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THE EFFECT OF DISSONANCE REDUCTION IN PSYCHOTHERAPY: A REEXAMINATION

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A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

degree of

DOCTOR OF PHILOSOPHY

By

DAVID C. MITCHELL

Norman, Oklahoma

1981

THE EFFECT OF DISSONANCE REDUCTION IN PSYCHOTHERAPY:

A REEXAMINATION

APPROVED BY:

W. Rowe

Robert Ragland

Abraham Scherman

Dorothy A. Foster

DISSERTATION COMMITTEE

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Abstract

The choice to continue and choice of treatment was manipulated to determine the effect of the effort justification sequence in counseling. Using flooding therapy as the psychoactive treatment, 36 subjects with fear of snakes were randomly assigned to different levels of degree of choice. The behavioral avoidance test and self-report measure indicated improvement across all groups, but the major hypothesis of this study was not supported since choice did not differentially affect the outcome of counseling. The discrepancy in these results and previous research is discussed and possible explanations are explored. Future theoretical research on the effort justification sequence should procede cautiously given the current conflicting evidence.

The Effect of Dissonance Reduction in Psychotherapy: A Reexamination

The field of counseling and psychotherapy has long been plagued by the problem of placebo effects (Rosenthal & Rosnow, 1969; Shapiro & Morris, 1979) or what is sometimes more precisely termed nonspecific treatment variables (Wilson, 1980; Kazdin & Wilcoxon, 1976). Research either provides little attention to these variables or attempts to control (minimize the influence) of these "nonspecific variables" (Wilkins, 1979). It logically follows that since the nonspecific variables are frequently potent enough to confound the specific/active variables, the nonspecific factors are active ingredients which are as yet unspecified.

Although Wilson (1980) presents a broad list of nonspecific variables, the effect of choice or decision freedom is not mentioned. To date, relatively little research has been carried out on the influence of client choice on counseling outcome. The literature available does indicate that choice positively influences the amount of fear reduction achieved (Devine & Funald, 1973), the self reported effectiveness of relaxation (Gordon, 1976), and the attendance at the first counseling session (Ersner-Hershfield, Abramouritz, & Baren, 1979). More recently, Cooper (1980) found the choice to continue in the treatment to significantly differentiate improvement for assertiveness and

extreme fear of snakes regardless of the therapy offered (bogus control or a treatment considered to be psychoactive). Apparently, the effect of client choice has a positive, though largely undefined, role in counseling. It is possible that choice as a variable is so obvious and, in some instances, implicit in the counseling process that it has remained largely unexamined.

Cooper (1980) has utilized cognitive dissonance as a theory to explain the relevance of choice or decision freedom to counseling outcome. He suggests that psychotherapy may be a special instance of the effort justification sequence. Effort justufication states that when substantial effort is expended toward reaching a goal which is insufficiently attractive, cognitive dissonance is aroused. This dissonance can be reduced by cognitively altering the goal to a sufficiently attractive value, thus justifying the effort expenditure. Once the goal is perceived as being sufficiently attractive, it is likely to be behaviorally approached.

Using Cooper's example of snake phobia to demonstrate effort justification, clients elect to enter counseling and are required to expend time, money and experience anxiety in order to achieve their goal, which is to either approach snakes or be less anxious in their presence. This goal was previously too aversive or demanding so that the individual was unable to achieve it without seeking assistance. However, once having put forth large amounts of effort, the person may wonder, "Why did I go through all that unpleasantness?"

They may think, "It must be that I really want to change my behavior." Another cognitive change might be, "I am putting out so much energy for this therapy because this therapy must really be able to help me." Both are examples of cognitive changes which lead to enhancing the person's ability to approach snakes. Choice is essential to the effort justification sequence because without choice, there is little or no need to adjust one's beliefs because the effort is expended under coercion (Davis & Jones, 1960).

Cooper tested this hypothesis using clients with a fear of snakes and a second study using clients wishing to become more assertive. Manipulating informed choice to continue, given the aversiveness of treatment, and type of treatment (bogus exercise or a treatment believed to be psychoactive), Cooper created the necessary conditions for a tension state of dissonance to exist. The results suggest that informed choice to continue and the resulting cognitive reduction in dissonance accounted for the change in behavior in both areas, regardless of the real or bogus treatment. If the conceptual model and data of the Cooper study were further supported by replication, this would present a serious challenge to the orthodox research on the counseling process. That is, rather than being the direct effect of the psychological interventions, improvement in counseling may result from cognitive changes in response to dissonance reduction

following the effort justification model. This may occur either directly or in combination with active psychological treatments.

While Cooper's project is recognized as scholarly, some question remains concerning the manipulation and definition of choice. Assuming that this project utilized the traditional informed consent procedure of, "You may withdraw at any time . . .," as required in most human research, then all subjects were given at least one option to discontinue. Cooper does not comment on this point.

Another issue regarding choice concerns the Cooper operational definition of choice. Choice was defined as the decision to continue in the study (Treatment) after being informed that to continue would be effortful. This took place within minutes after the clients had arrived. All but one subject elected to continue. Most clients responding to a media advertisement for treatment of the extreme fear of snakes had already made the choice to enter treatment before Cooper's manipulation of choice. By using this operational definition, choice is clearly affected.

Because of the formal requirements for human subject research, any design would suffer similar confounding of choice if it concerns election to receive treatment. Therefore, to adequately test the hypothesis of effort justification, choice should pertain to another decision point, such as type of technique employed.

Further, choice may interact differentially with other variables identified as relevant in the social psychological literature. A commonly used index of individual differences is the Rotter Internal-External Locus of Control scale (I-E scale). One would expect, perhaps, that persons identifying themselves as accessing an internal locus of control would respond to choice differently than persons with a more external locus of control.

The purpose of this study, then, will be to replicate the essential part of the Cooper report, to extend it by providing choice at another significant point in the procedure, and to investigate whether the effect of choice operates differently with persons who are more inner or other directed. An effort justification conceptualization of therapy related changes in behavior would be supported if subjects receiving "choice" show significantly greater improvement on the measures used.

Method

Subjects

The subjects who participated in this project were solicited from the General Psychology Subject Pool. Students were awarded class credit for participation in research. Approximately 950 undergraduate students were contacted and 246 elected to complete the screening form consisting of five items (public speaking, airplanes,

worms, harmless snakes, and high places) from the Fear Survey Schedule (Wolpe & Lang, 1964). Of the 246 completed forms, 59 indicated "much" or "very much" fear or unpleasant feelings toward harmless snakes. Of the 59 students, 52 elected to participate once the project was explained over the phone. Of the scheduled students, two did not appear for the experiment and 14 students touched the snake on the pre-test. Therefore, the subjects for this study were 36 (8 male and 28 female) undergraduate psychology students ranging in age from 18 to 30 years old who self-reported significant fear of harmless snakes and who were unable on the pre-test to touch a snake under high demand conditions.

Instruments

Rotter Internal-External Locus of Control (Rotter, 1966). The Rotter I-E scale is a 23-item forced choice questionnaire with six filler items adapted from the 60-item James scale. It is scored in the external direction. A summary of internal consistency data provided by the author indicated correlations ranging from .65 to .79, and the test-retest reliability ranges from .49 to .83 for the various studies listed. Further, the I-E scale demonstrated a low correlation with social desirability and intellectual measures.

