EFFICACY OF ASSERTIVE TRAINING IN

CHANGING LOCUS OF CONTROL

by

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ABSTRACT

The purpose of the present study was to determine if assertive training would increase assertive behavior and if more assertive behavior would be reflected in a shift toward a more internal locus of control. Female subjects, aged 14 to 16, who were incarcerated in a juvenile correctional institution were administered the Lawrence Assertive Inventory, the Rotter I-E Scale, a Behavioral Role-playing Test, and the MACC Behavioral Adjustment Scale in a pre- and posttest experimental design.

Subjects were randomly assigned to one of three groups: a treatment group, an attention-placebo control group, and a no-treatment control group. Two one-hour training sessions were administered to the treatment group during which behavior rehearsal was used and to the attention-placebo control group during which a standardized interview and a logical directive lecture were presented.

The results of the Behavioral Role-playing Test showed that the treatment group was significantly more assertive following treatment than either of the other two groups. The findings of the Lawrence Assertive Inventory indicated that the treatment group was significantly

more assertive after treatment than the placebo control group but not significantly more assertive than the no-treatment control group.

Assertive behavior, as measured by the Behavioral Role-playing Test, was shown to generalize within the experimental setting. On the other hand, there was no indication that treatment generalized to the real-life settings of institutional living as measured by the MACC Test. The results obtained on the Rotter I-E Scale indicated that increased assertive behavior did not result in a shift toward a more internal locus of control.

Possible reasons for the lack of a shift toward a more internal locus of control and the lack of generalization of assertive behavior to real-life situations were discussed.

ACKNOWLEDGMENTS

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CHAPTER I

INTRODUCTION

In learning theory, two major schools of thought
regarding the source of learning have developed. The
works of Pavlov (1927) and Watson (1916) represent
the classical or respondent conditioning approach, and
Thorndike (1898) and Skinner (1953) were the precursors
of operant or instrumental conditioning. Behavior
therapy is the term most often used to apply to both
of these methods when dealing with maladaptive behavior
in humans, although some writers (Lazarus, 1971; Rimm
& Masters, 1974) suggest that the term "behavior modifi-
cation" more correctly describes the operant procedures
of reinforcement theory, and "behavior therapy" is more
closely associated with treatment of anxiety.

The diversity between the two theories is far from
clear cut, for in clinical practice, there is a great
deal of overlap in applied techniques and procedures. In
addition, some cognitive theorists such as Ellis (1962)
have embraced aspects of operant and classical condition-
ing while some behaviorists have incorporated cognitive
elements into behavior therapy.

Two of the theories which have come from these different schools of learning are Rotter's (1954) Social Learning Theory and Wolpe's (1958) Theory of Reciprocal Inhibition.

Rotter's Social Learning Theory

According to Rotter (1954), a reinforcement acts to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future.

He makes the distinction of a causal relationship between an event and a preceding event as contingent on one's own behavior; reinforcement will not increase an expectancy for another reinforcement as much as when the reinforcement is seen as contingent upon one's own behavior. And the non-occurrence of a reinforcement will reduce an expectancy more if the reinforcement is seen as contingent upon one's behavior.

Expectancies for reward generalize from specific situations to a wide range of situations perceived as similar, so a generalized expectancy develops for a wide number of events and can be indicative of a person-ality variable--a trait. Therefore, the degree to which a person attributes reinforcement to his own actions depends on his history of reinforcement.

Rotter states that "an event regarded by some people as a reward or reinforcement may be differently perceived and reacted to by others" (1954, p. 1). One of the determinants of this reaction is the degree to which the individual perceived that an event follows from or is contingent upon his own behavior, attitudes, or relatively permanent characteristics (termed INTERNAL locus of control) versus the degree to which he perceives the event as controlled by outside forces such as luck, fate, chance, or powerful others (termed EXTERNAL locus of control).

Test Development

Attempts to devise a scale to measure perceived differences in belief in control began with the efforts of Phares (1957). This scale was revised first by James (James-Phares Scale, 1957). Successive forms were developed (Rotter, Seeman & Liverant, 1962) so that the Internal-External (I-E) Scale (Rotter, 1966) currently in use consists of 23 forced choice statements with six fillers. A high score is indicative of an external locus of control or simply externality.

