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THE EFFECTS OF DEMAND CHARACTERISTICS REFERRING TO THE SELF IN COVERT TREATMENTS

by Peter Horvath

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ABSTRACT

This study was designed to identify the specific components of common mechanisms in therapies which are thought to produce a major portion of some treatment effects. The identified components were operationally defined as demand characteristics in treatments which refer to changes in aspects of the self-concept. The effects of such variables were tested by comparing the outcome of three treatment groups, namely, covert skills training, imaginative exposure to stressful stimuli, and an attention-placebo control, with a group requested to imagine roles based on trait and personality constructs. These treatments represented the effects of specific and common mechanisms in therapies. High and low abilities for imaginative involvement, as measured by the Absorption Scale, was the second factor of the experimental design, and tested for the effects of covert role-playing in the treatments. Unassertive subjects were selected for the study on the basis of screening instruments administered to summer session university students. The selected participants in the study, 57 females and 30 males, were students in a variety of subjects. They were asked to participate in an "experiment on imagination" and were given a nontherapy rationale to reduce unwanted expectancy effects. Each treatment group received four tape recorded sessions of role-playing in the imagination. Pretests and posttests measured changes in assertiveness, anxiety, self-consciousness, and self-concepts. Scales measuring various components and dimensions of imagery, as well as expectancy effects, assessed the equivalence of the four treatment groups on extraneous variables. Analyses of variance of the change scores of the dependent measures,

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and analyses of covariance, showed significant treatment effects. The self constructs group, presented with the personality attributes, changed significantly more than the other groups, on measures of assertiveness, anxiety, self-concepts, and self-consciousness. The involvement factor appeared to have negligible effects. These findings were interpreted as suggesting that common mechanisms were important to therapeutic outcome and could be identified as demand characteristics in treatments which refer to changes in personal and self constructs. The limitations of the study and suggestions for further research were also discussed.

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CURRICULUM STUDIORUM

Peter Horvath was born in Budapest, Hungary on July 13, 1947. He received his Bachelor of Arts degree from McGill University, Montreal, in 1968 and the Master of Arts degree from the University of Western Ontario, London, Ontario in 1970.

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INTRODUCTION

The main purpose of this study was to identify those specific variables which account for a large part of the common treatment effects in psychotherapies. The proposition was tested that these antecedent variables are demand characteristics in the treatments which refer to changes in the clients' self-concepts.

It has often been assumed by various authors that behavioral therapies as well as other treatments operate on the basis of mechanisms which are specific to a particular treatment. Change comes about only because of some components which are unique to the treatment. On the other hand, some theoretical considerations, as well as recent experimental findings, have suggested that this may not be the case. Some authors have suggested that mechanisms which are common to many forms of psychological treatments may account for a large portion of the treatment effects in most therapies.

If common mechanisms are important for treatment effectiveness, then they need to be clearly formulated in terms of operational definitions, so that they can be tested experimentally. The present study is an effort in this direction.

In the theoretical background presented in this study, various findings and theories suggest that such common mechanisms may relate to the self-concept, which has often been a central focus in therapies and personality theories, and may also be a significant ingredient of the placebo effect. Common mechanisms as well as the placebo effect can be operationally defined in terms of demand characteristics. Consequently, the common mechanisms presently investigated are operationalized as

demand characteristics in the treatments. The study proposes that these demand variables refer to and prompt changes in self-concepts.

An experimental design with four treatment groups is chosen to investigate the significance of such common mechanisms in the treatment of unassertiveness.

Covert skills rehearsal in one group represents the effects of the specific mechanisms of behavior therapies. A second group operationalizes the common mechanisms in terms of demand characteristics in treatment instructions which suggest to the subjects changes in their self-concepts. Instructions request the subjects to assume personalities which are described in terms of trait and personality constructs. Such traits constructs are thought to activate self-concepts, since one's implicit personality theories are formulated in terms of personality attributes. Two other treatment groups are used for the purpose of experimental control. To increase control for effects of unwanted variables such as "treatment" expectancy, all treatments are represented as an "experiment on imagination". Pre and post testings measure changes in assertiveness, social anxiety, self-consciousness, and self-concepts.

The experimental design contains a second factor of involvement in imaginative activities. The involvement factor is included to test whether the obtained changes may be due to covert role-play. Involvement is therefore included in an attempt to specify internal mechanisms beyond the effects of demand characteristics in the instructions.

The first chapter of the study presents the theoretical background for the experiment and the hypotheses tested.

The second chapter describes the experimental design, including the sample, the procedure, the experimental groups, and the criterion

measures.

Chapter three presents the treatment results, while the fourth chapter discusses the findings and their implications.

CHAPTER I

THEORETICAL BACKGROUND

This chapter presents a discussion of three main theoretical areas which led to the hypotheses being tested in this study.

The first section deals with the theory and research supporting the participation of common mechanisms in therapies.

The second section examines the theory and research behind the explanation of the effects of behavior therapies in terms of specific mechanisms.

Section three discusses the relevance of role-theory to therapeutic change and its testing through the factor of involvement.

The final section presents a summary of the theoretical discussion and the hypotheses of the study.

1. Common Mechanisms in Therapies.

A. Presentation of the Problem

In studies of psychological treatments, interest is often focused on the processes and mechanisms by which they work. Some processes which operate in therapies are thought to be specific to the treatments in question. The effects of behavior therapies have usually been conceptualized in terms of such specific mechanisms. On the other hand, a host of variables have also been postulated, which are thought to participate in the effectiveness of many different treatments. These variables have come under various labels such as placebos, expectancy

effects, nonspecific variables, suggestion, hope, and faith. They are thought to be common to many treatments and to contribute to their effectiveness.

Two important questions have been asked concerning common variables which are found in many varieties of psychotherapies. One is the question of the extent to which they actually contribute to the treatment outcome. The second question concerns the exact nature of the components which make up such common treatment mechanisms.

As to the first issue, it has become increasingly clear that placebo and expectancy variables contribute greatly to the treatment of personal problems, both physical and psychological. Recent research has also indicated that suggestion and placebo treatments may be as effective as some forms of behavior therapies, which in the past were usually thought to operate on the basis of specific variables. Consequently, some reviewers have suggested that the beneficial effects of some behavior therapies may be the result of placebo and cognitive variables.

Answers to the second question have been more difficult to obtain. If common variables such as placebo and expectancy effects are important to treatment outcome, then what precisely are they composed of? The obstacles to solving such questions have existed on the theoretical level, as well as on the level of research design. On the level of theory, a major problem has been the lack of precise operational definitions. The conceptualization of common variables in therapies has often been in terms of rather vague and global constructs such as suggestion, placebo effect, nonspecific variables, and expectancy. Precise theoretical formulations of such constructs in terms of specific

active components or antecedent variables-are usually absent or incomplete in relevant studies.

The second problem of research design has followed from the inadequacy of the theoretical formulations of the common variables. In the absence of operational definitions, it has been difficult to design studies which could isolate the specific elements involved in terms of antecedent variables and link them to treatment effects. Therefore, the problems in this area of psychotherapy research are not small.

This study is an attempt toward the resolution of some of these problems. Fortunately, the recent reformulation of placebo variables in terms of demand characteristics has made them amenable to operational definitions and to systematic investigations in experiments such as this one.

B. Suggestion and Persuasion in Psychotherapy

Any study of the common mechanisms in therapies must take account of the processes of persuasion, of which they are a part. Psychotherapies have been conceptualized by some authors as procedures in suggestion and persuasion. The therapist persuades his client in various ways to believe in the power of the treatment he is to receive, to expect a reduction in his difficulties, and to behave and to think in ways which the therapist has suggested. Such persuasive communications are thought to result in beneficial outcomes. However, persuasive messages and suggestions are not confined to psychotherapies, but are found in many endeavors in which people are trying to influence each other.

The nature of suggestions are especially illustrative in the

area of hypnosis. The trained hypnotist knows how to give elaborate instructions to his subjects which vividly describe to them what they are supposed to feel, think, and do (Barber, Spanos, and Chaves, 1974). The wording of the instructions and the images which they evoke in the subject help him to respond to the suggestions and to act "hypnotized", often under the impression that they are responding involuntarily. Effective suggestions and instructions provide the subject with a guide or a strategy of thinking and imagining events such that if those events would really occur they would produce the suggested behavior (Spanos and Barber, 1974). For example, imagining that one is in a hot desert and that the water is pleasant and refreshing helps to increase one's tolerance for painfully cold water (Spanos, Horton, and Chaves, 1975). As both theory and a series of studies have indicated, "thinking and imagining with the themes that are suggested tend to produce both the overt behaviors and subjective experiences that are suggested" (Barber, Spanos, and Chaves, 1974, p. 61).

Responses to suggestions may simply be brief acts of compliance and conformity in a temporary situation without enduring personality change, as is often the case in demonstrations of hypnosis. However, suggestions and instructions may lead to more fundamental changes in behaviors, attitudes, and personality. In such cases the subject may be responding to the processes of persuasion.

Persuasion is thought to depend on several factors, including the characteristics of the communicator, the message itself, and the nature of the audience (Hoveland, Janis, and Kelley, 1953). In studies on persuasion, the focus is often on the nature of the messages or

arguments, such as logical versus emotional, which the communicator uses to influence his audience and to bring about changes in their attitudes and behaviors (Jones and Gerard, 1967). In the laboratory and the clinic, a subject is often asked to assume the role of the communicator and to behave, imagine, think, verbalize, and advance arguments in ways which are different from his own. In other words he is acting from someone else's perspective or role-playing, a technique of persuasion which is often a significant part of behavior and cognitive therapies. Studies on the role-playing of arguments have shown that it is an effective technique which leads to changes in attitudes and habitual behaviors (Janis and King, 1954; King and Janis, 1956).

Whether the person is passively exposed to messages of a communicator, or actively role-playing behaviors or arguments in psychological treatments, communications often persuade subjects and clients to change their behaviors, concepts, and personalities. How easily even subtle messages can influence behaviors has been shown in studies of the effects of the experimenters' expectations on biasing the results of experiments through cues and manner of communications which are not in their awareness (Rosenthal, 1969; Duncan, Rosenberg, and Finkelstein, 1969). Moreover, as studies on "social facilitation" have shown, the mere presence of another person can influence our performance for the better or for the worse (Zajonc, 1965).

Frank (1974) has discussed psychotherapy as a process of persuasion. The therapist, because of his role and his techniques, influences and persuades the client towards making personal changes. Among the processes which can participate in influencing the client, he mentions

the labeling of emotions, role-playing, demand characteristics, the therapist's cues and expectations, the conditioning of the client's verbalizations, and finally the specific treatments themselves. Naturally, the placebo effect in psychotherapies is also one of the outcomes of such procedures in persuasion.

In sum, psychotherapeutic procedures of all kinds may produce beneficial changes in clients through processes of persuasion which may include cues or demand characteristics, suggestions, instructions, and exercises. Any of these inputs may be obvious or subtle, and in the client's and the therapist's awareness, or outside of it. Such persuasive messages may refer to specific objects and processes, including the attributes of the therapy, the therapist, and the client.

C. Common Factors in Therapies

If psychotherapy is often a process of persuasive communication, it is important to know what are the essential contents of such messages and cues. Some attempt has been made to provide the answers to this question through the theoretical analysis of the functions which are common to different treatments.

The proposal has been made that there are common factors in different types of therapies, in addition to specific mechanisms, which account for much of the produced changes as well as the similarities in outcomes (Frank, 1971, 1974; Garfield, 1973). The identification of such common variables is very important because they contribute greatly to treatment outcomes. In addition, such studies mark the beginning of a scientific understanding of the central mechanisms, which participate in

psychotherapies. They may also aid the construction of efficient and powerful treatments.

Frank (1971, 1974) has outlined some of the common ways in which therapies influence clients to produce change and therapeutic improvements. First, they enable the client to acquire new learning at the cognitive and experiential levels. Second, they engender feelings of hope and expectations of improvement. Third, they implicitly or explicitly change the person's self-image from one of helplessness to one in which he sees himself mastering and coping with his problems. Fourth, they help rid the client's sense of alienation from other human beings through opportunities for personal interactions. Finally, they arouse him emotionally, which is a prerequisite to most behavioral and attitude changes. Therefore, Frank suggests that persuasion in psychotherapies contains specific messages dealing with expectations of improvement and changes in the client's self-image, as well as other functions.

It is interesting to note that some of these functions are also the ones which are attributed to the placebo effect. The engendering of hope and expectations of help are regarded as major factors in placebos (Frank, 1974; Shapiro, 1971). In addition, the effect of increasing the client's image of "self-efficacy" has also been included as part of the placebo effect by Kirsch (1978). Thus specifying some of the common mechanisms of psychotherapies leads to considerations of the components of placebos.

Therefore, the study and investigation of placebos can hardly be thought of as a concern with artifacts and nonessentials of psychotherapy. It may be a focus on some common and perhaps even central

mechanisms in psychological treatments. In the next sections the nature of placebos in psychotherapies will be dealt with and their mechanisms will be linked to the actions of different forms of psychological treatments.

D. The Placebo Effect

If the placebo effect is important in psychotherapies, then it is essential to define it in operational terms and to understand its precise mechanisms and functions in different types of treatments.

The concept of "placebo effect" has continued to be useful because many variables, which are not specific to any particular treatment, influence therapeutic outcome. It has been difficult to relate all these variables and form one theory of the precise mechanisms of change in psychotherapies. To make sense of this confusing and paradoxical state of affairs, all such variables have been delegated to the "placebo effect". Consequently, the term "placebo" has become a grab bag for all those factors which produce beneficial change, but which have no theoretical connections to the specific treatment of concern. This approach is reflected in Shapiro's (1971) definition of the placebo:

> A "placebo" is defined as any therapy, or that component of any therapy, that is deliberately used for its nonspecific psychologic, or psychophysiologic effect,...but...is without specific activity for the condition being treated.
>
> The "placebo effect" is defined as the nonspecific, psychologic, or psychophysiologic effect produced by placebos. (p. 440).

Instead of a comprehensive theory of how placebos work, some authors have listed their general forms or effects. Shapiro (1971)

lists some of the general forms placebos take, which include the reduction of guilt through catharsis, displacement of conflicts through reassurance, and expectations of relief. For Frank (1974) placebos work through their symbolic healing powers, and by mobilizing the patient's expectancy of help. These tend to alter the patient's mood by reducing anxiety and depression and can thereby also produce symptomatic improvement and relief from pain. In fact it is generally agreed that placebos can be as powerful and effective as any type of psychological treatment (Davidson and Neale, 1974). Nevertheless, a theory is not available which outlines the precise mechanisms by which the placebo effect is created in different types of treatments.

Placebo effects are often referred to as "nonspecific" factors in the literature. However, such terms are not particularly helpful in identifying the manner in which specific antecedent variables are responsible for therapeutic changes in specific treatments. They do not help to clarify how a particular therapeutic procedure mobilizes the so called "placebo" mechanisms in contrast to another procedure. In fact it is very doubtful that placebos are "nonspecific" in any sense in which the term may be used. Kirsch (1978) has pointed out that placebos can no more be thought of as nonspecific in their modes of action than any other psychological treatment. Their actions depend on specific components like other types of treatments. Nor can they be thought of as nonspecific in their effects. Placebos are usually designed to be credible for a specific kind of problem being investigated or treated. The examination of their forms also suggest that the essence of placebos may be the conveying of specific information to the client concerning the

treatment he is receiving and the type of behavior or attitude that is expected at the outcome of the treatment.

E. Demand Characteristics and the Placebo Effect

If placebos transmit specific information by means of specific psychological mechanisms, one question remains. What is the most functional manner in which placebos can be conceptualized for the scientific investigation of such information transmission processes? In other words, the concept must be amenable to operational definition and systematic investigation.

It is for such a purpose that Wilkins (1973) objected to the practice in many studies of ascribing therapeutic improvement to global constructs such as the "expectancy of therapeutic gain". He thought that their use often involved circular reasoning. For example, in studies of the effect of expectancy manipulations, a subject can be said to have had high expectancy of improvement because he got better. At the same time it is also sometimes stated that he improved because of his high expectancy of improvement. This circular way of conceptualizing placebo mechanisms does not lead to the understanding of those antecedent variables in particular treatments which actually produce change. Wilkins (1973) recommended that instead, we search for more directly observable operations and elements in the treatment instructions, in attempting to account for therapeutic improvements.

Bernstein and Nietzel (1977) have also suggested that attention be focused on measurable antecedents of the so called placebo effect, rather than on reified constructs such as "expectancy". Their concept

of "demand characteristics" fits the need for an operationalized approach to placebo effects better than do "nonspecific" variables and "expectancy" constructs. In their analysis, placebos are all the cues and discriminative stimuli (demand characteristics) of a treatment which allow a patient to make the inference that if he receives a particular "treatment", he will then change in a particular way.

Orne (1962) was one of the first investigators who discussed demand characteristics as cues or discriminative stimuli which convey information to the subject about the role he is expected to assume in a particular social situation. Orne was studying the experimental situation in particular, but his concepts can be readily applied to therapeutic situations as well. He also pointed out that the subject was not a passive object but actively construed meaning to the explicit or implicit tasks and demands required of him. The cues communicated in the situation were used by the subject to help him to respond in the manner he thought was appropriate. Bernstein and Nietzel (1977) have listed the influence of demand characteristics on a host of phenomena, including attitude change, hypnosis, pain tolerance, operant behavior, and many others.

In our conceptualization, demand characteristics in therapies are all those cues, stimuli and suggestions, either in the situation or in any part of the instructions, which inform the client about the nature of the treatment he is receiving or about the direction he is expected to change. Traditionally, conceptualizations of placebo and expectancy effects, if translated in terms of demand characteristics, have often been limited to cues conveying information about the "power" of a

particular treatment or therapist to produce improvement. However, this is likely to be only a partial description of the placebo effect. Demand variables producing placebo effects probably have other specific referents as well.

It is not unusual to find experiments and treatment in which instructions and demand characteristics directed at the subject have specific cognitive and behavioral referents. These have included instructions and demands to have intrusive images (Horowitz and Becker, 1971) and visual hallucinations (Spanos, Ham, Barber, 1973), to engage in imaginings conducive to hypnotic behavior (Barber, Spanos, and Chaves, 1974), to approach feared objects (Bernstein, 1974), and to display assertive behavior (Nietzel and Bernstein, 1976). Whether the reference is explicit or implicit, demand characteristics in treatments and experiments may convey information about specific thoughts and behaviors expected of the subject or client. Responding to such cues can produce the placebo phenomena.

There is no reason to think that changes brought about by demand characteristics are any less "real" than those brought about by therapies. Demand characteristics need no longer be considered as "artifacts" only to be controlled or eliminated, but should be recognized as legitimate variables participating in therapies to produce change (Mahoney, 1977; Bernstein and Nietzel, 1977). Consequently, there may be little point in drawing distinctions between what are considered to be "active" treatment components on the one hand, and "placebos"

and "demand characteristics" on the other. Any input, cue, instruction, or variable may be a potential agent of change. The only distinction one can make is whether such an influence is recognized or unrecognized by the researcher or the therapist, or whether the participation of such demand stimuli are explicit or merely implicit in the treatment. It then becomes the task of research to recognize and to test the effects of such variables in the treatment, which this study attempts to do.

F. Demand Characteristics Referring to the Self

Several lines of reasoning and evidence will be used to support the following proposition. Demand characteristics referring to changes in the self, either in treatment instructions or implied in the therapy milieu, may be the common ingredients in effective therapies.

The "self" as the object of a person's knowledge or evaluation may be distinguished from the "self" which some authors conceptualize as an agent of behavior. It is the former of the two definitions of the self which appears to be particularly appropriate to a discussion of specific referents to the self in treatments. This is because the self as an "object" to be perceived may be represented and conveyed in treatment instructions or communicated in some other way, whereas, the self as "agent" is an actual process rather than something to be perceived, comprehended or communicated.

However, in a strict theoretical analysis of the self, it is not possible to separate the two conceptualizations. Theoretically it is most precise to view the self as a construct which refers to all bodily processes and behaviors which are experienced by the subject, as well as to his cognitive competencies and evaluations, conscious and unconscious (Wylie, 1968, 1974).

The self as the object of a person's perception and evaluation has been as important part of the personality theories of a number of authors. Hall and Lindzey (1970) observe, "In one form or the other,... the self occupies a prominent role in most current personality formulations" (p. 590). In several theories of the self, it is comprised of a number of parts including the way a person perceives, thinks, evaluates and protects himself. Among these theories belong Symonds' (1951) "self", Allport's (1961) "proprium", and Roger's (1959) "self-concept". The self is frequently assigned a central and organizing function for the rest of the personality. For Lecky (1945) and Rogers (1959), a person attempts to behave in a manner which is consistent with the self-concept, while Cattell (1966) assigns the central integrating function of the rest of personality to the "self-sentiment".

Perhaps Rogers (1959) makes the self the most vital part of any personality theory. For him, the discongruity between a person's experience and his conscious self-concept is the basis of psychopathology. Client-centered therapy is aimed at the reorganization of the self-concept to reduce such discrepancies.

In light of the importance of the self in the organization of personality, one might expect that the postulated active components of therapies might have some relation to it. In fact, some cognitive therapists seem to formulate their treatment strategies explicitly at correcting irrational beliefs about the self. Ellis' (1962) rational-emotive therapy attempts to refute the client's "irrational ideas", a good many of which clearly refer to the self, and therefore would seem to make his system of treatment one of the strongest advocates of self-concept change. Raimy (1975) is quite explicit and suggests in a review, that for psychotherapy to be successful, there has to be significant changes in the self-concept. He states, "The self-concept (or self-image, or empirical self) not only organizes and guides behavior but also requires significant modification for successful psychotherapy". (p. 9).

When we consider that correcting dysfunctional expectations, constructs, and assumptions often involve the self, then a number of other cognitively oriented therapists may be focusing their treatments on self-concept changes (Rotter, 1954; Kelly, 1955; Frank, 1974; Beck, 1976). Research tends to support this conclusion by the finding that cognitive therapies result in changes in the self-concepts of clients (Katz, 1974; Knaus and Bokor, 1975; Reardon and Tosi, 1977).

However, the effects of treatments on the self are hardly limited to the cognitive therapies. In a good number of studies, traditional psychotherapies (such as psychoanalysis and client-centered therapy) have also been shown to significantly affect the clients' self-concepts (Butler and Haig, 1954; Luria, 1959; Endler, 1961; Meltzoff and Kornreich, 1970).

Behavior therapies also appear to affect much more than behaviors. A variety of techniques have been shown to lead to positive changes in the self-concept. These include covert reinforcement of positive statements about the self (Krop, Calhoon, and Verrier, 1971), assertion training (Percell, Berwick, and Beigel, 1974), systematic desensitization (Ryan, Krall, and Hodges, 1977), and flooding (Gelder et al., 1973). Even more interesting and important is the finding that changes in the self may precede improvements in the behaviors treated. In a study of socially anxious college men, inducing changes in the self-concept by means of self-reinforcement was followed by decrease in anxiety and increased social interaction (Rehm and Marston, 1968).

In a review of his cases, Lazarus (1971) also found that improvement due to behavior therapy and the maintenance of gains was contingent on an increase in the self-esteem of the clients. He also observed that long-term therapeutic benefits are unlikely without a change in the client's self-image. Other authors have also suggested that behavioral improvements may stem from the client acquiring a self-image where he sees himself as a more successful coper with stressful situations (Meichenbaum and Cameron, 1974; Ryan, Krall, and Hodges, 1976).

Recently, a comprehensive theory about therapeutic change has stated that improving aspects of the self-concept is a central mechanism in the process of change. Bandura (1977) has proposed that changes produced by different methods of treatment were based on a common cognitive process. Effective treatments increase the person's beliefs that he has the capabilities to act successfully. Bandura called this expectation "self-efficacy", namely a person's belief in his own effectiveness.

This construct may be regarded as one aspect of a person's self-concept.

Bandura (1977) lists four sources from which one may obtain expectations of "self-efficacy": personal accomplishments, vicarious experience (observation of models), verbal persuasion, and emotional arousal. First, a person can increase his expectations of mastery if he sees himself successfully coping with events. Second, vicarious experiences can raise expectations of "self-efficacy" by persuading the person that if others can do it so can they. A third method is the verbal persuasion of the person that he can in fact deal successfully with his problems. It would appear that placebos, and covert and semantic therapies, make considerable use of this third process. A final source is through perception of changes in our emotional arousal. Bandura states that the various psychotherapies use one or more of these processes to bring about improvements in people.

In a recent analysis of behavioral treatments for snake phobia, Bandura and Adams (1977) have shown that "self-efficacy" was strengthened by systematic desensitization and participant modeling. "Self-efficacy" was also found to be a highly reliable predictor of approach behavior subsequent to treatment. The authors conclude that, "the present series of experiments, ... lend substantial validity to the theory that psychological influences alter behavior by enchancing the level and strength of perceived self-efficacy" (Bandura and Adams, 1977, p. 303). In contrast, prior performance was not a determinant of subsequent actions. Even successful performance at intermediate tasks was of little help in predicting the nature of subsequent behaviors.

One may extrapolate from Bandura's model that the nature of successful treatments is to aid the person to infer a more capable self-concept than he had before. Such inferences may be facilitated by various means. However, if for some reason the person does not draw a more positive conclusion about his capabilities, he will not improve even if he in fact did perform successfully or had access to experiences where he could learn coping skills. From this model one may also predict that a procedure which cued subjects to reconceptualize their self-concepts would be more successful to one where the task of drawing inferences about the self was less readily apparent, even thought the treatment did provide opportunities to learn skills for coping with stressful situations.

Changing the self-concept may also be one of the major mechanisms of the placebo effect. Kirsch (1978) has suggested that by participating in a procedure labeled "therapy", a client is led to the implicit logical conclusion that he has now acquired the personal qualities which the therapy was intended to produce. In other words he has been led to re-evaluate his self-concept through inference, which may be one of the essential mechanisms of the placebo effect.

We may conclude from the above considerations that successful treatments, including placebos, lead the subject to conclude that he has acquired some desirable personal qualities which he did not possess before. Implicit or explicit demand characteristics which lead the client to such inferences about himself may be the common mechanisms

in therapies. If such demand characteristics are absent, then no change will result even if the treatment contained opportunities to acquire the desired capacities and personal qualities.

G. Explicit Demands in Cognitive Therapies

It is relevant here to discuss the nature of cognitive therapies. First, cognitive therapies strongly resemble the placebo effect in terms of functions. Kirsch (1978) has pointed out that both placebos and cognitive therapies achieve their effects by altering a person's beliefs and expectations. In addition, cognitive therapies exemplify a type of treatment in which therapeutic effects appear to be produced by explicit demands made to the client to alter the way he thinks about himself. However, the rationale of cognitive therapies is not stated in this manner. Nevertheless, similarities between cognitive therapies and placebos are worth reviewing, bearing in mind that the assumptions behind cognitive therapies do not necessarily correspond to the actual mechanisms which produce the changes. It is some of these mechanisms which are of present concern, rather than any specific type of cognitive or covert therapy.

A basic tenet of cognitive therapies is that emotional disturbances are mediated by the person's inappropriate beliefs, attitudes, assumptions, and expectations concerning the world, the future, or himself. Several major theories of therapy share all or parts of this view and base their treatment approaches on it (Rotter, 1954; Kelly,

1955; Ellis, 1962; Frank, 1974; Beck, 1976). One of the most influential cognitive theories and treatments has been Ellis' (1962) rational-emotive therapy.

There is considerable evidence that cognitive therapies are effective treatment techniques. Teaching clients to modify their cognitions and self-statements has resulted in improvement in public speaking anxiety (Karst and Trexler, 1970; Meichenbaum, Gilmore, and Fedoravicius, 1971; Trexler and Karst, 1972), test anxiety (Meichenbaum, 1972; Holroyd, 1976; Goldfried, Linehan, and Smith, 1978), assertiveness (Thorpe, 1975), and dating skills (Glass, Gottman, and Shmurak, 1976), as well as a number of other problems.

Overall, cognitive therapies have not been shown to be superior to behavior therapies (Ledwidge, 1978). Nevertheless, it is informative for our purposes that cognitive therapies have shown several advantages over more behavioral forms of treatments, as well as some disadvantages. Cognitive therapies appear to affect a wider range or the person's psychological modalities. This may be related to the direct manner in which cognitive therapies deal with some core variables of psychotherapies.

In addition to behavioral changes, cognitive therapies may deal more effectively with subjective anxieties and cognitions. In comparison to desensitization, cognitive treatments have produced more changes on self-report and subjective measures of anxiety in the treatment of test anxiety (Meichenbaum, 1972; Thompson, 1974; Holroyd, 1976; Goldfried, Linehan, and Smith, 1978), snake phobia (Wein, Nelson, and Odom, 1975), and stuttering (Moleski and Tosi, 1976). They have also been more

successful than desensitization in changing cognitive or self-perceived anxiety in test anxious subjects (Meichenbaum, 1972; Holroyd, 1976) and in changing attitudes to stuttering (Moleski and Tosi, 1976).

The fact that cognitions as well as behaviors are affected is quite consistent with the findings that cognitive therapies have shown more generalization effects than some behavioral treatments. In contrast to desensitization, cognitive re-structuring has also reduced fear to objects other than just the ones which were specifically treated (Meichenbaum and Cameron, 1973). It has also been found to be more effective than desensitization for the treatment of generalized social anxiety (Meichenbaum, Gilmore, and Fedoravicius, 1971). When compared to prolonged exposure therapy, cognitive therapy for test anxiety also produced more changes on measures of general interpersonal anxieties (Goldfried, Linehan, and Smith, 1978). In the training of dating skills, response acquisition training was more effective on behavioral measures, but only cognitive therapy produced generalization to situations which were not part of the treatment, and to real-life situations (Glass, Gottman, and Shmurak, 1976). This wider application and greater generalization found with cognitive therapies may reflect the fact that they are more directly aimed at changing a person's cognitions, possibly regarding himself, which are as we have tried to show, central aspects of personality and psychological change.

One of the most fundamental assumptions of Ellis' (1962) rational-emotive therapy, and hence of the other semantic therapies which are derived from it, is that emotional problems result from irrational or unrealistic thinking about events. A belief is thought to be irrational

if it is not likely to be confirmed by reality or experience. For example, it is irrational to believe that, "it is a dire necessity for an adult human being to be loved or approved by virtually every significant other person in his community" (Ellis, 1962, p. 61). Ellis lists eleven irrational beliefs which are particularly prominent in emotionally disturbed people. He especially singles out ideas as irrational which contain "shoulds", "oughts", and "musts", since there are very few absolutes in interpersonal relations.

Cognitive treatments consist of helping the person become aware of his unrealistic thoughts and verbalizations, challenging them and subjecting them to empirical evidence. Finally, the client is persuaded to replace them with more rational and realistic ideas (Ellis, 1962; Meichenbaum, Gilmore, and Fedoravicius, 1971; Goldfried, Decenteneeo, and Weinberg, 1974). Meichenbaum's (1977) self-instructional methods are similar in attempting to have the client substitute more positive statements for negative ones, which are thought to be producing the emotional disturbance.