Behavioral Avoidance Test (BAT). Following the model of Lang and Lazovik (1963), the subjects were asked to wait 18 feet away from a plexiglass cage containing a 42-inch yellow rat snake. The

following instructions were given verbatim, "Wait here and when I tell you, I want you to try to walk to here. Then reach in and touch the snake." While giving these instructions, the experimenter approached the cage, removed the screen top, and picked up the snake.

The experimenter then said, "Now, I would like you to try to walk up to the cage, open it, reach in, and touch the snake. After 10 seconds, or five seconds after the subject stopped, the experimenter said, "It is important to this project that you try to move toward the cage, reach in, and touch the snake." After another five-second wait, the experimenter said, "Please make every effort to move toward the cage, reach in, and touch the snake." After 10 seconds more, the experimenter discontinued the demand. Bernstein and Paul (1971) have suggested that the BAT should include "high demand" instructions, especially when used with non-clinical subjects. The approach performance was assessed in the following manner: touch the snake = 1, break the plane of the open top of the cage = 2, open the cage = 3, touch the cage = 4, reach the cage = 5, add 1 for each foot away from the cage reached (e.g. one foot away = 6, two feet away = 7).

Heart rate. The heart rate (pulse) was assessed at four different points in the procedure using a Genesis wrist-index finger assessment device. The base line consisted of two measurements, one 30 seconds after the device was affixed and one taken approximately in the middle of the I-E scale administration. Measures were also taken

at the point of closest approach in the pre- and post-test BAT. In addition, the heart rate was noted during a high stress scene of the flooding procedure in order to confirm that subjects were experiencing anxiety.

S-R Inventory of Anxiousness. Odom, Nelson, and Wein (1978) revised the stimulus items of the original S-R inventory (Endler & Okada, 1975) to focus on four situations concerning snakes. The four situations are: Thinking about a snake, looking at a caged snake at a distance of 10 feet, sitting directly in front of a caged snake, and holding a snake with bare hands. The nine areas of discomfort and degrees of reaction employed were from the original form. A five-poing scale was used, ranging from "Not at all" to "Very much." Endler and Okada (1975) have provided the psychometric properties of the S-R Inventory of General Trait Anxiousness. However, the adaptation by Odom et al. has no psychometric information available.

Expectation for improvement. The overall expectation was assessed using a 13 centimeter scale with two descripter bench marks of "much improvement" and "no improvement."

Procedure

After the subject completed a brief form about their cardiovascular health, medication, psychiatric history and demographic data, the assessment of their improvement expectation was measured

(see appendix I). Next, the Rotter Internal-External Locus of Control scale was administered, followed by the pre-test on the revised S-R inventory. The heart rate base line was established by taking two readings, one while taking the I-E scale and the other 30 seconds after attaching the wrist monitor. The Behavioral Avoidance Test pre-test was then administered. After the subject had responded to the demand, the experimenter assessed the approach performance and read the heart rate.

All subjects were informed that the treatment would be difficult and require a large amount of effort. Further, they were told that most subjects have reported experiencing high levels of anxiety. All subjects then were escorted to the treatment room and randomly assigned to one of three choice manipulation levels.

Group 1 subjects were given no choice and were read a rationale of the treatment they were about to receive. Group 2 subjects were asked if they wished to continue. When they responded positively, they were read a treatment rationale. Group 3 subjects were given the choice of continuing and a choice between two treatments although in fact they would receive the same treatment regardless of which rationale they chose. The rationales used for groups 1 and 2 were counterbalanced for presentation order for Group 3. When the subject selected a treatment rationale, the experimenter

wrote down the selection on the informed consent form and picked up the taped treatment from two clearly labeled audio tapes, each of which contained the same recorded material. The subject then listened to a 40 minute audio tape of a flooding procedure while sitting in a reclining chair. The pulse rate was assessed during a scene designed to elicit high arousal.

After the completion of the tape, the subject was informed that they would then return to the "snake room." The BAT was administered in the same fashion as before and the pulse rate assessed at the closest approach point.

The subject was then escorted to a neutral room and given the post-test on the S-R Inventory. Additionally, the subjects were asked to indicate their perceived freedom to withdraw from the project. The level of consonance between the rationale and treatment received was assessed for the high choice group (see Appendix J). The subjects were then debriefed.

Results

To prepare the data for analysis, several adjustments and calsulations were required. The S-R Inventory of Anxiousness was transformed to a single score by taking the sum of the nine questions for all four areas. Since a dependent sample *t* test did not reveal a significant difference between the two base rate pulse

observations, the mean of these two observations was calculated to provide a more stable base rate. The BAT was assessed according to the scale provided in Appendix C. Four separate one-way analyses of variance indicate that the three groups did not differ significantly on the pre-test for the S-R Inventory of Anxiousness, Behavioral Avoidance Test, pulse rate, or expectation for improvement.

Before examining the major hypothesis, it is appropriate to examine the manipulation of the groups and the effectiveness of the techniques employed. To determine whether the taped flooding treatment sufficiently aroused anxiety, the base pulse rate was compared to the pulse rate at a "high stress" point in the flooding tape treatment. A t test with repeated measures indicated that the pulse rate was significantly higher during the flooding tape, $t(35) = 2.99$, $p = .005$. The effectiveness of the flooding treatment is seen in the lowering of self report of anxiety across all groups, as measured by the S-R Inventory of Anxiousness, $F(1,33) = 8.34$, $p = .007$ and is also shown in the improvement on the BAT across all groups, $F(1,33) = 10.28$, $p = .003$.

The manipulation of choice was assessed through the comparison of the subjects' perceived freedom to withdraw. A one-way analysis of variance was performed and the results indicated a

significant difference $F(2,33) = 4.62$, $p = .017$. The no choice group mean of 37.5 was considerably higher than the low choice mean of 12.1 and the high choice mean of 8.6.

The counterbalancing of the presentation of rationales resulted in the following selection data. Rationale #1 (Cognitive Reattribution) was selected by seven of the high choice subjects, while Rationale #2 (Neurolinguistic Reprogramming) was selected by five. An equal number of subjects preferred the rationale presented first and the one presented second. Nine of the twelve subjects found the similarity of the rationale and treatment to be more similar than dissimilar. The raw scores and descriptive statistics for the perceived similarity between the rationale and treatment are shown in Appendix D.

To test the major hypothesis, a 2 x 3 analysis of variance was performed to examine the pre- and post-test BAT scores between the groups. The comparison of the pre/post BAT scores across all treatment groups shows a significant difference, $F(1,33) = 10.28$, $p = .003$. However, no interaction was detected, $F(2,33) = .73$, $p = .51$, thus indicating no difference between groups following treatment. The means and standard for the BAT scores are shown in Table 1.

Insert Table 1 and Table 2 about here

The 2 x 3 analysis of variance using the pre and post scores for the S-R Inventory for the three treatment groups indicates a significant difference for pre/post measure only, $F(1,33) = 8.24$, $p = .007$. Again, there is no significant difference between the groups following treatment, as can be seen in Table 2.

