.282		
Total	28.035	.322		

*significant p

Table 22

Two-way Analysis of Variance for Holt Total Libidinal Scale

Source	SS	MS	F	p
Condition	8.763	8.763	2.193	.142
Subgroup	.080	.080	.020	.888
Interaction	4.752	4.752	1.189	.279
Residual	335.631	3.996		
Total	349.226	4.014		



Table 23

Three-way Analysis of Variance for Holt Total Defense Scale

Source	SS	MS	F	p
Condition	5.717	5.717	.710	.420
Subgroup	47.642	47.642	5.915	.017*
Agegroup	3.055	3.055	.379	.540
C/S	3.956	3.956	.491	.485
C/A	.436	.436	.054	.817
S/A	7.728	7.728	.959	.330
C/S/A	5.806	5.806	.713	.401
Residual	644.398	8.055		
Total	768.721	8.836		

*significant p



Table 24

Two-way Analysis of Variance for Holt Total Defense Scale

Source	SS	MS	F	p
Condition	18.182	18.182	2.316	.132
Subgroup	87.122	87.122	11.096	.001*
Interaction	3.881	3.881	.494	.484
Residual	659.536	7.852		
Total	768.721	8.836		

*significant p

Table 25

Two-way Analysis of Variance for Holt Anxiety Score

Source	SS	MS	F	p
Condition	.037	.037	.060	.806
Subgroup	1.418	1.418	2.303	.133
Interaction	.536	.536	.871	.353
Residual	51.704	.616		
Total	53.695	.617		

Table 26

Two-way Analysis of Variance for Holt Object Aggression Score

Source	SS	MS	F	<u>p</u>
Condition	3.131	3.131	2.082	.153
Subgroup	11.622	11.622	7.727	.007*
Interaction	1.078	1.078	.717	.400
Residual	126.336	1.504		
Total	142.167	1.634		

*significant p

Table 27

Two-way Analysis of Variance for Holt Total Regression Scale

Source	SS	MS	F	<u>p</u>
Condition	84.398	84.398	6.181	.015*
Subgroup	202.101	202.101	14.801	.001*
Interaction	.266	.266	.019	.889
Residual	1146.989	13.655		
Total	1433.753	16.480		

*significant p



Table 28

Two-way Analysis of Variance for Holt Subject Aggression Scale

Source	SS	MS	F	p
Condition	.037	.037	.055	.815
Subgroup	.050	.050	.073	.787
Interaction	.943	.943	1.390	.242
Residual	57.012	.679		
Total	58.042	.677		

Table 30

Two-way Analysis of Variance for Age and Condition Within Low Impasse

Source	SS	MS	F	p
Condition	.415	.415	.737	.396
Subgroup	.001	.001	.001	.971
Interaction	1.484	1.484	2.634	.112
Residual	22.532	.563		
Total	24.042	.559		



Table 31

Two-way Analysis of Variance for Age and Condition Within High Impasse

Source	SS	MS	F	p
Condition	1.133	1.133	1.361	.250
Subgroup	6.232	6.232	7.486	.009*
Interaction	.045	.045	.054	.818
Residual	33.299	.832		
Total	40.882	.951		

*significant p

Table 32

Three-way Analysis of Variance for Age, Impasse, and Regressive
Transference

Source	SS	MS	F	p
Condition	.100	.100	.144	.706
Subgroup	8.426	8.426	12.073	.001*
Agegroup	3.288	3.288	4.711	.033*
C/S	1.471	1.471	2.108	.150
C/A	.999	.999	1.431	.235
S/A	3.149	3.149	4.512	.037*
C/S/A	.483	.483	.692	.408
Residual	55.831	.698		
Total	70.677	.812		

*significant p



APPENDIX N

LITERATURE REVIEW: REGRESSIVE TRANSFERENCE, HYPNOSIS
AND THE PLACEBO EFFECT

APPENDIX N

REGRESSIVE TRANSFERENCE, HYPNOSIS, AND THE PLACEBO EFFECT

Despite the explosion of experimental interest in hypnosis during the 1960's, the nature of the relationship between hypnotist and client has remained a relatively neglected topic in research. This relative neglect may be due to the fact that constructs which describe hypnosis as a relationship stem primarily from psychoanalytic theory. The typical psychoanalytic formulation of hypnotic phenomena in the clinical situation involves the notion of transference as a central construct.

For example, Ferenczi (1950), following Freud (1953, p. 150) defined hypnosis as a regressive transference involving both libidinal and submissive strivings in relation to a maternal or paternal figure. Rado (1925) introduced the notion that the patient identified with the hypnotist as a defense against submissive strivings, allowing the hypnotist to function as a "parasitic super-ego" during the course of hypnosis (p. 21). Kubie and Margolin (1944) construed hypnosis as a state where the subject temporarily incorporated the image of the hypnotist as an experimentally-induced superego, similar to the early parent-child relationship. Wolberg (1945), emphasizing the active participation of the subject, saw hypnosis as a dependency relation



where the subject sought gratification of various needs through the agency of a parental or other external authority figure. Gill and Brenman (1967), emphasizing the demand characteristics of the situation, defined the transference underlying hypnosis as the constellation of dependency strivings within the ego subsystem evoked by environmental press. Recent theoreticians who utilize transference as a central construct in hypnosis include Fromm (1975, 1977), Shor (1959, 1962), and Reyher (1964, 1977, 1980). Despite differences in emphasis among these authors, the psychoanalytic tradition on the whole has maintained that hypnosis is, above all, a special type of relationship. The features of this special relationship include enhanced suggestibility and a regressive transference where the subject experiences the self as relatively dependent and helpless in relation to a caring, powerful other.