The rationale of these approaches thus emphasizes the need to change one's ideas and statements concerning a variety of events and circumstances. In addition, there is some evaluation made concerning the nature of the cognitions or verbalizations to be changed, as being irrational, negative or dysfunctional. Treatment is undertaken with the assumption that dysfunctional cognitions about a variety of events must be replaced with functional ones which are more appropriate to the particular events confronted or thought of (Meichenbaum, 1977). The emission of appropriate statements or cognitions to the specific situation

is even regarded as a skill to be acquired in treatment (Meichenbaum, 1977).

However, other processes besides the learning of cognitive coping skills and rational beliefs may be going on in these treatments. In Meichenbaum's self-instructional techniques there are frequent references to the self. Also, the practice of such statements by the client can be similar to role-playing techniques used for self-persuasion and attitude change. Thus, self-instructional therapies may derive their considerable treatment effects by directly persuading the person to change his self-esteem and his ideas about himself.

An examination of Ellis' (1962) list of irrational beliefs also reveals that about half of them deal directly with self-concepts and self-worth. In rational-emotive therapy, explicit persuasion and demands in the instructions, as well as in the statements which the client is asked to rehearse, appear to be active components of the treatment. In addition, these suggestions often have a specific referent, namely the client himself. Therefore, it seems quite possible that the mere repetition of more positive self-concepts acts to convince the client to think more favourably of himself, with the result of increasing his self-confidence, sense of well-being, and efforts to solve his problems.

Thus cognitive therapies may exemplify one of the most explicit and direct attempts to persuade a person to change his conceptions about himself, by means of suggestions and demands. The success of these therapies suggests that direct demands to change the self does seem to bring about improvements, and may have certain advantages over other forms of treatments where the demand characteristics are less explicit

or direct. In particular, they highlight the existence of a possible distinction among treatments, based on explicit-implicit demands, which may be helpful in clarifying the mechanisms of the placebo effect and the way essential and common mechanisms work in different therapies.

H. Explicit and Implicit Demands in Treatments

Frank (1971) has observed, "Thus all successful therapies implicitly or explicitly change the patient's image of himself from a person who is overwhelmed by his symptoms and problems to one who can master them" (p. 357). We have seen that in the more verbal and cognitive therapies, demands to change the self-concept are being presented rather directly. However, this is not the case for all therapies. If the effectiveness of other forms of treatments, such as the behavior therapies, is dependent on such demand characteristics, then they are often not very obvious or explicit, and are likely to be indirectly implied in the treatment instructions or situations. The question then is in what manner do such implicit demands operate in some treatments, such as the behavior therapies.

Kirsch's (1978) analysis of the mechanisms of the placebo effect may be helpful here. A treatment can be thought of as presenting the subject with the major and minor premises of a syllogism, from which the subject can draw logical conclusions. The major premise is supplied by the treatment rationale that if the client receives the "treatment" he will change in a specific manner. The minor premise is the knowledge by the client that he has received the treatment. If the client believes in the treatment, then the logical conclusion that he can draw

from undergoing the treatment is that he has now changed (to being a more effective person with specific characteristics). Such new expectations and concepts in the client concerning himself produce the placebo effect. Thus placebo therapies contain implicit demands for self-concept change which produce their therapeutic improvements.

To the extent that placebo and common factors participate in some therapies, they may rely on similar implicit mechanisms to produce a large part of their therapeutic effects. Among these may belong many forms of psychotherapies as well as behavior therapies. Change in self-concepts may be brought about in the following manner. It is reasonable to think that clients enter therapies with the goal in mind of acquiring some desirable personality characteristics. If in some instances they initially do not have such goals, then the therapy rationales or being told that they are to receive some "therapy", "treatment" or "hypnosis", may alert them to expect such personal changes at the completion of treatment. Therefore, when a subject is made aware that he is receiving "treatment", the above described implicit demands toward changes in the self-concept may be activated. When treatment is completed it is only logical for the client to conclude that he is now in possession of more desirable personal characteristics because of the treatment.

Despite the fact that behavior therapies have traditionally been thought to operate on the basis of mechanisms specific to them, such implicit mechanism probably play an important role in behavior therapies such as systematic desensitization, skills rehearsal, and exposure techniques. In skills rehearsal, the client is likely to believe that rehearsing certain responses will help him to become more "assertive",

"socially competent", or to achieve some other desirable personality characteristic. Similarly, if he receives systematic desensitization, he may expect to become less "anxious" than before. The presence of such implied personality attributes as goals of the treatment may be essential to therapeutic effectiveness. They are most likely to be supplied or implied in the main by the treatment rationales.

Treatments such as desensitization or skills rehearsal, unlike cognitive therapies, are less likely to contain explicit demands in the instructions to reconceptualize the self in a particular manner. Therefore, they are more dependent on the label of "treatment" or on treatment rationales to achieve their effects. Should the subject fail to receive the rationale or not be told that he is to receive "treatment", the effect of behavioral therapies may be reduced considerably, since treatment goals in terms of personality constructs may be absent.

The absence of treatment rationales may not have as great a negative effect in therapies in which treatment instructions contain explicit suggestions to the subject to reconceptualize himself. Since cognitive therapies are likely to contain such direct or explicit suggestions, they may be less dependent on treatment rationales.

The proposition that common mechanisms in therapies may be demand characteristics which refer to changes in the self, may be tested experimentally. If most treatments depend on the effects of such common variables, then the absence of treatment labels and rationales should considerably reduce the effects of behavior therapies. However, if behavior therapies work mainly on the basis of specific mechanisms, then the absence of treatment labels and rationales should make little dif-

ference to treatment outcome.

Moreover, if these demand variables are involved in producing treatment effects, then a procedure which presents them in an explicit manner should produce changes, even when subjects are not told that they are receiving "therapy" or even when they are not receiving any conventionally accepted treatment.

As has already been mentioned, behavior therapies have traditionally been thought to produce their effects through mechanisms which are specific to them. However, in the following sections reasons and evidence will be presented to suggest why even behavior therapies, covert as well as overt, are likely to be dependent on the kinds of placebo mechanisms and demand characteristics which have been described.

2. Behavior Therapies and Specific Mechanisms.

A. Covert Behavior Therapies

The role of the placebo effect as a common mechanism in psychological treatments is also supported by recent studies of covert behavior therapies. However, the traditional explanation of the mechanisms of covert behavior therapies is in terms of conditioning.

Covert behavior therapies of various types have been traditionally conceptualized as a set of treatments which deal with private events with the techniques of conditioning and within the theoretical framework of learning theory (Cautela and Baron, 1977). These authors list among the "covert conditioning" procedures covert sensitization, covert extinction,

covert positive reinforcement, and covert modeling among others. Mahoney (1974) also includes systematic desensitization among the covert conditioning therapies, along with a few other treatments.

The conceptual framework of a behavioristic approach views private events as covert forms of overt phenomena and subject to the same processes and principles which describe overt behaviors. These assumptions are increasingly thought to be simplistic and questionable, and are not advocated in this study. Nevertheless, the "covert" label has been retained to describe some of the treatments tested in this study since two of the treatments may be conventionally described as covert behavior therapies. In addition, it is a general term which can be applied to all treatments dealing with private events, and therefore to the types of treatments which are present in this study.

Those advocating a learning theory approach to covert behavior therapies make a number of assumptions concerning the underlying principles involved. They assume that there is a continuity or identity between covert phenomena (images, thoughts, etc.) and overt phenomena. Both events are also thought to b e similarly governed by the laws of learning and the principles of reinforcement, punishment, and extinction (Cautela and Baron, 1977). Covert behavior therapies have been used successfully for a variety of problems including animal phobias, sexual deviance, attitude change, assertion training and others (Cautela, Flannery, and Hanley, 1974; Callahan and Leitenberg, 1973; Cautela and Wisocki, 1969; Kazdin, 1975).

However, serious questions have arisen concerning the theory and rationale for covert behavior therapies, including the variables accounting for their effectiveness. As Mahoney (1974) pointed out, covert events are not "automatically" changed by being associated with or followed by positive or negative consequences. In studies of covert conditioning it makes no difference whether the imagined target responses are followed by or preceded by imagined reinforcers (Kazdin, 1977; Little and Curran, 1978). Kazdin (1977) concludes, "the research to date provides reasonably compelling arguments against continuing to view covert conditioning techniques as exemplifying simplistic learning processes" (p. 48).

The question then becomes to what variables are the effects of covert therapies (such as systematic desensitization, covert modeling and even covert assertion training) to be attributed? The findings that some covert techniques may be no more effective than placebo groups have suggested an answer. For example, a number of studies have found that placebo groups offering suggestion and attention are just as effective as covert sensitization (Davidson and Denny, 1976; Foreyt and Hagen, 1973; Sipich, Russel, and Tobias, 1974). The same also appears to be true of systematic desensitization. Placebo treatments have been found to be as effective as systematic desensitization in reducing fear and avoidance behavior (McReynolds et al., 1973; Tori and Worell, 1973; Holroyd, 1976; Kirsch and Henry, 1977).

The available evidence thus seems to point to the placebo effect as an important mechanism in at least some covert behavior therapies. Reviews of the literature have also discussed both demand characteristics and cognitive variables as possibly accounting for the effects of covert

behavior treatments (Little and Curran, 1978; Kazdin, 1977). These findings suggest that common rather than specific mechanisms produce the treatment effects in such therapies. Some authors have also pointed out that the exact nature and contribution of demand and cognitive variables to covert behavior therapies are yet unclear and need to be investigated in a systematic manner (McReynolds et al., 1973; Kazdin, 1977).

In the next section skills training techniques will be reviewed. This is done to show that the rationale behind even strongly behavioral treatments such as skills training can be questioned, and that demand variables are an attractive alternative to specific behavioral mechanisms as an explanation for at least part of their effectiveness.

B. Skills Training for Social Deficits and Anxiety

The treatment of social deficits by skills training techniques provides an appropriate procedure for the testing of the importance of demand characteristics in therapies. In this study social deficiencies and anxiety were selected as the treatment targets since they are often treated by behavioral techniques, and because they have been recommended as meeting the requirements for clinically relevant treatment studies (Borkovec and O'Brien, 1976; Bernstein and Nietzel, 1977).

Social deficiencies may stem from a number of sources, including the lack of social skills as well as inappropriate anxiety (Eisler, 1975). Lack of skills, conditioned anxiety, and faulty ideas may all participate in the origins of social anxiety (Curran, 1977). In parallel fashion, therapeutic techniques have been developed which attempt to address each

of these problem sources. Skills training, exposure techniques, and cognitive restructuring have all been employed to remove the sources of social deficits and anxiety.

For the purpose of this study, skills training techniques were selected as the primary representative of therapies which are traditionally thought to operate on the basis of specific mechanisms. Skills training techniques are considered to be behavioral approaches and their effects are almost never attributed to the operation of placebo or demand variables. If administered under conditions when subjects are not made aware that they are receiving "treatment", they may enable us to test whether the beneficial effects of therapies are the result of the specific mechanisms such as response rehearsal, or whether they are dependent on common processes such as placebo and demand variables. In the latter case, even skills training approaches would be substantially reduced in their treatment effects.

Skills training techniques are employed when interpersonal difficulties arise from the lack of appropriate behavioral repertoires. A person may lack the required behaviors or he may be engaging in inappropriate behaviors. In such cases a skills training approach may be used to teach specific responses or skills by means of behavioral rehearsal, modeling, practice, response feedback, and so on. The skills training or response acquisition model "assumes that the acquisition of a sufficient behavioral repertoire leads to successful...interactions and a decrease in anxiety" (Curran, 1977, p. 146). The practice of new responses not only leads to the acquisition of new behavioral skills, but is also thought to decrease anxiety. It may also lead to new concepts as well,

since changes are also observed on self-report measures (Curran, 1977).

Skills training approaches have been used for treating interpersonal problems such as speech and public speaking anxiety (Wright, 1976; Marshall and Stoian, 1977; Fremouw and Zitter, 1978) and dating anxiety (Curran, 1975; Curran, Gilbert, and Little, 1976). They are even more frequently the treatment of choice for increasing response repertoires, such as assertiveness (McFall and Lillesand, 1971; McFall and Twentyman, 1973), interpersonal skills (Goldsmith and McFall, 1975), and heterosexual and dating skills (Twentyman and McFall, 1975; Glass, Gottman, and Shmurak, 1976).

The assumptions or implications of these studies is that response rehearsal leads directly to therapeutic improvements such as the acquisition of the social skills and the reduction of anxiety. Usually no mediating processes are discussed as being involved in skills training, besides the learning through response rehearsal or the observation of a model. McFall and Twentyman (1973) state, "it is assumed that as skillful, adaptive responses are acquired, rehearsed, and reinforced, the previous maladaptive responses will be displaced and will disappear" (p. 199).

However, more than just the specific mechanisms of covert or overt response observation and practice may be involved. This is suggested by the findings that skills training affects many types of measures, including self-report, anxiety, cognitive, and psysiological indeces, in addition to behavioral ones. For example skills learning has been shown to produce improvements on behavioral measures (McFall and Twentyman, 1973; Goldsmith and McFall, 1975; Glass, Gottman, and

Shmurak, 1976), self-report measures of behaviors (McFall and Lillesand, 1971; Goldsmith and McFall, 1975), subjective self-reports (Frenouw and Zitter, 1978), anxiety measures (Curran, 1975; Curran, Gilbert, and Little, 1976), as well as physiological indices (Twentyman and McFall, 1975). It is difficult to account for such a broad spectrum of changes merely through the learning of specific responses. Therefore, it is reasonable to assume that other mechanisms may also be involved.

Usually, it is not made clear how the practice or rehearsal of specific responses eventually leads to socially appropriate behaviors, let alone to changes on anxiety, cognitive and physiological measures. Moreover, it is very likely that in treatment techniques such as skills training, many other mechanisms are involved, such as confidence building and cognitive restructuring, in addition to response rehearsal. These other processes may have a lot to do with the eventual improvements we observe in the client.

As one example, a recent study questions the rationale behind skills training programs. Schwartz and Gottman (1976) compared assertive and nonassertive subjects on a number of behavioral and self-report measures. They found that low assertive subjects did not differ from high assertives in knowledge of assertive responses, or the ability to deliver them in neutral situations. What did seem to differentiate among the various levels of assertive groups were the subjects' cognitions about themselves as displayed in negative self-statements related to their self-image.

It would appear that in this experiment at least, not response repertoire deficits, but negative self-concepts were responsible for the

inability of the subjects to behave assertively in situations requiring assertiveness. In addition, specific behavioral measures have often failed to detect differences among groups differing in social competence and anxiety, while self-reports have at times been successful (Arkowitz et al., 1975; Eisler, 1976; Curran, 1977). These considerations and findings question the assumptions behind many skills training approaches, especially that such procedures bring about improvements by simply increasing the subjects' response repertoires.

An alternative to the response acquisition theory would be to postulate some mediational variables which in turn produce changes in the observed variety of criterion measures. A mediational variable may be some inference which we may draw from seeing ourselves act skillfully in skills training programs. Bem (1967) proposed that our attitudes about ourselves were based on the observations of our own behaviors. Some mediational constructs such as locus of control (Phares, 1976) and learned helplessness(Seligman, 1975), have been conceptualized as being based on inferences we make from our performances and their consequences. Bandura's (1977) mediational variable, "self-efficacy", which he thinks determines improvement in therapies, is also thought to be most enduring when based on observations of our successful performances.

This self-perception approach would be adequate to explain the mechanisms by which skills training produces changes if improvements in the client only occurred after actual behavioral accomplishments. However, merely imagining someone else acting assertively has also been shown to be an effective procedure to increase assertiveness (Kazdin, 1975). Imaginative or covert response rehearsal has also been found to

be as effective, and at times more so than overt rehearsal, in the training of assertiveness (McFall and Lillesand, 1971; McFall and Twentyman, 1973). Since imaginative activities do not allow observation of our behaviors or actual performance accomplishments, the self-observation theory is also hard pressed to account for the efficacy of skills training approaches.

Turning to another possible rationale, some authors have theorized that in some forms of therapy the subject learns a "coping skill" which may then produce positive changes in behaviors. This skill may be on a cognitive level, in which case the above criticisms may not apply. An example may be Meichenbaum and Cameron's (1974) "stress inoculation training" in which clients learn to say positive self-statement in stressful situations and thereby learn psychological skills with which to deal with stress and fear. However, when one examines the contents of coping self-statements which Meichenbaum (1977) gives as examples, they appear to be somewhat short on skills but long of self-persuasive statements. These procedures may be quite adequate to convince the client that he has learned some sort of skill, which belief then may act to bring about amelioration of the distress and fear, even if no skill may actually have been learned. The client may come to believe that he has learned useful coping skills and as a result may now see himself as a person who can cope with stressful events.

These new convictions may in fact lead to improvements in broad areas of the person's life, and to changes on a variety of criterion measures. However, there is no convincing evidence that it is the skills themselves which account for the benefits, rather than the demands and

persuasion factors which are so evident in skills training approaches.

Since the evidence for demand characteristics being the active components in some forms of behavioral treatments is strong, one should be cautious in assuming that the learning of skills is the active process in behavioral and cognitive skills training approaches. Thus, the rationale for skill training is questionable as outlined above. Support for the skills learning approach would be provided only if it could be demonstrated that rehearsal and practice of the skill only can bring about change, in the absence of demand characteristics and placebo variables.

In sum, it has not been convincingly demonstrated that specific mechanisms such as training and rehearsal of behavioral or cognitive skills leads to the changes observed in studies of skills training. This consideration suggests the likely alternative that demand characteristics are involved in the therapeutic gains observed.

C. Exposure Theory

To the extent that skills rehearsal is usually practiced in the context of stressful or anxious situations, another possibility needs to be examined next. The repeated exposure to the stressful social situation may reduce a person's social anxiety and may consequently lead to improvements.

A currently influential theory states that the mechanism whereby different techniques reduce fear is through "exposure" to the frightening situation. Various techniques allow or encourage the subject to approach the feared stimulus and thereby may facilitiate adaptation, habituation,

or extinction to take place (Marks, 1975). Such exposure may take place in the imagination as in desensitization, or in vivo, as in modeling. Subjects may thereby learn to tolerate or to cope with the stress and discomfort (Marks, 1975). Other authors are also of the view that techniques such as desensitization and flooding share the common mechanism of exposure as the active ingredient in reducing fears (Gelder et al., 1973).

A two-step version of the exposure theory has also been proposed to account for the effectiveness of desensitization, which also suggests the role of self-concepts in psychotherapy. Following Bem's (1967) "self-perception" theory that our concepts and attitudes of ourselves are inferred from the observation of our own behaviors, Wilkins (1971) speculated that if a subject sees himself "enduring" a fearful image in desensitization, he may conclude that he is more comfortable and therefore report less anxiety. Ryan, Krall, and Hodges (1976) have also proposed that desensitization may work in that the person may see himself successfully confront stressful stimuli and escape unhurt, allowing him to make more positive inferences about himself.

From the above we may conclude that any systematic investigation of behavioral treatments of social deficiences may need to control for the possibility that mere exposure to anxiety provoking scenes may bring about therapeutic changes.

3. Role-Theory and Imaginative Involvement.

A. Imagination as Treatment Rationale

To test whether the common mechanisms in therapies are demand characteristics for self-concept change required certain experimental procedures in this study. It had to be established that changes were the result of the stated common variables rather than due to specific mechanisms. This necessitated that one group be presented the demand variables in a clear and explicit manner, since implicit demands would be more difficult to test, and that a second group be subjected only to the specific mechanisms of a treatment, as far as possible. To eliminate or reduce other possible confounding effects, such as therapist effects, "treatment" rationales, and expectancies, all experimental treatments were presented under "nontherapy instructions" (Wilkins, 1973). In other words, the subjects were not told that they were receiving therapy.

Consequently, subjects in this study were informed that they were participating in an "experiment on imagination". The group testing the effects of specific treatment mechanisms was asked to imagine engaging in various skillful behaviors. This was the equivalent of covert skills training procedures. The group testing the effects of common treatment mechanisms was given instructions to imagine being various persons with certain personality traits and charactersitics, which corresponded to the responses being covertly rehearsed by the skills training group. These covert procedures also eliminated the possibility that change may be due to the subjects' observations of their own behaviors and the inferences they would make from them.

An explicit way to influence someone to change his self-concept is to instruct him to assume a new personality described in terms of personality traits and attributes. Each person's self-concept is part of

his "implicit personality theory" (Mancuso, 1976), which he uses to conceptualize and to understand himself, as well as others. Implicit personality theories are formulated by the person along semantic dimensions in terms of traits and personality attributes (Schneider, 1973; Mischel, 1973; Rosenberg, 1976). Therefore, much of a person's self-concept may be activated and altered in terms of trait and personality constructs and labels. When someone is asked to assume being an imaginary person based on personality attributes, changes in the subject's self-concept may be anticipated. Therapeutic approaches have been proposed in which there is an attempt to alter the client's self-concepts by requiring him to imagine having desirable personality attributes and behaviors (Susskind, 1970; Sarbin and Nucci, 1973).

It was reasoned that if common mechanisms in therapies were those demand variables which have been proposed, then the group receiving the explicit demands would show more changes than the group with the specific mechanisms, when implicit demands suggesting "treatment" were reduced or removed. However, if specific mechanisms were the main active components of the treatment, then the skills training group would produce as much or more changes than the group receiving the explicit demands, even under "nontherapy instructions".

B. Role-theory and the Involvement Factor

Thus far we have attempted to provide the background for the main proposition of this study that certain types of demand characteristics in treatments may be important in producing therapeutic outcomes. What has been stated concerning the influence of demand characteristics

is also compatible with role-theory (Sarbin and Allen, 1968). Role-theory focuses on the cues and demands in social situations which allow one to assume roles appropriate to the situation and to behave according to the demanded role. Thus the outcomes in experiments as well as many other kinds of social situations may be influenced by the cues and demands in the situation itself, and the consequent roles which the subjects are induced to adopt (Orne, 1962). The roles which a subject may adopt are many, such as "subject in an experiment" or "patient". However, psychological treatments usually refer to role-playing at another level, namely the enactmanet of roles which are specifically requested in the treatment instructions. Rationales for role-playing and skills rehearsal techniques assume that changes result from such role-playing, rather than from the implicit roles demanded by the social situation.

It is only logical to take role-theory into consideration, and attempt to investigate the extent to which our outcomes may result from role-playing based on the treatment instructions. This would specify internal processes beyond the cues, suggestions, and demand characteristics in the instructions. The experimental groups in this study were asked to imagine various activities and personalities. These instructions may have led to various kinds of covert role-play. Therefore, beyond the demands in the instructions to change the self-concept, one may attempt to specify that it is the covert role-playing which is producing the observed treatment effects. If the changes are indeed due to the subject engaging in the role-playing, then certain dimensions which influence role and imaginative enactment, as outlined in role-theory, could also be expected to influence the outcomes of the treatments.

Sarbin and Allen (1968) have dealt extensively with role-theory and have outlined the variables which participate in role-playing. The successful occupancy of a role results in the adoption and enactment of all the components which are part of the role, including the corresponding cognitions and behaviors. Role-playing has been shown to lead to changes in physiological response, performance, attention deployment, and cognitions (Sarbin, 1964). One of the variables which influence the quality of the role-playing, especially where imagination and covert processes are salient, is involvement or absorption in what is suggested (Sarbin, 1964). Involvement in role-playing has mediated changes in attitudes and behaviors (Sarbin and Allen, 1964; Janis and Mann, 1965), and in self-concepts (Sarbin and Jones, 1956).

Involvement is especially relevant to the intensity of response in such role-playing as hypnotic performance, where the involvement in imaginings and covert processes facilitates the "reality" and credibility of the hypnotic experience (Sarbin and Coe, 1972; Barber, Spanos, and Chaves, 1974). Involvement in imaginings has been shown to increase the quality and intensity of responding to suggestions in several experiments on hypnosis (Spanos and McPeake, 1974; Tellegen and Atkinson, 1974; Spanos and McPeake, 1975). Also when subjects engage in target relevant imaginings, involvement in imaginings increases their tolerance for pain (Spanos, Horton, and Chaves, 1975).

Thus involvement appears to increase the quality of the performance in role-playing, as well as the intensity and the effectiveness of imaginative strategies for various target responses (Barber, Spanos, and Chaves, 1974). According to role-theory, involvement is expected to have

similar effects on both role-playing and imaginings. This is because role-playing and imagination are thought to be fundamentally the same "active" process, in which the person acts "as if" certain hypothetical events were in fact occurring (Sarbin and Juhasz, 1970; Sarbin, 1972).

Involvement is a personality variable, and a questionnaire has been developed by Tellegen and Atkinson (1974) to measure this ability, labeled as "absorption". These authors define absorption as a personality disposition for having episodes of "'total' attention, involving a full commitment of available perceptual, motoric, imaginative and ideational resources to a unified representation of the attentional object" (p. 274). Absorption in one's imaginings leads to experiencing what is imagined as "real". When the behavior of someone else is imagined, absorbed attention leads to an altered sense of self and experiencing the imagined person as the equivalent of one's self (Tellegen and Atkinson, 1974). For this reason, one would expect that involvement in imagined responses and roles may lead to changes in a person.

Singer (1971a, 1974) has documented the importance of imagination for adaptive personal functioning, and has also described the variety of effective therapies which make use of imagery and imagination. This study also made use of imagination in asking subjects to imagine various activities and personalities. To the extent that the resulting personal changes may be due to imagined role-play, certain predictions from role-theory should hold. It can be predicted from role-theory that subjects who are high in abilities for involvement or absorption will show greater changes than subjects who are low on this personality dimension.

Thus if the resulting changes are due to the role-playing itself, then subjects high on the absorption factor should change more than subjects low on this factor.

4. Summary and Statement of Hypotheses.

The preceding sections presented the theoretical background and relevant research whereby the common mechanisms participating in therapies were operationally defined and identified in terms of specific antecedent variables. It was reasoned that active treatment components were demand characteristics in the treatment instructions which referred specifically to changes to be made in the client's self concepts. Such common components were thought to play a major part in producing therapeutic effects.

It may be recalled that for our purposes psychotherapy was conceptualized as a process of persuasion, in which specific messages were communicated to the client. The communicated information in effective therapies produced effects which were common to most treatments. These included creating expectations of improvement and inducing the client to see himself as one who can cope with his problems. Similar functions have also been attributed to the placebo effect.

Next, the problem of the lack of operational definitions for processes which were common to most therapies was described. Previous suggestions in the literature, that placebos may be defined in terms of demand characteristics, were followed up and used for this study. Accordingly, the common mechanisms functioning in therapies were operationally defined as demand characteristics in the treatment, either

in the instructions or the situation, which conveyed information with specific referents.

Review of theory and research in the areas of personality and therapy provided strong indication that the active components in treatments may be focused on changes in the client's self-concept. The self is perhaps the most important concept in personality theory. It is also the focus of treatment strategies in a variety of therapies. In addition, there is evidence to suggest that behavioral changes may be mediated by altering the client's self-image. Such considerations, have led to Bandura's theory that therapies of all persuasions produce change by manipulating the client's expectations of "self-efficacy".

Accordingly, the proposition was adopted in the present study that the common variables of therapies may be identified as demand characteristics with specific references to changes in the self.

In considering existing therapies, it was observed that such demands were in fact communicated in an explicit manner in the instructions and exercises of some treatments. This appeared to be the case in cognitive and semantic therapies, in which the mechanisms of persuasion were quite obvious and direct. However, the same explicitness could not be observed in other treatments, including the behavior therapies.

If the stated proposition held, then it was reasoned that the demand variables in most therapies must therefore function in a more implicit manner. How this may work was suggested by a model of the placebo effect. A placebo treatment presents the client with a premise

as in a syllogism, such that if he participates in a treatment, he will acquire abilities to cope effectively with his problems. At the end of treatment, it is only logical to conclude that he is now in possession of such capabilities.

Implicit demands in the behavior therapies may function similarly. Once the client is informed that he is to receive "treatment", he is alerted to expect changes in his personality at the conclusion of treatment. Such inferences made concerning one's attributes may participate in producing therapeutic effects.

Of course, the behavior therapies have traditionally been conceptualized as functioning on the basis of mechanisms specific to the particular treatment. For example, in skills training techniques, social competence is thought to be acquired through rehearsal of specific responses. However, this may not be a totally accurate description of the active elements in such treatments. Various considerations suggest that cognitive variables may be mediating the changes.

In fact, there is increasing evidence that covert behavior therapies may not work on the basis of learning principles. In comparative studies, it has been demonstrated that placebo and suggestion manipulations produce as much effects as systematic desensitization and covert sensitization.

The present proposition which has identified common mechanisms in therapies in terms of specific demands can be tested under "nontherapy" rationales. Accordingly, the treatment procedures are described as an "experiment on imagination." If behavior therapies function through the

stated implicit demand variables, then under "nontherapy" instructions covert skills training should produce little or no therapeutic changes. However, a procedure in which specific demands to change the self are presented should show treatment effects even under "nontherapy" instructions.

Such demands may be transmitted to subjects by the presentation of roles to imagine which are described by trait and personality constructs. This is so because one's implicit personality theory is formulated by means of trait dimensions. Therefore, the presentation of roles described in terms of personality constructs would convey explicit demands to the subjects to change their self-concepts.

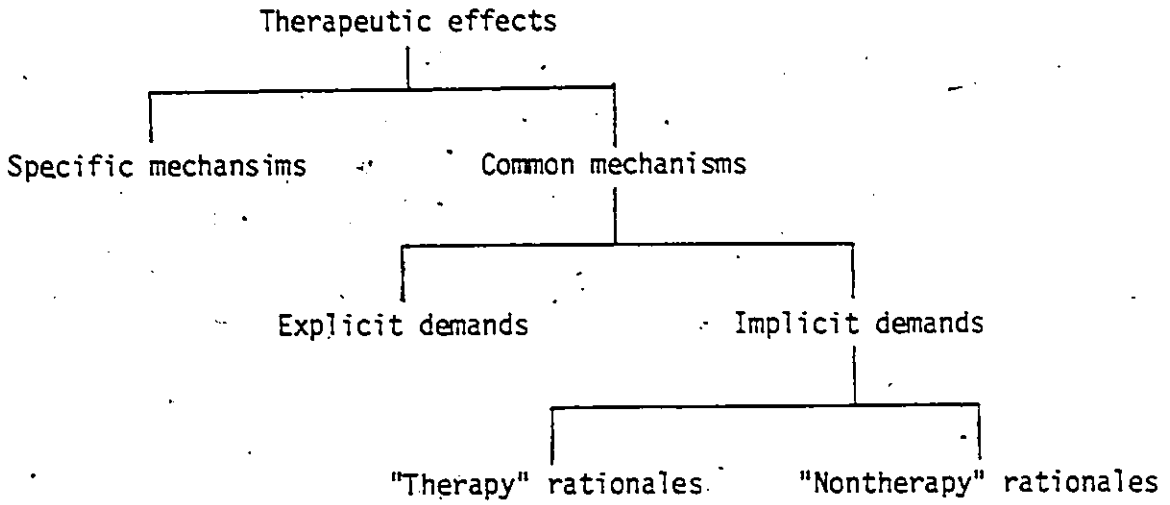
All the variables which can potentially participate in the present experiment to produce therapeutic effects are outlined in Table 1.

An additional treatment group must also be included in the experiment to control for the effects of exposure to stressful situations. Mere exposure to the stress situation in skills rehearsal may reduce anxiety and thereby produce beneficial effects.