To consider the physiological measure of anxiety, a 2 x 3 analysis of variance compared the pre- and post-test pulse rate observations. Neither of the main effects were significant. The means and standard deviations are shown in Table 3. A t test for dependent measures was used to compare the base pulse rate to the mean of the two BAT pulse rate observations. The results indicate a significant drop for the pulse rate at the BAT observation, $t(35) = 4.41$, $p = .0002$.

Insert Table 3 about here

Correlations of the three measures (behavioral, physiological, and cognitive/verbal) with either Rotter I-E scale or the expectation for improvement did not approach significance.

Discussion

There was consistent improvement of all groups on both the behavioral and self report measures. The major hypothesis of this study, that choice would differentially affect the outcome of counseling, is not supported. Although the present study included what appears to be the appropriate procedures to evoke the effort justification sequence, it did not yield any data which would associate behavioral change with level of choice.

Since the results of this project do not support previous results (Cooper, 1980; Devine & Fernald, 1973; Ersner-Hershfield, et al., 1979; and Gordon, 1976), it is appropriate to explore this incongruency. There appear to be two major ways to account for the contradictory findings between the present study and that of Cooper. First, it is possible that effort justification may account for the changes in counseling, but that methodological differences caused the discrepant findings. A second possibility is that cognitive dissonance is not an adequate explanation for the changes in behavior that come about from taking part in counseling.

Considering the methodological differences, a major discrepancy is seen in the BAT scores of the two studies. While one group of subjects improved over 10 feet in the Cooper study, the average improvement in this study was about one foot (or its equivalent).

It could be argued that the reason the subjects in the present study were closer to the snake on the pre-test was that the subjects in the Cooper study represented an actual clinical population. However, this discrepant pre-test behavior may be due to the snake size, which was substantially larger in the Cooper study. Also, it appears that the demand for approach in the BAT was stronger in the present study. Naturally, the approach on a BAT can vary significantly depending on the strength of the demand. Indeed, Smith, Diener, and Beaman (1974) reported that under a high demand instruction, 100% of a self-referred clinical population achieved the terminal behavior. However, at post-test, in the study only three of 60 subjects touched the snake, while 14 of 36 touched the snake in the current study.

In addition, there was a decrease in the self-report measure of anxiety across all groups in the present study, but no decrease was found in the Cooper study. This lack of change in self reported anxiety is consistent in the Cooper study, even for the group receiving the psychologically active treatment. Because the instruments used were different, however, it is difficult to adequately compare these findings.

Therefore, since many differences occurred between the two studies and because of the inability of the available literature

to provide clarification, it is appropriate to consider whether the effort justification paradigm is an adequate hypothesis to explain significant outcome changes in counseling.

Future research would benefit from improvement in assessing the physiological response to anxiety. Al shown in Table 3, there is a large variance among the group scores. Little confidence is placed in this measure because the group means are lower in the presence of the feared object than at the base rate. Although previous research (Smith, et al., 1974) has shown no significant change in heart rate from the base rate to the BAT situations, there is no known data or logic that would predict less arousal in the presence of the feared object.

In summary, the present project does not support the hypothesis that choice would differentially affect the outcome of counseling. This partial replication of the Cooper (1980) study yielded results incongruent with previous research. Among the possible explanations are that methodological differences produced the discrepancy or that effort justification is not an adequate explanation for change in counseling. Future research should cautiously approach effort justification, due to the conflicting findings.

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Table 1

Means and Standard Deviations for the

Behavioral Avoidance Test

Group	Pre-Test	Post-Test
No Choice		
Mean	3.83	2.50
SD	1.91	1.85
Low Choice		
Mean	3.45	2.83
SD	1.18	2.73
High Choice		
Mean	3.67	1.92
SD	1.49	1.11

Note. Score range, 1 to 23.

Table 2

Means and Standard Deviations

for the S-R Inventory

Group	Pre-Test	Post-Test
No Choice		
Mean	148.67	137.75
SD	15.65	23.73
Low Choice		
Mean	148.17	140.08
SD	17.05	20.95
High Choice		
Mean	141.75	137.00
SD	17.97	25.52

Note. Score range, 36 to 180.

Table 3

Means and Standard Deviations

for Pulse Rate Observations

Observation	Group		
	No Choice	Low Choice	High Choice
Base Rate			
Mean	81.67	72.75	86.50
SD	20.27	19.00	10.95
Flooding Tape[a]			
Mean	103.33	91.92	93.58
SD	26.86	26.73	28.79
BAT I[b]			
Mean	55.67	68.00	67.42
SD	19.18	31.49	23.08
BAT II[b]			
Mean	63.75	70.58	61.75
SD	15.54	29.62	22.12

[a]Flooding tape observation occurred at a peak anxiety point.

[b]Behavioral Avoidance Test observation at closest point of approach.

Appendix A

Prospectus

The Effect of Dissonance Reduction in Psychotherapy: A Reexamination

The field of counseling and psychotherapy has long been plagued by the problem of placebo effects (Rosenthal & Rosnow, 1969; Shapiro & Morris, 1978) or what is sometimes more precisely termed non-specific treatment variables (Wilson, 1980; Kazdin & Wilcoxon, 1976). That is, at this stage in the transition of counseling and therapy from an art to a science, there is still reason for concern about our ability to accurately distinguish between those aspects of treatment which may be considered active ingredients promoting positive therapy outcome from other features which may be included (because of theory, lore, on inappropriate research) but make no predictable contribution to outcome. Although psychologists of different theoretical beliefs continue to promote models of therapy based on the variables which each considers to embody the effective ingredients that influence human behavior, supporting evidence from well-designed research remains elusive.

Recently, Goldfried (1980a) has proposed a moratorium on theorizing, comparative studies, component analyses, and the like, and has suggested the convening of scholars of diverse theoretical persuasions in order to pool the common wisdom and to begin to develop a program to identify those factors which contribute significantly to positive

therapeutic outcome. Earlier he (Goldfried & Davison, 1976) had described the phenomenon of the "therapeutic underground," referring to those issues talked about by practitioner/researchers, but which seldom saw print because they were beyond the scope of the experimental model or theoretical orientation which bound the psychologist. Further evidence that commalities exist which may override theory bound conceptualizations can be seen in the special issue of Cognitive Therapy and Research (Goldfried, 1980b) which presented the responses of a number of prominent authors of widely varied backgrounds and showed areas of significant correspondence.

The point is that there is growing suspicion that the units of analysis conceptualized by the major theories on which therapies are based may lack utility or, at least, be inefficient in terms of identifying active treatment variables. Indeed, Strong (1979) and his associates have developed a rationale and conducted significant research based on viewing counseling as a social influence process and exploring dimensions such as perceived therapist expertness, trustworthiness, and attraction which are direct applications from the social psychology literature. More recently, Cooper (1980) has expanded the use of social psychological constructs to evaluate the use of the cognitive dissonance model to explain the effects of therapy. Using the effort justification paradigm, Cooper found that behavior change (snake approach or assertiveness) only occurred

if subjects were given free choice to participate, but regardless of whether their effort involved psychological treatment of equivalently effortful placebo exercise. If the implications of this research were to be fully supported, then much of the extant theory of counseling and therapy would be rendered irrelevant. However, even if the psychological treatments used (implosion and behavior rehearsal) were found to be independently effective, though enhanced by the factor of choice, the role of choice as a nonspecific treatment variable merits investigation.