Although the psychoanalytic literature contains an abundance of clinical evidence, however, its constructs have been difficult to operationalize, and laboratory methods have not been systematically developed for their proper evaluation. In contrast, more recent approaches developed in an experimental context, including behavioral, social psychological, and cognitive perspectives, have shown less interest in hypnosis as a relationship. While these perspectives have made valuable contributions to the understanding of hypnosis as a learned event, as a social role, and as a cognitive state, relationship variables tend to be construed and operationalized in ways which are only indirectly related to the notion of transference.



For example, Cautela (1975), in an article discussing covert conditioning and hypnotherapy, mentions that hypnotic induction may facilitate rapport so that the therapist becomes a stronger reinforcer for the client. The components and antecedents of rapport as an affective and motivational state, however, have been left unspecified by the author. Hilgard (1965), from the context of developmental-interactive theory, does not see the initial rapport upon which hypnosis is based as a transference. Rather, hypnotic susceptibility is conceptualized as the ability to become deeply involved in fantasy. The important factors mediating hypnotic induction include simply a setting which inspires confidence and a subject capable of tolerating a dependency relationship. These antecedent conditions release the subject's potential for immersion in experience, construed as a quasi-cognitive, quasi-motivational variable. Sarbin and his associates (Coe & Sarbin, 1977; Sarbin, 1950; Sarbin & Anderson, 1967) emphasize the importance of the social context in hypnosis. Their role-enactment model characterizes the hypnotic relationship as one in which the hypnotist shapes and socially reinforces the behavior of a subject who is eager to perceive cues regarding acceptable role-behavior in the situation. The hypnotist is seen as a social reinforcer whose warmth and prestige strongly influence the subject's performance. Cognitive theorists such as London (1967) and Bowers (1976, 1977) have tended to focus on attentional processes and the cognitive characteristics of subjects as the primary factors responsible for hypnosis. The relationship between subject and hypnotist is then seen as facilitating or inhibiting the trust



necessary for individuals to assume an attitude of receptive attention. Sheehan and McConkey's (1982) concept of rapport, for example, includes interpersonal trust, with the operator seen as a protective guide. Barber and his associates (Barber & DeMoor, 1972; Barber, Spanos, & Chaves, 1979) give motivation equal weight with cognitive factors in inducing hypnosis, but they define such motivation as simply valuing hypnosis, wanting to be hypnotized, and expecting to succeed. From the psychoanalytic perspective, however, the important factors which make up hypnosis as an event differing from other social events include the nature of the dependency strivings of the subject and the meaning of the hypnotist to the client in terms of his or her capacity to gratify those needs in fantasy. These factors are not emphasized in any of the above models.

Reyher (1977, 1980), however, has formulated a two-step theory of hypnosis which allows operational definition of the concept of regressive transference. According to Reyher, hypnosis involves both cognitive and motivational factors. The cognitive factor refers to the restriction of sensory input and the suspension of active mental processing which takes place during induction as the subject focuses on the operator's voice. All that is necessary for suggestibility to increase, termed hyper-suggestibility, level I, is that the subject adopt a passive-receptive, open-minded attitude of waiting silently for instructions. If the subject can give up to the hypnotist his role of actively processing sensory input and can adopt a passive-dependent attitude in relation to the hypnotist, the induction will succeed (Reyher, Wilson, & Hughes, 1979). If the character structure

of the subject will not allow the adoption of a dependent attitude without the arousal of anxiety, however, defenses are activated and hypnosis will not occur.

A further increase in suggestibility, termed hyper-suggestibility level II, occurs when subjects capable of assuming a passive-receptive attitude undergo a regressive transference in relation to a suitable facilitator. The occurrence of hyper-suggestibility level II depends primarily on two variables. First, the individual must be experiencing acute anxiety regarding his or her personal, social, or physical welfare, in circumstances where the individual does not know how to relieve the distress. Second, the available caretaker must assume a demeanor of unquestionable self-assurance, competence, and kindness in his or her approach to the suffering individual. Reyher (1980) hypothesizes that the above conditions reconstitute the circumstances of early childhood or infancy, which cue in a state-dependent manner reminiscences of being cared for by loving, omniscient parents. These reactivated remembrances constitute, in psychoanalytic terms, the regressive transference which mediates further suggestibility. These remembrances, however, are not discrete memories of specific persons or events. Rather, they are more aptly characterized as longings or affectively-toned strivings to find sanctuary in relationship with an accepting, strong, authoritative figure. Any variables which increase the helplessness and anxiety of the client and which enhance the caretaker's appeal will contribute to the formation of a regressive transference. These factors might include, among other things, character traits of the subject and the



perceived status and interpersonal power of the hypnotist. The advantage of Reyher's formulation is that, in specifying antecedent conditions necessary for a regressive transference to occur, the construct is available for experimental manipulation.

Additionally, in providing a cohesive definition for the concept of regressive transference, the nature of the evidence relevant to the construct becomes more clear. Subjects experiencing a regressive transference should be characterized by intense dependency strivings, conceptualized either as an enduring disposition or as the consequence of a stressful situation beyond the individual's coping capacity. The designated facilitator of such a transference, whether researcher or therapist, must be perceived as possessing sufficient protective competence to allow the individual to regress. In the process of establishing such a relationship, the subject is likely to overestimate the positive attributes of the facilitator and to show exquisite sensitivity (enhanced suggestibility) to his or her wishes. Similarly, fantasies produced by the subject should indicate reciprocal child-parent roles or other derivatives of a sheltering relationship. Experimental evidence regarding features of the hypnotist-client relationship are not inconsistent with the concept of regressive transference. Despite contradictions in the literature, personality features which correlate with hypnotic susceptibility across a wide variety of personality inventories include docility (Bentler, 1963), deference (Lang & Lazovik, 1962), dependence (Levitt, Brady, & Lubin, 1963; Roberts & Tellegen, 1973), affiliation (Bentler, 1963; Lang & Lazovik, 1962), and acquiescence (Hilgard, 1965; Schulman



& London, 1965). Correspondingly, Levitt, Brady, and Lubin (1965) and Roberts and Tellegen (1973) found refractory hypnotic subjects to be more aggressive, dominant, independent, and critical than good hypnotic subjects. Correlations between personality traits measured by paper-and-pencil tests and hypnotic susceptibility, however, generally have been low, and replications with any one instrument have been inconsistent (see Barber, 1964; Deckert & West, 1963; Derman & London, 1965; Kihlstrom et al., 1980).