Finally, one may attempt to specify the internal processes producing the changes in these treatments. This would go beyond the identification of such antecedent variables as demand stimuli. It is reasonable to expect that presented with roles to imagine, subjects would engage in covert role-playing, which would then produce the treatment effects. If this is so, then certain predictions made from role-theory should hold. Subjects who have more abilities for involvement in imaginative activities should change more than subjects who have less abilities.

Table I

Potential Variables Participating in Experiments on Treatments



Also, the differences between the high and low involved should be the greatest in the most effective treatments.

The above theoretical considerations may be summarized in the following four hypotheses. It may be hypothesized that the presentation of demands to change the self in one treatment group will result in therapeutic improvements in comparison to an attention-control group, even under "nontherapy" instructions.

Secondly, it may be hypothesized that groups with such demand variables will produce more changes than groups receiving skills training and exposure to stressful stimuli.

Third, subjects with higher abilities for imaginative involvement will change more than subjects low on such abilities.

Finally, there will be an interaction between the effects of the treatments and abilities for involvement.

These theoretical hypotheses will be restated in terms of specific statistical hypotheses, in null form, in the next chapter. Chapter two will also present the experimental design of the study.

The results of the experiment will be given in chapter three, while chapter four will present their interpretation and discussion.

CHAPTER II

EXPERIMENTAL DESIGN

This chapter presents the experimental design and the procedures used to test the hypotheses stated in the previous chapter. These include the statistical hypotheses which are presented first; the population sample used; the screening instruments for selecting the subjects; the criterion tests measuring changes due to treatment; the control instruments; and the procedures of administering the treatments and assessing their effects. In addition, the two factors of the study are described, namely the Treatment groups and their division into High and Low Involvement subjects. Finally, the statistical operations involved in the analysis of the data are stated.

1. Statistical Hypotheses.

In the previous chapter the theoretical hypotheses were formulated and stated. In this section we will restate them in terms of specific statistical hypotheses, in null form:

> 1. In comparison to the Neutral Situations control group, the Self Constructs group will not show significant changes from Pretest to Posttest on the Assertion Inventory, the Self-Consciousness Scale, the Fear of Negative Evaluation, and the Miskimins Self-Goal-Other Discrepancy Scale criterion measures.
>
> 2. The Self Constructs group will not show significantly greater changes from Pretest to Posttest on the four criterion measures than the Stress Situations and Skills Training treatment groups.

3. The High Involved group will not show significantly greater changes from Pretest to Posttest than the Low Involved group, on the four criterion measures.

4. There will be no significant interaction effects between Treatments and Involvement on the four criterion measures.

2. Subjects.

The subjects of this study came from a pool of students taking summer session courses at the University of Ottawa. The experimenter visited 25 undergraduate classes during the intersession and summer evening sessions, and asked for volunteers to participate in "an experiment on imagination". Those who volunteered were next asked to complete some screening instruments which included the Rathus Assertiveness Schedule (RAS), two self-rating scales measuring interpersonal comfort and ability, and one other self-rating scale measuring shyness. These screening instruments can be found in the Appendix.

A total of 434 students completed the screening instruments in the various classrooms and among these were thirteen students who volunteered for the experiment in response to advertisements placed around campus. The students were enrolled in courses in French literature, commerce, English literature, translation, classical studies, linguistics, history, religion and biochemistry. The sample also included people in full time occupations. Altogether it was more representative of the population than a sample of undergraduates in a particular subject.

The criteria for selecting subjects were that they be university students or presently enrolled in a university course, that they understand English, and that they show difficulties in social skills and

comfort on the screening instruments.

The criterion on the screening instruments for selecting subjects was a score of 30 or below on the RAS. The scores on the RAS range from +90 to -90 with low scores indicating unassertiveness. In addition the subjects were required to have a score of 4 or above on the 9-point shyness self-rating scale, and a score of 10 or above on the aggregate of the three self-rating scales measuring social discomfort, disability, and shyness. On the scales, low scores indicate social comfort and abilities and high scores lack of abilities. Only subjects meeting all three of the above criteria were included in the study.

Of the pool of 434 students 167 met the selection criteria and were contacted if they could be reached and asked to volunteer for the study. A total of 95 students accepted and completed the first session of the experiment. Of these, eight subjects subsequently dropped out and did not complete the experiment, leaving a total of 87 subjects on whom the results are based.

The 87 subjects were first divided into high and low involvement groups based on their scores on the Absorption Scale (Tellegen and Atkinson, 1974). All subjects with scores of 0 to 20 were assigned to the Low group of the Involvement factor of the experiment, while those with scores of 21 to 34 were assigned to the High group. This resulted in 44 Lows and 43 Highs.

Next the subjects were randomly assigned to the four treatment groups. This was done by first randomly assigning all the Lows to the four treatments and then all the Highs. Thus was obtained an equal

representation of Highs and Lows in each of the treatment groups. The final outcome was a total of 21 subjects in Group 1, and 22 subjects in each of the three remaining treatment groups. The 87 subjects were composed of 57 females and 30 males. Their ages ranged from 19 to 54; with a mean of 25.6 years.

3. Research Instruments.

A. Screening Instruments

Since the aim of this study was to investigate the active components of therapy, a therapeutic sample would have been appropriate. However, labeling the experiment "treatment" or soliciting subjects for "therapy" would have introduced unwanted expectancy variables into the experiment. Therefore, the procedure adopted was to screen and select subjects who showed some deficiencies in social skills and who had room for improvement, and could therefore show change with treatment. The screening was carried out without unduly focusing the subjects' attention on "problems" and the administration of "treatment".

(i) Rathus Assertiveness Schedule. The RAS is a thirty-item questionnaire developed by Rathus (1973a). It assesses many kinds of assertive behaviors and social skills. While most items refer to behaviors, some items are more general and seem to be tapping personality attributes. It is therefore suitable as a screening test which can tap a variety of social inadequacies at different levels of generalization. It also appears to have good validity and test-retest reliability (.78).

The RAS has been used in numerous studies on the assessment and treatment of social deficiencies and unassertiveness (Rathus, 1973b;

Morgan, 1974; Kazdin, 1975; Holmes and Horan, 1975).

(ii) Rating Scales. In addition to the RAS, some self-rating scales were also employed as screening instruments. Since the RAS measures the person's perception of rather specific responses, to have an assessment of the subjects' broader self-perceptions they were administered scales on which they could rate their attributes, emotions, and abilities in the area of interpersonal relations. Such ratings have the advantage of assessing the subjects' more general views of their deficits.

The subjects were required to complete three rating scales. Two scales were obtained from the Initial Screening Questionnaire (Goldsmith and McFall, 1975) assessing a person's perception of his comfort and ability to meet and to converse with strangers for the first time. One more scale was developed for this study, which required the subject to rate his degree of shyness. It was appropriate to obtain a global measure of shyness since shy people formulate a personality theory about themselves that they are shy, and do so in terms of personality attributes (Zimbardo et al., 1974, 1975).

B. Dependent Measures

The dependent measures were selected to meet several requirements relevant to this study. First, instruments were chosen which could assess various life modalities, including the subject's behaviors, feelings and personality traits. Second, an effort was made to select instruments which could focus on specific content areas, measuring specific behaviors, specific feelings, and personality traits. Accor-

dingly, the instruments measure assertiveness, fear of negative evaluation, self-consciousness, and specific traits, in addition to assessing more global constructs such as self-esteem. Third, the criterion measures were selected with a specific clinical problem in mind, namely social inadequacies and discomfort. Together the tests measure a full range of problems relevant to social difficulties, including unassertiveness, social anxiety, self-consciousness, and low self-esteem.

The instruments were also required to have reasonably good reliabilities and validities. In addition, satisfactory performance in some outcome studies was preferred in selecting the tests, as well as some knowledge of factor structure and content composition, wherever this was possible.

The following four instruments were used as the primary criterion measures to test the hypotheses under consideration.

(i) Fear of Negative Evaluation. The FNE is a self-report measure of social anxiety, more specifically of the fear of the negative evaluation of others. The scale has thirty items and takes a few minutes to complete. It was developed on undergraduates by Watson and Friend (1969) and carefully constructed, meeting a number of criteria to increase construct validity. It has fairly good test-retest reliability (.78), and has been empirically validated. The FNE has scores ranging from 0 (not anxious) to 30 (anxious), and a mean of 15.5 in an undergraduate sample.

The FNE is a sensitive instrument that has been shown to discriminate between low and high frequency daters (Arkowitz et al., 1975). The test has also shown good response to cognitive and behavioral

therapies in subjects with social inadequacies (Thorpe, 1975; Curran et al., 1976).

(ii) Self-Consciousness Scale. The SCS is a 23-item test of self-consciousness developed by Fenigstein, Scheier, and Buss (1975). Its importance for this study lies in that self-consciousness is related to social anxieties and shyness (Zimbardo, 1977). It was also included to help determine what kinds of cognitive treatment strategies may increase or decrease self-focused attention. In this study it also functioned as a more general measure of social anxiety than the FNE.

In addition to the total score, factor analysis has identified three factors of the scale. All four measures were used as criterion scores in this study. The first factor, namely "private self-consciousness", refers to attending to one's own inner thoughts and feelings. The second, "public self-consciousness" refers to an awareness of the self as a social object in the eyes of others. It is possibly an antecedent of social anxiety (Scheier and Carver, 1977). The third factor of "social anxiety" refers to discomfort in the presence of others, which is a reaction to the other two processes.

This scale was also developed on undergraduates and the validity of its constructs has been replicated on several samples (Fenigstein et al., 1975; Carver and Glass, 1976). The test-retest correlations for the subscales are .79, .84, and .73 respectively. That of the total scale is .80. These coefficients suggest fairly good reliabilities. The upper limits of the scores for the subtests and the total score are 40, 28, 24 and 92 respectively, while the lowest score is 0 for each scale. The means for college women are 29.5, 18.8, 12.5 and 57.3, while

those for men are slightly lower. This scale has been used in a number of experiments on the relationship of self-consciousness to accuracy of self-awareness and to attributions to the self (Scheier and Carver, 1977; Buss and Scheier, 1976).

(iii) The Assertion Inventory. The AI is a forty-item self-report inventory of assertive skills developed by Gambrill and Richey (1975). It assesses a variety of assertive behaviors including initiating interactions, responding to criticism, and handling service situations. It was mainly standardized on large samples of undergraduate students, as well as a small sample of women in assertion training. The content of the instrument has been factor analyzed and its validity has been established in clinical studies of assertion training (Gambrill and Richey, 1975; Gambrill, 1973).

The AI yields three different scores: Discomfort, Response Probability, and a Difference score obtained by subtracting the first score from the second. For Discomfort and Response Probability the possible scores range from 40 to 200. In the largest normative sample of undergraduates the mean scores for females for the three scales were: Discomfort 96.34, Response Probability 103.97, and Difference 7.88.

The AI facilitates a comprehensive assessment of social skill problems in situations requiring assertiveness in that anxiety as well as behaviors are taken into consideration. The AI also appears to have good test-retest reliability with coefficients of .87 and .81 for Discomfort and Response Probability respectively.

(iv) The Miskimins Self-Goal-Other Discrepancy Scale. The MSGO is a versatile instrument designed to measure various aspects of the

self-concept. It was selected because its individual items could measure specific self-concepts, in addition to a general self-esteem. It is based on a conceptualization of the self as a "constellation of conceptual, actional and/or verbal behaviors which a person directs toward himself" (Miskimins and Braucht, 1973, p. 37).

The MSGO is made up of 15 items covering general, social, and emotional constructs. These items are each presented in terms of bipolar constructs. Nine-point scales are used to rate the self-concept, the ideal-self, and the self which we think others perceive, on the Self, Goal, and Other scales, respectively. The score on each of these self-concept scales is the sum of the ratings of the fifteen items.

Space is provided for five additional items in which the subject is requred to state his own personal constructs. However this part of the instrument was not used in this study.

There are a host of different scale scores that one can obtain from the MSGO. Most of these relate to discrepancy scores between the three scales of the self tested, namely the Self, Goal and Other. For the purposes of this study only five main scores were analyzed: the three sums of 15 items each, measuring the Self, Goal, and Other respectively, and the two differences between the Self and Goal, and Self and Other. This procedure was in keeping with a previous study on the effects of behavior therapy on the self-concept (Ryan et al., 1976).

In the construction of the MSGO, the bipolar constructs of the items were obtained from the lists of graduate students. The test was then further refined by correlating the items of the MSGO and the Taylor Manifest Anxiety Scale on undergraduate students, and by increasing

internal consistency through item analysis. The validity of the MSGO was established by the authors of the instrument through a series of "non-replicative convergent operations" in which the Scale was found to correlate with other measures of psychopathology, distinguished between clinical and normal groups, and yielded meaningful factors in factor analysis (Miskimins and Braucht, 1973).

The overall discrepancy score for the 15 items has a test-retest reliability of .80 suggesting a fairly reliable instrument. The scales used in this study also have acceptable reliabilities on the whole: Self .81, Goal .63, Other .73, Self minus Goal discrepancy .74, Self minus Other discrepancy .48. The means of the scales used in this study in normal adult samples are the following: Self 52.55, Goal 32.17, Other 50.10, Self minus Goal 19.93, and Self minus Other 8.69.

There have been a considerable number of studies done with the MSGO in the comparison of clinical groups and in measuring the effects of self confrontation, which are described by Miskimins and Braucht (1973). The test has also been used to study changes in the self-concept as the result of behavior therapy (Ryan et al., 1976).

C. Control Measures

A number control measures were used to check on the equivalence of the treatment groups. While considerable effort was taken to minimize confounding variables and "nonspecific" treatment effects, mainly by calling the treatments an "experiment on imagination", it was realized that they could not be totally eliminated. For this reason a number of control measures were included in the design to check on the equivalence

of the treatment groups. The following is a description of the control measures used in this study, which are to be found in the Appendix.

(i) Treatment components. There have been reports in the literature that subjects may deviate from perfect adherence to the instructions for imaginings (Weitzman, 1967; Davison and Wilson, 1973; Kazdin, 1975). In a study of this problem, Kazdin (1975, 1976) found that overall the subjects imagined scenes which closely corresponded to the instructions, although there were also some deviations in a very small minority of cases.

To check whether the subjects in this study would adhere to the treatment scenes, questionnaires were filled out by them concerning the presence of the administered components in what they imagined. The questionnaire was modeled after similar research on the assessment of imagined scenes by Kazdin (1975, 1976). The forms presented to the four treatment groups were somewhat different since they contained different components.

In general, the subjects were asked if they imagained the setting, and the role of the scene, and to what degree. If they did not, then they were requested to describe what specifically they were doing or thinking about. In addition, they were asked to indicate if they elaborated on the scenes presented and to briefly describe it if they did so. The questionnaires were completed three times, after the tenth, twentieth, and twenty-fifth scenes.

(ii) Imagery dimensions. The quality of imaginings has been thought to be an important component of some forms of therapy, especially systematic desensitization (Wolpe, 1973). However, research has failed

to show that dimensions of imagery, such as vividness or controllability are related to improvement in desensitization (McLemore, 1972), or that clarity of the image is related to changes in assertiveness in covert modeling (Kazdin, 1975). On the other hand, involvement in imaginings appears to be related to response to hypnotic suggestions (Tellegen and Atkinson, 1974; Spanos and McPeake, 1975).

To control for the equivalence of the four treatment groups on the above imagery dimensions, rating scales generally used to assess imagery in research on hypnosis were adapted for use in this study. A 6-point Likert-tyle self-rating scale was adapted from Spanos, Horton, and Chaves (1975) for measuring the subjects' involvement in the particular scenes they were imagining. Similarly, a 7-point scale was used to assess the reality of scenes which were imagined (Spanos and McPeake, 1974), while a 4-point rating scale measured the clarity of the images (Spanos, Churchill, and McPeake, 1976). Vividness of imagery was assessed by asking subjects to use the number 100 if their image was as vivid as a real event, 50 if it was half, 20 if it was 20% as vivid, and so on (Spanos, Churchill, and McPeake, 1976). These dimensions of imagery were also assessed after the tenth, twentieth, and twenty-fifth scenes.

(iii) Anxiety of scenes. There is evidence to suggest that the anxiety content of imagery is related to self-reported fear and avoidance behavior (Wade, Malloy, and Proctor, 1977). Anxiety has been measured while imagining treatment scenes in covert modeling, but was not found to relate to treatment effects (Kazdin, 1975). Along with the dimensions of imagery, the subjects in this study rated their degree of anxiety on a 7-point Likert-type scale, while imagining the settings of the scenes

they were presented.

(iv) Expectancy and interest in scenes. Expectations of therapeutic gain can account for some of the treatment effects of therapies (Frank, 1974). This can be conveyed to the subject by means of a treatment rationale or by simply labeling a procedure "treatment", "hypnosis" etc. The therapeutic effects of "treatment" expectations on the part of the subjects have been demonstrated in studies of desensitization (Borkovec and O'Brien, 1976), and covert sensitization (Foreyt and Hagen, 1973; Sipich, Russell, and Tobias, 1974).

An attempt was made to minimize such expectancy effects in this study by presenting the procedures as an "experiment on imagination" and by the fact that there was no implication to the subjects that they were "patients" receiving treatment or even that they were in need of treatment. However, since expectancy variables cannot be eliminated completely, an attempt was made to assess their equivalence in the four treatment groups. This was done by means of a 7-point Expectancy scale in which subjects indicated the degree to which they expected the scenes to have some personal effect on them.

Other factors can also influence treatment outcome. Borkovec and Nau (1972) point to the importance of the credibility of the treatment rationale for the generation of expectancy effects in the subject. The presence of favourable attitudes to hypnosis can also enhance response to suggestions (Barber and DeMoor, 1972).

Accordingly, it was felt that favourable attitudes, such as interest in the scenes may be a factor to consider in this experiment. The subjects were therefore asked to rate on an Interest Scale

how interesting they had found the scenes. Like the measure for expenctancy, interest was also rated on a 7-point scale. Both scales were administered after the fifth scene had been presented.

D. Apparatus

All treatment instructions and scenes for imaginings were pre-recorded by a professional public speaker or elocutionist, other than the experimenter himself. The scenes were recorded and subsequently played on a 117 volt, 4-track Sony tape recorder at a speed of 3 and 3/4 in. A total of 13 reel-to-reel tapes, each 1800 ft. long, were used for presenting the treatments. A separate tape was made for each session of each group, except for the first (practice) session, which was identical for all groups and was therefore recorded on a single tape. The procedure of using separate tapes for each session and each group made it easier to administer the treatments, and reduced the chance for error.

4. Procedure.

The subjects who volunteered and were selected for the experiment were seen for their first session in a conference room of the University Centre. They were seated around a large conference table in comfortable chairs. This made it possible to test groups of up to ten subjects, since they could all complete their forms sitting comfortably around the conference table. However, since subjects often could not be scheduled in the most efficient way possible, the size of the groups for the first session varied from a single individual up to nine subjects per meeting. The mean of the number of subjects seen for the

first session was a little less than three (2.71) per meeting.

In the first session the subjects were administered the pretests which included the Fear of Negative Evaluation (FNE), the Self Consciousness Scale (SCS), the Assertion Inventory (AI), and the Miskimins Self-Goal-Other Discrepancy Scale (MSGO). In addition, they also completed the Absorption Scale (AS) on the basis of which they were subsequently divided into High and Low Involvement groups which served as the second factor in the experimental design.

After completing the tests, the subjects listened to the tape of the first session. This included an introduction to the treatment sessions to follow, and instructions on how to proceed with the imagination tasks to make sure that they were carried out properly and to enhance maximum involvement. Following these instructions the subjects were presented with two neutral practice scenes to imagine. As with subsequent scenes in later sessions, each practice scene was imagined twice and was similar in format to the treatment scenes in including a setting, a 20 second pause for the imagining of it, and the role, with a subsequent 40 second pause to imagine it. The practice enabled the subjects to gain some experience in imagining scenes presented on tape and to become comfortable with the whole process. The introduction on tape and the practice scenes lasted for approximately 10 minutes and the verbal transcript of the instructions can be found in the Appendix. The first session lasted about 50 minutes.

Subjects in each of the treatment groups received a total of four sessions which included the above mentioned practice session. The sessions for each group were similar in format. The next three sessions

of the experiment were shifted to the Dream Laboratory of the University of Ottawa. The sessions took place in a large pleasantly decorated room in which chairs were placed in a circle. The chairs were comfortable to facilitate the imaginings of the subjects. The subjects sat in the chairs, listened to the tape and imagined the scenes that were presented. Thy were given pencils and clip-boards when they were required to describe and to rate the scenes they actually imagined.

The experimenter manipulated the tape recorder from a table in one corner of the room. During the actual imagining tasks the room was dimmed by drawing the curtain and by closing the lights, except a dim yellow light provided some visibility. The soft lighting conditions were used to make the subjects comfortable and at ease while imagining. From sessions 2 to 4, the subjects were seen by the experimenter in small groups which ranged in size from one to seven persons, with a mean size of a little over two persons (2.25) per meeting.

The average time for each subject from session 1 to session 4 was 22 days or slightly more than three weeks. This included Pretesting in session 1 and Posttesting in session 4. The average time for just the last three treatment sessions, i.e. sessions 2 to 4, was 13.25 days, which is slightly less than two weeks. In other words the actual treatment time for each of the four groups was about two weeks.

Starting with session 2, the subjects were divided according to the treatment groups to which they belonged. In this session the treatment scenes proper were administered, each of the four groups receiving a different set of treatment scenes. Groups 1 (Neutral Situations) and 2 (Stress Situations) were presented setting components

only. Groups 3 (Skills Training) and 4 (Self Constructs) were also administered the role components, in addition to the settings.

In Groups 1 and 2, the presentation of the situations or settings was followed by a 60 sec pause during which time the subjects had a chance to imagine the scenes. Then the whole scene was repeated, as was the case in Groups 3 and 4. The format of presenting the scene, allowing for a pause, and then repeating the whole process was adapted from Kazdin (1975). In Groups 3 and 4, the presentation of the stress situations was followed by a 20 sec pause, then the role, and finally a 40 sec pause. The roles were imagined during this 40 sec pause. Thus, the total time that the subjects had to imagine the scenes was equal in all four treatment groups, namely 60 sec.

For each group there were 15 scenes presented in session 2. After the fifth scene, the tape was stopped and the subjects completed the Expectancy and Interest rating scales. After the 10th scene they completed the questionnaire on the Components of the last scene, rated the Anxiety scale, as well as the Involvement, Vividness, Reality, and Clarity scales measuring the imagery of the last scene they had just imagined. They were then presented with the remaining five scenes of the session. Session 2 took about 1 1/2 hours to complete on the average.

A total of 10 scenes were presented in session 3. After the fifth scene the subjects were given the Components, Anxiety, and the four measures of imagery. Then five more scenes were administered followed again by Components, Anxiety, and the four imagery measures. On all occasions these control measures pertained to the last scene which

had just been imagined. Session 3 lasted for about one hour on the average.

In session 4 the subjects received the last five scenes, bringing the total to 30 scenes for all the treatment sessions. The scenes can be found in the Appendix. They were followed by the administration of the Posttests, which was the readministration of the FNE, SCS, AI, and the MSGO. Session 4 lasted about one hour, following which the subjects were individually debriefed and explained the purpose of the experiment.

5. Experimental Factors.

A. Treatment Groups

The first factor of the experimental design compared the effects of four treatment groups. The groups were variations on covert treatments, i.e. treatments requiring subjects to employ imaginative and cognitive exercises.

Instructions for imaginative exercises were the most appropriate method for presenting explicit demand variables related to therapeutic outcome. They also made it possible to label the procedures as an "experiment on imagination" and thereby to reduce the role of unwanted variables such as therapy rationales and "expectancy of therapeutic effectiveness". The instructions could also be recorded on tapes, and thereby the input could be systematically controlled without contamination by other variables.

Presentation of the treatments by tape was primarily designed to reduce the effects of experimental or therapist bias. The treatment scenes were also presented to the subjects in order of increasing

complexity and stress, similar to other covert techniques such as systematic desensitization (Wolpe, 1973).

Each treatment group was designed to communicate different cues to the subjects about what he was supposed to be doing or thinking. Although these cues were presented explicitly in the instructions they represented both explicit and implicit demand characteristics which may participate in therapies.

The number of treatment components varied from group to group, as illustrated in Table 2. Group 1 (Neutral Situations) and Group 2 (Stress Situations) only received a setting or situation to imagine. On the other hand, Group 3 (Skills Training) and Group 4 (Self Constructs), received both the stressful settings and roles to imagine. Of course the roles in Groups 3 and 4 were different and provided different cues. The procedure of presenting different components or parts of treatment scenes, such as the setting and the role, to test the effects of different variables or ingredients in treatments, was adapted from studies on covert modeling (Kazdin, 1975). The following four treatment groups participated in the experiment.

(i) Neutral Situations. This group was included to control for the effects of so called "nonspecific" treatment effects such as attention, participation in an experiment, and implicit demands for change through testing which may have been inadvertently communicated to the subjects. Unlike studies on "therapy" effectiveness, there were no rationales or explanations of how the treatments were supposed to work, since this was not supposed to be a study on "treatment".

The subjects were presented with neutral and commonplace situ-

Table II

Treatment Components in the Four Experimental Groups

Groups	Components
1) Neutral Situations	1. neutral settings
2) Stress Situations	1. stressful settings
3) Skills Training	1. stressful settings 2. role: skillful responses
4) Self Constructs	1. stressful settings 2. role: trait constructs

ations as has been done in other attention-placebo control procedures (McReynolds et al., 1973). There was only one treatment component presented, namely that of settings or situations. These scenes were constructed by the present author for this experiment, and included such situations as, "Imagine that you are shopping in a department store. You are looking for some clothes and shoes for yourself". The scenes for all four treatment groups are to be found in the Appendix.

(ii) Stress Situations. In this group the subjects were presented with stressful situations to imagine. However, no suggestions were provided as to how to deal with the problems. Therefore this group, like the previous one, only received the settings component of the scenes. The presentation of only the problem situations to one group has been used as a control group in studies of social skills training (Goldsmith and McFall, 1975; Kazdin, 1975). For the Skills Training and Self Constructs groups in this study, these situations presented the context in which socially skillful roles and responses were imagined by the subjects.

The search for socially stressful situations was guided by previous studies which have identified problem situations for socially anxious or inadequate persons. These included fears of disapproval and criticism (Richardson and Tasto, 1976), fears of large groups and strangers in shy students (Zimbardo, Pilkonis, and Norwood, 1974), dating situations for students (Glass, Gottman, and Shmurak, 1976), and initiating conversation in psychiatric patients (Goldsmith and McFall, 1975). It was therefore expected that our sample of socially unskillful subjects may find these situations demanding and perhaps stressful,

since they would be presented with situations they may find difficult to cope with.

This treatment group also had some theoretical significance, since some authors view exposure to the anxiety provoking stimulus as the main treatment component of fear reducing therapies (Marks, 1975). Therefore, this group controlled for the possibility that changes on the criterion measures may be due to the subjects' exposure in imagination to stressful situations and to their subsequent habituations.

Of the 30 situations presented for imagining, 26 scenes were social situations or where a social response was appropriate. In addition there were 4 task oriented situations, where skills in task completion were appropriate. The situation scenes came from a variety of sources addressing the problems of social inadequacies and social skills training.

Nine scenes were adapted from an interpersonal skills training program (Goldsmith and McFall, 1975). Another eight scenes were adapted from examples of situations requiring assertive behaviors (Alberti and Emmons, 1974). Two scenes came from a treatment program of refusing unreasonable requests, a type of assertion training (McFall and Lillesand, 1971). One scene each came from a dating skills training (Glass, Gottman, and Shmurak, 1976), and a modeling program for assertive behaviors (Kazdin, 1975). In addition, nine situations were developed by the author for this study. Of these, five scenes dealt with situations requiring social responses and assertive behaviors, while four were in the area of task accomplishment and skills at management of personal problems.

In sum, these situations placed a demand on the person in them for a skillful response, and therefore could be experienced as stressful by someone who lacked the required skills to handle them. An example of a stress situation is:

> Imagine that you are sitting at a lunch table with a friend of the same sex, as you, when a friend of his or hers, also of the same sex, comes over and is introduced. Just then your friend realizes that he or she is late and gets up and leaves. Now you are left alone with the other person and you have your lunch to eat. You look at each other in awkward silence.

(iii) Skills Training. In this group the subjects rehearsed skillful responses in the imagination. Accordingly, it represented a covert skills training approach to the treatment of social and personal deficiencies. The purpose of this group was to test whether specific treatment mechanisms, such as found in skills training approaches, are the active components for therapeutic change, even when demand variables are removed. In addition, this group was to be compared to another type of imaginative treatment (Self Contstructs), which this study hypothesizes to contain those demand characteristics which are the active treatment components in behavioral and cognitive techniques.

Covert behavioral training approaches have been used for the treatment of personal problems and social deficiencies. Kazdin (1975) found that covert modeling of assertive behaviors produced significant improvements in assertiveness on both self-report and behavioral measures. In fact, covert skills rehearsal has at times been found to be as effective as overt behavioral rehearsal in assertion training (McFall and Lillesand, 1971; McFall and Twentyman, 1973). Covert

modeling has also been found to be equal to overt modeling in reducing avoidance behavior (Cautela, Flannery, and Hanley, 1974).

The subjects in the Skills Training group rehearsed a repertory of specific responses in the imagination. The training was similar to that of Kazdin (1975) in that the subjects were first required to imagine the stressful situations, followed by the imagining of appropriate responses, and in that each scene was imagined twice. Thus in addition to the situation component present in the Stress Situations group, there was also a role component. The roles were comprised of 13 responses in the area of assertion, 9 in interpersonal relations, 4 in dating skills, and 4 in task or personal problem solving. Together they covered a wide range of skillful behaviors. To give a more specific description, the subjects rehearsed refusing unreasonable requests, initiating conversations with strangers, conversing with the opposite sex, dealing with job interviews, and so on.

The roles were adapted from a number of sources, essentially the same ones as in the Stress Situations scenes. There were 8 scenes adapted from Alberti and Emmons (1974), 7 scenes from Goldsmith and McFall (1975), 3 scenes from Glass, Gottman, and Shmurak (1976), 2 from McFall and Lillesand (1971), and 1 from Kazdin (1975). Also, nine scenes were developed for this study by the author. An example of the role component of one scene is the following:

> Now imagine that you say to this person, "You know, I'm really enjoying talking to you. I like the way you put things. What kinds of things outside of school are you into?"

(iv) Self Constructs. This group represented the effects of

common mechanisms in therapies. These mechanisms were identified as demand characteristics in treatments which refer to changes in the self-concept.

The demands were presented to the subjects in an explicit manner through roles described in terms of personality attributes. People formulate their "implicit personality theories" about themselves and others using "trait" and personality dimensions (Schneider, 1973; Mischel, 1973; Rosenberg, 1976). Therefore, the presentation of roles to imagine based on personality attributes could be expected to activate changes in the person's implicit personality theories and self-concepts.

The settings presented in the first part of the scenes were exactly the same as in the Stress Situations and the Skills Training groups. The role component of each scene was written to correspond to the behaviors and responses of the roles of the Skills Training group, however now the roles were described using "trait" terms and constructs. Therefore, explicit demands were made on the subjects to assume the new "personality" as described in the instructions.