Since the proposed study will involve a partial replication and an extension of Cooper's research, an adequate review of the literature will require a consideration of dissonance theory, the effort justification paradigm, flooding, nonspecific treatment variables, the effect of choice, and cautions for analogue studies.

Review of the Literature

Dissonance Theory

Cognitive dissonance is described as an uncomfortable psychological tension resulting from an inconsistence among cognitive elements (Festinger, 1957). According to Festinger there are four basic sources of dissonance: Logical inconsistency, incongreuence with cultural standards, overlap between ostensible nonoverlaping concepts, and contradiction of prior experience. The major assumption in the theory is that the dissonance instigates behavior aimed at the resolution of the incongruity, which would reestablish consonance.

The theory of cognitive dissonance proposes three avenues to achieve dissonance reduction. One way is for a change to occur in a cognitive element about the dissonance inducing event. Reduction in dissonance also can occur via a change in cognitive element about the environment. The third avenue of reduction is the addition of a new cognitive element.

A concrete example of each avenue to achieve dissonance reduction is found in the cognitive element changes made by some smokers (Jensen, 1979). A cigarette smoker who learns about the danger to health might be expected to change their beliefs about the amount they smoke (with or without changing their behavior). Alternately or additionally, the smoker may change their belief about the cogency of the evidence supporting the health hazards. Finally, the individual might add a new belief, "I am not one of those individuals who is disposed to illness associated with smoking." A comprehensive review of the literature (Kiesler, Collins, & Miller; 1969) provides a more extensive explanation of attitude change.

Effort Justification

One paradigm employed to study cognitive dissonance is known as "effort justification." Participants in the model of research are asked to expand high amounts of effort to achieve a goal which is insufficiently attractive to justify the level of effort. One of Festinger's original propositions stated that, "The greater the effort

expended in order to attain a goal, the greater the subjective value of that goal." A number of studies have provided empirical support for this proposition (Aronson & Mills, 1959; Linder, Cooper, & Wicklund, 1968; Zimbardo, 1965). In each of these studies, there was a high degree of energy expenditure and an insufficiently attractive goal. Further, assessment procedures indicated that the goal became more attractive to the participants. Thus, by changing their cognitions about the value of the goal that they were striving to attain, the participants could justify their expenditure of effort and reduce the psychological tension.

More recently, Linder, Cooper, and Wicklund (1968) have shown that the perception of freedom to participate is an essential additional component in the effort justification paradigm. Linger et al. (1968) concluded that commitment to an effortful task leads to dissonance effects only if that commitment is undertaken with the perception of having an informed choice. A theoretical rationale for the function of choice in dissonance is found in the following statement:

> The greater the force to comply the less the resulting dissonance and the smaller the tendency to adjust one's private beliefs to support the act of compliance.
>
> If an individual has no alternative but to behave in a fashion running counter to his beliefs, relatively little dissonance is created -- it is as if he sees himself as the

> passive victim of fate. If he sees the possibility of behaving in a different fashion more consonant with his beliefs, and still performs in a manner at odds with his private feelings, more dissonance is created. Following this logic, there has been much explicit interest in the variable, "degree of choice." (Davis and Jones, 1960, p. 402).

Cooper (1980) has suggested that psychotherapy may be a special instance of the effort justification sequence. To make the comparison, Cooper selected the case of a person who enters counseling because of an extreme fear of snakes. Because of the nature of our society, individuals are free to choose whether or not to seek counseling. Once in counseling, the person will be encouraged to expend considerable time, money, and emotional effort in order to achieve their goal, to approach snakes.

This goal was previously too aversive to demanding so that the individual was unable to achieve it without seeking assistance. However, once having put forth large amounts of effort, the person may wonder, "Why did I go through all that unpleasantness?" They may think, "It must be that I really want to change my behavior." Another cognitive change might be, "I am putting out so much energy for this therapy because this therapy must really be able to help me." Both examples are cognitive changes which lead to enhancing the person's ability to approach snakes.

Cooper (1980) conducted two similar experiments to examine the hypothesis that effort justification can account for the postive results found in counseling. Experiment 1 dealt with subjects afraid of approaching a snake, while Experiment 2 dealt with individuals wishing to become more assertive. Both experiments offered potent treatments to half of the subjects and bogus exercise therapy to the other half.

In the first experiment, Cooper solicited subjects who were afraid of snakes in a university newspaper, offering two dollars for participation. When the subjects arrived, they were invited to approach a six foot Boa, which was 20 feet away. The subjects were then informed that the treatment was difficult. One half of the subjects were asked if they wished to continue. Next, half of the subjects were assigned to "Implosive Therapy" and half were assigned to exercise therapy. In this factoral design, there were 15 male subjects per condition (choice x type of treatment). Cooper also employed a wait list control group of 15 subjects who were tested pre and post.

Subjects in the exercise treatment were given a rationale about why this treatment was helpful for the fear of snakes. The subjects in the "implosive treatment" group were given the choice of three typical snake scenes and instructed to select the scene which made him the most anxious. The subjects were given a rationale of extinction to connect the effort with the goal (approach to snakes). The subjects were given 40 minutes of imagined high anxiety scenes, visualizing

themselves as the principle character. Aids such as sleeping bags and rubber snakes were used.

For dependent measures, Cooper assessed their ability to approach snakes (post test) and a single verbal response of their fear of snakes, as assessment of perceived effort, and perceived freedom to withdraw. The results indicated the predicted improvement of both choice groups over the no choice groups, regardless of the type of treatment. Their perceived choice was different as assessed and the effort was rated as high for all groups. The approach to the snake was the only significant improvement, although only three subjects out of 75 touched the snake on the post test. The verbal report did not show any significant differences between the groups.

While the major counseling theories or techniques differ widely in their interventions, all the theories are similar when viewed from an effort justification perspective (Cooper, 1980). That is, whether analytic, behavioral, person centered, or cognitive, the clients typically make a voluntary commitment to expend time, money, and effort such as experiencing unpleasant emotions, engaging in repeated rehearsals, or some other kind of effortful or mildly aversive repetitious activity. The goal in each case may become more highly prized, therefore more likely to be attained, in order to justify the effort associated with therapy.

One critical difference between explaining counseling outcome effects in an "effort justification sequence" as compared to traditional theories is the type of effort expended. In the effort justification paradigm, the type of effort is of little importance as long as the participant finds the task difficult or unpleasant (Cooper, 1980). Alternately, the major counseling theories have witnessed significant efforts in research to define precisely the type and amounts of effort. This is especially true for behavior therapy (Wilson, 1980).

To illustrate the point of contention, Wolosin and Raines (1966) found desensitization procedures to be equally effective regardless of whether the treatment was based on muscle relaxation or tension. Marcia, Ruben, and Efran (1969) found a bogus therapy to be equally or more effective than flooding therapy and behavioral rehearsal in the treatment individuals with a fear of snakes or assertion issues. While these findings are inconsistent with any hypothesis derived from the theory of conditioning, they are readily predictable with a dissonance reduction hypothesis.

Flooding Therapy

Flooding therapy was developed on the learning principle of experimental extinction (Levis & Hare, 1977). The principle states that learned fears can be extinguished or unlearned by repeating the stimuli conditioned to elicit the fear in the absence of any negative consequence.