In the face of conflicting evidence, Dana and Cooper (1964), following an extensive review of the literature, suggested a two-factor hypothesis of susceptibility consisting of a cognitive or hypnotic skill factor and a personality factor. Following the lead of Dana and Cooper (1964), Reis, Wheeler, and Wolff (1975) examined the role of multiple factors in predicting trance depth. Two factors, cognitive and interpersonal, were defined. The cognitive factor was derived from a test measuring imaginative-perceptual versus analytical intellectual style. The interpersonal factor consisted of a measure of salience of needs for affiliation, deference, and succorance versus needs for autonomy and rejection of others. The authors predicted that highly susceptible hypnotic subjects would be characterized by an imaginative-perceptual cognitive style along with salient needs for affiliation, deference, and succorance, whereas low-susceptible subjects would show the opposite pattern. They also hypothesized that both factors would jointly predict trance depth among subjects, whereas neither factor alone would successfully allow prediction. Results confirmed each hypothesis. Based on one factor alone, no



pattern of results was found from which trance depth scores could be adequately predicted. The multiple classification scheme, however, correctly predicted hypnotic susceptibility for 24 of the 28 subjects who were categorizable into high and low groups on both cognitive and interpersonal dimensions. When skill and interpersonal factors are isolated, then, the personality correlates of the good hypnotic subject tend to be in the direction of the affiliative and acquiescent tendencies found by previous research.

Barber (1964), on the other hand, emphasized the greater value of an interactional rather than a trait model of hypnotizability and called for research examining the hypnotist-subject relationship. Fourie (1980), using an interactional model, attempted to predict hypnotizability from aspects of the relationship existing between the subject and operator immediately prior to hypnosis. Based on pre-induction interview ratings, he found that the degree to which subjects put themselves in a dependent position vis-a-vis the hypnotist was positively correlated with susceptibility, whereas the amount of direct aggression expressed to the hypnotist was negatively correlated with susceptibility. Results are in accordance with the earlier findings of Roberts and Tellegen (1973) and Levitt et al. (1965).

Additionally, experimental evidence does suggest that depth of interpersonal rapport is related to hypnotic responsivity. Factors in the interaction associated with increased suggestibility include trust (Roberts & Tellegen, 1973; Shapiro & Diamond, 1972; Shor, 1962), an attitude of collaboration (McDermott & Sheehan, 1976), and the

existence of a previous relationship with the hypnotist (Kramer, 1969; Tart, 1970). Reyher and Wilson (1973) have also shown that anxiety present during induction can interfere with hypnosis.

Similarly, features of the hypnotist which facilitate trust and encourage the adoption of a passive-receptive attitude on the subject's part have been found to influence hypnotizability. These factors include warmth and friendliness (Greenberg & Land, 1971; Hartman, 1967), the perceived experience of the hypnotist (Balaschak, Blocker, Rossiter, & Perin, 1972; Coe et al., 1970), the operator's prestige (Coe et al., 1970; Small & Kramer, 1969), and the forceful, confident manner in which suggestion is given (Barber & Calverly, 1964). This body of evidence would suggest that the good hypnotic subject tends to be characterized by acquiescent and affiliative needs, is capable of forming a trusting relationship and responds best to an operator perceived as warm, capable, and experienced.

More direct evidence of transference, however, comes from a group of studies examining subjects' attributions of personality qualities to the hypnotist, subjects' exquisite sensitivity to the wishes of the hypnotist, and subjects' fantasy productions about the hypnotic experience. Regarding attributions to the hypnotist, in an early clinical study of hypnotherapy, Schneck (1955) pointed out that patients, in part, create their own hypnotherapist and utilize the fantasied therapist as a projection of their unconscious. Later experimental studies have substantiated this observation.

Land and Greenberg (1971), for example, varied the attitude of an experimenter present in the room with the subject along warmth and

prestige dimensions in a 3X2 factorial design. The actual hypnotic induction was presented by a different hypnotist on videotape. Regardless of how subjects perceived the experimenter, there were no differences in subjects' perception of the tape-recorded hypnotist: he was always viewed as highly competent, warm, and experienced. Crosswell and Smith (1974) asked subjects to evaluate the personal qualities of a videotaped "hypnotist storyteller" in three different conditions. The first group received a standardized hypnotic induction. The second group was asked to simulate hypnosis and listened to a tape-recorded story, while the third group simply listened to the story. The hypnotic induction group differed significantly from both simulating and control groups on 7 of the 10 items of the evaluation scale. Results of the study suggested that the hypnotist was viewed by the hypnotic subject as a wise, powerful, knowledgeable, and parent-like figure, in marked contrast to the other groups. These studies suggest that subjects actively strive to create the conditions under which they can safely regress, which include the presence of a fantasied warm and competent caretaker.