The contents of the roles covered the same areas of assertion, interpersonal relations, dating, and problem solving skills as in Group 3. The constructs which were finally used in the roles also corresponded to major trait categories, such as sociability, competence, and concern for others, used by college students to describe themselves and others (Rosenberg, 1976). Except for the use of trait constructs for the roles, all other aspects of the procedure in this group was the same as in Group 3 (Skills Training). The following is an example of the role component used in this group:

> Imagine you are now a person who feels entitled to proper service. You know your rights and can stand up for yourself. You feel confident, at ease and not intimidated in service situations.

B. Involvement Factor

The second factor of the experimental design, Involvement is based on the Absorption Scale (Tellegen and Atkinson, 1974). It is one of the subscales of the Differential Personality Questionnaire (DPQ) developed by Tellegen (1976), and measures a "distinct personality dimension". In constructing the DPQ, items for each of the subscales were selected with the aid of a series of factor analytic studies with the goal of obtaining convergent and discriminant validity, i.e. all the items of a scale were to measure the same trait but a different trait from the ones which items in other scales measure.

Absorption or involvement may be defined as "a capacity for episodes of absorbed and 'self-altering' attention that are sustained by imaginative and 'enactive' respresentations" (Tellegen, 1976, p. 2). The Scale is based on 34 items and the possible range of scores is 0 to 34. It was developed and standardized on undergraduate students whose mean score on the Scale is 19.8. The Scale has good internal consistency with a reliability coefficient of .89.

The Absorption Scale was originally developed in an attempt to clarify the nature of hypnotic susceptibility. Support for its validity has been obtained by its correlation with measures of hypnotic susceptibility, and its independence of neuroticism and introversion (Tellegen and Atkinson, 1974). Because of the lack of relationship to pathology, our sample of unassertive students were able to obtain scores along the

full range of the Absorption Scale, and subsequently divided into High and Low groups. Additional research has also been carried out on the Scale, showing its relation to hypnotic suggestibility (Spanos and McPeake, 1975), and to an ability to inhibit distraction (Davidson, Schwartz, and Rothman, 1976).

6. Statistical Operations.

The following main statistical operations were employed in this experiment:

(i) The control measures were subjected to One-Way Analyses of Variance to check on the equivalence of the four Treatment groups on variables not related to the hypotheses being tested.

(ii) The Change or gain scores, which were obtained by subtracting Pretest from the Posttest scores, were subjected to 4 × 2 Analyses of Variance (Treatments × Involvement) to assess the presence of changes on the criterion measures due to the two factors of the experiment, and to test for differences between treatment groups. Analysis of change scores yields a sensitive index of the effects of treatments on dependent measures.

(iii) To control for any inequalities which may have existed on the Pretest scores due to random fluctuations, the criterion measures were also tested by 4 × 2 Analyses of Covariance (Treatments × Involvement), with Pretest scores being the covariate. These analyses tested for the presence of significant differences among the Treatment groups, and also between High and Low Involvement.

(iv) Where significant differences were found, Newman-Keuls post hoc contrasts of the mean change scores of the treatment groups were carried out at the .05 confidence level, to determine where the significances lay among the groups.

CHAPTER III

RESULTS

This chapter presents the results of the statistical analysis of the data. The main effects of the two factors of the study, namely the Treatments and Involvement, were assessed by means of the scales and subscales of these four measures: the Miskimins Self-Goal-Other Discrepancy Scale, the Assertion Inventory, the Self-Consciousness Scale, and the Fear of Negative Evaluation. The other control and dependent measures were analyzed to check the equivalence of the treatment groups on irrelevant and on "nonspecific" variables related to therapeutic outcome, and on dimensions of imagery related to the process of imagining.

1. Control Measures.

The ages of the subjects in the four treatment groups were subjected to a one-way analysis of variance, which indicated no significant differences among the groups, F (3, 83) = 1.09, n.s. The sex of the subjects was also not related to their treatment group assignments, X^2 (3) = 0.42, n.s. A one-way analysis of variance also failed to yield a significant difference among the four treatment groups on the Absorption Scale, suggesting that the groups were equal on this personality measure F (3, 83) = 0.19, n.s. Therefore, in terms of age, sex, and ability for imaginative involvement, the four treatment groups were equal.

A. Expectancy and Interest Scales

Examination of the Expectancy scale suggested that across the four treatment groups, there was only a moderate expectancy by the subjects that the scenes would have some personal effects on them (see Table 3). Also, overall the scenes were found to be moderately interesting. The four treatment groups were equal in the analysis of the Expectancy scale. A one-way analysis of variance showed no significant differences, F (3, 83) = 0.63, n.s. The Interest scale likewise showed no significant differences among the four treatments in a one-way analysis of variance, F (3, 83) = 0.82, n.s, indicating that the subjects found the scenes in the different treatments equally interesting.

B. Components of the Treatment Scenes

The subjects completed a 4-point rating scale concerning the amount of the setting of the scenes they imagined. Their scores were combined over three scenes measured. The means suggest that on the average almost all of the instructions describing the settings were imagined in all four groups (see Table 4). In addition, a one-way analysis of variance revealed no significant differences among the four treatment groups in the amount of the settings imagined, F (3, 83) = 1.21, n.s.

The amount of anxiety experienced while imagining the settings was rated on a 7-point scale. The scores were combined over the three scenes measured. As would be expected, the Stress Situations group experienced the most anxiety, in the "moderate" range, while the Neutral Situations group experienced the least amount and in the "no anxiety" range (see Table 4). Although the scores were in the right direction, a one-way analysis of variance failed to indicate significant dif-

Table III

Means and Standard Deviations of the Control Measures

Measures	Mean S.D.	Group 1	Group 2	Group 3	Group 4
Age		26.67 (9.54)	23.27 (3.94)	26.77 (5.98)	25.77 (8.49)
Absorption		19.90 (6.03)	19.27 (6.85)	19.91 (5.26)	20.68 (6.41)
Expectancy		3.90 (1.26)	3.50 (1.63)	3.73 (1.42)	3.32 (1.67)
Interest		4.43 (1.57)	3.68 (1.43)	3.91 (1.57)	4.14 (1.91)

ferences among the groups, F (3, 83) = 1.48, n.s.

There are several possibilities for this finding. The most likely reason may be that generally these scenes are only moderately anxiety arousing. In a related pilot study, "normal" graduate students rated the 30 scenes in the moderate range on anxiety (44.59 on a scale from 0 to 100). Even subjects who are somewhat socially unskillful and who may perceive such situations as difficult to cope with, may not interpret them as anxiety provoking. Consequently the overall difference between neutral and socially demanding situations may not be large in terms of anxiety, and may sometimes prove to be insignificant. Another possibility may be that the low anxiety is a function of our sample, which was not a very disabled one.

There were only two groups which received instructions to imagine roles, the Skills Training and the Self Constructs groups. The means of the two groups are in Table 4, and indicate that most of the instructions for the roles were imagined by both groups. Therefore, the subjects complied with the imaginative tasks they were presented with and carried out the active treatment components of the scenes. Since there were only two groups which imagined roles, the means were subjected to a t test for independent groups. It indicated that the two groups were not significantly different from each other in the extent to which the role components were imagined, t (42) = 1.51, n.s.

Across the three scenes assessed, the Elaboration measure indicated that the subjects in three of the four groups imagined some additional material to that which was presented in the scenes (see Table 4). Only the Skills Training group fell in the "no" elaboration range.

Table IV

Means and Standard Deviations of the Control Measures Summed Across Three Assessed Scenes

Measures	Mean S.D.	Group 1	Group 2	Group 3	Group 4
Anxiety		7.57 (4.28)	10.14 (4.42)	9.68 (3.23)	9.18 (4.87)
Setting		8.09 (0.94)	7.64 (1.50)	7.27 (1.78)	7.82 (1.47)
Role		--- ---	--- ---	6.54 (2.13)	7.41 (1.62)
Elaboration		1.90 (0.99)	2.36 (0.90)	1.36 (0.95)	2.00 (1.19)
Involvement		10.52 (2.32)	9.54 (2.74)	9.41 (2.46)	10.00 (2.89)
Vividness*		73.76 (24.43)	67.04 (18.41)	65.77 (19.72)	59.50 (23.82)
Reality		9.48 (3.74)	9.73 (3.24)	10.32 (4.24)	10.86 (4.35)
Clarity		7.00 (1.18)	6.54 (1.01)	6.45 (1.50)	6.27 (1.24)

*average score of three assessed scenes

This is consistent with findings of previous studies that some elaboration on the scenes presented for imagining takes place. A one-way analysis of variance resulted in significant differences among the groups, F (3,83) = 3.63, $p < .02$ (see Table 4). Newman-Keuls *post hoc* contrast of group means at the .05 confidence level revealed only one significant difference. There was significantly more elaboration in the Stress Situations group than in the Skills Training group, which had imagined little more than what had been presented in the instructions.

However, these elaborations appear to have produced only a minor distortion of the effects of the scenes. A content analysis of the elaborations of the scenes in the Stress Situations group revealed that in only 18% of the cases of imaginings did the elaborations add moderately to the stressful nature of the situation or provided a response to it. There was not one case of a major deviation from the content of a scene. In 82% of the cases the scenes were closely adhered to, with only minor additions present. In the case of the Self Constructs group, there were both situations and roles to imagine. Even this being the case, in only 32% of the imaginings were the additions or deviations of a magnitude that they may have had a significant effect on the basic content being presented. In 67% of the cases of imaginings the subjects essentially remained within the limits of the instructions they were presented.

C. Imagery Dimensions

The analysis of the Involvement self-rating scale revealed that the subjects were moderately absorbed in the situations or the roles

presented (see Table 4). More specifically, they rated their involvement a little more than half way on the scale. A one-way analysis of variance did not show any significant differences between the four groups on involvement over the three scenes measured, F (3, 83) = 0.80, n.s.

The scenes, over the four groups, were rated 66% as vivid as a real event (see Table 4). No significant differences were detected among the groups in a one-way analysis of variance, F (3, 83) = 1.56, n.s. Therefore the scenes in the four groups were imagined equally vividly.

The overall analysis of the Clarity measure indicated that the scenes were only moderately clear in the imagination (see Table 4). The subjects rated some parts clearer than other parts of the scene. A one-way analysis of variance failed to indicate significant differences among the groups, F (3, 83) = 1.31, n.s.

The analysis of the Reality measure showed that over the four groups, the scenes imagined were believed to be a real event for a short period of time (see Table 4). In other words, as the scenes were imagined the subjects thought they were experiencing a real event for a few moments of the time set aside for imagining. However, there were no differences among the groups, and a one-way analysis of variance did not show any significant differences, F (3, 83) = 0.55, n.s.

D. Summary

The equivalence of the treatment groups appears to have been supported by the thirteen control measures. This suggests that unwanted or confounding variables which may not have been totally eliminated in

the experimental procedures were evenly distributed across the four treatments. This makes it possible to draw valid conclusions about the true effects of the treatments from the analysis of the specific variables under investigation. Only the Elaboration measure indicated some differences among the treatment groups. However, the effect of these elaborations appeared to be minor since even for the two groups most affected, in 74% of the combined cases of imaginings the subjects closely adhered to what they were instructed to imagine; and in only 5% of the cases did it appear that the essential components of the scenes may have been left out.

2. Main Criterion Measures.

A. The Assertion Inventory

A 4 × 2 analysis of variance on the change scores showed a significant main effect for Treatments on the Discomfort scale of the AI, F (3, 79) = 4.10, $p < .01$ (see Table 5). The results indicated that there were significant differences among the treatment groups in the extent to which change occurred. A 4 × 2 analysis of covariance corroborated these results (see Table 6), with a significant main effect on the treatment groups, F (3, 78) = 3.46, $p < .025$. There were no other significant main effects or interactions in either analysis.

On the Newman-Keuls contrasts only Group 4 (Self Constructs) and Group 2 (Stress Situations) were found to have significantly reduced the felt discomfort as compared to the control Group 1 (Neutral Situations). There were no other differences among the treatment groups.

Table V

Summary of Two-way Analysis of Variance (Treatments × Involvement) for Assertion Inventory Change Scores

	Source	df	MS	F
Response Probability	Treatments (A)	3	324.38	3.27*
	Involvement (B)	1	167.18	1.68
	A × B	3	101.12	1.02
	Within	79	99.33	
Discomfort	Treatments (A)	3	871.60	4.10**
	Involvement (B)	1	101.58	0.48
	A × B	3	20.53	0.10
	Within	79	212.45	
Difference	Treatments (A)	3	223.14	0.86
	Involvement (B)	1	91.16	0.35
	A × B	3	154.58	0.60
	Within	79	258.03	

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

Table VI

Summary of Two-way Analysis of Covariance (Treatments × Involvement) for Assertion Inventory Posttest Scores

	Source	df	MS	F
Response Probability	Treatments (A)	3	260.53	2.72*
	Involvement (B)	1	121.69	1.27
	A × B	3	79.62	0.83
	Within	78	95.94	
Discomfort	Treatments (A)	3	719.68	3.46*
	Involvement (B)	1	123.30	0.59
	A × B	3	18.57	0.09
	Within	78	207.87	
Difference	Treatments (A)	3	163.29	0.74
	Involvement (B)	1	3.80	0.02
	A × B	3	167.84	0.76
	Within	78	220.69	

*$p \leq .05$

The analysis of variance of the change scores on the Response scale of the AI was also significant for Treatments, F (3, 79) = 3.27, $p < .03$ (see Table 5). A significant main effect was also found for treatments on the analysis of covariance, F (3, 78) = 2.72, $p = .05$ (see Table 6). No other significant effects were found.

Group 4 (Self Constructs) gained significantly in assertive responses compared to both Group 1 (Neutral Situations) and Group 2 (Stress Situations) as indicated on the Newman-Keuls. There were no other significant differences among treatments.

There were no significant effects for the Difference score of the AI on either the analysis of variance or covariance.

The results generally point to the superiority of the Self Constructs group in comparison to the other treatments which on the whole appear to have negligible effects in increasing assertiveness when expectancy variables are reduced or are not operating.

B. The Miskimins Self-Goal-Other Discrepancy Scale

The 4 × 2 analysis of variance on the change scores was significant for Treatments on the Self scale of the MSGO, F (3, 79) = 3.97, $p < .02$ (see Table 7). The Self scale is a measure of the perceived self (the sum of the 15 items rated for self-perception, with lower scores denoting more positive feelings about the self). The presence of these changes were supported by the analysis of covariance with significance on Treatments, F (3, 78) = 3.44, $p < .025$ (see Table 8). No other significant effects were found on the Self scale.

Post hoc testing with the Newman-Keuls indicated that Group 4

Table VII

Summary of Two-way Analysis of Variance (Treatments × Involvement) for the Miskimins Self-Goal-Other Discrepancy Scale Change Scores

	Source	df	MS	F
Self	Treatments (A)	3	252.18	3.97**
	Involvement (B)	1	151.11	2.38
	A × B	3	113.16	1.78
	Within	79	63.52	
Goal	Treatments (A)	3	159.37	2.74*
	Involvement (B)	1	248.80	4.28*
	A × B	3	30.37	0.52
	Within	79	58.18	
Other	Treatments (A)	3	116.13	1.25
	Involvement (B)	1	161.26	1.73
	A × B	3	79.66	0.86
	Within	79	92.94	
Self-Goal	Treatments (A)	3	50.07	0.68
	Involvement (B)	1	22.77	0.31
	A × B	3	78.90	1.08
	Within	79	73.16	
Self-Other	Treatments (A)	3	271.44	4.43**
	Involvement (B)	1	0.16	0.00
	A × B	3	27.90	0.45
	Within	79	61.27	

*$p < .05$
**$p \leq .01$

(Self Constructs) significantly improved their self-concepts in comparison to Groups 1, 2, and 3. The other groups were not significantly different from each other.

Significant effects were found for the Treatment and the Involvement factors on the analysis of variance of the Goal change scores, F (3, 79) = 2.74, $p < .05$, and F (1, 79) = 4.28, $p < .05$ (see Table 7). Analysis of covariance supported only the main Treatment effects with nearly significant group differences, F (3, 78) = 2.53, $p = .06$ (see Table 8). There were no other significant effects in either the analysis of variance or covariance.

The Newman-Keuls revealed that only Group 4 (Self Constructs) increased their ideal self (reduction on the Goal scores) in comparison to the control group (Neutral Situations). No other comparisons between groups were significant.

There were no significant effects for the Other scale in either the analysis of variance or covariance. The same was true for the perceived-self-ideal-self discrepancy (Self-Goal score).

For the Self-Other discrepancy score the analysis of variance revealed a significant main effects on Treatments, F (3, 79) = 4.43, $p < .01$ (see Table 7). The analysis of covariance was also significant on the Treatments, F (3,78) = 4.09, $p < .01$ (see Table 8).

Newman-Keuls tests showed that Group 4 (Self Constructs) significantly reduced the discrepancy between the perceived-self and how the subject thought others perceived him (Self-Other score) in contrast to the Neutral Situations and Skills Training groups.

Table VIII

Summary of Two-way Analysis of Covariance (Treatments × Involvement) for the Miskimins Self-Goal-Other Discrepancy Scale Posttest Scores

	Source	df	MS	F
Self	Treatments (A)	3	218.92	3.44*
	Involvement (B)	1	107.54	1.69
	A × B	3	109.11	1.71
	Within	78	63.66	
Goal	Treatments (A)	3	135.20	2.53
	Involvement (B)	1	151.02	2.82
	A × B	3	20.74	0.39
	Within	78	53.46	
Other	Treatments (A)	3	102.65	1.17
	Involvement (B)	1	44.53	0.51
	A × B	3	82.83	0.95
	Within	78	87.42	
Self-Goal	Treatments (A)	3	18.81	0.27
	Involvement (B)	1	41.80	0.59
	A × B	3	79.86	1.13
	Within	78	70.41	
Self-Other	Treatments (A)	3	193.03	4.09**
	Involvement (B)	1	11.08	0.23
	A × B	3	8.76	0.19
	Within	78	47.14	

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

The result of the analyses of the main scales of the MSGO is consistent in indicating that only the Self Constructs group significantly improved the self-concepts of the subjects, and reduced discrepancies, while the other treatments had no effect.

C. MSGO Subscales

Due to the significant treatment effects on the main scales of the MSGO, the 15 individual subscales were also subjected to 4 × 2 analyses of variance of the change scores. Two significant Treatment effects were found, one on competent-incompetent, F (3, 79) = 4.11, $p < .01$, and one on high self-confidence - low self-confidence, F (3, 79) = 3.70, $p = .01$ (see Table 9). These results indicate that the main impact of the treatments on self-esteem as measured by the Self scale of the MSGO, was in increasing the subjects' sense of competence and self-confidence.

The Newman-Keuls contrasts found the Self-Constructs group to increase significantly their sense of competence in comparison to Groups 2 and 3. Both the Self Constructs group and the Skills Training group were superior to the control group (Neutral Situations) in increasing self-confidence. The analyses of the subscales of the MSGO again revealed that only the Self Constructs group showed consistent improvements due to treatment and was superior to the other treatment manipulations.

D. The Self-Consciousness Scale

Three subscales as well as the total score of the SCS were analyzed. Neither the analysis of variance of the change scores, nor the

RESULTS

Table IX

Summary of Two-way Analysis of Variance (Treatments × Involvement) for the Competence and Self-confidence MSGO Subscale Change Scores

	Source	df	MS	F
Competence	Treatments (A)	3	7.31	4.11**
	Involvement (B)	1	0.03	0.02
	A × B	3	0.33	0.19
	Within	79	1.78	
Self-confidence	Treatments (A)	3	6.44	3.70**
	Involvement (B)	1	0.25	0.14
	A × B	3	1.08	0.62
	Within	79	1.74	

**$p < .01$

analysis of covariance showed any significant main effects on the "private self-consciousness" subscale.

The "social self-consciousness" scale obtained a significant main effect on the Involvement factor in the analysis of variance, F (1, 79) = 4.40, $p < .05$ (see Table 10). However, the analysis of covariance did not support any significant effects.

On the analysis of variance of the "public self-consciousness" scale a significant Treatments × Involvement interaction was found, F (3, 79) = 3.06, $p < .05$ (see Table 10). The analysis of covariance supported these findings with a nearly significant Treatments × Involvement interaction, F (3, 78) = 2.61, $p < .06$ (see Table 11). There were no other significant effects on this scale.

Newman-Keuls analyses at the .05 level resulted in the following significant differences among the groups (see Figure 1). When comparing the High Involvement subgroups, the Self-Constructs subgroup dropped significantly in public self-consciousness at Posttest, in comparison to Groups 2 and 3. There were no similar differences for the Low Involvement subgroups. When comparing the Low with the High involved subgroups within each Treatment group, only in Self Constructs (Group 4) was reduction in public self-consciousness significantly greater for the Highs in comparison to the Lows. There were no similar differences between Lows and Highs for the other three treatments. These results indicate that for those who are high in ability for involvement in imaginative role-playing, the Self Constructs treatment was effective in reducing public self-consciousness, whereas no other treatment had any effect.

Table X

Summary of Two-Way Analysis of Variance (Treatments × Involvement) for the Self-Consciousness Scale and the Fear of Negative Evaluation Scale Change Scores

	Source	df	MS	F
Private	Treatments (A)	3	23.27	1.65
	Involvement (B)	1	14.97	1.06
	A × B	3	16.56	1.17
	Within	79	14.09	
Social	Treatments (A)	3	4.15	0.64
	Involvement (B)	1	28.55	4.40*
	A × B	3	8.68	1.34
	Within	79	6.49	
Public	Treatments (A)	3	3.28	0.97
	Involvement (B)	1	1.45	0.15
	A × B	3	29.33	3.06*
	Within	79	9.60	
Total Score	Treatments (A)	3	36.63	0.72
	Involvement (B)	1	2.09	0.04
	A × B	3	135.55	2.66*
	Within	79	50.95	
Fear of Negative Evaluation	Treatments (A)	3	38.46	2.00
	Involvement (B)	1	55.29	2.88
	A × B	3	17.71	0.92
	Within	79	19.21	

*$p \leq .05$

Table XI

Summary of Two-way Analysis of Covariance (Treatments × Involvement) for the Self-Consciousness Scale and the Fear of Negative Evaluation Scale Posttest Scores

	Source	df	MS	F
Private	Treatments (A)	3	30.52	2.36
	Involvement (B)	1	0.25	0.02
	A × B	3	10.19	0.79
	Within	78	12.94	
Social	Treatments (A)	3	3.33	0.54
	Involvement (B)	1	17.94	2.90
	A × B	3	9.30	1.50
	Within	78	6.19	
Public	Treatments (A)	3	10.47	1.13
	Involvement (B)	1	0.03	0.00
	A × B	3	24.20	2.61
	Within	78	9.27	
Total Score	Treatments (A)	3	50.18	1.02
	Involvement (B)	1	13.15	0.27
	A × B	3	105.66	2.14
	Within	78	49.40	
Fear of Negative Evaluation	Treatments (A)	3	38.21	1.96
	Involvement (B)	1	55.96	2.88
	A × B	3	17.54	0.90
	Within	78	19.44	

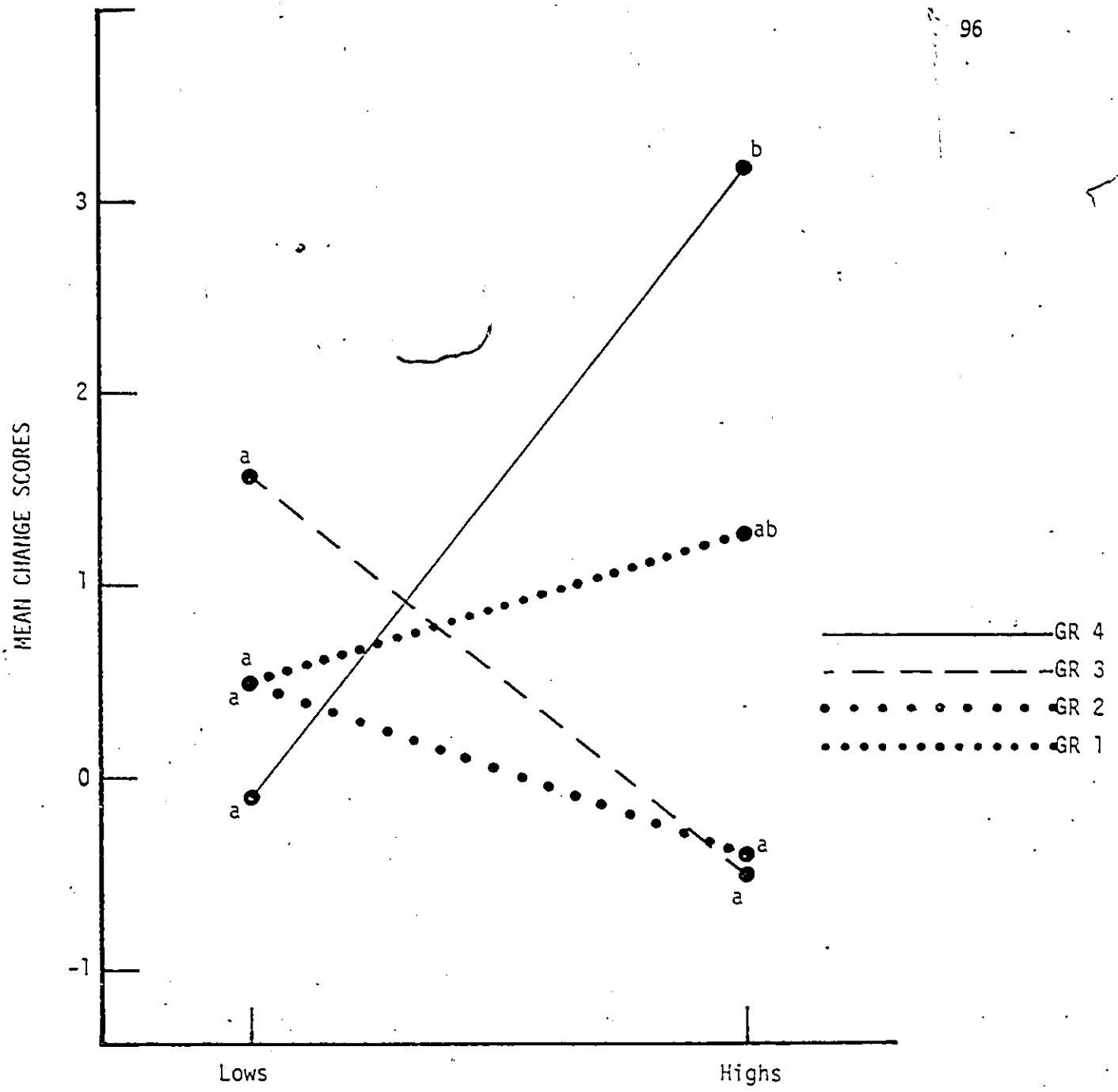


Figure 1. Mean Change Scores on Public Self-Consciousness for High and Low Involved Subjects in the Four Treatment Groups.*

* Mean points with different subscripts are significantly different on the Newman-Keuls Test ($p < .05$).

The analysis of variance of the change on the Total score of the SCS revealed a significant Treatments × Involvement interaction effect, F (3, 79) = 2.66, p = .05 (see Table 10). However, the lack of any significance on the analysis of covariance did not lend support to the validity of these findings.

On the whole there appears to be some evidence that self-consciousness was reduced in subjects who are capable of imaginative involvement and who received the Self Constructs treatment. In particular the subjects became less concerned about how they were perceived by others, or how they appeared in public.

E. The Fear of Negative Evaluation

There were no significant effects on either the analysis of variance or covariance of the FNE scale. Therefore, none of the treatments significantly changed the subjects' anxieties about being negatively evaluated by others.

F. The Content of Imaginings in the Self Constructs Group

A questionnaire was used in the Self Constructs group to find out what precisely the subjects imagined or thought of when asked to imagine the roles based on personality attributes (see the Appendix). A total of 21 subjects in Group 4 completed the questionnaire on scenes 20, 25, 28, and 30, making for a total of 71 cases of imagined scenes being evaluated.

The content analysis of the questionnaire indicated that the impact of presenting personality attributes to Group 4 was certainly registered by the subjects and affected them. Their responses to

question 7 (to describe what exactly they thought of when asked to imagine the personality traits), suggested that the subjects thought of or assumed the new personality characteristics. The following are some of their actual responses:

> I felt the traits given were an example of traits I should personally develop.
>
> I thought of the traits as though I was an actress I became the person I thought of.
>
> I thought I would have these traits myself as I am now and wish that they persisted through my whole lifetime in situations similar to this last one.
>
> I thought of each trait - then I saw myself "as though" I was like that, and I acted out the role.
>
> I thought of myself as a person who was not shy & who was fairly outspoken.
>
> The personality traits were ideal, they were positive, thus I assimilated them as being me.

In 76% of the responses to question 7, the subjects thought of the personality attributes. In 32% of the responses, the subjects appeared to have predominantly thought of the personality characteristics only. In an additional 44% of the cases of imaginings they translated the dispositions into actions and specific situations. Also, in 11% of the cases they imagined the feelings or thought such a person would have. Thus the results seem to indicate that in the majority of cases the personality dispositions and traits were in fact thought of or imagined. In addition, the traits were often exemplified in specific actions and situations. This is also borne out in their ratings of questions 1 to 5 which assessed how or by what process they imagined the traits. The results are given in Table 12. Imagining of acts and the remembering of

Table XII

Percentage of Subjects Who Endorsed Each Rating Category of the Questions on the Contents of the Imaginings in the Self Constructs Group

Questions	Rating Categories		
	Mostly	Fair Amount	Rarely
1. Concepts	15%	42%	42%
2. Verbalizations	35%	32%	32%
3. Behaviors	62%	27%	11%
4. Behaviors from memory	45%	34%	21%
5. Reasoning	31%	37%	32%

past acts or behaviors were used mostly in the imagining of traits (62% and 45%). Pure concepts were used in least often (15%).

In summary, the task of assuming new personality attributes in the imagination was actually carried out and often exemplified in specific actions and situations. It would appear that once the subject is aware of the main goals of a treatment, in this case personality dispositions, they can use their own imagination to actualize the active components of the treatment by various means.

G. Correlational Analyses

Correlations between the change scores of the main criterion measures and the Expectancy and Interest scales revealed that improvements in the treatment groups were not related to these "nonspecific" treatment variables. In the Self Constructs group which produced most of the treatment effects, there were no significant correlations between changes on the thirteen criterion measures and the Expectancy and Interest scales (Table 13). For all the groups combined, the Expectancy showed two small correlations with private self-consciousness ($r = .19$, $p < .05$), and with the Self ($r = .18$, $p < .05$) only, and there were no other significant correlations (Table 14).

In general, the correlational analyses indicated that involvement in imaginings was not related to changes on the criterion measures. However, some significant correlations were found mostly with the self-consciousness measures. In the Self Constructs group, Private Self-Consciousness was significantly correlated with the Absorption Scale ($r = .41$, $p < .05$), as well as with the Involvement self-rating scale

($r = .42$, $p < .05$), as shown in Table 13. Increase in private self-consciousness also probably accounted for the significant correlations between the Total Self-Consciousness scale and the two involvement measures. These findings were supported by the significant correlations of Private Self-Consciousness with Absorption ($r = .18$, $p < .05$), and the Involvement Rating scale ($r = .31$, $p < .01$) for all groups combined, given in Table 14. The fact that significant correlations were mainly restricted to increases in self-consciousness suggests that the highly involved probably became more aware of their own private thoughts and feelings, rather than showing increased responses to the treatment scenes which were presented.