A commonly advanced explanation to account for the acquisition and maintenance of the fear response in the natural environment is proposed by Mower (1960). This two-factor learning model explains the acquisition of a fear response in terms of classical conditioning. The second factor in the sequence accounts for the maintenance of the fear response avoidance behavior according to the principles of instrumental learning. In the laboratory or clinical setting the presentation of the fear cues is expected to elicit a strong emotional response at first, but with repetition the intensity of the response should subside.

According to the review by Levis and Hare (1977), the initial task of the counselor is to identify the aversive cues which mediate the client's emotional response. Initially, researchers believe that the stimulus cues must be tailor-made to match the idiosyncratic triggering stimuli of each different client.

Recently, Sherry and Levine (1980) concluded that little data exists on the specific procedural variables which interact to affect treatment outcome. However, the research of the same authors has shown that for flooding therapy, standardized audio tapes and live therapy are equivalent in terms of treatment outcome if a therapist is present while the tape is used. Further, they did not find that slides containing relevant stimuli scenes enhanced the effectiveness of flooding.

Israel and Beiman (1977) also found no physiological differences between live and taped relaxation procedures.

Levis and Hare (1977) also indicate that little research has been done on the duration of scene presentation and the total scene-series exposure. However, Eysenck (1968) has indicated the termination of the scene presentation before anxiety reduction occurs may acutally sensitize the subject. Matthews and Shaw (1973) have demonstrated that a single massed exposure (48 minutes) is more effective than several shorter exposures equaling the same total time. Also, Cooper (1980) found a single massed exposure of 40 minutes to be effective in behavioral measures when compared to the controls. While various researchers offer different suggestions for exposure duration and length of presentation, the majority suggest that length of exposure is a critical factor.

Analogue Research

Although analogue studies have been considered suspect, particularly by practitioners, reasoned responses by Bandura (1978) and Kazdin and Rogers (1978) have clarified their utility in the research enterprise. While recent exchanges indicate continuing areas of disagreement (Bandura, 1979; Woolfolk & Lazarus, 1979), current work using an analogue format will avoid the major criticisms advanced earlier, if the recommendations of Bernstein and Paul (1971) are considered.

In regard to the proposed study, the following issues require explicit consideration. First, the services should be represented as treatment rather than experimental manipulations. In this regard, the only motivation should be the relief of discomfort, rather than the enticement of course credit or money.

Next, it is desirable to have subjects representative of the clinical population in terms of the severity of the discomfort or symptoms. To accurately assess the level of distress of subjects, Bernstein and Paul suggest using a multiple channel battery of cognitive/verbal, physiological, and behavioral/motoric measures in the presence of the feared stimuli. Further, the Behavioral Avoidance Test if used, should be administered under "high demand for approach" circumstances.

A common difficulty cited by Bernstein and Paul is the alteration of laboratory treatment techniques so that they are significantly different from those practiced in the clinical setting. Any change in treatment procedures should be documented by data from controlled research. And finally, these authors suggest that much of the contamination in laboratory research is subtly accomplished by researchers who are untrained and who lack understanding about the administration of clinical procedures. When adequately controlled, analogue studies have unique advantages and are necessary for the investigation of the mechanisms of change involved in human behavior (Kazdin, 1978).

Nonspecific Factors

Behavior therapy has as a defining characteristic a commitment to scientific method, measurement, and evaluation (Kazdin & Wilson, 1978). An important feature has been for therapeutic variables to be described precisely so that treatment could be replicated. However, attention has been focused almost exclusively on description of the formal treatment with the result that other potential sources of influence to which clients may be exposed have been largely ignored.

In the past, the role of placebo influences, therapeutic expectations, demand characteristics, trust, empathy, and other sources of influence have all been subsumed under the rebric of nonspecific influences (Wilson, 1980). It has been traditional for the theoretically liberal behavior therapists in clinical practice to label factors associated with the relationship as "nonspecific" influences (Lazarus, 1961). The effect of viewing relationship influences as a nonspecific influence has relegated it to a position of secondary importance (Wilson & Evans, 1977). Wilson (1980) suggests that as "nonspecifics," these factors were deemphasized in research and held in sharp contrast to specific behavioral techniques.

Yet, with the rapid expansion of research in behavior therapy over the past 25 years, many so called nonspecific variables have been specified. For example, some years ago, McFall and Hammer (1971) labeled patient motivation, treatment structure, and self-monitoring

as nonspecific factors which account for the lack of clear treatment effects. With the increasing conceptual and methodological sophistication of behavior therapy, self-monitoring has been demonstrated to be a potent and reliable assessment and behavior change procedure in its own right (Wilson, 1980).

Another difficulty in labeling some variables as specific and others as nonspecific is that even the typically consistent "specific influences" such as desensitization remain to be demonstrated as significantly active without the interactive effects of nonspecific variables. For example, the comprehensive review of Kazdin and Wilcoxon (1976) reports that only five studies adequately control for credibility and expectations of therapy change. Further, these five studies do not support the proposition that desensitization includes a specific therapy ingredient beyond expenctancies for improvement. Kazdin and Wilcoxon conclude, "The alternative explanation, that the therapeutic effects are due to nonspecific treatment effects, at least at the present time, cannot be ruled out." (p. 745).

It is important to recognize the strategy of research on nonspecific treatment variables. That is, once labeled "nonspecific," research attempts to control or minimize the influence of that variable. It would logically follow that, since the "nonspecific variables" are potent enough to confound the specific variables, that the factors

labeled "nonspecifics" are specific-active ingredients which are as yet unspecified (Wilkins, 1979).

It seems likely that there is a breach between the "therapeutic underground" of the practioner and the unspecifiable variables of the researcher. As stated by Gordon (1976), ". . . although feelings of responsibility (choice) may be a nuisance variable for the researcher, it may be invaluable for the therapist, . . ." (p. 801). Because of the rigid adherance to the position that all variables of interest must be precisely defined and measured, it is likely that outcome research is ignoring either singularly active or interactive variables by relegating these variables to the category of nonspecific variables attributed to relationship influences.

The work of Wolpe (1958) serves as a convenient landmark for the origin of behavior therapy. However, with the vast amount of research generated by the basic assumptions of behavior therapy, new and more complex theoretical formulations have been developed. These formulations have progressed from early neo-Hullian and operant conditioning models to the more comprehensive and sophisticated social learning framework detailed by Bandura (1977). By conceptualizing behavior in the broader context, including cognitive and social influence processes, the traditionally labeled nonspecific variables will more readily assume an integral role in the evaluation of counseling outcome.

Choice

Wilson (1980) presents a broad sample of some current complex variables of concern to the counseling researcher. Among the items listed are; cognitive processes, expectations, self-efficacy theory, the therapist-client relationship, and treatment adherance. One variable which is not mentioned, but would clearly be labeled a non-specific influence, is the variable of choice or decision freedom.

To date, relatively little research has been carried out on the influence of client choice on counseling outcome. In 1973, Devine and Funald found that clients given the choice of therapy type achieved more fear reduction than clients with either random or nonpreferred therapy type assignments. Later, Gordon (1976) found that students who voluntarily participated and who were given a choice of type of relaxation method reported that they valued the treatment more and reported a greater effectiveness over non-volunteer/no choice students. Finally, Ersner-Hershfield, Abramowitz, and Baren (1979) report that more clients show up for the initial appointment when given a choice of therapist when phoning in for an appointment.