Sheehan (1980) has used the term countering to express the tendency of some highly susceptible subjects to follow the intent of the hypnotist when other social influences would dictate competing responses. This subset of subjects score high on dependency, are extremely sensitive to the implicit wishes of the hypnotist, and are motivated to acquiesce to those wishes in a way which differentiates them from subjects simulating hypnosis, low susceptibles, and un hypnotized controls (Dolby & Sheehan, 1977; Sheehan, 1971). The

phenomenon has been replicated across varying conditions including perceptual illusions (Sheehan & Dolby, 1975) and post-hypnotic suggestion (Duncan & Perry, 1977; Sheehan, 1971). In addition, the performance of these subjects deteriorated when the hypnotist acted to reduce rapport (Sheehan, 1980). The data are in accordance with transference theorizing, in that the hypnotist appears to be given a special degree of importance by a subset of highly dependent hypnotic subjects who show markedly enhanced suggestibility.

A third index of transference-like involvement stems from subjects' fantasy productions during or after hypnosis. Sheehan and Dolby (1979) asked three groups of subjects given differing instructions to produce a dream under hypnosis. Results indicated that hypnotic subjects perceived the operator in a more authoritative manner than waking or imagination-instructed subjects. Rapport among hypnotic subjects expressed protection-care or guidance dimensions. This pattern was especially evidenced by the most highly motivated subjects in the hypnotic group, as previously indexed by countering behaviors. The authors commented that the results did suggest a transference-like involvement of some hypnotic subjects with the operator but could not be construed as a regressive display of wish-fulfillment, as implied by psychoanalytic constructs. The authors, however, did not further define what they meant by the term "regressive wish-fulfillment." Results would seem to conform to the definition of regressive transference as formulated by Reyher (1977, 1980).



In contrast, Davé (1979) invited students at impasse with a self-defined problem to participate in a study of hypnotic dreams and creativity. In re-analyzing the dreams, Reyher (1980) found the material to be characterized by more references to powerful or fantastic adult figures, babies, and phallic symbols than a control group of dreams, while aggression was underrepresented (p. 88). This study suggests a motivated involvement with the hypnotist in which the self is experienced as child-like and in the care of a powerful parent. Similarly, Newman, Katz, and Rubenstein (1960), in an early clinical study of implanted conflict and the hypnotic dream, commented that subjects in their experiment appeared to be unconsciously motivated by a need for help. In later sessions, when the same subjects were allowed to dream freely, the researchers found the dreams expressed intense ambivalence about the hypnotist and the experimental situation. The authors attributed this ambivalence to the frustration of their subjects' unconscious hopes for parental care. Later, in a quasi-experimental study reported by Shevrin (1979), 13 women, following hypnotic experience, were asked to tell a story to Card 12M (the "hypnosis card") on the TAT. Of the 13 subjects in the experiment, only 1 described a clearly positive interaction between the figures on the card, while the remaining 12 told stories emphasizing hostile interactions. The one subject who told a positive story was the only one who had a continuing relationship with the hypnotist. In contrast, a non-hypnotic control group of 133 female subjects produced 5 positive, 7 neutral, and 1 negative story to the same card on the TAT. The author suggests that



hypnotic subjects are motivated by longings to be nurtured and to have their troubles resolved. When the experiment was over and the fantasied expectations were not forthcoming, frustration and anger were experienced, reflected by negative stories on the TAT. Studies of fantasy involvement, then, do indicate that some hypnotic subjects become intensely involved with the hypnotist, who may arouse both powerful strivings and frustration among subjects. The extent of regression taking place in the relationship, as reflected by fantasy indices, may depend on the motivational intensity of the subject as well as the nature of the setting in which hypnosis takes place.

Clinical and Experimental Hypnosis

Results from experimental studies in hypnosis may not always bear directly on the construct of regressive transference, due to the motivation of subjects participating in an experiment and the nature of the setting (Reyher, 1977). First, regressive transference is a motivational construct in which an individual wishing to experience a dependent state encounters a facilitator who meets the conditions necessary for that individual to relinquish autonomous self-control. College students who volunteer to participate in hypnosis research may be motivated by a number of factors, including curiosity or the desire to pass a class, which have little to do with specific dependency strivings activated by a particular situation. Second, there is considerable evidence that hypnosis is a multi-faceted event in which cognitive as well as motivational variables play a role. Cognitive variables have been alternately construed as receptive attention (Bowers, 1977; Reyher, 1977), capacity for absorption (Monteiro,



MacDonald, & Hilgard, 1980), imaginative involvement (Spanos & McPeake, 1975), tolerance for unusual experience (As, O'Hara, & Munger, 1962), and the like. It is possible that, in the experimental situation, cognitive factors may become more important in determining hypnotic response, while motivational strivings are less intense. Third, it is difficult to determine the nature and intensity of the strivings brought to the hypnosis experiment by the subject because, with a few exceptions (Gur, 1974; Hayes, 1981; Sanders & Reyher, 1969), motivational factors have not been systematically manipulated in the experimental setting. Fourth, the laboratory setting is not one which invites subjects to regress. The subject knows the relationship with the examiner is temporary and that the experiment is not directly designed to benefit him or her. These considerations bear on the issue of the differences between clinical and experimental hypnosis.

Clinical and experimental hypnosis have often been conceived as qualitatively different procedures. In 1967, the American Journal of Clinical Hypnosis devoted a special issue to the discussion of these differences. In that issue, Erickson (1967) noted that some subjects respond differentially to the two situations, becoming hypnotized either under experimental conditions or clinical conditions but not both. August (1967) described several dimensions which distinguish clinical and experimental hypnosis. These include differences related to the credentials and training of the operator; the goals sought by therapist and researcher; the setting in which hypnosis takes place; the selection of patients or subjects; and the difference between

patients and subjects in motivation, emotional involvement, and potential gains. Similarly, Bowers (1976, pp. 22-23) pointed out that, although hypnosis has been of immense value for pain control in clinical situations, including obstetrics, dentistry, and terminal illness, compelling experimental evidence of the analgesic effect of hypnosis has been hard to obtain. As reasons for this discrepancy, Bowers mentions the important fact that, in the laboratory, pain is induced by the experimenter in a pain-free subject, while in the clinic suffering individuals seek a helper who can bring relief. These contextual differences imply important motivational differences between subjects and operators and patients and practitioners, suggesting that clinical and experimental hypnosis may, in fact, constitute relatively separate events.