This completes the data analysis of the major, minor and control variables investigated in this study.

Table XIII

Correlations between the Change Scores of the Main Criterion Measures and Absorption, Involvement, Expectancy, and Interest Scales in the Self Constructs Group

Criterion Measures	Absorption	Involvement	Expectancy	Interest
AI Discomfort	.12	.10	.22	.11
AI Response Probability	.12	.06	-.11	-.16
AI Difference	.14	.23	.23	-.18
Private Self-Consciousness	.41*	.42*	.22	.25
Public Self-Consciousness	.25	.19	.21	-.28
Social Self-Consciousness	.16	.11	-.20	-.04
Total Self-Consciousness	.43*	.39*	.15	.02
Fear of Negative Evaluation	-.37*	.04	-.09	-.08
MSGO Self	-.18	.05	.15	.30
MSGO Goal	-.30	-.20	.24	.28
MSGO Other	-.25	.11	.12	.09
MSGO Self-Goal	.05	.21	-.04	.07
MSGO Self-Other	.07	-.05	.02	.16

*$p \leq .05$

Table XIV

Correlations between the Change Scores of the Main Criterion Measures and Absorption, Involvement, Expectancy, and Interest Scales for All Groups Combined

Criterion Measures	Absorption	Involvement	Expectancy	Interest
AI Discomfort	.03	.01	.02	-.03
AI Response Probability	.13	.03	-.04	-.09
AI Difference	.11	.11	.09	-.02
Private Self-Consciousness	.18*	.31**	.19*	.15
Public Self-Consciousness	.01	.13	.12	.06
Social Self-Consciousness	-.07	.07	.00	.07
Total Self-Consciousness	.07	.27**	.16	.14
Fear of Negative Evaluation	-.16	.05	.00	.13
MSGO Self	-.05	.01	.18*	.00
MSGO Goal	-.13	-.15	.07	.00
MSGO Other	-.14	-.10	.10	.01
MSGO Self-Goal	.10	.13	.11	-.02
MSGO Self-Other	.12	.12	.08	.00

*$p \leq .05$
**$p \leq .01$

CHAPTER IV

DISCUSSION

This chapter presents a discussion of the findings of this study and their implications in light of the relevant theories of therapy and personality.

In drawing up the theoretical background for this study we presented the problem which had suggested the present research, namely the lack of clarity concerning the processes and active elements participating in therapies. We followed up the lead of previous theory and research which pointed to the role of placebos or demand characteristics in therapeutic change. The main purpose of this study was to identify the elements of the mechanisms which are common to many types of therapies. On a more practical level, progress towards identifying common and central elements of treatments is likely to have important repercussions on the development of efficient and effective treatments.

1. Self Constructs in Treatments.

The results of the data analysis have supported the major proposition of this study which identified the common mechanisms of psychotherapies as demand characteristics referring to changes in the self-concept.

Such a conclusion is based on the confirmation of the first two hypotheses. The Self Constructs group showed significant changes on two of four criterion measures, and on five of thirteen scales, in

comparison to the Neutral Situations (control) group, in accordance with the first hypothesis. In terms of the second hypothesis, the Self Constructs group was also superior to the other two treatments, namely Skills Training and Stress Situations, on three of four criterion measures, and on four of thirteen scales. In contrast, the other three groups showed no consistant changes.

On the whole, suggesting to someone to reconceptualize himself in terms of new personality attributes, resulted in significant differences on three of four criterion measures, and on six of thirteen scales. This is a substantial effect, after only three treatment sessions. But it is especially so when it is considered that under "non-therapy instructions" (Wilkins, 1973), an attempt was made to reduce most so called "nonspecific" variables, which provide a large part of therapeutic gains in most treatments. The fact that change still occurred suggests that some central processes of therapeutic change were activated in the Self Constructs group.

There is additional support for the conclusion that some central therapeutic processes were involved. Analysis of the subscales of the MSGO indicated changes in the subjects' perceptions of their competence and in their self-confidence. These variables are very similar to Bandura's (1977) expectations of "self-efficacy" which he theorizes to be central mediators of behavioral changes in most treatments.

The superiority of the Self Constructs group to the other three groups, plus the fact that the latter showed no treatment effects, also have considerable implications concerning the essential components of therapies. Treatment effects may depend considerably on the presence

of cues concerning the type of personality that the subject is to emerge with as a consequence of treatment. Under the "nontherapy instructions", only the Self Constructs group received the relevant personal constructs. Without such cues, no change occurred in the other groups perhaps because the subjects had no constructs with which to organize input to produce personal change.

Recent work has shown that "self-schemata" based on trait constructs are important and powerful cognitive structures for processing information about oneself and determine subsequent behavioral changes (Markus, 1977; Rogers, 1977; Rogers, Kuiper, and Kirker, 1977). The cues provided to the Self Constructs group were aimed at the activation of such self-schemata. It is very likely that such schemata were involved due to the improvements shown on measures of self-concepts, assertiveness, discomfort, and self-consciousness, as Kelly's (1955) theory would predict.

In conclusion, we have considerable evidence to suggest that the specific variables we have tested are the antecedent conditions of the common mechanisms of therapeutic change.

2. Specific versus Common Mechanisms.

The confirmation of the second hypothesis also supports the proposition that common mechanisms such as demand characteristics, rather than specific mechanisms, are the more basic processes of therapeutic change.

The rehearsal of skillful responses in the imagination pro-

duced not one significant change on the main criterion measures in comparison to the control and other treatment groups. This was true even though measures of assertive skills were included among the criterion measures. This finding is contrary to previous ones in which covert skills rehearsal was not only effective in increasing assertive skills and reducing anxiety, but was on a nearly equal level to behavioral rehearsal (McFall and Lillesand, 1971; McFall and Twentyman, 1973). However, these earlier studies did not control for "nonspecific" variables to the extent that this study was able to do.

These results appear to suggest that demand variables may also be quite essential in social skills and assertiveness training. Without their presence, the learning of responses may be severely reduced and treatment effects may not occur. The demand variables may provide cues for the subjects to make use of cognitive schemas for the processing of the information provided by the treatment. Our results do not rule out the role of other mechanisms, such as rehearsal, in skills training. However, they suggest that by themselves they may not produce change.

No matter how the present findings are interpreted, they raise important questions about the processes which actually take place in skills training. Surprisingly, recent reviews of the literature on skills and assertiveness training have generally ignored the possible role which demand variables may play in such treatments (Rich and Schroeder, 1976; Curran, 1977).

Neither was there evidence to suggest that mere exposure to stressful stimuli would produce personal improvements along a broad range. Although the Stress Situations group did reduce anxiety or discomfort on

the Assertion Inventory, which is compatible with "exposure" theory (Marks, 1975), this was on only one criterion scale out of thirteen. There was no evidence of amelioration of more complex social anxieties, self-concepts and social skills, as occurred for the Self Constructs groups. Therefore, exposure to stressful stimuli was also not sufficient by itself to act as the major mechanism of change.

The present findings appear to be incompatible with any simple version of learning theory which assumes that treatment effects occur "automatically" as a result of practice of responses or of exposure to anxiety provoking stimuli. Under such conditions very little change occurred in this study.

It is also not likely that the changes in the Self Constructs group were the result of general expectancies of therapeutic effectiveness and power. First of all, subjects were given "nontherapy" instructions or told that they were to participate in an "experiment on imagination", designed to reduce their expectancies of therapeutic effectiveness. Second, if "expectancy" were the active component, then one should have seen some changes in the Skills Training group as well, which appears to be an equally impressive and expectancy raising form of treatment. However, no such changes occurred in this group.

The four treatment groups were also equal on measures of interests and expectancies taken after a number of treatment scenes had been administered. Thus, the expectancies should have affected the groups equally, yet they were not equal in their results. In addition, correlations between the expectancy and interest scales and the gain scores of the criterion measures showed little relationship. Therefore,

the treatment effects are most parsimoniously explained as the result of elements in the treatment instructions with specific references to the self, rather than being due to general expectations of treatment effectiveness.

A further point is brought out in the results of this study. To the extent that treatment instructions contain explicit references to change the self, as they seem to in cognitive restructuring and semantic therapies, then change may occur even without using other procedures to increase the subject's expectations regarding the treatment. However, most covert behavior therapies such as desensitization and covert skills rehearsal do not contain such explicit demands in the instructions or in the tasks which the client is required to carry out. Our findings seem to suggest that in these therapies, treatment effects may therefore depend more on so called "nonspecific" variables, which suggest to the client the goal of acquiring new personality attributes.

It may be that treatment rationales which raise expectations of therapeutic gain achieve part of their treatment effects by their implicit message that change in personality attributes can be expected. In any case, behavior therapies may be more dependent on the so called "expectancy" effects to produce change than are semantic therapies which seem to make the demands for change in self-concepts more explicit.

In summary, our results parallel the conclusions of reviews in the area of the treatment of fear by systematic desensitization and other modes, that to a large extent change is due to the effects of placebo and demand variables (Lick and Bootzin, 1975; Kazdin and

Wilcoxon, 1976). However, we have attempted to be much more specific concerning what these variables refer to.

3. Involvement.

On the whole the results did not support the third hypothesis that subjects with greater aptitude for imaginative involvement, as measured by the Absorption scale, would show more changes on the four criterion measures than subjects low on involvement. Not one of the thirteen criterion scales showed significant differences between the low and high involved groups as a result of treatment.

The fourth hypothesis, that there would be significant interaction effects between treatments and involvement received only a very minimal support. On only one out of thirteen criterion scales, namely public self-consciousness, was a significant interaction effect found. The high involved in the Self Constructs group became less concerned about how they were perceived by others than the low involved in the same group, and also less concerned than the high involved in the Stress Situations and Skills Training groups.

In sum, the effects of imaginative involvement in the scenes and the roles, as measured by the Absorption scale, appeared to be minimal. Correlational analyses also seemed to indicate minimal relations between involvement and changes. Even the relationships which were found did not appear to be due to involvement in the treatment components. For example, the correlations seemed to show that the highly involved groups became more self-conscious of their own thoughts and feelings. This suggested that they were responding to new awareness of their own

thoughts and images, rather than to the contents or components which were contained in the instructions.

Therefore the findings do not readily lend themselves to the role-theory interpretation that the changes were the result of role-playing in the imagination. This is unexpected since numerous studies have shown that role-playing leads to changes in a variety of modalities, and that those more involved have usually produced the greatest changes. For example, changes in self-concepts as a consequence or role-playing, have been related to abilities for involvement as measured by the As-If test (Sarbin and Jones, 1956).

However, there may be substantial differences between the kind of role-playing and the measure of involvement employed in the Sarbin study and those in the present one. In the Sarbin study the subjects had a greater latitude for improvisation and the development of new arguments in playing the role, than was the case in our study. Likewise, the As-If test appears to measure abilities to think up new possible situations and consequences as a result of playing roles, rather than involvement defined as an episode of total attention to the object imagined or attended to.

It would appear from other studies of role-playing and attitude change, as well as from the Sarbin study above, that change is related to the processes of reasoning and persuasion along semantic dimensions, and corresponding abilities. Likewise in this study, change occurred only in the group presented with trait schemas and personality descriptions, based on semantic dimensions, and not in groups where the

role-playing may have been more limited to perceptual and imagery activities.

Since the measure of involvement we used is more related to absorption in perceptual events, it may not have corresponded to the type of role-playing which produces personal changes. Consequently, we need not conclude that role-theory is incorrect or that role-playing was not involved in the obtained attitude and personal changes. Role-playing may have taken place in our study, but could have depended on abilities to think up hypothetical events rather than on abilities to concentrate on a perceived object or image. Such abstract abilities were not measured in this study, and therefore no firm conclusions can be drawn concerning the participation of role-playing in producing the observed changes.

To some extent these findings suggest that distinctions may be made between different kinds of role-playing and their outcomes. Role-playing based strictly on imagery may be facilitated by abilities to focus one's attention on the imagined object, and results in phenomena resembling altered states of consciousness and novel experiences. On the other hand, when the role-play includes abstract reasoning or is based on attributes described along semantic dimensions, then abilities to think of hypothetical events and outcomes or novel arguments may be more appropriate. In such cases the role-play may lead to new attitudes or new ways of conceptualizing ourselves.

4. Elaborations.

For the most part the subjects seemed to have carried out their imaginative tasks as they were instructed, and imagined the settings and

roles required. However, elaborations did occur in a minority of cases, especially in the group presented with the stress settings only, and in the group receiving the trait descriptions. Both types of stimuli may have left the subjects with a need to complete the imagined events with some further details and activities. In the Self Constructs group at least, the subjects translated the personality traits into specific actions, in about half of the scenes which were assessed. This probably helped them to make the personality attributes more concrete and easier to grasp.

All this suggests that the subject in an experiment is not just a passive recipient of input, but is also actively generating his own treatment, as Orne (1962) has pointed out. This is probably true of clients in therapies as well.

Even basic perceptual and cognitive processes are acts of construction rather than just passive or reflex responses to input (Neisser, 1967). In the area of personality it is also thought that the person generates his own cognitive structures and mentations to enable him to cope with his environment (Kelly, 1955; Mischel, 1973).

Therefore responding to demand characteristics and active treatment elements is not a passive process. The subject must process the input or information, and can transform it and elaborate on it according to his own needs. In European uses of imagery techniques the client has great latitude to elaborate on the themes presented to him by the therapist, and such elaborations are viewed by some to be essential components of imagery techniques (Singer, 1971b, 1974). This has made some reviewers wonder as to what are then the important

components of covert therapies (Kazdin, 1977).

The present findings would suggest that cognitive schemas relating to the self are important and perhaps necessary in therapies. But beyond this necessity, subjects often think of and imagine concrete instances of activities which exemplify the personality constructs. Thus it may be that abstract personal schemas, as well as specific instances of adaptive responses which exemplify them, are necessary for therapeutic change. If this is so future research will need to determine the reasons for such findings and the relationship of the two modes of thinking.

5. Methodological Issues.

The generalizations which are possible from this study are of course subject to a number of limitations. On the whole the present sample was only a mildly dysfunctional one. This was shown on the screening instruments. The subjects were only slightly below average on the self-ratings of social skills used to select subjects for the study. On assertiveness they also scored only a little below average. Working with college students, and especially those who were not seeking help, it was difficult to find samples which would truly represent clinical disabilities. However, this study was concerned more with the process of therapy, rather than with demonstrating substantial treatment effects with a particular clinical group. The sample used was adequate because it had room for improvement and change was possible. Nevertheless, the possibility cannot be eliminated that a more severely disturbed group would have shown a different pattern of responding to the treatments.

A related point is that the scenes presented were not found to be very anxiety provoking. This may be partly the result of the fact that the sample was not a very disabled one. It has been found that less anxious subjects respond more to the influence of general "expectancy" effects (Bernstein and Nietzel, 1977). This is thought to result in fewer significant differences between groups with "genuine" treatment components and groups containing "expectancy" variables. Presumably, because it is relatively easy to produce some changes in those who are not very disturbed. Therefore, with our sample of mildly anxious subjects few significant or consistent differences should have occurred had general "expectancy" effects been the main treatment factor in all the groups. Since a good number of significant differences did emerge between the Self Constructs group and the rest of the treatments, this suggests that general "expectancy" effects were not the main agents of change. This also supports the validity and the generality of the findings that the specific references to the self in the Self Constructs group occasioned the changes.

The findings of this study are also confined to personal changes as measured by self-reports. While these are appropriate for the measurement of self-concepts and anxiety, they are less desirable in the case of social skills. The use of behavioral measures would have added an important and appropriate dimension to the assessment of changes in social skills. However, even the use of behavioral measures of social skills does not necessarily eliminate the problem of test validity. Reviews of behavioral measures of social skills have suggested that they are subject to a number of serious problems in relation to their

validities (Eisler, 1976; Rich and Schroeder, 1976).

For the purposes of this study, the use of behavioral measures may also have made the necessary control and reduction of general "expectancy" variables more difficult. The salience of behavioral measures and responses may have appeared to the subjects more incompatible with an "experiment on imagination" than the use of self-reports. In addition, the focus on the process rather than the outcome of treatment, reduced the need for any one type of outcome measure.

The use of self-report measures appears to have been the right choice. Neither the screening instruments nor the dependent measures seem to have produced a substantial discrepancy between the subjects' perceptions of their tasks and the labeling of the treatment procedures as an "experiment on imagination." This is borne out by the findings, as already discussed, that general expectancy variables did not appear to have contributed to the treatment effects. Had the screening and self-report instruments provoked an incompatibility with an "imagination" task, then such expectancy effects would likely have shown up.

Finally, it would have been desirable to assess a larger sample of the treatment scenes than just three. The measurement of the components and dimensions of imagery in just three scenes provided a limited estimate of the equality of the treatments on these variables. Unfortunately, to assess a significantly larger sample of the scenes presented would have demanded a greater amount of time from the subjects than was practical under the circumstances.

6. Suggestions for Research.

It would be interesting to test the validity of the present

findings in replicative studies and on more seriously disabled subjects. Our results need to be confirmed and explored further on other disorders and on other samples.

Our findings were that the trait concepts were often translated into specific actions in the Self Constructs group. Future studies may try to explore whether this is advantageous or necessary for change, since it occurred in about half the cases in our study. On the other hand, the use of trait constructs at any point in the treatment may prove not to be necessary to produce behavioral changes. However, our findings would suggest that this is not likely to be the case, due to the very poor showing of the skills training group on all the criterion measures. Nevertheless, the possibility still exists that the skills training group would have produced some behavioral changes had these been measured, and that the trait constructs group would not have. For this reason it may be important to include unobtrusive behavioral measures in future replications.

One may also explore the relative importance of trait constructs in comparison to overt and imagined behaviors for the treatment of various types of disorders, both cognitive and behavioral. It may be that personality constructs in treatments are more important for disorders with strong cognitive components, and that the use of specific behaviors are more important elements in the treatment of response dysfunctions. Generalizing from this research, it would not be surprising to find that both may be necessary to some extent in most therapies, but that their relative importance may vary depending on the type of disorder.

Another interesting possibility would be to include "expectancy" of therapeutic effectiveness in the various groups used in our study. Would the skills training and exposure groups now show some treatment

effects? Most likely they would since the information that they are receiving "therapy" would alert them to the relevance of personal change and the use of personal constructs. As has already been suggested, the "expectancy" effect probably contains implicit references to personal or self change, in addition to raising the expectancy of the subject that he is receiving a powerful treatment. Would the Self Constructs group now show even more changes or still about the same? In this way the relation of the "expectancy" effect and demands for self change may be studied further and these two variables compared.

Since our investigation was limited to covert forms of treatments, it would be important to see whether the present findings are also applicable to overt behavioral therapies as well. However, considerable methodological problems would be involved here. We may speculate that personality and self constructs are also involved in behavioral treatments, but the more the deficit is strictly motor, the less important they may be.

Finally, we may conclude with some implications for therapy. It would seem that a person's convictions about himself are an important focus for change in treatment. The more directly, efficiently, and vigorously the therapy attempts to focus on the person's self-concepts, the more therapeutic change can be expected. This may be central to the effectiveness of many different forms of therapies. Therefore, the question becomes what is the most effective and appropriate way to change a particular self-concept in a particular client? Hopefully future research will be able to provide the answers.

SUMMARY AND CONCLUSIONS

The present study was designed to identify the specific components of common mechanisms in therapies which are thought to produce a significant portion of all treatment effects. Such common mechanisms were operationalized in terms of antecedent variables as demand characteristics in treatments which refer to changes in aspects of the self-concept. This model was tested by comparing the effects of covert skills training for unassertiveness, exposure to stress stimuli, and attention-placebo, with a group requested to imagine roles based on trait and personality constructs. Such trait constructs were assumed to present demands to the subjects to change aspects of their self-concept. A second experimental factor of involvement attempted to specify the covert processes taking place, by showing that change was due to covert role-playing.

The first major experimental hypothesis stated that the group presented the trait constructs for covert role-play will not show significantly greater changes on the criterion measures than the control group. The second major experimental hypothesis was that the group based on trait constructs will not show significantly greater changes on the criterion measures than the groups receiving skills training and exposure to stressful situations. The third hypothesis stated that groups high on the ability of involvement will not show significantly greater changes that groups low on involvement. The final hypothesis stated that there will be no significant interaction effects between the treatment groups and involvement.

Two-factor analyses of variance on the change scores, and two-factor analyses of covariance, were used to test the above hypotheses. The Newman-Keuls test was used to determine the location of the differences among the groups.

The first and second experimental hypotheses were rejected. The third and fourth hypotheses could not be rejected. Therefore, the major theoretical positions were supported by the results, but the minor ones were not.

The findings of the tests of significance therefore indicated that groups presented with trait constructs changed more than the skills training, exposure, and control groups.

These findings are in keeping with the major proposition of the study that demand characteristics in treatments, which suggest self-concept changes, may be the common and central components in some psychotherapies.

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APPENDIX 1

VERBAL PRESENTATION OF SCREENING INSTRUMENTS

APPENDIX 1

VERBAL PRESENTATION OF SCREENING INSTRUMENTS

I appreciate being allowed to take a few minutes of your time to ask you to read this handout and then fill out the questionnaire, which I will distribute among you. We are conducting an interesting research project on imagination as part of a doctoral thesis in the Faculty of Psychology at the University of Ottawa.

For now, we would appreciate it if you would help us out and volunteer to complete this form and the attached questionnaire. The information will help us to choose appropriate candidates for the experiment to be done a few weeks later. The chosen persons will be contacted by phone in a week or so and asked to volunteer for the research project if they so desire.

The research itself is interesting, and will be on the subject of imagination and fantasy. It will involve about four hours of your time in all. After the experiment we will be happy to give you feedback and information on the study, on the nature of imagination and fantasy, and on how to enhance your imaginative capacities.

I will now distribute the material and collect it when you are finished. Two additional points I would like to mention. We require that appropriate candidates should have a good understanding of English. Also in giving your answers on the questionnarie, please give your first impressions and don't dwell too long on the answers.

Thank you again for your time.

APPENDIX 2

SCREENING INSTRUMENTS - RATHUS ASSERTIVENESS SCHEDULE
- COMFORTABLE RATING SCALE
- ABLE RATING SCALE
- SHYNESS RATING SCALE

APPENDIX 2

QUESTIONNAIRE

DIRECTIONS: Indicate how characteristic or descriptive each of the following statements is of you by using the code given below.

+3 very characteristic of me, extremely descriptive
+2 rather characteristic of me, quite descriptive
+1 somewhat characteristic of me, slightly descriptive
-1 somewhat uncharacteristic of me, slightly nondescriptive
-2 rather uncharacteristic of me, quite nondescriptive
-3 very uncharacteristic of me, extremely nondescriptive

___1. Most people seem to be more aggressive and assertive than I am.
___2. I have hesitated to make or accept dates because of "shyness".
___3. When the food served at a restaurant is not done to my satisfaction, I complain about it to the waiter or waitress.
___4. I am careful to avoid hurting other people's feelings, even when I feel I have been injured.
___5. If a salesman has gone to considerable trouble to show me merchandise which is not quite suitable, I have a difficult time in saying "No".
___6. When I am asked to do something I insist on knowing why.
___7. There are times when I look for a good, vigorous argument.
___8. I strive to get ahead as well as most people in my position.
___9. To be honest, people often take advantage of me.
___10. I enjoy starting conversations with new acquaintances and strangers.
___11. I often don't know what to say to attractive persons of the opposite sex.
___12. I will hesitate to make phone calls to business establishments and institutions.
___13. I would rather apply for a job or for admission to a college by writing letters than by going through with personal interviews.
___14. I find it embarrassing to return merchandise.
___15. If a close and respected relative were annoying me, I would smother my feelings rather than express my annoyance.
___16. I have avoided asking questions for fear of sounding stupid.
___17. During an argument I am sometimes afraid that I will get so upset that I will shake all over.
___18. If a famed and respected lecturer makes a statement which I think is incorrect, I will have the audience hear my point of view as well.
___19. I avoid arguing over prices with clerks and salesmen.
___20. When I have done something important or worthwhile, I manage to let others know about it.
___21. I am open and frank about my feelings.
___22. If someone has been spreading false and bad stories about me, I see him (her) as soon as possible to "have a talk" about it.
___23. I often have a hard time saying "No" .

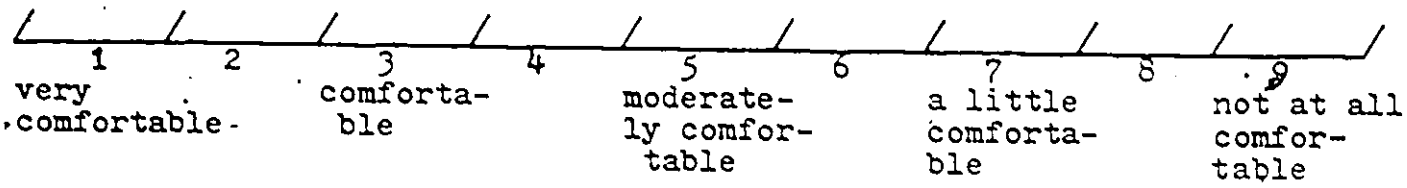
___24. I tend to bottle up my emotions rather than make a scene.
___25. I complain about poor service in a restaurant and elsewhere.
___26. When I am given a compliment, I sometimes just don't know what to say.
___27. If a couple near me in a theatre or at a lecture were conversing rather loudly, I would ask them to be quiet or to take their conversation elsewhere.
___28. Anyone attempting to push ahead of me in a line is in for a good battle.
___29. I am quick to express an opinion.
___30. There are times when I just can't say anything.

APPENDIX 2

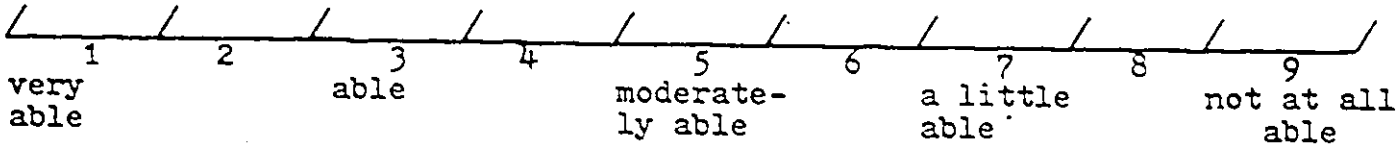
RATING SCALES

We would appreciate you completing the following rating scale the way that best expresses how you feel.

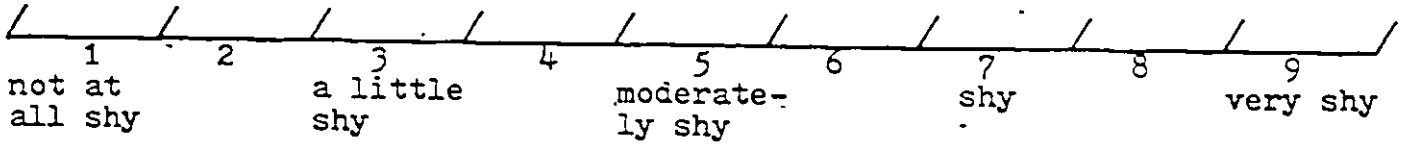
1. How comfortable do you feel when you meet and talk to people for the first time? Place a checkmark on the following scale.



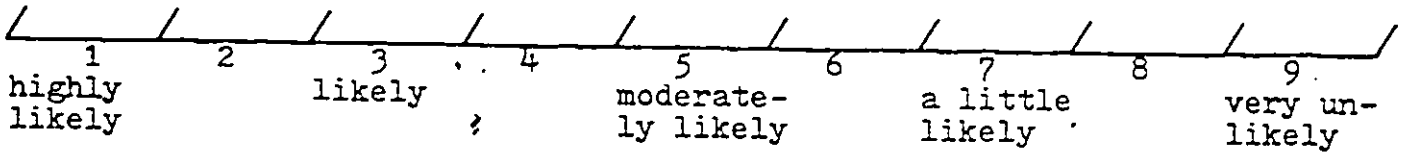
2. When you meet and talk to someone for the first time, how able are you to handle the situation? Place a checkmark on the following scale.



3. How shy do you feel you are as a person? Place a checkmark on the following scale.



4. How likely or probable is it that you would start to talk to a strange person sitting next to you, if you were by yourself in the university cafeteria and felt like talking? Place a checkmark on the following scale.



APPENDIX 3

CRITERION MEASURES
- ASSERTION INVENTORY
- MISKIMINS SELF-GOAL-OTHER DISCREPANCY SCALE
- SELF-CONSCIOUSNESS SCALE
- FEAR OF NEGATIVE EVALUATION

APPENDIX 3

AS

Many people experience difficulty in handling interpersonal situations requiring them to assert themselves in some way, for example, turning down a request, asking a favor, giving someone a compliment, expressing disapproval or approval, etc. Please indicate your degree of discomfort or anxiety in the space provided before each situation listed below. Utilize the following scale to indicate degree of discomfort:

1 – none
2 – a little
3 – a fair amount
4 – much
5 – very much

Then, go over the list a second time and indicate after each item the probability or likelihood of your displaying the behavior if actually presented with the situation.* For example, if you rarely apologize when you are at fault, you would mark a "4" after that item. Utilize the following scale to indicate response probability:

1 – always do it
2 – usually do it
3 – do it about half the time
4 – rarely do it
5 – never do it

*Note. It is important to cover your discomfort ratings (located in front of the items) while indicating response probability. Otherwise, one rating may contaminate the other and a realistic assessment of your behavior is unlikely. To correct for this, place a piece of paper over your discomfort ratings while responding to the situations a second time for response probability.

Degree of discomfort	Situation	Response probability
_____	1. Turn down a request to borrow your car	_____
_____	2. Compliment a friend	_____
_____	3. Ask a favor of someone	_____
_____	4. Resist sales pressure	_____
_____	5. Apologize when you are at fault	_____
_____	6. Turn down a request for a meeting or date	_____
_____	7. Admit fear and request consideration	_____
_____	8. Tell a person you are intimately involved with when he/she says or does something that bothers you	_____
_____	9. Ask for a raise	_____

Degree of discomfort		Situation	Response probability
_____	10.	Admit ignorance in some area	_____
_____	11.	Turn down a request to borrow money	_____
_____	12.	Ask personal questions	_____
_____	13.	Turn off a talkative friend	_____
_____	14.	Ask for constructive criticism	_____
_____	15.	Initiate a conversation with a stranger	_____
_____	16.	Compliment a person you are romantically involved with or interested in	_____
_____	17.	Request a meeting or a date with a person	_____
_____	18.	Your initial request for a meeting is turned down and you ask the person again at a later time	_____
_____	19.	Admit confusion about a point under discussion and ask for clarification	_____
_____	20.	Apply for a job	_____
_____	21.	Ask whether you have offended someone	_____
_____	22.	Tell someone that you like them	_____
_____	23.	Request expected service when such is not forthcoming, e.g. in a restaurant	_____
_____	24.	Discuss openly with the person his/her criticism of your behavior	_____
_____	25.	Return defective items, e.g. store or restaurant	_____
_____	26.	Express an opinion that differs from that of the person you are talking to	_____
_____	27.	Resist sexual overtures when you are not interested	_____
_____	28.	Tell a person when you feel he/she has done something that is unfair to you	_____
_____	29.	Accept a date	_____
_____	30.	Tell someone good news about yourself	_____
_____	31.	Resist pressure to drink	_____
_____	32.	Resist a significant person's unfair demand	_____
_____	33.	Quit a job	_____
_____	34.	Resist pressure to "turn on"	_____
_____	35.	Discuss openly with the person his/her criticism of your work	_____
_____	36.	Request the return of borrowed items	_____
_____	37.	Receive compliments	_____
_____	38.	Continue to converse with someone who disagrees with you	_____
_____	39.	Tell a friend or someone with whom you work when he/she says or does something that bothers you	_____
_____	40.	Ask a person who is annoying you in a public situation to stop	_____

PREVIOUSLY COPYRIGHTED MATERIAL

IN APPENDIX 3, LEAF 147

MISKIMINS SELF-GOAL-OTHER DISCREPANCY SCALE-1

NOT MICROFILMED

MAY BE OBTAINED FROM:

RMBSI, Inc.,
P.O. Box 1066
Fort Collins,
Colorado 80521

SCS

DIRECTIONS: Please indicate how characteristic or descriptive each of the following statements is of you by using the code given below.