Apparently, the effect of client choice has a positive, though still undefined, role in counseling outcome. It is possible that

choice is so obvious and, in some instances, implicit in the counseling process that it has remained largely unexamined. However, while it has not been adequately tested, it is acknowledged by some as very significant in parts of the counseling process. For example, the client's selection of the goals is considered important (Wilson & Evans, 1977). Also, Cormier and Cormier (1979) state that client selection of the strategies is an important part of the overall self-directed nature of self management.

A theoretical framework would greatly enhance the experimental investigation of choice as an active, specified variable in counseling. In the study of Devine and Fernald (1973), three possible explanations are offered for the positive effect of choice. The first rationale is based on the client's expectation that the selected therapy would be halpful. The second possibility has no clear theoretical orientation, but involves what is called a "therapy-subject fit," which the subject identifies in the preference rating. The third possibility is that in the subjects' efforts to justify their choice, they further approached the snake.

While Devine and Fernald did not relate any of their speculations nor hypothesis to any theory, their third speculation is remarkably similar, yet clearly different from the effort justification

paradigm of cognitive dissonance. Instead of making behavioral changes to justify choice or preference, the effort justification paradigm suggests that a cognitive change occurs in order to justify the expenditure of effort.

Introduction to Hypothesis

The conceptual model and data presented by Cooper (1980) will represent a serious challenge to orthodox research on counseling process if the results are supported by replication.

While Cooper's project is recognized as scholarly, some question remains concerning the manipulation and definition of choice. The clients in the Cooper study were either given a choice to continue or not given a choice after being informed about the effort required. Assuming that this project utilized the traditional informed consent procedure of, "You may withdraw at any time . . .," as required in most human research, then all subjects were given at least one option to discontinue. Cooper does not comment on this point.

Another concern regarding choice concerns the Cooper operational definition of choice. Choice was defined as the decision to continue in the study (treatment) after being informed of the effort requirements. This took place within minutes after the clients arrived. All but one subject elected to continue. Most clients responding to a media advertisement for treatment of snake phobia had already

made the choice to enter treatment before Cooper's manipulation of choice. By using this operational definition, choice is clearly affected.

Because of the nature and requirements on human subject research, any design would suffer similar contamination of choice if it surrounds election to receive treatment. Therefore, to adequately test the hypothesis of effort justification, choice should pertain to another decision point, such as type of technique employed.

Further, does choice interact differentially with other variables identified as relevant to the social psychological literature? A commonly used index of individual differences is the Rotter Internal-external Locus of Control scale (I-E scale). One would expect, perhaps, that persons identifying themselves as accessing an internal locus of control would respond to choice differently than persons with a more external locus of control.

The purpose of this study, then, will be to replicate the essential part of the Cooper report, to extend it by providing choice at another significant point in the procedure, and to investigate whether the effect of choice operates differently with persons who are more inner- or other-directed. An effort justification conceptualization of therapy-related changes in behavior would be supported if subjects receiving "choice" show significantly greater improvement on the measures used.

Method

Subjects

The subjects will be volunteers from the General Psychology Subject Pool and will be awarded credit for their participation. All potential subjects will be given a screening device consisting of five items taken from the Fear Survey Schedule (Wolpe & Lang, 1964). Those subjects who indicate "much" or "very much" fear of harmless snakes and who are unable to touch a snake under the demand instructions described in the procedure section below will be included in the study. A minimum of 30 subjects will be recruited in this manner.

Instruments

Rotter Internal-External Locus of Control (Rotter, 1966). The Rotter I-E scale is a 23-item forced choice questionnaire with six filler items adapted from the 60-item James scale. It is scored in the external direction. A summary of interanl consistency data provided by the author indicates correlations ranging from .65 to .79, and the test-retest reliability ranges from .49 to .83 for the various studies listed. Further, the I-E scale demonstrates a low correlation with social desirability and intellectual measures.

Behavioral Avoidance Test (BAT). The subjects will be informed that they will be taken to a room where there is a caged snake. The subjects will be informed that the snake is harmless, that is, non-poisonous. Following the model of Lange and Lazovik (1963), the

subjects will be asked to wait 18 feet away from a plexiglass cage containing a 42-inch yellow rat snake. The following instructions will be given verbatim, "Wait here and when I tell you, I want you to try to walk to here. Then reach in and touch the snake." While giving these instructions, the experimenter will approach the cage, remove the screen top, and pick up the snake.

The experimenter will say, "Now, I would like you to try to walk up to the cage, open it, reach in, and touch the snake. After 10 seconds, or five seconds after the subject stops, the experimenter will say, "It is important to this project that you try to move toward the cage, reach in, and touch the snake." After another five-second wait, the experimenter will say, "Please make every effort to move toward the cage, reach in and touch the snake." After 10 seconds more, the experimenter will discontinue the demand. Bernstein and Paul (1971) suggest that the BAT should include "high demand" instructions. Borkovec, Weerts, and Bernstein (1977) have indicated that the BAT is probably the best available behavioral measure. The approach performance will be assessed in the following manner: Touch the snake = 1, break the plane of the open top of the cage = 2, open the cage = 3, touch the cage = 4, reach the cage = 5, add one for each foot away from the cage reached (e.g. one foot away = 6, two feet away = 7).

Heart rate. The heart rate (pulse) will be assessed at four different points in the procedure using a Genesis wrist-index finger assessment device. The baseline will consist of two measurements, one 30 seconds after the device is affixed and one taken approximately in the middle of the I-E scale administration. Measures will also be taken at the point of closest approach in the pre and post-test BAT. In addition, the heart rate will be noted during a high stress scene during the flooding procedure in order to confirm that subjects are experiencing anxiety. Borkovec, Weerts, and Bernstein (1977) conclude that heart rate is an acceptable physiological assessment of anxiety arousal.

S-R Inventory of Anxiousness. Odom, Nelson, and Wein (1978) revised the stimulus items of the original S-R inventory (Endler & Okada, 1975) to focus on four situations concerning snakes. The four situations are: Thinking about a snake, looking at a caged snake at a distance of 10 feet, sitting directly in front of a caged snake, and holding a snake with bare hands. The nine areas of discomfort and degrees of reaction employed are from the original form. A five-point scale is used ranging from "Not at all" to "Very much." Endler and Okada (1975) provide the psychometric properties of the S-R Inventory of General Trait Anxiousness. However, the adaptation by Odom et al. has no psychometric information available.

Expectation for improvement. The overall expectation will be assessed using a 13 centimeter scale with two descripter bench marks of "much improvement" and "no improvement."

Procedure

A detailed visual representation of the procedure can be seen in Table 1. After the subject completes a brief form about their cardiovascular health, medication, psychiatric history and demographic date, the assessment of their improvement expectation will be measured (see appendix D). Next, the Rotter Internal-External Locus of Control scale will be administered followed by the pre-test on the revised S-R Inventory. The heart rate base line will be established by taking two readings, one while taking the I-E scale and the other 30 seconds after attaching the wrist monitor. The Behavioral Avoidance Test pre-test will then be administered. After the subject has responded to the demand, the experimenter will assess the approach performance and read the heart rate.