Experimental support for this point of view comes from research contrasting the effect of videotaped versus live induction procedures in hypnosis. In the laboratory, conflicting results regarding the importance of having the operator present appear to be the rule rather than the exception (Cabibi, Hughes, & Butler, 1965; Hoskovec, Svorad, & Lanc, 1963; Reyher & Pottinger, 1976; Throne & Beier, 1968). However, there do appear to be marked differences in results when experimental and clinical conditions are compared. Perry and Sheehan (1978), for example, found that, in the laboratory, high susceptible subjects performed identically across videotaped and live induction presentations, whereas medium to low susceptible subjects were influenced adversely in performance by the videotaped induction. In a study of hypnotic responsiveness in hospitalized pain patients,



however, Johnson and Wiese (1979) found that medium and high susceptible subjects were most responsive when the operator was present than when given a videotaped induction, whereas low-susceptible subjects showed no differences across conditions. The highly susceptible subject, then, may respond in opposite ways to identical conditions of induction depending on whether or not that subject is vulnerable and in pain.

Regressive Transference and the Placebo Effect

A body of research relevant to regressive transference which has largely taken place in a clinical setting with highly motivated subjects is that concerning the placebo effect. The placebo was defined by Shapiro and Morris (1978) as "any therapy or component of therapy that is deliberately used for its nonspecific, psychological, or psychophysiological effect, or that is used for its presumed specific effect, but is without specific activity for the condition being treated" (p. 371). With the advent of antibiotic drugs during the late 1940's, physicians in internal medicine began to test the efficacy of these drugs, using an inert placebo or "sugar pill" as a control. Following the introduction of tranquilizers in 1953, psychiatrists followed suit. To the amazement and chagrin of researchers, placebos proved to be as effective as drugs in many trials (Shapiro, 1960). Whereas the placebo reaction was initially seen as a nuisance factor obscuring test results (Adler & Hammett, 1973), physicians soon learned that the placebo effect was a potent therapeutic factor in its own right. As reviewed by Shapiro and Morris (1978), placebo reactions were demonstrated in dentistry,



podiatry, optometry, and every aspect of modern medicine including biofeedback, cancer treatment, surgery, and electroconvulsive therapy. The inert lactose capsule proved capable of reversing the action or duplicating the effect of potent active drugs. Placebos could be addictive, could produce side effects, and had demonstrable direct effects on bodily organs and organic illness (Shapiro & Morris, 1978, p. 372). Interest then shifted to an attempt to determine the psychosocial factors involved in this powerful effect. In the process of defining these factors, psychologists (Kazdin, 1979; Strupp & Bergin, 1969) recognized the relevance of the paradigm to psychotherapy research, redefining the placebo effect as a "nonspecific factor" common to all therapies. Currently, researchers have argued for the elimination of the negative connotations associated with the concept of the placebo and have called for research illuminating its mechanism of action (Berg, 1983; Bootzin & Lick, 1979; Critelli & Neumann, 1984; Ross & Buckalew, 1979; Wilkins, 1984).

The antecedents of regressive transference, or hypersuggestibility level II, as postulated by Reyher, are very similar to the psychosocial factors associated with the placebo effect, suggesting that a regressive transference may be the mechanism underlying both the placebo effect and the dramatic effects of clinical hypnosis. Evidence for this point of view depends on a number of factors.

There do not appear to be enduring personality tendencies which characterize the placebo reactor (Buckalew, Ross, & Starr, 1981; Honigfeld, 1964a). Reactions to placebos vary among individuals



across time and differing conditions. Frank (1974), for example, administered a placebo pill to the same group of individuals at initial intake and three years later. Although the same percentage of individuals responded on each occasion, they were not the same individuals. Liberman (1964) found inconsistent placebo reactions among the same group of subjects across three different situations of pain. Similarly, questionnaires designed to measure personality traits in relation to placebo response have found conflicting results, although acquiescence and suggestibility could be considered weak correlates (Shapiro & Morris, 1978). In general, researchers have concluded that the most powerful factors influencing the phenomenon reside in the setting and in the doctor-patient relationship.

However, there are two subject variables, conceptualized as states rather than traits, that have been consistently associated with a positive placebo response in both medical and psychotherapy research. The first of these is a state of anxiety, depression, and/or heightened emotionality (Rickels & Downing, 1967; Shapiro, Mike, Barton, & Shapiro, 1973; Shapiro & Morris, 1978; Shipman, Greene, & Laskin, 1974). For example, Beecher (1968), in a study of post-operative pain, demonstrated that the analgesic effect of a placebo is greatest when pain and anxiety are most intense. Uhlenhuth and Park (1964) in a study of anti-depressant drugs found that the patients' initial distress was the most consistent single factor predicting their improvement. Frank (1974) indicated that, following an intake interview for psychotherapy, drop in discomfort among patients was greater the higher the initial anxiety score. Zisook,

Rogers, McClelland, Faschingbauer, and Lloyd (1978), in a study of tranquilizing drugs, found that state anxiety was more responsive to placebo treatment than was trait anxiety as measured by the Hamilton Anxiety Scale. These studies highlight the importance of motivational state in mediating the placebo effect. It is the client who is anxious, vulnerable, and at impasse who is most likely to benefit from the relationship with a caretaker who offers hope and concern.