4 = extremely characteristic
3 = rather characteristic
2 = moderately characteristic
1 = rather uncharacteristic
0 = extremely uncharacteristic

___ 1. I'm always trying to figure myself out
___ 2. I'm concerned about my style of doing things
___ 3. Generally, I'm not very aware of myself*
___ 4. It takes me time to overcome my shyness in new situations
___ 5. I reflect about myself a lot
___ 6. I'm concerned about the way I present myself
___ 7. I'm often the subject of my own fantasies
___ 8. I have trouble working when someone is watching me
___ 9. I never scrutinize myself*
___10. I get embarrassed very easily
___11. I'm self-conscious about the way I look
___12. I don't find it hard to talk to strangers*
___13. I'm generally attentive to my inner feelings
___14. I usually worry about making a good impression
___15. I'm constantly examining my motives
___16. I feel anxious when I speak in front of a group
___17. One of the last things I do before I leave my house is look in the mirror
___18. I sometimes have the feeling that I'm off somewhere watching myself
___19. I'm concerned about what other people think of me
___20. I'm alert to changes in my mood
___21. I'm usually aware of my appearance
___22. I'm aware of the way my mind works when I work through a problem
___23. Large groups make me nervous

APPENDIX 3

FNE

DIRECTIONS: Please indicate whether the following statements are descriptive of you by marking the statements either "T" (true), or "F" (false).

___ 1. I rarely worry about seeming foolish to others
___ 2. I worry about what people will think of me even when I know it doesn't make any difference
___ 3. I become tense and jittery if I know someone is sizing me up
___ 4. I am unconcerned even if Iknow people are forming an unfavorable impression of me
___ 5. I feel very upset when I commit some social error
___ 6. The opinions that important people have of me cause me little concern
___ 7. I am often afraid that I may look ridiculous or make a fool of myself
___ 8. I react very little when other people disapprove of me.
___ 9. I am frequently afraid of other people noticing my shortcomings
___10. The disapproval of others would have little effect on me
___11. If someone is evaluating me I tend to expect the worst
___12. I rarely worry about what kind of impression I am making on someone
___13. I am afraid that others will not approve of me
___14. I am afraid that people will find fault with me
___15. Other people's opinions of me do not bother me
___16. I am not necessarily upset if I do not please someone
___17. When I am talking to someone, I worry about what they may be thinking about me
___18. I feel that you can't help making social errors sometimes, so why worry about it
___19. I am usually worried about what kind of impression I make
___20. I worry a lot about what my superiors think of me
___21. If I know someone is judging me, it has little effect on me
___22. I worry that others will think I am not worthwhile
___23. I worry very little about what others may think of me
___24. Sometimes I think I am too concerned with what other people think of me
___25. I often worry that I will say or do the wrong things
___26. I am often indifferent to the opinions others have of me
___27. I am usually confident that others will have a favorable impression of me
___28. I often worry that people who are important to me won't think very much of me
___29. I brood about the opinions my friends have about me
___30. I become tense and jittery if I know I am being judged by my superiors

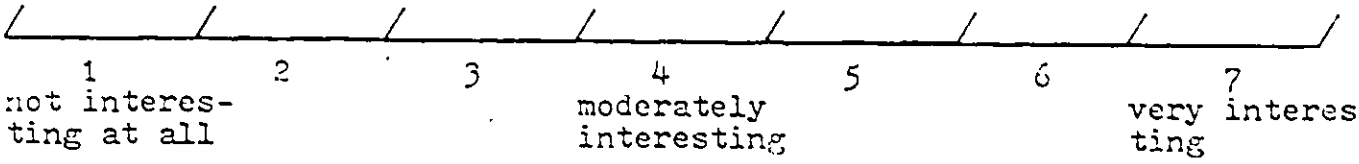
APPENDIX 4

CONTROL MEASURES - INTEREST SCALE
- EXPECTANCY SCALE

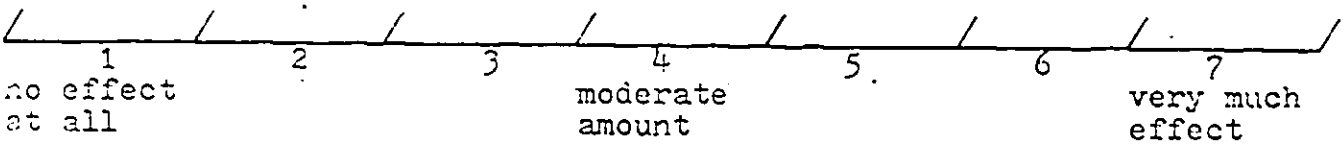
Ratings of the Experiment

Name:_____ Date:_____
Sex:_____
Age:_____

1. Please rate how interesting you have found these imaginary scenes so far.



2. Please rate your expectancy that the experiment and the imaginary scenes will have some personal effect on you.



APPENDIX 5

QUESTIONNAIRES ON IMAGINED COMPONENTS OF THE SCENES

- SETTING
- ANXIETY
- ROLE
- ELABORATION

Questionnaire on the Imagined Components of the Scenes

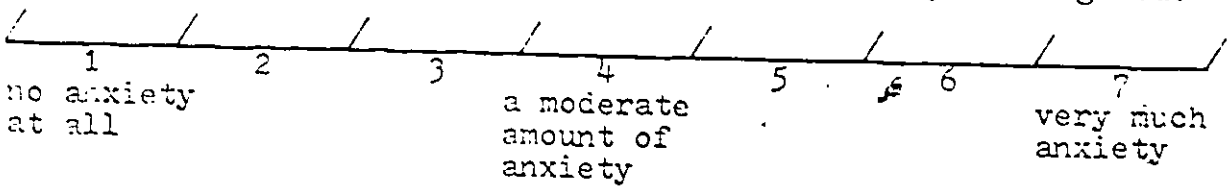
Name:_____ Date:_____
Sex:_____ Testing (circle one): 1 2 3
Age:_____

Please answer faithfully the following questions relating to the last scene which you have just imagined.

1. Did you imagine the setting or situation which you were presented in the instructions?
   Yes_____ No_____

2. If "yes", were you able to imagine most of it, a fair amount, or just some of it?
   Most_____ Fair amount____ Just some____

3. Please rate the degree of anxiety that you experienced while imagining the setting or situation which you just imagined.



4. If you did not imagine the setting or situation, describe briefly what you were doing or thinking about during the period provided for imagining the setting or situation.

_____

_____

5. Did you imagine yourself present in the setting or situation?
   Yes_____ No_____

6. Did you imagine material which was not presented by the instructions?
   Yes_____ No_____

7. If "yes", please describe briefly what else you imagined or thought about?

_____

_____

Questionnaire on the Imagined Components of the Scenes

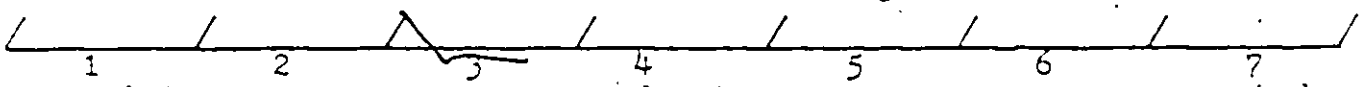
Name:_____ Date:_____
Sex:_____ Testing:(circle one): 1 2 3
Age:_____

Please answer faithfully the following questions relating to the last scene which you have just imagined.

1. Did you imagine the setting or situation which you were presented with in the first part of the last scene?
   Yes_____ No_____

2. If "yes", were you able to imagine most of it, a fair amount, or just some of it?
   Most_____ Fair amount _____, Just some_____.

3. Please rate the degree of anxiety that you experienced while imagining the setting or situation which you just imagined?



no anxiety at all — a moderate amount of anxiety — very much anxiety

4. Did you imagine yourself present in the setting or situation?
   Yes_____ No_____

5. Did you imagine yourself carrying out the behaviors and activities which were presented within the second half of the last scene?
   Yes_____ No_____

6. If "yes", were you able to imagine most of it, a fair amount, or just some of it?
   Most_____, Fair amount_____, Just some_____.

7. If "no" describe briefly what you were doing or thinking about during the period provided for imagining the behaviors?

_____

_____

8. Did you imagine material which was not presented by the instructions?
   Yes_____ No_____

9. If "yes", please describe briefly what else you imagined or thought about?

_____

_____

Questionnaire on the Imagined Components of the Scenes

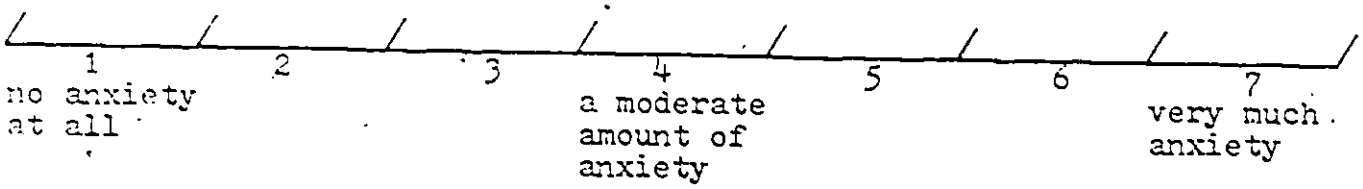
Name:_____ Date:_____
Sex:_____ Testing (circle one): 1 2 3
Age:_____

Please answer faithfully the following questions relating to the last scene which you have just imagined.

1. Did you imagine the setting or situation which you were presented with in the first part of the last scene?
   Yes_____ No_____

2. If "yes", were you able to imagine most of it, a fair amount, or just some of it?
   Most_____, Fair amount_____, Just some_____.

3. Please rate the degree of anxiety that you experienced while imagining the setting or situation which you just imagined?



4. Did you imagine yourself present in the setting or situation?
   Yes_____ No_____

5. Did you imagine yourself possessing the personality traits and characteristics which were presented in the second half of the last scene?
   Yes_____ No_____

6. If "yes", were you able to imagine most of it, a fair amount, or just some of it?
   Most_____ Fair amount_____ Just some_____

7. If "no", describe briefly what you were doing or thinking about during the period provided for imagining the personality traits?

_____

_____

8. Did you imagine material which was not presented in the instructions?
   Yes_____ No_____

9. If "yes", please describe briefly what else you imagined or thought about?

_____

_____

APPENDIX 6

DIMENSIONS OF IMAGERY RATING SCALES - INVOLVEMENT
- VIVIDNESS
- CLARITY
- REALITY

APPENDIX 6

Involvement in Imaginings

Name:_____ Date:_____
Sex:_____
Age:_____ Testing (circle one:) 1 2 3

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the setting or situation of the last scene. Check one:

a. I did not imagine what was suggested during any of the time._____

b. During at least part of the time I imagined and thought about what was suggested. However, during that time I did not become at all absorbed in imagining or thinking about what was suggested. _____

c. During at least part of the time I became slightly absorbed in imagining and thinking about what was suggested._____

d. During at least part of the time I imagined and thought about what was suggested. During this time I became somewhat absorbed in imagining and thinking about what was suggested._____

e. During at least part of the time I imagined and thought about what was suggested. During this time I became mostly absorbed in imagining and thinking about what was suggested. _____

f. During at least part of the time I imagined and thought about what was suggested. During this time I became completely absorbed in imagining and thinking about what was suggested._____

Involvement in Imaginings

Name:_____ Date:_____

Sex:_____ Testing (circle one:) 1 2 3

Age:_____

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the behaviors described in the second half of the instructions of the last scene. Check one:

a. I did not imagine what was suggested during any of the time._____

b. During at least part of the time I imagined and thought about what was suggested. However, during that time I did not become at all absorbed in imagining or thinking about what was suggested. _____

c. During at least part of the time I became slightly absorbed in imagining and thinking about what was suggested._____

d. During at least part of the time I imagined and thought about what was suggested. During this time I became somewhat absorbed in imagining and thinking about what was suggested._____

e. During at least part of the time I imagined and thought about what was suggested. During this time I became mostly absorbed in imagining and thinking about what was suggested._____

f. During at least part of the time I imagined and thought about what was suggested. During this time I became completely absorbed in imagining and thinking about what was suggested. _____

Involvement in Imaginings

Name:_____ Date:_____

Sex:_____ Testing (circle one): 1 2 3

Age:_____

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the traits and characteristics described in the second half of the instructions of the last scene. Check one:

a. I did not imagine what was suggested during any of the time._____

b. During at least part of the time I imagined and thought about what was suggested. However, during that time I did not become at all absorbed in imagining or thinking about what was suggested.

c. During at least part of the time I became slightly absorbed in imagining and thinking about what was suggested._____

d. During at least part of the time I imagined and thought about what was suggested. During this time I became somewhat absorbed in imagining and thinking about what was suggested. _____

e. During at least part of the time I imagined and thought about what was suggested. During this time I became mostly absorbed in imagining and thinking about what was suggested._____

f. During at least part of the time I imagined and thought about what was suggested. During this time I became completely absorbed in imagining and thinking about what was suggested._____

LEAF 156 OMITTED IN PAGE NUMBERING

Vividness of Imaginings

Name:_____ Date:_____

Sex:_____ Session: (circle one): 2 3 4

Age:_____

How vivid was your image of the setting or situation of the last scene. Make up a fraction that best describes how vivid or bright your image was in relation to the vividness or brightness of a real event. For example, if your image was just as vivid, write the number 100, if it was half as vivid, write the number 50, if it was 20 percent as vivid, write 20, if it was one hundredths as vivid, write 1 and so on. Place the fraction you decide on in the space._____

G1 & 2

Vividness of Imaginings

Name:_____ Date:_____

Sex:_____ Session (circle one): 2 3 4

Age:_____

How vivid was your image of the behaviors described in the second half of the instructions of the last scene. Make up a fraction that best describes how vivid or bright your image was in relation to the vividness or brightness of a real event. For example, if your image was just as vivid, write down the number 100, if it was half as vivid, write the number 50, if it was 20 percent as vivid, write 20, if it was one hundredths as vivid, write down 1 and so on. Place the fraction you decide on in the space. _____

Vividness of Imaginings

Name:_____ Date:_____

Age:_____ Session (circle one): 2 3 4

Sex:_____

How vivid was your image of the traits and characteristics described in the second half of the instructions of the last scene. Make up a fraction that best describes how vivid or bright your image was in relation to the vividness or brightness of a real event. For example, if your image was just as vivid, write down the number 100, if it was half as vivid, write the number 50, if it was 20 percent as vivid, write 20, if it was one hundredths as vivid, write down 1 and so on. Place the fraction you decide on in the space._____

Clarity of Imaginings

Name:_____ Date:_____

Sex:_____ Testing (circle one): 1 2 3

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the setting or situation of the last scene. Check one:

a. I did not imagine what was suggested during any of the time._____

b. My images did not include all that was suggested. I could only imagine a part of what was suggested._____

c. I imagined all of what was suggested. However, some parts of the image were more clear than other parts._____

d. I imagined all of what was suggested and, all parts of the image were equally clear. _____

Clarity of Imaginings

Name:_____ Date:_____

Sex:_____ Testing (circle one:) 1 2 3

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the behaviors described in the second half of the instructions of the last scene. Check one:

a. I did not imagine what was suggested during any of the time._____

b. My images did not include all that was suggested. I could only imagine a part of what was suggested. _____

c. I imagined all of what was suggested. However, some parts of the image were more clear than other parts. _____

d. I imagined all of what was suggested and, all parts of the image were equally clear. _____

Clarity of Imaginings

Name:_____ Date:_____

Sex:____ Testing:(circle one): 1 2 3

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the traits and characteristics described in the second half of the instructions of the last scene. Check one:

a. I did not imagine what was suggested during any of the time._____

b. My images did not include all that was suggested. I could only imagine a part of what was suggested._____

c. I imagined all of what was suggested. However, some parts of the image were more clear than other parts. _____

d. I imagined all of what was suggested and, all parts of the image were equally clear. _____

Reality of Imaginings

Name:_____ Date:_____
Sex:_____ Session (circle one): 2 3 4

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the setting or situation of the last scene. Check one:

a. I did not at any time even vaguely imagine what was suggested._____

b. For at least part of the time, I vaguely imagined what was suggested. However, at no time did I actually believe that what was suggested was a real event. _____

c. For at least part of the time, I vividly imagined what was suggested. However, at no time did I actually believe that what was suggested was a real event. _____

d. Throughout a short period of time, I actually believed that what was suggested was a real event. I believed this for a short period of time in the same sense that I now believe that I am sitting in a real chair. _____

e. Throughout half of this time, I actually believed that what was suggested was a real event. I believed this for half of the time in the same sense that I now belive that I am sitting in a real chair. _____

f. Throughout most of this time, I actually believed that what was suggested was a real event. I believed this for most of the time in the same sense that I now believe that I am sitting in a real chair. _____

g. Throughout this whole period of time, I actually believed that what was suggested was a real event. I believed this throughout the whole time in the same sense that I now believe that I am sitting in a real chair. _____

G1 & 2

Reality of Imaginings

Name:_____ Date:_____
Sex:____ Session (circle one): 2 3 4

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the behaviors described in the second half of the instructions of the last scene.
Check one:

a. I did not at any time even vaguely imagine what was suggested._____

b. For at least part of the time, I vaguely imagined what was suggested. However, at no time did I actually believe that what was suggested was a real event. _____

c. For at least part of the time, I vividly imagined what was suggested. However, at no time did I actually believe that what was suggested was a real event. _____

d. Throughout a short period of time, I actually believed that what was suggested was a real event. I believed this for a short period of time in the same sense that I now believe that I am sitting in a real chair. _____

e. Throughout half of this time, I actually believed that what was suggested was a real event. I believed this for half of the time in the same sense that I now believe that I am sitting in a real chair. _____

f. Throughout most of this time, I actually believed that what was suggested was a real event. I believed this for most of the time in the same sense that I now believe that I am sitting in a real chair. _____

g. Throughout this whole period of time, I actuallly believed that what was suggested was a real event. I believed this throughout the whole time in the same sense that I now believe that I am sitting in a real chair. _____

Reality of Imaginings

Name:_____ Date:_____
Sex:_____ Session (circle one): 2 3 4

Please be honest in choosing the one alternative that best describes your experience during the time set aside for imagining the traits and characteristics described in the second half of the instructions of the last scene. Check one:

a. I did not at any time even vaguely imagine what was suggested. _____

b. For at least part of the time, I vaguely imagined what was suggested. However, at no time did I actually believe that what was suggested was a real event._____

c. For at least part of the time, I vividly imagined what was suggested. However, at no time did I actually believe that what was suggested was a real event. _____

d. Throughout a short period of time, I actually believed that what was suggested was a real event. I believed this for a short period of time in the same sense that I now believe that I am sitting in a real chair. _____

e. Throughout half of this time, I actually believed that what was suggested was a real event. I believed this for half of the time in the same sense that I now believe that I am sitting in a real chair. _____

f. Throughout most of this time, I actually believed that what was suggested was a real event. I believed this for most of the time in the same sense that I now believe that I am sitting in a real chair. _____

g. Throughout this whole period of time, I actually believed that what was suggested was a real event. I believed this throughout the whole time in the same sense that I now believe that I am sitting in a real chair. _____

APPENDIX 7

DIFFERENTIAL PERSONALITY QUESTIONNAIRE - ABSORPTION SCALE

APPENDIX 7

ABSORPTION SCALE

DPQ

In this booklet you will find a series of statements a person might use to describe her/his attitudes, interests, and other characteristics.

Each statement is followed by two choices, lettered (a) and (b) in the booklet (but lettered T and F on the answer sheet). Read the statement and decide which choice best describes you. Then mark your answer on the answer sheet.

In marking your answers on the answer sheet, be sure that the number of the statement in the booklet is the same as the number on the answer sheet.

Please answer every statement, even if you are not completely sure of the answer.

Read each statement carefully, but don't spend too much time deciding on the answer.

PLEASE DO NOT WRITE IN THIS BOOKLET !!

1. I frequently find myself worrying about something. (a) True, (b) False.

2. Sometimes I feel and experinece things as I did when I was a child. (a) True, (b) False.

3. I can be greatly moved by eloquent or poetic language. (a) True, (b) False.

4. My feelings are hurt rather easily. (a) True, (b) False.

5. While watching a movie, a T.V. show, or a play, I may become so involved that I forget about myself and my surroundings and experience the story as if it were real and as if I were taking a part in it. (a) True, (b) False.

6. I get "rattled" easily at critical moments. (a) True, (b) False.

7. If I stare at a picture and then look away from it, I can sometimes "see" an image of the picture, almost as if I were still looking at it. (a) True, (b) False.

8. I often become irritated over little annoyances. (a) True, (b) False.

9. Sometimes I feel as if my mind could envelop the whole world. (a) True, (b) False.

10. I suffer from nervousness. (a) True, (b) False.

11. I like to watch cloud shapes change in the sky. (a) True, (b) False.

12. If I wish, I can imagine (or daydream) some things so vividly that they hold my attention as a good movie or story does. (a) True, (b) False.

13. I often experience periods of loneliness. (a) True, (b) False.

14. I think I really know what some people mean when they talk about mystical experiences. (a) True, (b) False.

15. When I want to, I can usually put fears and worries out of my mind. (a) True, (b) False.

16. I sometimes "step outside" my usual self and experience an entirely different state of being. (a) True, (b) False.

17. Textures - such as wool, sand, wood - sometimes remind me of colours or music. (a) True, (b) False.

18. I often find it difficult to sleep at night. (a) True, (b) False.

19. Sometimes I experience things as if they were doubly real. (a) True, (b) False.

20. My mood often goes up and down. (a) True, (b) False.

21. When I listen to music, I can get so caught up in it that I don't notice anything else. (a) True, (b) False.

22. I sometimes feel "just miserable" for no good reason. (a) True, (b) False.

23. If I wish, I can imagine that my body is so heavy that I could not move it if I wanted to. (a) True, (b) False.

24. I often have a feeling of unworthiness. (a) True, (b) False.

25. I can often somehow sense the presence of another person before I actually see or hear her/him. (a) True, (b) False.

26. The crackle and flames of a wood fire stimulate my imagination. (a) True, (b) False.

27. Occasionally I have strong emotional moods- anxiety, anger, gaiety, etc.- that seem to arise without much real cause. (a) True, (b) False.

28. It is sometimes possible for me to be completely immersed in nature or in art and to feel as if my whole state of consciousness has somehow been temporarily altered. (a) True, (b) False.

29. I am easily startled by things that happen unexpectedly. (a) True, (b) False.

30. Different colors have distinctive and special meanings for me. (a) True, (b) False.

31. I am often nervous for no reason. (a) True, (b) False.

32. I am able to wander off into my own thoughts while doing a routine task and actually forget that I am doing the task, and then find a few minutes later that I have completed it. (a) True, (b) False.

33. I can sometimes recollect certain past experiences in my life with such clarity and vividness that it is like living them again or almost so. (a) True, (b) False.

34. I often feel fed-up. (a) True, (b) False.

35. Things that might seem meaningless to others often make sense to me. (a) True, (b) False.

36. I sometimes get in a state of tension and turmoil as I think of the day's happenings. (a) True, (b) False.

37. While acting in a play, I think I could really feel the emotions of the character and "become" her/him for the time being, forgetting both myself and the audience. (a) True, (b) False.

38. I am often troubled by feelings of guilt. (a) True, (b) False.

39. My thoughts often don't occur as words but as visual images. (a) True, (b) False.

40. I would describe myself as a tense person. (a) True, (b) False.

41. I often take delight in small things (like the five-pointed star shape that appears when you cut an apple across the core or the colors in soap bubbles.) (a) True, (b) False.

42. When listening to organ music or other powerful music, I sometimes feel as if I am being lifted into the air. (a) True, (b) False.

43. Minor setbacks occasionally irritate me too much. (a) True, (b) False.

44. Sometimes I can change noise into music by the way I listen to it. (a) True, (b) False.

45. I get over a humiliating experience very quickly. (a) True, (b) False.

46. Some of my most vivid memories are called up by scents and smells. (a) True, (b) False.

47. I have often lost sleep over my worries. (a) True, (b) False.

48. Certain pieces of music remind me of pictures or moving patterns of color. (a) True, (b) False.

49. I often know what someone is going to say before he or she says it. (a) True, (b) False.

50. I worry about awful things that might happen. (a) True, (b) False.

51. I often have "physical memories"; for example, after I've been swimming I may still feel as if I'm in the water. (a) True, (b) False.

52. I have often felt listless and tired for no good reason. (a) True, (b) False.

53. The sound of a voice can be so fascinating to me that I can just go on listening to it. (a) True, (b) False.

54. There are days when I'm "on edge" all of the time. (a) True, (b) False.

55. At times I somehow feel the presence of someone who is not physically there. (a) True, (b) False.

56. Sometimes thoughts and images come to me without the slightest effort on my part. (a) True, (b) False.

57. I am too sensitive for my own good. (a) True, (b) False.

58. I find that different odors have different colors. (a) True, (b) False.

59. I sometimes change from happiness to sadness or vice versa, without good reason. (a) True, (b) False.

60. I can be deeply moved by a sunset. (a) True, (b) False.

APPENDIX 8

FIRST SESSION WITH PRACTICE SCENES

FIRST SESSION WITH PRACTICE SCENES

We appreciate and thank you for agreeing to participate in this experiment on imagination. In the following three sessions you will be given scenes and situations to imagine, by means of prerecorded instructions on this tape recorder. All the scenes will be presented by means of these prerecorded instructions.

In the first session, you will be asked to imagine 15 scenes. In the second, you will be asked to imagine 10 scenes. In the third and last session, you will be asked to imagine 5 more.

We will ask you to imagine each scene twice so that you have a better chance of carrying out fully the instructions to the best of your ability.

First, you will be asked to listen carefully as the scene is described verbally. Try to imagine each part of the scene as it is verbally presented. After a scene has been presented, you will then have one full minute to try to imagine it clearly and intensely, as though you were really living the imagined situation. After the minute, the scene will be repeated, so that you can imagine it again. We will then go on to the next scene, which will then be presented to you.

Try to put all your concentration and attention on the scenes you are asked to imagine, and try not to leave too many parts of it out. Try your best to imagine all parts of the instructions faithfully, even though a particular image may be difficult to grasp at first. Also try to prevent the occurrence of irrelevant and distracting thoughts or images from interfering with imagining the details of the scenes.

Keep imagining until you have given it a good try and have captured the details of the instructions in some way, coming as close to reproducing the instructions as you can get. But most important is that you imagine the scene as 'real' and life-like as you possibly can, with all the clarity, intensity, and detail, that you can produce. Imagine the scenes as if they were actually happening and as though you were really experiencing them now.

To help you to imagine better and easier, sit back in your chair now, and make yourself as comfortable as you can. Close your eyes, and concentrate on the images as they are presented by the instructions, and try to block out all other irrelevant thoughts, images, and stimuli.

Now let us try a few practice imaginary scenes, before we go on to the experimental scenes next time.

Practice scenes:

Imagine that you are in a small fishing village near the ocean. You are standing on a small hill near the harbor, watching the boats and the fishermen working on their ships. In the distance, looking out to sea, you see the fishing boats cutting through the waves. Try imagining this scene right now.

Now imagine that you come down from the hill and walk toward the beach. You walk along the beach and see the white sand stretching into the distance on both sides. There are a few people sunbathing on the sand and swimming in the water. You lie down on the sand and take a little nap. Now try imagining doing this right now.

Now let us try to imagine this scene again.

Now let us go on to the next scene.

Imagine that you are in the country sitting in your house looking out the window of your kitchen as you are having breakfast. Outside you see fields of grass and corn waving in the wind. The sky is bright and blue and you see some crows flying in the distance. At the edge of the fields you see a dark green forest and rolling green hills behind it. Try imagining this scene right now.

Now imagine that you get up and go out of the house to your garden by the side of the house. You have some tomatoes growing, some lettuce, and some potatoes. You look around and pull out some weeds which are growing in the garden. Then you take the hose and you water the garden all around. Now try imagining doing this right now.

Now let us try and imagine this scene again.

APPENDIX 9

TREATMENT SCENES
PARTS I AND II

PART I - INTRODUCTION TO EACH SESSION

Welcome to the first (2nd, 3rd) experimental session of this research study. In this session you will be presented 15 (10, 5) experimental scenes to imagine. Try to imagine each part of a scene as it is verbally presented. Remember that after a scene is verbally presented, you will have about one minute to imagine all of it. Also, each scene will be presented twice, so that you have more opportunity to capture all the details, intensity and meaning of each scene.

Try to keep imagining each scene until you have captured all of its parts, details and meaning, to the best of your ability. But most important, is that you imagine the scene as "real" and life-like as you possibly can, with all the clarity, intensity and detail that you can produce.

To help you to imagine better and easier, sit back in your chair now, and make yourself as comfortable as you can. Close your eyes, and concentrate on the images as they are presented by the instructions, and try to block out all other irrelevant thoughts, images and stimuli.

Now let's try our first scene.

PART II - TREATMENT SCENES IN EACH GROUP

1. Neutral Situations

1. Imagine that you are leaving the university campus and walking towards downtown. Concentrate on the scene around you, the houses and cars going by and the people milling about in the street. Try imagining this scene right now.

2. Imagine that you are on your bicycle and riding along a highway. It's early in the morning and there is little traffic. You see a farmhouse in the distance. See yourself slowly approaching the house. Try imagining this scene right now.

3. Imagine that you are at home and the doorbell rings. You go and open the door. It's your neighbor and he asks you for a cup of sugar. You say "sure", and go and get the sugar. Try imagining this scene right now.

4. Imagine that you are waking up in the morning and you see the light coming through by the sides of the window shades. You get out of bed and raise the blinds and let the light into the room. Try imagining this scene right now.

5. Imagine that you are painting the walls of your living room. You are using a light beige color. You dip your brush in the paint and apply the paint to the wall in long smooth strokes. Try imagining this scene right now.

6. Imagine that you are waiting at a bus stop. You see the bus coming two blocks away. It arrives and its doors open. You walk in and drop in your change. Try imagining this scene right now.

7. Imagine that you are listening to a lecture in class. The professor is drawing diagrams on the blackboard. Everyone is busy taking notes. All you can hear is the scribblings of the students trying to catch up with the professor. Try imagining this scene right now.

8. Imagine that you are shopping in a department store. You are looking for some clothes and shoes for yourself. You approach a section where there are displays of shoes and you start looking through them. Try imagining this scene right now.