Insert Table 1 about here

All subjects will be informed that the treatment will be difficult and require a large amount of effort. Further, they will be told that most subjects have reported experiencing high levels of anxiety.

All subjects then will be randomly assigned to one of three choice manipulation levels. Group 1 subjects will be given no choice and will be read a rationale of the treatment they are about to receive. They will then be taken to the treatment room. Group 2 subjects will be asked if they wish to continue. If yes, they will be read the treatment rationale and then escorted to the treatment room. Group 3 subjects will be given the choice of continuing and a choice between two treatments. Once they have selected the treatment they prefer they will be escorted to the treatment room.

The rationales used for groups 1 and 2 will be rotated and counterbalanced for presentation order for Group 3. When the subject selects a treatment rationale, the experimenter will write down the selection on the informed consent form and pick up the taped treatment from two clearly labeled cassette tapes. The subject will then listen to a 40-minute audio tape of a flooding procedure while sitting in a reclining chair. The pulse rate will be assessed during a scene designed to elicit high arousal.

After the completion of the tape, the subject will be informed that they will now return to the "snake room." The BAT will be administered in the same fashion as before and the pulse rate will be assessed at the closest approach point.

The subject will be escorted to a neutral room and given the post-test adaptation of the S-R Inventory, and will indicate their

perceived freedom to withdraw from the project. Additionally, the high choice group will be assessed for the level of consonance between the rationale given and the treatment received. The subjects will then be debriefed.

Data Analysis

A comparison of pre-test scores for the behavioral, self report, and physiological measures will be performed to determine if the repeated measure can be treated as an independent variable. If the pre-test means are essentially equal, a 4 x 3 analysis of variance will be performed on the pulse rate measure and a 2 x 3 analysis of variance will be performed on the self report and behavioral anxiety measures.

The choice manipulation will be assessed using a one-way analysis of variance on the subjects perceived freedom to withdraw. The first assessment of expectation for improvement will be compared to insure equal expectations between the groups. The first and second assessment of expectation will be compared to examine the effect of choice on expectation.

To compare the differential effect of locus of control combined with choice, a one-way analysis of covariance will be performed on the change scores for the three measures of anxiety.

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Table 1

Flow of Procedure Assessment and Group Treatments

Step	Task	Group		
		No Choice	Low Choice	High Choice
1	Consent	Same	Same	Same
2	Base Rate	Base $Pulse_1$	Base $Pulse_1$	Base $Pulse_1$
3	Assessment	Expectation	Expectation	Expectation
4	Assessment	I-E scale[a]	I-E scale	I-E scale
5	Base Rate	Base $Pulse_2$	Base $Pulse_2$	Base $Pulse_2$
6	Pre-Test	S-R Inven.[b] 1	S-R $Inven._1$	S-R $Inven._1$
7	Pre-Test	BAT[c] I	BAT I	BAT I
8	Pre-Test	Pulse	Pulse	Pulse
9	Information	Difficulty	Difficulty	Difficulty
10	Assignment	Treatment 1	Treatment 2	Treatment 3
11	Choice	-	Continue	Continue
12	Information	Rationale	Rationale	Rationale
13	Choice	-	-	Select
14	Treatment	Same	Same	Same
15	Assessment	Pulse/Tape	Pulse/Tape	Pulse/Tape
16	Post-Test	BAT II	BAT II	BAT II
17	Post-Test	S-R $Inven._2$	S-R $Inven._2$	S-R $Inven._2$

18	Assessment	Continue	Continue	Continue
19	Assessment	-	-	Similarity
20	Debrief	Same	Same	Same

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[a]Rotter Internal-External Locus of Control.

[b]S-R Inventory of Anxiousness.

[c]Behavioral Avoidance Test.

Appendix B

F Tables

Appendix B

F Table for the Comparison of

Behavioral Avoidance Test Scores

Source	Sum of Squares	*df*	Mean Square	*F* Ratio	Probability
Group	2.12	2	1.06	.24	.7890
BAT	27.45	1	27.45	10.28	.0033
Error	144.53	33	4.38		
Interaction	3.91	2	1.95	.73	.5073
Error	88.11	33	2.67		

F Table for the Comparison of

S-R Inventory Scores

Source	Sum of Squares	df	Mean Square	F Ratio	Probability
Group	304.78	2	152.39	.20	.8242
S-R Inven.	1128.13	1	1128.13	8.24	.0071
Error	25,621.71	33	776.41		
Interaction	114.33	2	57.17	.42	.6675
Error	4518.04	33	136.91		

F Table for the Comparison of

Pulse Rate Observations

Source	Sum of Squares	*df*	Mean Square	*F* Ratio	Probability
Group	1,102.19	2	551.10	.82	.5473
Pulse	50.00	1	50.00	.08	.7717
Error	22,174.75	33	671.96		
Interaction	574.75	2	287.38	.48	.6295
Error	19,828.25	33	600.86		

Appendix C

Behavioral Avoidance Test Score Assessment

Appendix C

Behavioral Avoidance Test Score Assessment

Point Value	Behavior Approach Acheived
1	Touched the snake
2	Hand penetrated top plane of cage
3	Opened cage
4	Touched cage
5	Reached cage
6	One foot away from the cage
7	Two feet away from the cage
8	Three feet away from the cage
9	Four feet away from the cage
10	Five feet away from the cage
11	Six feet away from the cage
12	Seven feet away from the cage
13	Eight feet away from the cage
14	Nine feet away from the cage
15	Ten feet away from the cage
16	Eleven feet away from the cage
17	Twelve feet away from the cage
18	Thirteen feet away from the cage
19	Fourteen feet away from the cage
20	Fifteen feet away from the cage
21	Sixteen feet away from the cage
22	Seventeen feet away from the cage
23	Eighteen feet away from the cage, Starting position

Appendix D

Raw Scores and Descriptive Statistics for the Perceived Similarity Between the Rationale and Treatment Received

Appendix D

Raw Scores and Descriptive Statistics for the Perceived Similarity Between the Rationale and Treatment Received

Subject	Raw Score
1	1
2	3
3	3
4	3
5	4
6	4
7	16
8	18
9	59
10	80
11	113
12	115

Note. Mean = 35, SD = 42.71, Median = 10, Mode = 3.

Appendix E

Screening Form

Appendix E

Screening Form

IF YOU ARE INTERESTED IN PARTICIPATING IN AN EXPERIMENT and earning 2 hours credit, please fill out this form. If not, please return unmarked.

The items below refer to things and experiences that may cause fear or other unpleasant feelings. Circle the number which describes how much you are disturbed by each.

	Not at all	A little	A fair amount	Much	Very Much
a. Speaking in public	1	2	3	4	5
b. Airplanes	1	2	3	4	5
c. Worms	1	2	3	4	5
d. Harmless snakes	1	2	3	4	5
e. High places	1	2	3	4	5

If I qualify, I would like to be called for further information about taking part.