The second subject variable consistently associated with a positive placebo reaction is that of favorable expectancy of results, which Frank (1973) has termed "hope." During the 1960's, investigators at the Johns Hopkins School of Medicine (Frank, 1974; Friedman, 1963; Nash, Frank, Imber, & Stone, 1964; Uhlenhuth & Duncan, 1968) and at the University of Pittsburgh School of Medicine (Goldstein, 1960; Goldstein & Shipman, 1961) consistently demonstrated that favorable patient expectancies were correlated with the reduction of symptomatology following placebo administration. More recent studies which have controlled for expectancies in the laboratory by manipulating the subjects' set have similarly found that positive attitudes toward treatment in general enhance reports of symptom relief (Kazdin & Wilcoxon, 1976; Miller, 1972; Rosen, 1974).

The antecedents of favorable expectancies toward treatment, however, are unclear. In contrast, the positive expectation of help among patients who are anxious and vulnerable could be seen as a "transference readiness" (Shapiro, 1971, p. 444) for relationship to the caretaker, based on satisfactory early experiences with parents or parental surrogates. Support for this interpretation is provided by



Frank (1974) who commented that, in general, placebo responders allow themselves to depend on others for help and readily accept authority figures in their socially defined roles. Similarly, in an early study of hospitalized surgery patients, Lasagna, Mosteller, VonFelsinger, and Beecher (1954) found that placebo reactors were more anxious, dependent, and extroverted than non-responders. In comparison, non-reactors appeared withdrawn, rigid, reliant on intellectual defenses, and they were less comforted in general by the care received. A transference interpretation is also suggested by those patients characterized as "negative placebo reactors." These individuals experience unpleasant side effects or worsening of symptoms following placebo administration. A position of vulnerability may be very threatening to some patients, arousing resentment and memories of helplessness in the face of indifferent or punitive parental figures. Rickels, Boren, and Stuart (1964) found that placebo side-effects are more frequently reported by patients in the relatively impersonal atmosphere of a clinic as compared to private practice patients. Downing and Rickels (1967) reported that high scores on a scale measuring indirect hostility correlated positively with placebo side-effects. Although it is clear, then, that the enduring traits of placebo reactors are highly varied, nevertheless the most important personality disposition relevant to the placebo effect may be the individual's ability to seek help from others when in a state of heightened vulnerability.

The critical importance of a state of impasse and expectation of help is also illustrated by the differences in results between placebo



studies done in experimental versus clinical settings. Beecher (1965) found that pathological pain displayed by hospital patients yields ten times more to placebo than does experimental pain produced in the laboratory. Additionally, morphine is more effective in relieving post-operative pathological pain than laboratory-induced pain. He concluded that both placebos and some drugs are more effective when individuals are stressed and that the placebo acted primarily to reduce anxiety, or the "reaction component" of pain. Evans (cited in Shapiro & Morris, 1978, p. 378), in a review of 14 experimental studies, calculated average placebo relief at 16% of the population, below the 35% figure reported by Beecher (1960) for clinical populations. These studies are complemented by research emphasizing the importance of the setting in facilitating placebo reactions (Rashkis & Smarr, 1957; Nash et al., 1964; Shapiro & Morris, 1978; Uhlenhuth et al., 1966) and suggest that a clinical environment may serve as an inherent "therapeutic stimulus," arousing expectancies of help. Differing results found between laboratory and clinical settings in placebo research parallel differences found in experimental and clinical hypnosis. It would appear that the doctor-patient and researcher-subject relationships differ in highly important ways, depending on the motivation and expectancies of the subject, the connotations of the setting, and the role assumed by the authority figure in charge.

Additionally, characteristics of the physician which enhance the placebo effect are consistent with those features necessary to potentiate a regressive transference. Shapiro (1971) has emphasized

the importance of the physician's attitude toward the patient in treatment, which he terms countertransference:

The patient's transference relationship with the doctor, and the doctor's countertransference relationship with the patient, are important elements in placebo reactions and their direction (positive, negative, or absent), and they influence the outcome of all treatment. Although the concept of transference is difficult to demonstrate experimentally, it is frequently referred to as being important in the placebo effect. It may be referred to as the doctor-patient relationship, rapport, warmth, trust, faith, empathy, and so on (p. 444).

Shapiro and Morris (1978) have found three aspects of the doctor-patient relationship to be especially important in the placebo effect. These include (a) the doctor's interest in and liking for the patient, (b) the doctor's investment in or enthusiasm for the treatment, and (c) the prestige which is associated with both the doctor and the treatment. As non-specific effects in all treatments, these variables have had a demonstrated impact in both chemotherapy and psychotherapy research.

Regarding physician warmth and interest in the patient, Atoynatan, Goldstone, Goldsmith, and Cohen (1954), for example, compared the effectiveness of inhalation therapy for reducing anxiety under two conditions of therapist orientation. In the permissive condition, patients were allowed to talk freely about themselves to the doctor for as long as 15 minutes before and after the inhalation treatment. In the nonpermissive condition, the physician pointed out

in a sympathetic way that time did not permit listening to each patient, and interaction was kept to a minimum. Symptom reduction as measured by independent ratings was significantly greater under permissive conditions. Similarly, Kast and Loesch (1959, 1961) demonstrated that the effects of chemotherapy were greatly enhanced under favorable doctor-patient relationship conditions, and Rickels et al. (1971) showed that patient reduction of anxiety following drug treatment was significantly greater for patients who rated their physicians as "warm" during the first visit than for patients who gave a "non-warm" rating. In the field of psychotherapy, the therapists' interest in the patient has been associated with the likelihood of acceptance of treatment, fewer drop-outs, and successful outcome of treatment (Shapiro & Morris, 1978). Frank (1974), in a study examining the effect of three therapists on patient improvement in short-term therapy, notes that the most successful therapist was the most experienced, the most optimistic, and the most empathic. The many studies of Truax and his associates (Truax & Carkhuff, 1967) which demonstrate that therapists who offer accurate empathy, non-possessive warmth, and genuine response to patients obtain the best results with a variety of patients also offer convincing evidence.