9. Imagine that you are doing your groceries in a supermarket. You are pushing your cart along the isles and picking cans off the shelves. Your cart is getting quite full and you are checking off the last items on your list. Try imagining this scene right now.

10. Imagine that you are at home watching television. A commercial comes on and you decide to go to the kitchen and get yourself a drink. You hurry and get your drink before the program you are watching comes back again. Try imagining this scene right now.

11. Imagine that you have a dog and you decide to take him for a walk. You are walking with him near a park, and you let him go for a run and he runs all over the place. After a while you whistle for him to return to you and he comes running. Try imagining this scene right now.

12. Imagine that it is early in the morning and that you go to the refrigerator. You take out some milk and eggs and proceed to make yourself some breakfast. Imagine yourself frying the eggs on the stove. Try imagining this scene right now.

13. Imagine that you are reading a newspaper in a restaurant. You are sitting with a cup of coffee and sipping it occasionally. The waitress comes over and asks you if you would like some more coffee. Try imagining this scene right now.

14. Imagine that you are working in your garden. You are digging up the soil and then you plant seeds to grow vegetables. After dropping the seeds in the soil, you cover them with soil using a rake. Try imagining this scene right now.

15. Imagine that it is early evening and the sun is setting. The horizon is red from the dimming glow of the sun and the clouds are gradually turning grey. Try imagining this scene right now.

16. Imagine that it's in the morning and the mail arrives. You hear it falling through the slot in your door. You go and gather it up and then proceed to look through it. Try imagining this scene right now.

17. Imagine that you are sitting in a garden. The sun is shining and there are trees around you. Imagine the grass, the trees, and the warmth of the sun. Try imagining this scene right now.

18. Imagine that you are riding in a motor-boat on a lake. You hear the roar of the engine. The boat is flying over the waves. The water is splashing and streaming from behind the engine. Try imagining this scene right now.

19. Imagine that you are in a library. All around you are tables with people reading and writing. All is quiet except for the occasional turning of a page in a book. Walls are stacked with books, and they rise high above you. Try imagining this scene right now.

20. Imagine that you are playing tennis. The ball comes towards you, it takes one bounce and then you hit it back over the net. See the person you are playing with run towards the ball and hit it back. Try imagining this scene right now.

21. Imagine that you are at home and the phone rings. You go to pick it up, and answer. It's an acquaintance of yours asking for some information concerning a course you are both taking. You give the person the information and then hang up. Try imagining this scene right now.

22. Imagine that you are in a library and looking through the stacks of books. You are searching for a book. You see hundreds of books on the shelves, and you are busy being attentive to the catalogue numbers. Try imagining this scene right now.

23. Imagine that you are cooking yourself some supper. You chop up some onions and place them in a pan. You fry them over the stove, then add cubes of beef and salt and pepper. Imagine stirring the pan occasionally and then placing the lid on and letting it cook. Try imagining this scene right now.

24. Imagine that you are listening to your radio. A tune that you like is on. Imagine the sounds and the beat of the music. Concentrate on the sounds. Follow the music subvocally. Try imagining this scene right now.

25. Imagine that you are looking through a picture book of Canadian landscapes. As you flip through the pages, you see mountains, rivers, valleys, prairies, and lakes. Try imagining this scene right now.

26. Imagine that you are window shopping downtown for a nice suit. You pass a display in a shop and you notice a suit which you like. You decide to go in and a salesman asks you what you are looking for. After you tell him, he brings you the suit and you look at it. Try imagining this scene right now.

27. Imagine that you are on the top floor of a high-rise building and you are looking out of a picture window. Below, you see tiny cars the size of toys, and miniature people hurrying by. The streets stream away from you, and in the distance a bridge spans a river. Try imagining this scene right now.

28. Imagine that you are mowing the lawn. You start the engine with a quick pull of the cord. Then you are off across a field of grass. Hear the buzz and roar of the engine. See the grass flying and imagine the smell of freshly cut grass. Try imagining this scene right now.

29. Imagine that you are on a train sitting by the window. You see the landscape near to you rushing by very quickly and more slowly in the distance. Hear the noise and clatter of the train. See the green, yellow and brown fields stretching into the horizon. Try imagining this scene right now.

30. Imagine that you are out for some jogging. You first start running from your house. You pass by neighboring streets and houses, then you run along a main street on your way to a park. Imagine now running in the park across the fields. Try imagining this scene right now.

2. Stress Situations

1. Imagine that your friend is giving a speech at a meeting and that you are listening to it, and you think he is doing a very good job, and you are quite impressed. Try imagining this situation right now.

2. Imagine that you were really worried about an exam you and your friend did in a class, and you were not sure how you would do. You finally get your mark back and it's much better than you had expected. Try imagining this situation right now.

3. Imagine that you are driving along the highway and in the distance you see a car by the side of the road. It has it's hood up and steam is rising from the engine. A man is bent over the open front end, and a woman is standing by the side of the car. Try imagining this situation right now.

4. Imagine that you have volunteered to help someone whom you hardly know to do some charity work. This person really needs you to help, but when this person calls to arrange a time it turns out that you are in the middle of exams. The person tells you that they really need your help tomorrow, and asks you to come down to help some time during the day. Try imagining this situation right now.

5. Imagine that in an English class, the teacher is discussing the contributions of classical language to modern English. You are puzzled by several of the references, and believe he has misstated an important concept. Try imagining this situation right now.

6. Imagine that you are eating in a restaurant with friends. You order a steak and tell the waiter you would like it rare. When the food arrives you begin to eat and find that the steak is not prepared like your ordered. Try imagining this situation right now.

7. Imagine that your spouse, or girl or boyfriend is constantly teasing you about your weight. He or she brings the subject up continually and it makes you upset. You have been attempting to improve your weight problem for three months now, but with little success. Try imagining this situation right now.

8. Imagine that you responded to an employment ad in the newspaper and go for a job interview. You talk about the job and now the interview is at an end. You would like to indicate that you really want the job. The employer walks you to the door and says, "We'll be in touch with you." Try imagining this situation right now.

9. Imagine that you are sitting at home after school or work, with nothing much to do that evening or on the weekend. You don't have work to do, and the only choice at home is to watch television. You are also at home by yourself. Try imagining this situation right now.

10. Imagine that you are sitting at a lunch table with a friend of the same sex as you, when a friend of his or hers, also of the same sex, comes over and is introduced. Just then your friend realizes that he or she is late and gets up and leaves. Now you are left alone with the other person and you have your lunch to eat. You look at each other in awkward silence. Try imagining this situation right now.

11. Imagine that you are in a physics lecture with 300 students. The professor speaks softly and you know that many others are having the same trouble hearing him that you are experiencing. Try imagining this situation right now.

12. Imagine that a person in one of your classes, whom you do not know very well, borrowed your class notes several weeks ago, and failed to return them at the next class, thus forcing you to take notes on scrap paper. Now this person comes up to you again and asks if he could borrow your class notes. But the trouble is, this time there is going to be an exam on the next day in class. Try imagining this situation right now.

13. Imagine that over the last several nights, your neighbor has been playing his stereo very loudly. The music has been bothering you and has kept you awake and you find it disturbing. Try imagining this situation right now.

14. Imagine that you are one of eleven students in a psychology group discussion on human sexuality. The concepts being supported by three or four of the more verbal students are contrary to your personal moral code. Try imagining this situation right now.

15. Imagine that you go for a job interview and you are talking with the interviewer in his office and he says, "What makes you think you have what it takes for this job?" Try imagining this situation right now.

16. Imagine that the landlord of your apartment promised you, when you signed the lease, that he would make certain repairs. Over two months later he still has not made these repairs. As you leave your apartment one morning, you meet him at the door. Try imagining this situation right now.

17. Imagine that you've seen a particular person on the bus many times before, but never talked to him or her. The person's style and appearance is very different from yours, for example, the length of his hair and his clothes. Imagine how this person could appear to be. Try imagining this situation right now.

18. Imagine that you are at work or school and it's time to go for lunch. None of your friends are around, except a guy you've been introduced to, but never really talked with. Now imagine seeing this person and as he may appear at this time. Try imagining this situation right now.

19. Imagine that you have to give a short speech in your class in a week, and you are quite nervous about it. You find that you have not started preparing for it and you are getting increasingly nervous. Try imagining this situation right now.

20. Imagine that you are at your work setting. It's in the morning and you have a stack of papers in front of you which you have to work on and finish today. You look forward to a day of tiresome work. Try imagining this situation right now.

21. Imagine that you just had a blind date with a girl or boy, which you enjoyed, and would like to go out with him (or her) on the weekend. Imagine that you are walking home together and you feel this would be the perfect time to discuss a next date. Try imagining this situation right now.

22. Imagine a class party given by a college acquaintance. There are over twenty people there, some of whom you do not know. Picture some of your acquaintances. They are having a good time, mixing, chatting, arguing. People are sitting in the middle of all this. Imagine the people, the faces, the scene around them. Try imagining this situation right now.

23. Imagine that last night you met a member of the other sex at a friend's house. Now you are thinking of calling him or her up to ask for a date. You are sitting by the phone, thinking about what to do. Try imagining this situation right now.

24. Imagine that you are at a small party where you find yourself in a corner with your host, and an attractive member of the other sex you have never met. Your host introduces you to this person and then walks away. Try imagining this situation right now.

25. Imagine that you are at a department store waiting to get service. Soon it will be your turn, but another man comes up, calls to the clerk for assistance and she goes over to help him right away, leaving you waiting. Try imagining this situation right now.

26. Imagine that you have made a mistake on some aspect of your work. Your supervisor discovers it and is letting you know rather harshly that you should not have been so careless. Try imagining this situation right now.

27. Imagine that you are at a party where you don't know anyone except the host. You want to circulate and get to know others. You walk up to three people who are talking with one another. Try imagining this situation right now.

28. Imagine that you are in an auditorium with about one hundred people and you are listening to a guest speaker giving a talk on current political issues. After the speech he invites questions from the audience, and you have a question you would like to ask. Try imagining this situation right now.

29. Imagine that you have met a person of the other sex to whom you are very attracted, at a party. You want to keep the conversation going so that the person doesn't go off with someone else. You have discussed where you're from, what you're majoring in, etc., and would like to get the conversation onto more personal matters. Try imagining this situation right now.

30. Imagine that you have a very busy and hectic week coming up. It's the end of the term and you have final exams coming up for which you have to prepare. In addition, you also need to meet deadlines in applying for jobs in the fall, after graduation. Try imagining this situation right now.

3. Skills Training

1. Now imagine that after the speech you go over to your friend and smiling, you pat him on his shoulder and say, "I liked your speech very much. That was a real neat job". Now try doing this right now.

2. Now imagine that you go over to your friend who is in your class and tell him the good news, saying that you are pleased that you did so well on the exam. Now try imagining doing this right now.

3. Now imagine that you drive just past the car and you stop. You walk up to the fellow busy under the hood and you say, "Hi, are you having some trouble? Is there anything I could do to help?" Now try imagining doing this right now.

4. Now imagine that you politely but firmly tell the person that this was a bad time for you. You say that you would still like to help some other time, but that they should call back at a later time. Now try imagining doing this right now.

5. Now imagine that you ask the teacher to further explain the concept. You express your confusion and note the source of your conflicting information. Now try imagining doing this right now.

6. Now imagine that you signal the waiter. When the waiter arrives you tell the waiter that you ordered the steak rare, and that what you got is medium. You tell him to please take it back and bring you one that is rare. Now try imagining doing this right now.

7. Now imagine that you approach your spouse or friend when you are alone, and you indicate that you feel he or she is correct about your weight problem, but that you do not care about the way he or she keeps after you about the problem. You point out that you have been trying your best to correct it. Next, you ask your spouse of friend to work out a plan with you, in which he or she will systematically reward you for your efforts to change your weight. Now try imagining doing this right now.

8. Now imagine that you say to the employer, "Thank you for your time. I enyoyed the interview. I am interested in the job. Good-bye." Now try imagining doing this right now.

9. Now imagine that you look in the paper and find some course to take in a hobby or craft that you like. Next you call up some friends and make a date to go out on the weekend for a movie, dancing or for supper, whichever you prefer. Finally, you go out that evening and participate in some sport, whether it is swimming, bicycling, jogging or tennis. Now try imagining doing this right now.

10. Now imagine that you break the uncomfortable silence, and get the conversation going by asking questions to get acquainted, such as where he or she is from and what he or she does. After getting to know more about each other you turn the conversation onto something you have in common, such as your friend. You ask this person how he or she got to know your friend. Now try imagining doing this right now.

11. Now imagine that your raise your hand, and get the professor's attention, and ask if he would mind speaking louder. Now try imagining doing this right now.

12. Now imagine that you simply and briefly tell him that it is not possible for him to borrow your notes. You tell him clearly that you need your notes yourself for the exam tomorrow and that he can't borrow them. Now try imagining doing this right now.

13. Now imagine that you go over to your neighbor and tell him that his stereo has been keeping you awake at night. You ask what arrangements could be worked out concerning the music, so that it would not disturb your sleep. Now try imagining doing this right now.

14. Now imagine that you speak up in support of your own beliefs, identifying yourself with an apparently unpopular position, but you do not belittle the beliefs of others in the group. Now try imagining doing this right now.

15. Now imagine that you respond to the interviewer in a direct way saying, "I think this job is appropriate for me, because of my past work experience, training and education." Now try imagining doing this right now.

16. Now imagine that you decide to speak to him about the repairs. You say, "I would like you to make the repairs that we agreed on when I signed the lease. I have waited for two months now and I do not wish to wait any longer. I would like you to make those repairs right away." Now try imagining doing this right now.

17. Now imagine that you go over to talk to him or her. You sit down in the empty seat next to this person. This person looks up and catches your eye. So you say, "Seems we ride the same bus together a lot. Where are you going?" Now try imagining doing this right now.

18. Now imagine that you decide to ask this person for lunch. So you walk over to ask him, and you say, "I'm going to have lunch and I wonder if you'd like to join me?" Now try imagining doing this right now.

19. Now imagine that you do some muscular exercises just before you start to work, whereby you progressively relax each section of muscles of your body, starting with your facial muscles, and gradually work down towards your legs and feet. First, imagine tightening each muscle and then letting it go and relaxing it. Imagine relaxing each muscle in this manner. Imagine tightening your jaws, hold it, now imagine relaxing your jaws. Now try doing this right now.

20. Now imagine that you get right down to it, and put aside all distractions from you mind. You plan your work in such a way that you set goals to be reached during a certain period of time. Imagine that you are working quickly, giving your full attention to the work, and after the completion of each goal, you reward yourself with a break, coffee or cigarette. Now imagine doing this right now.

21. Now imagine that you say to yourself, "I would really like to go out on a date again but what if I breach the subject and she (or he) is not interested and says 'no'? Yeah but it's better than missing the chance. I did have a great time tonight, so maybe she (or he) did too and is interested in another date. So I'll just plunge ahead." Now try imagining doing this right now.

22. Now imagine that at this party you smile at a person of the other sex who is sitting close to you, and you ask what she or he is studying at college. You listen attentively to what is being said. Next, you describe in a clear manner what you are studying and what subjects you find most interesting. Then, you give this person a chance to comment or to react to what you have been saying. Now try imagining doing this right now.

23. Now imagine that you call the person up. You then tell her or him your name, and that you met last night at the party. You help the person to remember you by giving some information, by recounting what you talked about last night. Now try imagining doing this right now.

24. Now imagine that you begin the conversation by saying what you are thinking and feeling about at the moment. You disclose to the person that you have attended several of your host's parties and that you find them enjoyable. You say that your host always invites interesting people to meet. Now try imagining doing this right now.

25. Now imagine that you clearly and directly stand up for yourself by telling the clerk that you believe you were there first and that you would like to be served. Now try imagining doing this right now.

26. Now imagine that you agree that you made a mistake. You say you are sorry and that you will be more careful next time. You add that you feel he is being somewhat harsh and you see no need for that. Now try imagining doing this right now.

27. Now imagine that you wait for a pause in their conversation, then introduce yourself and ask if you may join the group. Now try imagining doing this right now.

28. Now imagine that you raise your hand in the auditorium and when the guest speaker points to you, you speak up loud and clear and ask him a question. You begin by saying that you are interested in his assessment of the current political climate, and ask him where he thinks it may lead to from this point. Now try imagining doing this right now.

29. Now imagine that you say to this person, "You know, I'm really enjoying talking to you. I like the way you put things. What kinds of things outside of school are you into?" Now try imagining doing this right now.

30. Now imagine that you prepare for the coming week by some advanced planning. First you decide what needs to be done, when to do it, and how much time to give to it. Then you make a list of all that you have to do. Imagine putting down the readings you have to do for your courses and the letters you have to write for your job applications. Now imagine checking them off one by one as you complete the tasks on your list. Now try imagining doing this right now.

4. Self Constructs

1. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being, erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is warm and considerate to others. You are genuinely pleased when others feel good. For this reason you are happy when they know that they have done something well. Try becoming this person for now.

2. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being, erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is expressive and open about how he feels. To you it's important that your friends know when you feel good and cheerful. This way others can share and enjoy your happiness too. Try becoming this person for now.

3. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is very considerate and thoughtful of others. You care about the needs and problems of people, because you know what it would feel like to receive help when you needed it. Try becoming this person for now.

4. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is sure of yourself and of what things need to be done. You are not one to be pressured by others and to be turned from your responsibilities. You are determined and know what you need to do for yourself. Try becoming this person for now.

5. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is comfortable with your capabilities and knowledge. You are fairly certain of what you know and what you don't know. For this reason you are not embarrassed when you don't know something or are confused about something. Try becoming this person for now.

6. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who feels entitled to proper service. You know your rights and can stand up for yourself. You feel confident, at ease and not intimidated in service situations. Try becoming this person for now.

7. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who can be fairly forceful, open, and to the point when necessary. You are not timid or embarrassed about having rights to respect and rights to courtesy. You feel people should know that they must be considerate and fair to you. Try becoming this person for now.

8. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is expressive, direct, and to the point. You are eager and interested, because you know what you want, and you think it's best that others know how interested you are. Try becoming this person for now.

9. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is cheerful and energetic. You are usually eager and interested in getting involved in many activities like hobbies and sports. You feel that that is what makes life worth living. Try becoming this person for now.

10. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is outgoing and friendly with people. You often know what to say in a new situation. You are socially skillful in that way. Try becoming this person for now.

11. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who can be outspoken when the situation requires it. You are not too concerned about what others think. You don't mind being the centre of attention on the right occasions. Try becoming this person right now.

12. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is secure and assertive. You feel sure about your rights. You do not allow yourself to be taken advantage of. Try becoming this person for now.

13. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is not embarrassed about others knowing that something is annoying you. You think it's best to be clear and direct about how you feel when the occasion calls for it. You like annoyances cleared up, before they would upset you too much. Try becoming this person for now.

14. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who can be expressive and opinionated when it comes to matters you feel are important, because what people may think of you is less of a concern to you than your principles. Try becoming this person for now.

15. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is poised in manner, and feels secure and assured about your capabilities. You know what you are good at and what you are not good at. You feel quite sure of your own evaluation of yourself. For this reason you are confident and not too concerned about how others evaluate you. Try becoming this person for now.

16. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who can be fairly direct and insistent when you feel your rights to something are being ignored. You feel it's best that others know in no uncertain terms what you want. It's the only way to make sure that you get a fair deal. Try becoming this person for now.

17. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is sociable and interested in people. You enjoy companionship and discovering what people are all about. Having some company is one experience you look forward to. Try becoming this person for now.

18. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are a person who is outgoing and has a sympathetic personality. You like to have many acquaintances. It's just a part of your neighborliness and kindness to others. Try becoming this person for now.

19. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is energetic and resourceful. You are quick to sense a problem when one is about to develop. You are not one to let a problem build up, and are quite determined to meet the challenge. Try becoming this person for now.

20. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is organized and efficient. You are ready to meet a task because you are industrious and a planner. You know that such personal qualities are what get you ahead in your work. Try becoming this person for now.

21. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being, erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is comfortable with himself and is sure of his own worth. You are not too concerned about what others think of you as long as you accept yourself. That is why you can take some risks interpersonally and not be too worried. Try becoming this person for now.

22. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who likes and prefers to be with people and enjoys parties. You find it pleasant to be with other people and to meet new acquaintances. You see yourself as a sociable and attractive person whom others find pleasant to get to know. Try becoming this person for now.

23. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who feels confident and accepted by the opposite sex. You are interesting, easy going and likable. Consequently, you use your opportunities to meet and keep in touch with members of the opposite sex. Try becoming this person for now.

24. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is fairly spontaneous and relaxed when you meet people for the first time. You are the type who can make the first move. To you it means that you are personable, and that's what you want to be. Try becoming this person for now.

25. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is self-assured and calm. You know how to let people know where you stand and how you feel when something is bothering you. You feel it's best to get things off your chest. Try becoming this person for now.

26. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who knows himself and is fairly sure of his worth. You feel you can be valuable in whatever you participate. For this reason you can accept criticism, since you maintain your overall opinion of yourself. Try becoming this person for now.

27. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is cheerful and likable, someone others find quite pleasant to meet. For this reason you are free and easy and can become friendly quickly. Try becoming this person for now.

28. Now imagine yourself if the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who gets involved and interested in issues to the point that you are usually not thinking of yourself or concerned with what others think of you, even in a crowd. You are usually much more interested in the issues and in what's going on. Try becoming this person for now.

29. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who is light hearted and funny. For this reason you can easily become free and intimate with members of the opposite sex. You are naturally as personal with them as you would be with members of your own sex. Try becoming this person for now.

30. Now imagine yourself in the just described situation, with the following personality characteristics. For the time being erase from your mind any other distracting thoughts of what you thought you were like outside of this room. Imagine you are now a person who knows what his goals are in life and is determined to reach them. You have the quality of persistence which is important if you wish to get ahead. That's the reason why you don't give up no matter how large a task you may be facing. Try becoming this person for now.

APPENDIX 10

SELF CONSTRUCTS GROUP CONTENT OF IMAGININGS QUESTIONNAIRE

APPENDIX 10

SELF CONSTRUCTS GROUP CONTENT OF IMAGININGS QUESTIONNAIRE

Name: _____ Date: _____

Sex: _____

Age: _____ Testing (circle one): 1 2 3 4

Regarding the imagining of the personality traits in the last scene:

1. Did you form concepts or thoughts of the personality traits (but without the use of verbal statements, memories of the past, or imagining of behaviors)?

   Mostly _____ Fair amount _____ Rarely _____

2. Did you say the personality traits to yourself as if they were verbal statements?

   Mostly _____ Fair amount _____ Rarely _____

3. Did you imagine yourself carrying out acts or behaviors representing the personality traits?

   Mostly _____ Fair amount _____ Rarely _____

4. Did you imagine the personality traits by remembering actual past actions or behaviors?

   Mostly _____ Fair amount _____ Rarely _____

5. Did you use logical arguments or reasoning to arrive at having such personality traits?

   Mostly _____ Fair amount _____ Rarely _____

6. Describe how or by what mental process you came to imagine the personality traits:

   _____

   _____

7. Describe what exactly you thought of when asked to imagine the personality traits:

_____

_____

8. Did you truly imagine the personality traits, but without actually knowing how you did so?

Mostly _____ Fair amount _____ Rarely _____

APPENDIX 11

RAW DATA

APPENDIX II

RAW DATA

Pretest Raw Data on Screening Instruments and Criterion Measures for Neutral Situations, Low Absorption Group

Subjects	1	2	3	4	5	6	7	8	9	10
COMF	7	6	7	2	3	6	7	5	6	7
ABLE	6	6	3	3	5	4	5	5	4	9
SHY	7	7	7	5	5	7	9	5	6	5
TOTAL	28	26	20	14	21	24	30	22	22	30
BEH PROB	8	7	3	4	8	7	9	7	6	9
RAS	120	128	99	112	135	120	98	119	121	77
DISC	106	75	129	104	89	115	102	98	138	120
RESP	123	90	95	116	112	96	110	121	120	126
DIFF	17	15	-34	12	23	-19	8	23	-18	6
PRIV	22	25	37	33	27	28	28	26	22	24
PUB	19	15	28	21	14	19	25	26	20	18
SOC	19	21	21	20	10	18	22	21	15	21
TOTAL SC	60	61	86	74	51	65	75	73	57	63
FNE	24	17	24	23	10	23	30	27	24	21
SELF	70	71	47	72	63	74	79	64	65	66
GOAL	17	27	19	40	39	36	19	34	28	27
OTHER	44	62	42	69	63	65	85	52	58	70
SELF-GOAL	53	44	28	32	24	38	60	30	37	39
SELF-OTHER	26	9	5	3	0	9	-6	12	7	-4

RAW DATA

Pretest Raw Data on Screening Instruments and Criterion Measures for Neutral Situations, High Absorption Group

Subjects	11	12	13	14	15	16	17	18	19	20	21
COMF	5	4	5	3	3	3	5	5	5	5	5
ABLE	3	4	7	1	5	3	3	5	3	7	5
SHY	3	5	5	5	4	5	4	5	5	7	5
TOTAL	16	22	24	12	20	15	20	22	20	28	22
BEH PROB	5	9	7	3	8	4	8	7	7	6	7
RAS	149	133	110	97	101	99	100	89	93	140	75
DISC	111	98	102	86	93	109	59	155	101	83	141
RESP	121	123	106	127	120	118	103	124	125	99	132
DIFF	10	45	4	41	27	9	44	-31	24	16	-9
PRIV	20	20	30	28	24	19	24	34	28	33	25
PUB	20	19	27	20	21	13	12	23	19	18	20
SOC	14	16	17	15	12	11	13	22	18	17	17
TOTAL SC	54	55	74	63	57	43	49	79	65	68	62
FNE	20	11	26	25	19	11	3	25	24	15	26
SELF	66	55	46	49	67	61	66	74	49	43	85
GOAL	49	42	19	25	26	25	41	22	20	20	18
OTHER	63	48	40	42	42	59	58	70	46	38	63
SELF-GOAL	17	13	27	24	41	36	25	52	29	23	67
SELF-OTHER	3	7	6	7	25	2	8	4	3	5	22

APPENDIX 11

RAW DATA

Pretest Raw Data on Screening Instruments and Criterion Measures for Stress Situations, Low Absorption Group

Subjects	22	23	24	25	26	27	28	29	30	31	32	33
COMF	5	5	S	6	6	5	S	3	7	9	7	5
ABLE	5	5	7	6	5	3	7	5	7	7	5	5
SHY	5	5	7	7	7	7	S	5	6	S	5	5
TOTAL	18	24	29	27	26	24	31	16	29	33	24	16
BEH PROB	3	9	7	S	S	9	S	3	9	9	7	1
RAS	123	109	79	93	126	99	81	110	121	82	115	146
DISC	76	100	149	140	119	98	89	109	127	133	120	79
RESP	103	106	126	132	101	74	100	74	125	139	123	80
DIFF	27	6	-23	-8	-18	-24	11	-35	-2	6	3	1
PRIV	22	30	14	16	26	22	31	20	24	27	20	27
PUB	17	20	16	21	15	19	17	19	26	19	20	13
SOC	14	19	22	16	15	18	23	13	23	23	20	12
TOTAL SC	53	69	52	53	56	59	71	62	73	69	60	64
FNE	21	25	27	30	9	27	23	29	30	13	11	10
SELF	69	54	92	73	45	59	65	48	73	81	58	56
GOAL	28	28	56	43	23	39	28	21	18	33	34	24
OTHER	67	55	86	52	40	44	60	51	75	70	55	56
SELF-GOAL	41	26	36	30	22	20	37	27	55	48	24	32
SELF-OTHER	2	-1	6	21	5	15	5	-3	-2	11	3	0

APPENDIX 11

RAW DATA

Pretest Raw Data on Screening Instruments and Criterion Measures for Stress Situations, High Absorption Group

Subjects	34	35	36	37	38	39	40	41	42	43
COMF	7	5	6	3	5	5	7	7	7	7
ABLE	3	3	3	2	6	4	4	4	3	3
SHY	7	7	7	7	6	5	5	7	6	5
TOTAL	24	24	23	16	24	16	26	22	19	22
BEH PROB	7	9	7	4	7	2	7	4	5	7
RAS	145	90	87	147	118	126	113	95	113	131
DISC	71	137	97	88	111	100	123	138	89	111
RESP	105	135	112	87	128	106	118	121	104	121
DIFF	34	-2	15	-1	17	6	-5	-17	15	10
PRIV	26	29	29	28	30	32	20	23	16	36
PUB	16	17	28	14	21	25	25	20	20	18
SOC	12	10	17	15	15	14	17	17	13	19
TOTAL SC	54	56	74	57	66	71	62	60	49	73
FNE	9	20	28	10	20	22	28	30	13	22
SELF	59	33	58	55	69	61	58	76	39	77
GOAL	33	19	17	35	33	26	23	33	15	41
OTHER	61	19	48	51	60	41	36	72	30	77
SELF-GOAL	26	14	41	20	36	35	35	43	24	36
SELF-OTHER	-2	14	10	4	9	20	22	4	9	0

APPENDIX II

RAW DATA

Pretest Raw Data on Screening Instruments and Criterion Measures for Skills Training

Low Absorption Group

Subjects	44	45	46	47	48	49	50	51	52	53	54	55
COMF	8	5	3	7	4	5	7	7	3	5	3	3
ABLE	3	3	3	3	4	5	7	7	5	3	4	3
SHY	6	5	5	5	5	7	4	7	4	6	6	4
TOTAL	25	18	16	20	21	26	22	30	17	21	19	13
BEH PROB	8	5	5	5	8	9	4	9	5	7	6	3
RAS	87	107	150	139	102	99	114	97	121	124	124	135
DISC	128	114	76	92	133	116	105	126	81	94	128	108
RESP	113	122	77	115	143	123	121	129	110	126	128	124
DIFF	-15	8	1	23	10	7	16	3	29	32	0	16
PRIV	24	23	29	20	19	20	20	23	18	19	30	22
PUB	27	24	11	17	14	18	16	18	15	22	26	15
SOC	21	17	16	14	16	15	15	19	10	12	20	12
TOTAL SC	72	64	56	51	49	53	51	60	43	53	76	49
FNE	22	16	15	6	12	19	14	27	9	19	24	17
SELF	77	57	79	67	71	57	63	67	58	66	76	65
GOAL	39	36	38	44	53	22	39	24	35	57	30	36
OTHER	70	58	58	69	77	47	56	59	55	63	68	56
SELF-GOAL	38	21	41	23	18	35	24	43	23	9	46	29
SELF-OTHER	7	-1	21	-2	-6	10	7	8	3	3	8	9

RAW DATA

Pretest Raw Data on Screening Instruments and Criterion Measures for Skills Training