Name _____ Phone Number _____
(please print)

Appendix F

Informed Consent Form

Appendix F

University of Oklahoma

INFORMED CONSENT FORM

Title of Project: Treatment of Extreme Fear of Snakes

Investigator: David C. Mitchell, Doctoral Candidate
Counseling and Human Development Area
Office Phone: (405) 325-2911

This is to certify that I, _____, hereby agree to participate as a volunteer in a scientific investigation as a part of an authorized research program of the University of Oklahoma under the supervision of David C. Mitchell and Wayne Rowe, Ph.D.

The purpose of this research is to study the effects of specific psychotherapeutic techniques on individuals with extreme fear of snakes (snake phobia). I understand that the treatments used will by psychological in nature rather than using medication. I also understand that I will be in the same room with a snake but that the chance of physical harm from this snake is very remote. I do understand that some participants may experience some level of stress along with the psychological treatment. That is, that I may be asked to think about events which are unpleasant.

I understand that by participating in this project, I will receive 2 hours credit for General Psychology 1113.

I understand that by participating I may experience less anxiety around snakes in the future.

I understand that I will receive a full debriefing of the project at the end of my participation. Also, upon my request, I will receive a brief summary of the data after the project is completed.

I also understand that as an alternative treatment I could consult a private psychologist/psychiatrist or any local counseling agency.

I understand that I am free to refuse to participate in any procedure or to refuse to answer any question at any time without

prejudice to me. I understand that I am free to withdraw my consent and to withdraw from the research at any time without prejudice to me.

I understand that by agreeing to participate in this project and signing this form I do not waive any of my legal rights.

I understand that the research investigators named above will answer any of my questions relating to the treatment procedures at any time.

I understand that, for any physical injury I may suffer as a result of and during the course of this project, the University will not provide compensation.

I understand that I am not free to discuss this project with my student associates for a period of 10 days.

Date _____ Subject _____

Student I.D. # _____

Appendix G

S-R Inventory of Anxiousness

Appendix G

Situation 1

"You are thinking about a snake."

(We are primarily interested in your reactions in General to thoughts about any snake. This includes when you see something that stimulates your train of thought or when you just notice that you are thinking of snakes spontaneously.)

Mark on the ANSWER SHEET one of the five alternative degrees of reaction or attitude for each of the following 9 items.

Seek experiences like this	1 Very much	2	3	4	5 Not at all
Perspire	1 Not at all	2	3	4	5 Perspire much
Have an "uneasy feeling"	1 Not at all	2	3	4	5 Very much
Feel exhilarated and thrilled	1 Very much	2	3	4	5 Not at all
Get fluttering feeling in stomach	1 Not at all	2	3	4	5 Very much
Feel tense	1 Not at all	2	3	4	5 Very tense
Enjoy these situations	1 Very much	2	3	4	5 Not at all
Heart beats faster	1 Not at all	2	3	4	5 Much faster
Feel anxious	1 Not at all	2	3	4	5 Very anxious

Situation 2

"You are looking at a caged snake at a distance of 10 feet."

(We are interested in your reactions in general to a situation where you would be looking at any snake, not just the snake in the next room.)

Mark on the ANSWER SHEET one of the five alternative degrees of reaction or attitude for each of the following 9 items.

Seek experiences like this	1 Very much	2	3	4	5 Not at all
Perspire	1 Not at all	2	3	4	5 Perspire Much
Have an "uneasy feeling"	1 Not at all	2	3	4	5 Very much
Feel exhilarated and thrilled	1 Very much	2	3	4	5 Not at all
Get fluttering feeling in stomach	1 Not at all	2	3	4	5 Very much
Feel tense	1 Not at all	2	3	4	5 Very much
Enjoy these situations	1 Very much	2	3	4	5 Not at all
Heart beats faster	1 Not at all	2	3	4	5 Much faster
Feel anxious	1 Not at all	2	3	4	5 Very anxious

Situation 3

"You are sitting directly in front of a caged snake."

(We are interested in your reactions in general to a situation where you would be sitting in front of any snake, not just the snake in the next room.)

Mark on the ANSWER SHEET one of the five alternative degrees of reaction or attitude for each of the following 9 items.

Seek experiences like this	1 Very much	2	3	4	5 Not at all
Perspire	1 Not at all	2	3	4	5 Perspire much
Have an "uneasy feeling"	1 Not at all	2	3	4	5 Very much
Feel exhilarated and thrilled	1 Very much	2	3	4	5 Not at all
Get fluttering feeling in stomach	1 Not at all	2	3	4	5 Very much
Feel tense	1 Not at all	2	3	4	5 Very tense
Enjoy these situations	1 Very much	2	3	4	5 Not at all
Heart beats faster	1 Not at all	2	3	4	5 Much faster
Feel anxious	1 Not at all	2	3	4	5 Very anxious

Situation 4

"You are holding a snake with bare hands."

(We are interested in your reactions in general to a situation where you would be holding any snake, not just the snake in the next room.)

Mark on the ANSWER SHEET one of the five alternative degrees of reaction or attitude for each of the following 9 items.

Seek experiences like this	1 Very much	2	3	4	5 Not at all
Perspire	1 Not at all	2	3	4	5 Perspire much
Have an "uneasy feeling"	1 Not at all	2	3	4	5 Very much
Feel exhilarated and thrilled	1 Very much	2	3	4	5 Not at all
Get fluttering feeling in stomach	1 Not at all	2	3	4	5 Very much
Feel tense	1 Not at all	2	3	4	5 Very tense
Enjoy these situations	1 Very much	2	3	4	5 Not at all
Heart beats faster	1 Not at all	2	3	4	5 Much faster
Feel anxious	1 Not at all	2	3	4	5 Very anxious

Appendix H

Treatment Rationale

Appendix H

Treatment Rationale

Information #2

One (The other) treatment.

The treatment you will receive is called Cognitive Reattribution. It is based on the principle that irrational fear is the result of faulty attribution of perceived potential harm. The procedure requires 43 minutes of intense concentration and calls for the extended use of your powers of imagination.

In this treatment you will be asked to imagine several scenes which will enable the cognitive reappraisal of the extreme fear of snakes to take place. In this process, the cognitive mechanisms affect the reattribution of fears to internal thoughts and subliminal cues, thus allowing people to experience greatly reduced fear of situations or objects (in this case, snakes).

Information #1

One (The other) treatment.

The treatment you will receive is called Neurolinguistic Arousal. It is based on the principle that non-adaptive anxiety is caused by the neurological association of stimuli to situations of perceived

potential danger. The procedure requires 41 minutes of intense mental focusing and relies on your ability to develop vivid images in your mind.

In this treatment, you will be asked to develop clear mental images of various scenes which will allow the neurol reassociation related to the extreme fear of snakes to come about. In this process, the arousal effect influences the encoding and retrieval processes so that people find the feared situations or objects (in this case, snakes) to be much less fearful or anxiety arousing.

Appendix I

Expectation for Improvement

Appendix I

Expectation for Improvement

What is your expectation that you will have less fear of snakes as a result of this treatment?

Less Fearful		More Fearful
	No change	

Appendix J

Perceived Similarity between Rationale and Treatment Received

Appendix J

Perceived Similarity between Rationale and Treatment Received

How similar was the treatment description and the actual treatment?

Identical _____ Very Different

Appendix K

Perceived Freedom to Withdraw

Appendix K

Perceived Freedom to Withdraw

Indicate the freedom you perceived to continue or discontinue in this project.

Completely free _____ Not at all free