Secondly, the importance of the physician or therapists' positive investment in the treatment provided has been repeatedly demonstrated. In chemotherapy studies, the attitude of the doctor toward the particular drug or placebo prescribed is correlated with its effects on patients (Feldman, 1956; Honigfeld, 1964b; Sheard, 1963; Uhlenhuth, Canter, Neustadt, & Payson, 1959; Uhlenhuth et al., 1966). For

example, Wheatly (1968) found that, among a group of 200 practitioners prescribing the same drugs, the best results were obtained with optimistic doctors, less good results with indifferent doctors, and the worst results with pessimistic doctors. In psychotherapy studies, therapists' interest in their profession and in the particular treatment offered are related to symptom reduction among patients (Goldstein & Shipman, 1961; Luborsky, Chandler, Auerbach, & Cohen, 1971; McNair & Lorr, 1964). Frank (1974) has suggested that the duration of treatment in psychotherapy depends on the particular treatment rationale endorsed by the therapist. Those therapists who believe they can produce results in a few sessions tend to get these results, while practitioners of long-term therapy may find that patients take years to respond.

Shapiro and Morris (1978) have termed the physician's investment in the treatment "indirect iatroplacebogenics" (p. 385). They suggest that the physician's enthusiastic commitment to the treatment offered may facilitate placebo effects because the patient experiences the physician's interest as a personal one. A recent study of Gryll and Katahn (1978) regarding the placebo effect in dentistry, however, would suggest other interpretations. The authors manipulated four independent variables in a complex factorial design. The independent variables included the status of the communicator of drug effects, the amount of dentist-patient verbal interaction, and the nature of the information given about the pain-reducing drug (a placebo). The placebo was presented either in a positive manner designed to communicate certainty as to its effects, in a neutral and non-



committal manner, or as a saliva pill irrelevant to patients' concerns. The dependent variables were patients' ratings of pain from injection, pre-post placebo state anxiety, and pre-post placebo fear of injection. Each of the variables investigated affected patients' responses to placebo administration. However, the most salient of the four variables was the type of information provided about the placebo. Patients given an enthusiastic, positive message about the drug's supposed effectiveness reported the least pain during injection and the greatest reduction in state anxiety and fear of future injections. The authors concluded that, although attitudes on the physician's part which demonstrate interest in the client can facilitate placebo effects, the nature of the message given is a potent independent variable in its own right. Physician investment in the treatment provided, therefore, may have an impact on the patient (1) by increasing the patient's confidence in both the doctor and the method, allowing the patient to regress safely, and (2) by providing a strong suggestion that the treatment is effective.

Indirect support for the former interpretation is provided by Kazdin (1979) who cites several studies demonstrating that the credibility of rationale given in psychotherapy analogue studies enhances subjects' expectancies for successful outcome. The credibility of rationale may allow subjects to rely on the experimenter for guidance without anxiety. Regarding the latter interpretation, there is substantial research support for the importance of suggestion, or the specific message given to the patient, in producing placebo effects. For example, the power of



suggestion given in the medical setting can be illustrated by studies which have attempted to differentiate the effect of the placebo itself, placebo instructions, and an actual drug on patients' response. A number of experiments have demonstrated that "placebo instructions," or the physician's remarks to the patient when administering a drug or placebo, can counteract or enhance the effects of actual drugs given (Byerly, 1976; Lysterly, Ross, Krugman, & Clyde, 1964; Wolf, 1959). For example, Luparello, Leist, Lourie, and Sweet (1970) presented two drugs, a bronchoconstrictor and a bronchodilator, to asthmatic subjects under varying conditions of instruction. When the subject received instructions which were in accordance with the actual drug action, the drug effects were significantly greater than when the subject was given discordant instructions. In a related study, Luparello, Lyons, Bleecker, and McFadden (1968), using suggestion alone, were able to precipitate and reverse bronchospasms in a group of asthmatics by means of the same saline solution, presented either as an irritant or a bronchodilator. Dinnerstein and Halm (1970) administered aspirin to patients under varying conditions. Although aspirin by itself had no significant effect on mood, it did appear to enhance moods when accompanied by placebo instructions. When subjects were led to believe that the aspirin was a tranquilizer, it produced a mood described as "friendly intoxication" by the authors. When energizing instructions were given with the aspirin, subjects demonstrated "asocial sobriety."

In the field of psychotherapy, Frank (1974) found that patients aroused by adrenalin were more suggestible than normal controls,



giving some confirmation for the link between heightened emotionality and susceptibility to persuasive communications. Buckalew (1972) assessed the impact of three independent variables on reaction times in an experimental setting. the three variables were a lactose capsule (placebo), the capsule plus suggestions that it would increase reaction time, and reinforcement to the effect that reaction time had increased. As might be expected, the administration of the lactose capsule, leaving subjects free to form their own ideas as to its nature and influence, had no effect on reaction times. Suggestion emerged as a main effect in the results, however, with the interaction between suggestion and reinforcement also attaining statistical significance. The practitioner's investment in his or her treatment, then, can be seen as an aspect of the message given to the patient regarding the effectiveness of the treatment sought. The message may impact the client by enhancing trust in the doctor and by giving a strong suggestion that outcome will be successful.