High Absorption Group

Subjects	56	57	58	59	60	61	62	63	64	65
COMF	3	5	7	7	7	7	4	8	3	5
ABLE	5	5	5	4	5	5	7	5	5	3
SHY	5	5	7	5	8	5	9	5	5	5
TOTAL	16	22	26	25	28	22	27	26	19	14
BEH PROB	3	7	7	9	8	5	7	8	6	1
RAS	119	89	78	131	110	111	133	61	120	139
DISC	66	100	129	99	119	98	108	128	99	90
RESP	94	124	128	132	126	106	130	118	107	86
DIFF	28	24	-1	33	7	8	22	-10	8	-4
PRIV	26	32	22	29	32	26	22	26	25	28
PUB	14	24	21	19	19	22	11	19	19	18
SOC	13	18	18	19	16	16	11	19	10	17
TOTAL SC	53	74	61	67	67	64	44	64	54	63
FNE	27	16	30	23	27	24	10	10	13	25
SELF	67	35	60	76	64	33	73	66	30	46
GOAL	44	16	24	32	41	17	56	39	28	19
OTHER	55	36	49	75	55	39	80	53	35	35
SELF-GOAL	23	19	36	44	23	16	17	27	2	27
SELF-OTHER	12	-1	11	1	9	-6	-7	13	-5	11

APPENDIX 11

RAW DATA

Pretest Raw Data on Screening Instruments and

Criterion Measures for Self Constructs

Low Absorption Group

Subjects	66	67	68	69	70	71	72	73	74	75
COMF	9	8	5	5	4	3	9	5	5	5
ABLE	7	4	5	4	5	3	7	5	5	5
SHY	5	5	5	7	5	7	7	5	9	7
TOTAL	29	24	20	25	17	22	31	19	28	26
BEH PROB	8	7	5	9	3	9	8	4	9	9
RAS	116	130	134	99	115	101	73	122	131	137
DISC	93	135	92	140	89	103	102	106	121	127
RESP	109	123	109	126	119	123	112	111	122	125
DIFF	16	-12	17	-14	30	20	10	5	1	-2
PRIV	29	24	26	14	16	33	21	24	17	19
PUB	26	20	20	9	12	13	19	20	10	16
SOC	14	19	18	22	15	16	19	15	15	14
TOTAL SC	69	63	64	45	43	62	59	59	42	49
PNE	24	23	16	6	10	2	27	24	16	25
SELF	51	72	66	71	65	73	79	62	58	59
GOAL	21	30	37	30	34	29	29	27	34	38
OTHER	44	48	65	56	64	65	89	48	66	46
SELF-GOAL	30	42	29	41	31	44	50	35	24	21
SELF-OTHER	7	24	1	15	1	8	-10	14	-8	13

RAW DATA

Pretest Raw Data on Screening Instruments and

Criterion Measures for Self Constructs

High Absorption Group

Subjects	76	77	78	79	80	81	82	83	84	85	86	87
COMF	5	4	5	5	7	5	8	9	5	8	9	7
ABLE	5	4	5	5	3	4	7	5	1	7	7	5
SHY	5	5	8	7	9	5	8	7	4	8	9	4
TOTAL	16	16	26	24	25	21	30	28	15	32	34	24
BEH PROB	1	3	8	7	6	7	7	7	5	9	9	8
RAS	111	146	95	123	95	108	84	110	125	91	67	104
DISC	102	79	95	112	166	124	130	86	114	135	153	133
RESP	125	82	107	125	143	125	123	113	96	121	145	124
DIFF	23	3	12	13	-23	1	-7	27	-18	-14	-8	-9
PRIV	35	31	27	28	37	33	32	14	29	27	28	26
PUB	27	17	17	15	28	22	22	18	21	22	18	22
SOC	18	12	9	18	21	20	21	15	6	18	24	24
TOTAL SC	80	60	53	61	86	75	75	47	56	67	65	72
FNE	23	7	10	14	29	28	29	7	18	26	30	28
SELF	85	68	64	67	87	67	99	53	36	50	81	67
GOAL	36	20	30	37	18	41	41	33	16	18	27	39
OTHER	68	56	56	52	87	56	89	47	35	36	81	55
SELF-GOAL	49	48	34	30	69	26	58	20	20	32	54	28
SELF-OTHER	17	12	8	15	0	11	10	6	1	14	0	12

APPENDIX 11

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Neutral Situations, Low Absorption Group

Subjects	1	2	3	4	5	6	7	8	9	10
COMF	7	6	6	4	3	4	5	5	5	7
ABLE	6	5	3	4	2	5	5	5	4	5
SHY	7	7	6	4	3	6	9	5	5	7
TOTAL	27	26	20	16	16	20	28	22	21	27
BEH PROB	7	8	5	4	8	5	9	7	7	8
RAS	100	106	80	102	124	115	95	119	125	79
DISC	145	99	122	110	80	100	113	101	136	122
RESP	137	101	93	115	98	100	127	118	120	133
DIFF	-8	2	-29	5	8	0	14	17	-16	11
PRIV	26	20	40	31	25	33	25	27	21	26
PUB	20	14	28	20	13	21	21	26	18	19
SOC	17	22	21	17	8	18	20	18	12	18
TOTAL SC	63	56	89	68	46	72	66	71	51	63
FNE	25	15	24	22	9	26	28	29	16	17
SELF	60	78	42	74	62	73	77	61	63	60
GOAL	23	36	15	31	42	39	36	35	23	25
OTHER	40	72	40	75	56	62	80	46	50	59
SELF-GOAL	37	42	27	43	20	34	41	26	40	35
SELF-OTHER	20	6	2	-1	6	11	-3	15	13	1

APPENDIX 11

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Neutral Situations, High Absorption Group

Subjects	11	12	13	14	15	16	17	18	19	20	21
COMF	5	5	5	5	5	5	5	5	4	4	3
ABLE	3	4	5	3	5	5	3	7	3	4	3
SHY	5	5	5	5	4	6	5	7	5	5	4
TOTAL	20	23	22	21	22	20	22	26	17	18	16
BEH PROB	7	9	7	8	8	4	9	7	5	5	6
RAS	137	111	102	101	110	104	107	63	95	123	67
DISC	106	81	100	110	98	121	75	159	110	74	140
RESP	115	127	93	130	119	117	113	135	120	99	143
DIFF	9	46	-7	20	21	-4	38	-24	10	25	3
PRIV	21	25	31	33	23	18	25	33	29	28	22
PUB	16	20	26	23	20	13	8	24	20	13	15
SOC	12	15	16	18	13	10	15	23	16	16	19
TOTAL SC	49	60	73	74	56	41	48	80	65	57	56
FNE	18	19	29	21	23	7	1	27	30	4	26
SELF	71	55	56	43	71	60	75	94	46	41	93
GOAL	55	39	27	19	40	50	37	31	25	17	17
OTHER	71	47	43	31	59	65	68	89	46	34	68
SELF-GOAL	16	16	29	24	31	10	38	63	21	24	76
SELF-OTHER	0	8	13	12	12	-5	7	5	0	7	25

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Stress Situations

Low Absorption Group

Subjects	22	23	24	25	26	27	28	29	30	31	32	33
COMF	6	8	8	7	6	7	8	3	7	8	5	6
ABLE	6	7	6	5	6	5	7	3	7	5	7	7
SHY	5	7	7	6	4	5	7	3	6	6	5	5
TOTAL	22	31	29	25	23	25	31	16	28	28	20	19
BEH PROB	5	9	8	7	7	8	9	7	8	9	3	1
RAS	119	102	66	91	101	116	84	121	110	85	132	134
DISC	76	132	135	152	90	98	96	88	100	122	119	92
RESP	101	102	134	141	107	124	101	78	120	132	122	78
DIFF	25	-30	-1	-11	17	26	5	-10	20	10	3	-14
PRIV	24	28	14	15	27	23	25	31	27	30	24	27
PUB	19	21	12	22	16	18	16	16	27	21	16	12
SOC	13	21	21	18	13	19	22	11	24	22	18	15
TOTAL SC	56	70	47	55	56	60	63	58	78	73	58	54
FNE	24	26	22	30	7	21	14	28	30	15	6	7
SELF	68	71	98	76	46	57	63	54	81	90	66	45
GOAL	32	38	50	36	22	29	22	26	24	51	36	17
OTHER	71	75	73	59	48	44	65	51	71	83	59	48
SELF-GOAL	36	33	48	40	24	28	41	28	57	39	30	28
SELF-OTHER	-3	-4	25	17	-2	13	-2	3	10	7	7	-3

APPENDIX 11

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Stress Situations, High Absorption Group

Subjects	34	35	36	37	38	39	40	41	42	43
COMF	6	7	7	6	5	4	7	6	5	7
ABLE	5	5	3	3	5	3	5	6	6	5
SHY	7	9	5	7	6	5	7	7	5	4
TOTAL	25	28	22	23	23	15	26	27	18	21
BEH PROB	7	7	7	7	7	3	7	8	2	5
RAS	153	91	139	123	112	114	89	98	128	121
DISC	58	148	108	83	115	98	112	126	90	84
RESP	91	130	111	93	119	98	111	126	101	114
DIFF	33	-18	3	10	4	0	-1	0	11	30
PRIV	26	33	26	29	29	34	22	26	18	33
PUB	15	21	27	13	23	24	27	19	20	19
SOC	12	17	14	12	16	12	17	21	14	17
TOTAL SC	53	71	67	54	68	70	66	66	52	69
FNE	3	25	22	9	27	22	29	30	12	30
SELF	60	45	51	54	70	67	54	84	47	50
GOAL	32	36	20	37	45	26	24	40	15	24
OTHER	58	46	39	47	61	54	42	76	31	54
SELF-GOAL	28	9	31	17	25	41	30	44	32	26
SELF-OTHER	2	-1	12	7	9	13	12	8	16	-4

RAW DATA

Postest Raw Data on Screening Instruments and

Criterion Measures for Skills Training

Low Absorption Group

Subjects	44	45	46	47	48	49	50	51	52	53	54	55
COMF	7	4	4	3	5	5	5	7	3	5	4	3
ABLE	5	3	4	3	5	4	5	7	3	4	3	3
SHY	7	7	7	4	6	7	3	7	3	4	6	5
TOTAL	27	22	22	13	23	28	18	29	12	21	18	16
BEH PROB	8	8	7	3	7	9	5	8	3	8	5	5
RAS	80	129	155	135	95	75	134	95	126	117	90	132
DISC	131	111	102	76	110	128	118	107	78	87	141	89
RESP	111	111	90	102	141	140	111	117	113	110	135	126
DIFF	-20	0	-12	26	31	12	-7	10	35	23	-6	37
PRIV	26	24	28	16	19	13	23	22	14	18	19	25
PUB	27	21	19	10	14	14	15	16	12	22	19	15
SOC	22	15	15	10	17	14	11	16	7	16	15	11
TOTAL SC	75	60	62	36	50	41	49	54	33	56	53	51
FNE	24	14	19	4	24	28	14	26	6	20	25	9
SELF	70	48	83	51	74	82	60	67	64	54	72	53
GOAL	43	29	31	33	48	29	42	19	26	47	31	32
OTHER	61	37	62	47	75	72	50	61	46	53	71	48
SELF-GOAL	27	19	52	18	26	53	18	48	38	7	41	21
SELF-OTHER	9	11	21	4	-1	10	10	6	18	1	1	5

APPENDIX 11

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Skills Training

High Absorption Group

Subjects	56	57	58	59	60	61	62	63	64	65
COMF	3	3	7	9	6	5	5	8	5	3
ABLE	3	3	7	7	6	4	3	7	5	3
SHY	6	5	7	8	9	4	9	7	5	3
TOTAL	15	18	29	33	30	18	24	31	18	14
~~BEH~~ PROB	3	7	8	9	9	5	7	9	3	5
RAS	121	91	68	110	117	133	106	58	129	149
DISC	66	96	137	115	92	99	83	124	80	80
RESP	96	132	140	131	110	99	117	110	113	85
DIFF	30	36	3	16	18	0	34	-14	33	5
PRIV	27	32	25	28	27	22	28	20	19	22
PUB	13	25	26	20	23	16	21	14	14	19
SOC	16	17	22	18	22	13	15	20	10	15
TOTAL SC	56	74	73	66	72	51	64	54	43	56
FNE	22	23	30	24	25	18	9	15	15	27
SELF	73	43	59	70	69	47	83	61	36	45
GOAL	32	33	33	26	57	20	60	37	29	22
OTHER	51	41	32	64	75	26	78	55	41	33
SELF-GOAL	41	10	26	44	12	27	23	24	7	12
SELF-OTHER	22	2	27	6	-6	21	5	6	-5	12

APPENDIX 11

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Self Constructs

Low Absorption Group

Subjects	66	67	68	69	70	71	72	73	74	75
COMF	7	5	5	8	4	5	7	7	7	4
ABLE	4	3	4	5	5	3	6	6	7	4
SHY	5	5	5	7	5	6	7	6	7	5
TOTAL	25	21	19	28	17	22	25	25	28	16
BEH PROB	9	8	5	8	3	8	5	6	7	3
RAS	104	121	128	87	114	100	75	124	94	145
DISC	91	134	73	148	77	104	90	83	100	120
RESP	106	106	112	125	97	113	103	105	126	119
DIFF	15	-28	39	-23	20	9	13	22	26	-1
PRIV	29	33	25	13	20	34	21	24	18	22
PUB	25	22	19	6	11	20	18	16	14	15
SOC	13	17	15	20	13	16	22	16	21	8
TOTAL SC	67	72	59	39	44	70	61	56	53	45
FNE	21	18	15	1	6	5	26	20	9	11
SELF	52	59	67	65	58	64	80	45	49	48
GOAL	15	19	37	33	36	18	29	20	30	30
OTHER	47	56	66	53	53	67	79	39	56	58
SELF-GOAL	37	40	30	32	22	46	51	25	19	18
SELF-OTHER	5	3	1	12	5	-3	1	6	-7	-10

APPENDIX 11

RAW DATA

Postest Raw Data on Screening Instruments and Criterion Measures for Self Constructs

High Absorption Group

Subjects	76	77	78	79	80	81	82	83	84	85	86	87
COMF	7	4	6	5	6	7	8	7	1	5	7	7
ABLE	5	3	5	5	5	5	7	5	1	5	5	5
SHY	3	6	6	7	7	7	7	4	3	5	7	6
TOTAL	16	15	24	26	24	26	28	22	12	22	27	26
BEH PROB	1	2	7	9	6	7	6	6	7	7	8	8
RAS	127	144	108	103	86	92	78	145	110	115	77	79
DISC	77	60	109	109	129	117	111	68	94	107	154	153
RESP	117	69	113	122	121	125	124	98	81	106	139	132
DIFF	40	9	4	13	-8	8	13	30	-13	-1	-15	-21
PRIV	26	27	30	19	28	36	28	14	24	34	28	26
PUB	19	13	18	11	26	20	21	13	15	21	17	17
SOC	18	13	11	16	17	24	19	15	8	13	21	22
TOTAL SC	63	53	59	46	71	80	68	42	47	68	66	65
FNE	27	7	10	13	30	30	30	5	10	18	30	28
SELF	79	66	61	61	66	59	102	50	40	40	84	66
GOAL	28	20	29	38	19	28	50	35	15	15	24	32
OTHER	70	61	45	59	77	53	96	50	38	37	85	54
SELF-GOAL	51	46	32	23	47	31	52	15	25	25	60	34
SELF-OTHER	9	5	16	2	-11	6	6	0	2	3	-1	12

APPENDIX 11

RAW DATA

Raw Data on Control Measures for Neutral Situations, Low Absorption Group

Subjects	1	2	3	4	5	6	7	8	9	10
AGE	19	29	21	34	19	23	44	27	26	22
SEX	F	F	F	F	F	M	F	M	F	M
ABS	10	20	18	14	18	19	18	4	18	15
EXPECT	6	4	6	5	4	4	5	4	6	3
INTER	5	5	7	6	6	5	6	5	5	2
ANX	13	4	8	3	3	8	13	6	6	12
SET	6	8	9	9	9	7	8	9	8	8
ROLE	-	-	-	-	-	-	-	-	-	-
ELAB	1	1	2	1	2	2	3	0	3	2
INVOLV	9	14	12	15	14	9	11	11	10	7
VIVID	86	83	83	93	100	60	75	78	85	43
REAL	11	8	5	16	6	8	16	14	14	9
CLAR	5	6	7	7	7	7	8	6	9	6

APPENDIX 11

RAW DATA

Raw Data on Control Measures for Neutral Situations,

High Absorption Group

Subjects	11	12	13	14	15	16	17	18	19	20	21
AGE	25	23	44	20	22	23	24	22	19	20	54
SEX	F	M	F	F	F	M	M	F	F	F	F
ABS	21	33	25	21	22	25	24	22	26	23	22
EXPECT	3	4	3	2	4	3	3	4	2	5	2
INTER	4	4	3	3	3	4	3	5	1	7	4
ANX	5	12	16	3	4	7	3	15	3	7	8
SET	8	8	9	8	8	9	8	6	9	7	9
ROLE	-	-	-	-	-	-	-	-	-	-	-
ELAB	1	3	0	3	2	3	3	1	2	3	2
INVOLV	12	12	12	8	7	12	8	8	9	10	11
VIVID	63	85	100	72	72	97	33	2	58	81	100
REAL	9	10	15	10	7	6	6	11	5	9	4
CLAR	6	6	8	6	8	7	6	6	9	8	9

APPENDIX II

RAW DATA

Raw Data on Control Measures for Stress Situations

Low Absorption Group

Subjects	22	23	24	25	26	27	28	29	30	31	32	33
AGE	20	22	30	21	21	28	19	22	24	21	24	24
SEX	F	F	M	M	M	F	F	M	F	F	F	F
ABS	15	19	8	10	20	15	20	19	8	11	10	20
EXPECT	3	4	2	3	4	4	2	3	2	3	1	4
INTER	4	4	3	4	5	4	3	5	2	6	2	5
ANX	4	11	16	14	18	10	5	8	11	7	3	15
SET	7	9	7	7	8	9	9	7	4	7	9	8
ROLE	-	-	-	-	-	-	-	-	-	-	-	-
ELAB	1	3	1	3	3	2	2	0	2	3	3	3
INVOLV	6	9	11	8	13	8	12	8	6	8	5	13
VIVID	52	77	87	65	83	87	82	57	35	43	27	85
REAL	9	10	12	6	12	6	11	8	10	5	5	14
CLAR	6	8	7	7	7	6	7	5	5	6	6	6

APPENDIX 11

RAW DATA

Raw Data on Control Measures for Stress Situations

High Absorption Group

Subject	34	35	36	37	38	39	40	41	42	43
AGE	19	26	22	26	19	19	33	20	29	23
SEX	F	F	M	M	M	F	F	F	F	M
ABS	22	30	27	23	22	27	21	21	24	32
EXPECT	5	5	7	1	3	5	4	5	1	6
INTER	3	4	5	1	4	2	4	4	6	1
ANX	4	14	17	9	8	8	15	9	10	7
SET	9	9	9	7	8	5	9	7	5	9
ROLE	-	-	-	-	-	-	-	-	-	-
ELAB	3	3	3	3	2	3	3	2	1	3
INVOLV	8	12	14	7	11	9	14	12	7	9
VIVID	69	83	85	53	72	63	88	78	47	57
REAL	16	14	15	7	9	7	12	9	7	10
CLAR	8	8	8	6	7	5	8	6	6	6

APPENDIX 11

RAW DATA

Raw Data on Control Measures for Skill Training

Low Absorption Group

Subject	44	45	46	47	48	49	50	51	52	53	54	55
AGE	23	27	42	25	28	21	25	27	36	22	24	24
SEX	F	F	F	M	M	F	M	F	F	F	F	M
ABS	20	20	15	9	11	19	18	18	18	12	17	19
EXPECT	3	7	3	4	3	2	2	2	5	2	5	4
INTER	4	7	4	3	3	5	4	3	4	5	6	5
ANX	11	13	6	9	12	9	9	8	11	7	14	7
SET	9	9	4	5	4	7	8	9	9	7	9	5
ROLE	7	9	8	5	4	7	2	9	9	6	8	5
ELAB	0	1	2	1	0	1	2	2	1	0	1	2
INVOLV	9	9	7	7	8	12	7	13	12	10	14	10
VIVID	70	100	34	43	53	72	60	42	92	60	67	38
REAL	6	18	6	8	11	11	7	11	13	9	16	4
CLAR	9	7	6	4	5	5	5	7	6	6	7	9

APPENDIX 11

RAW DATA

Raw Data on Control Measures for Skill Training

High Absorption Group

Subject	56	57	58	59	60	61	62	63	64	65
AGE	26	22	39	21	23	33	31	19	25	26
SEX	F	F	F	M	M	F	M	F	M	F
ABS	30	25	21	23	21	25	23	24	21	29
EXPECT	4	5	2	5	5	4	3	5	5	2
INTER	3	4	3	1	2	7	4	2	5	2
ANX	10	5	16	8	11	12	9	3	15	8
SET	7	8	7	8	9	8	8	4	9	7
ROLE	3	9	7	6	9	7	6	3	8	7
ELAB	2	3	2	2	3	0	1	0	2	2
INVOLV	7	13	11	6	12	10	8	6	9	7
VIVID	50	93	78	75	80	83	73	32	80	72
REAL	4	15	15	9	16	9	15	6	12	6
CLAR	5	7	6	7	9	9	6	5	7	5

APPENDIX II

RAW DATA

Raw Data on Control Measures for Self Constructs

Low Absorption Group

Subject	66	67	68	69	70	71	72	73	74	75
AGE	23	22	22	24	20	28	22	19	44	31
SEX	M	F	M	F	F	M	M	F	M	M
ABS	17	19	15	15	14	18	17	7	12	19
EXPECT	2	3	6	2	5	3	4	5	5	4
INTER	7	4	7	2	4	6	5	5	6	5
ANX	8	10	20	4	7	6	12	5	12	13
SET	8	9	9	8	8	9	9	6	9	8
ROLE	5	9	9	8	7	8	7	4	8	6
ELAB	0	3	3	3	2	3	1	0	1	1
INVOLV	10	10	15	11	14	8	10	6	11	10
VIVID	58	77	83	20	57	77	75	33	75	68
REAL	6	11	17	13	10	14	6	4	15	10
CLAR	6	6	8	6	7	8	6	6	6	6

APPENDIX 11

RAW DATA

Raw Data on Control Measures for Self Constructs

High Absorption Group

Subject	76	77	78	79	80	81	82	83	84	85	86	87
AGE	52	20	21	26	31	35	26	22	19	20	20	20
SEX	F	F	F	F	F	F	M	M	F	F	F	F
ABS	26	30	28	21	32	21	32	21	25	22	21	23
EXPECT	7	2	1	4	2	4	2	4	2	1	1	4
INTER	4	2	2	7	6	5	3	2	2	2	1	4
ANX	3	4	5	5	19	7	7	5	12	14	9	15
SET	9	6	9	9	9	7	5	7	8	7	4	9
ROLE	9	9	9	9	9	5	7	7	9	8	6	5
ELAB	0	3	2	3	3	2	3	0	3	2	3	3
INVOLV	14	7	10	15	12	7	7	10	11	8	4	10
VIVID	93	37	60	78	77	50	37	35	93	72	4	50
REAL	16	5	16	15	15	7	7	11	12	15	3	11
CLAR	8	7	6	7	7	6	6	5	7	6	2	6

APPENDIX 12

DEMOGRAPHIC DATA

APPENDIX 12

Demographic Data on the Experimental Groups

Treatment Groups		High Involvement		Low Involvement	
		Number	Mean Age	Number	Mean Age
Neutral Situations	Males	3	23.33	3	24.00
	Females	8	28.25	7	27.43
	Total	11	26.91	10	26.40
Stress Situations	Males	4	22.50	4	23.50
	Females	6	24.33	8	22.75
	Total	10	23.60	12	23.00
Skills Training	Males	4	25.00	4	25.50
	Females	6	27.50	8	27.75
	Total	10	26.50	12	27.00
Self Constructs	Males	2	24.00	6	28.33
	Females	10	26.40	4	21.25
	Total	12	26.00	10	25.50

APPENDIX 13

MEANS AND STANDARD DEVIATIONS OF THE TREATMENT GROUPS ON MAIN CRITERION MEASURES

APPENDIX 13

Pretest Means and Standard Deviations of the Treatment Groups with Low Absorption on the Main Criterion Measures

Means (S.D.)	Group 1	Group 2	Group 3	Group 4
AI Discomfort	107.60 (18.67)	111.58 (23.73)	108.42 (19.21)	110.80 (18.60)
AI Response Probability	110.90 (12.90)	106.92 (22.56)	119.25 (15.83)	117.90 (6.89)
AI Difference	3.30 (19.85)	-4.67 (17.56)	10.83 (13.30)	7.10 (14.18)
Private Self-Consciousness	27.20 (4.73)	24.08 (5.48)	22.25 (3.86)	22.30 (6.04)
Public Self-Consciousness	20.50 (4.60)	18.50 (3.32)	18.53 (5.05)	16.50 (5.42)
Social Self-Consciousness	18.80 (3.70)	18.17 (4.11)	15.58 (3.34)	16.70 (2.67)
Total Self-Consciousness	66.50 (10.37)	61.75 (7.47)	56.42 (9.86)	55.50 (9.82)
Fear of Negative Evaluation	22.30 (5.50)	21.25 (8.24)	16.67 (6.06)	17.30 (8.78)
MSGO Self	67.10 (8.65)	64.42 (13.82)	66.92 (7.64)	65.60 (8.38)
MSGO Goal	28.60 (8.47)	31.25 (10.68)	37.75 (10.25)	30.90 (5.04)
MSGO Other	61.00 (12.83)	59.25 (13.18)	61.33 (8.29)	59.10 (13.71)
MSGO Self-Goal	38.50 (11.26)	33.17 (10.72)	29.17 (11.39)	34.70 (9.33)
MSGO Self-Other	6.10 (9.10)	5.17 (7.26)	5.58 (6.96)	6.50 (10.66)

APPENDIX 13

Pretest Means and Standard Deviations of the Treatment Groups with High Absorption on the Main Criterion Measures

Means (S.D.)	Group 1	Group 2	Group 3	Group 4
AI Discomfort	101.64 (27.54)	106.50 (21.80)	103.60 (18.80)	119.08 (26.27)
AI Response Probability	118.00 (10.63)	113.70 (13.86)	115.10 (16.06)	119.08 (17.79)
AI Difference	16.36 (23.44)	7.20 (14.27)	11.50 (14.55)	0.00 (16.02)
Private Self-Consciousness	25.91 (5.17)	26.90 (5.88)	26.80 (3.52)	28.50 (6.07)
Public Self-Consciousness	19.27 (4.15)	20.40 (4.45)	18.60 (3.75)	20.75 (3.98)
Social Self-Consciousness	15.64 (3.11)	14.90 (2.73)	15.70 (3.27)	17.17 (5.69)
Total Self-Consciousness	60.82 (10.64)	62.20 (8.56)	61.10 (8.59)	66.42 (11.62)
Fear of Negative Evaluation	18.64 (7.71)	20.20 (7.50)	20.50 (7.53)	20.75 (9.08)
MSGO Self	60.09 (13.02)	58.50 (14.17)	55.00 (17.40)	68.67 (17.49)
MSGO Goal	27.91 (10.83)	27.50 (8.76)	31.60 (13.24)	29.67 (9.57)
MSGO Other	51.73 (11.14)	49.50 (18.48)	51.20 (16.12)	59.83 (18.04)
MSGO Self-Goal	32.18 (15.92)	31.00 (9.49)	23.40 (11.46)	39.00 (16.05)
MSGO Self-Other	8.36 (7.75)	9.00 (7.94)	3.80 (8.19)	8.83 (5.90)

APPENDIX 13

Posttest Means and Standard Deviations of the Treatment Groups with Low Absorption on the Main Criterion Measures

Means (S.D.)	Group 1	Group 2	Group 3	Group 4
AI Discomfort	112.80 (19.21)	108.33 (23.10)	106.50 (21.03)	102.00 (24.86)
AI Response Probability	114.20 (15.54)	111.67 (20.69)	117.25 (15.48)	111.20 (9.63)
AI Difference	0.40 (14.37)	3.33 (17.34)	10.75 (19.65)	9.20 (21.14)
Private Self-Consciousness	27.40 (5.91)	24.58 (5.28)	20.58 (4.83)	23.90 (6.61)
Public Self-Consciousness	20.00 (4.62)	18.00 (4.31)	17.00 (4.77)	16.60 (5.50)
Social Self-Consciousness	17.80 (4.20)	18.08 (4.21)	14.08 (3.90)	16.10 (4.23)
Total Self-Consciousness	64.50 (12.08)	60.67 (8.88)	51.67 (11.54)	56.60 (11.38)
Fear of Negative Evaluation	21.10 (6.54)	19.17 (9.08)	17.75 (8.21)	13.20 (8.08)
MSGO Self	65.00 (10.88)	67.92 (16.47)	64.83 (11.86)	58.70 (10.71)
MSGO Goal	30.50 (8.62)	31.92 (10.82)	34.17 (8.90)	26.70 (8.00)
MSGO Other	58.00 (14.32)	62.25 (12.63)	56.92 (11.94)	57.40 (11.17)
MSGO Self-Goal	34.50 (7.79)	36.00 (9.61)	30.67 (15.26)	32.00 (11.37)
MSGO Self-Other	7.00 (7.54)	5.67 (9.28)	7.92 (6.71)	1.30 (6.52)

APPENDIX 13

Posttest Means and Standard Deviations of the Treatment Groups with High Absorption on the Main Criterion Measures

Means (S.D.)	Group 1	Group 2	Group 3	Group 4
AI Discomfort	106.73 (26.32)	102.20 (25.34)	97.20 (22.15)	107.33 (29.74)
AI Response Probability	119.18 (14.66)	109.40 (13.44)	113.30 (17.37)	112.25 (20.65)
AI Difference	12.45 (20.37)	7.20 (15.06)	16.10 (17.19)	-1.75 (18.74)
Private Self-Consciousness	26.18 (5.02)	27.60 (5.10)	25.00 (4.14)	26.67 (5.91)
Public Self-Consciousness	18.00 (5.48)	20.80 (4.64)	19.10 (4.72)	17.58 (4.21)
Social Self-Consciousness	15.73 (3.52)	15.20 (2.94)	16.80 (3.85)	16.42 (4.72)
Total Self-Consciousness	59.91 (12.07)	63.60 (7.50)	60.90 (10.49)	60.67 (11.49)
Fear of Negative Evaluation	18.64 (10.23)	20.90 (9.60)	20.80 (6.43)	19.83 (10.27)
MSGO Self	64.09 (18.48)	58.20 (12.20)	58.60 (15.35)	64.50 (17.76)
MSGO Goal	32.45 (12.97)	29.90 (9.58)	34.90 (13.50)	27.75 (10.22)
MSGO Other	56.45 (17.74)	50.80 (12.73)	49.60 (18.20)	60.42 (18.42)
MSGO Self-Goal	31.64 (20.46)	28.30 (10.26)	22.60 (12.72)	36.75 (14.04)
MSGO Self-Other	7.64 (8.08)	7.40 (6.50)	9.00 (11.30)	4.08 (6.85)

APPENDIX 14

PROPORTION OF VARIANCE ACCOUNTED FOR IN THE ANALYSES OF VARIANCE

APPENDIX 14

Proportion of Variance Accounted for in the Analysis of Variance of the Change Scores of the Main Dependent Measures with Significant Treatment Effects

Dependent Measures	Source	$\hat{\omega}^2$
AI Discomfort	Treatments	.10
AI Response Probability	Treatments	.07
Public Self-Consciousness	Interaction	.06
MSGO Self	Treatments	.09
MSGO Goal	Treatments	.06
MSGO Self-Other	Treatments	.11
MSGO Competence Subscale	Treatments	.10
MSGO Self-Confidence Subscale	Treatments	.09