The third factor, influencing phenomena as diverse as laboratory research, the placebo effect in medicine, and psychotherapy outcome, is the prestige of therapist or researcher. Rosenthal (1964, 1969) has shown that the prestige of the investigator is an important determinant in biasing research results in the direction of the researcher's original hypothesis. Liberman (1961) and Shapiro (1959, 1964) have illustrated the importance of physician prestige in bringing about dramatic cures. Gryll and Katahn (1978), in the study cited above, found that the status of the communicator was a significant factor in three major interactions, although it did not

attain significance as a main effect. Regarding psychotherapy, Shapiro and Morris (1978) cite eight studies demonstrating the impact of the prestige of the therapist on therapy outcome. Simon (1973), in a determination of patients' preferences, found that, in general, psychologists and psychiatrists were preferred to "emotional counselors" or social workers, male therapists were preferred to female therapists, and middle-aged therapists were chosen over aging or youthful therapists, all traditional indices of status. Bloom (1977) found that female therapists in a traditional professional office and male therapists in a warm "humanistic" office were perceived as more credible than the opposite arrangements, an interesting interaction of sex with warmth and prestige dimensions. The individual most likely to facilitate the placebo effect, then, is the warm, interested personality, vested with social authority, who is sure that his or her treatment will work.

Although evidence from placebo research is consistent with a transference interpretation, few studies of the placebo effect have focused directly on the concept of transference. Two studies, however, provide more direct information. Park and Covi (1965), in a "nonblind" placebo trial, were able to investigate patients' attributions to their doctors in conjunction with treatment outcome. Doctors participating in the study told patients seeking drug treatment for anxiety symptoms that they were being given a sugar pill with no active ingredient. This message was accompanied by the kindly statement, "I think this pill will help you, as it has helped so many others" (p. 337). Following one week, 13 of 14 patients showed marked



improvement, with an overall 41% decrease in symptoms of anxiety. Six patients believed the pills were a placebo. From this group, the five patients who expressed certainty in their belief reported significantly more relief of distress than those who harbored some doubt. Those who were certain either way felt strongly that the doctor had selected the treatment to help them. Rationales provided by patients were ingenious and at times approached magical beliefs in the doctor's omniscience and beneficence. One female patient who felt certain the pill was inactive feared becoming addicted to drugs and thought the doctor had given her an inactive pill to protect her. Another female patient similarly construed the prescription of a placebo as the doctor's effort to prevent her from making a suicide attempt. A male patient, convinced he was given an active drug, thought the doctor told him he was receiving a placebo so that he would think he was helping himself. A subgroup of patients who fantasied the doctor as a beneficent protector standing in special relation to their particular needs, then, showed the most symptom relief. Results show the extent to which patients actively strive to create the conditions necessary for their recovery, similar to earlier cited studies in hypnosis, and are strongly supportive of a regressive transference interpretation.

LeBaron, Reyher, and Stack (1985) operationally defined transference by means of a Regressive Transference Scale designed to assess both the quality and intensity of positive and negative feelings toward the doctor and nurses responsible for the care of 57 females undergoing abortion. Patients were divided into paternalistic



and egalitarian treatment groups based on the doctor's interpersonal style, and patient suggestibility was measured pre- and post-surgery. Results indicated that both suggestibility and transference scores were higher in the paternalistic than in the egalitarian treatment condition. Additionally, fewer objective signs of surgical shock were found in the paternalistic as opposed to the egalitarian condition. Results support the notion that a regressive transference heightens suggestibility and ameliorates physical symptoms following surgery.

Summary

In summary, although the psychoanalytic literature is rich in clinical observation, criteria for experimental verification of its constructs have often been lacking. In particular, the construct of regressive transference, stemming from early studies of hypnosis, appears to be relevant both to hypnotic phenomena and to the recently defined placebo effect in medicine and psychotherapy.

Reyher (1964, 1977, 1980) has formulated a two-step theory of hypnosis which allows for an operational definition of regressive transference. According to Reyher, an individual experiencing an impasse in life which arouses feelings of helplessness and anxiety seeks out a caretaker to relieve his or her distress. The caretaker must be perceived as trustworthy and as capable of relieving that distress. Given the intensity of the individual's dependency strivings and the receptive attitude adopted in the presence of a suitable facilitator, a special relationship is formed. The individual experiences the self as childlike and trusting in relation to an omnipotent, parental other. Suggestibility is enhanced, and

anxiety is reduced. The formation of the relationship may constitute in itself an "altered state" in which rapid and dramatic physical and emotional change can occur.

The advantage of Reyher's formulation is that, in specifying antecedent conditions necessary for a regressive transference to occur, the construct is available for experimental manipulation, and the nature of the evidence relevant to the construct becomes more clear. Subjects experiencing a regressive transference should be characterized by intense dependency strivings, conceptualized either as an enduring disposition or as the consequence of a stressful situation beyond the individual's resolution. The designated facilitator of such a transference, whether doctor, psychotherapist, or researcher, must be perceived as possessing sufficient protective competence to allow the individual to depend. In the process of establishing such a relationship, the individual is likely to overestimate the positive attributes of the facilitator and to show exquisite sensitivity to his or her wishes (enhanced suggestibility). Similarly, fantasies produced by the subject should indicate reciprocal child-parent roles or other derivatives of a sheltering relationship.

Experimental evidence from research in both hypnosis and the placebo effect is not inconsistent with the concept of regressive transference. Studies in experimental hypnosis indicate that the good hypnotic subject is characterized by acquiescent and affiliative tendencies, rather than the opposite, and responds best in a trusting relationship with an operator perceived as warm, capable, and



influential. In an analogous fashion, the placebo effect is most likely to occur among patients who are anxious, vulnerable, and capable of accepting help from others, in the presence of a warm, interested, confident, and prestigious practitioner.

The results of a subset of studies from both fields are suggestive that a regressive transference may be the mechanism underlying both the placebo response and intense hypnotic experience. In the process of forming the requisite relationship, some individuals attribute parental qualities to the practitioner, show exquisite sensitivity to the wishes of the practitioner (enhanced suggestibility), and produce fantasy material indicative of the desire for sheltering care. Evidence in general, however, tends to be indirect, and few studies have focused directly on the construct of transference. Given the promise of the construct, research designed to operationalize regressive transference and specify criteria of proof is recommended.

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