Research on the I-E Construct

There has been a large volume of experimentation on behavioral correlates of the I-E Construct as periodic

reviews (Rotter, 1966; Lefcourt, 1966; Joe, 1971; Lefcourt, 1971) well indicate. Areas of investigation include anxiety, personality, adjustment, risk-taking, and achievement to name a few. Each of the review articles, as well as other related literature, has mentioned the greatest paucity of experimental work to be in the areas of "antecedents of locus of control" and "change in locus of control".

Penk (1969) found that as children mature, expectancy of reward changes naturally from an external to a more internal locus of control. However, the magnitude of change (and even its direction) may be influenced by numerous early environmental factors. Some of these factors are presently under investigation and may be divided into two major areas: (a) familial sources, such as parental attitude (Change, 1965), patterns of discipline (Rotter, 1966), birth order (Crandall, Katkovsky, & Crandall, 1965; McDonald, 1971), and perceived parental behavior (Davis & Phares, 1969; McDonald, 1971) and (b) social origins, such as social class (Strickland, 1971), level of education (Walls & Miller, 1970), and ethnic groups (Hsiek, Shybut & Lotsof, 1969).

Environmental influences which have been shown to affect significant change toward externality include changes in one's environment and unexpected events. Kiehlbauch (1968) found that in a group of reformatory

inmates, the periods of admission and release yielded higher external scores than the middle period of incarceration. Furthermore, he found a link with manifest anxiety. He concluded that anxiety experienced during the "change" periods interfered with coping mechanisms.

Gorman (1968) found higher external scores following a disappointing event, and in McArthur's (1970) study subjects recorded higher externality after receiving unexpected good news. These two studies suggest that unexpected changes, whether good or bad, increase a belief in external forces as opposed to personal control.

From these studies it is evident that locus of control as measured by the present scale does change due to maturation and a number of environmental factors.

An internal expectancy of control is generally believed to bring increased effectiveness, power, and autonomy and is, therefore, considered more desirable than an external locus of control.

According to Lefcourt:

An internal locus of control, with its assumed correlates of competence and hope of successes, is a common goal of psychotherapy. If one needs to alter his mode of behavior, then an external locus of control is a decided obstacle and, therefore, a target for change. (1971, p. 38)

However, there is some controversy as to exactly what the I-E Scale is actually measuring (Gurin & Gurin, 1970) and whether it is wise to attempt to change locus

of control of some members of the population like minority
groups (Gurin, Gurin, Lao & Beattie, 1969).

Nevertheless, a number of investigations have been
conducted in an attempt to directly manipulate locus of
control.

The first study done concerning an attempt to change
locus of control was conducted by Lefcourt & Ladwig (1965).
They used Negro reformatory inmates in a competitive
biracial task and employed skill instructions (subjects
were told that success was based on skill) and chance
instructions (subjects were told success was based on
chance). Experimental subjects were told that success
in this task (a game with matches) was related to success
in another task (as jazz musicians) in which the subjects
had already had a high expectancy for success. Control
subjects were told that they were chosen at random.
Expectancy for success (as measured by persistence in
the task) rose in the experimental subjects, whereas,
success was soon perceived as impossible by the control
group.

More recently, several investigators have been
employing formal therapeutic procedures in attempts to
alter locus of control to a more internal orientation.
Felton & Biggs (1972) used Gestalt therapy in intensive
short-term group therapy, meeting daily for two weeks.

Gillis & Jessor (1970) administered individual and group psychotherapy to hospitalized schizophrenics over a 10-week period meeting one hour a week. Both of these studies reported significant shifts toward internal locus of control as measured on the I-E Scale.

Behavior therapy in the form of operant conditioning was used by Lesyk (1969) in a token economy with hospitalized female schizophrenics. In this field investigation subjects were tested and interviewed after two to five weeks and again after 12 to 15 weeks. After five weeks, more internal scores were obtained and after the 12- to 15-week period the shift toward internal locus of control was significant.

Sullivan (1971) and Hughes (1971) employed behavior therapy techniques of punishment and feedback, respectively, with insignificant findings on the I-E Scale. Sullivan introduced perceptual discrimination tasks (lines, angles, colors) during three training sessions with hospitalized psychiatric patients in which a loud punishing noise was administered to subjects for wrong answers.

Hughes (1971) worked with junior high school boys providing feedback during the administration of six experimental tasks.

Both these studies indicated a lack of subjects' involvement, and Hughes states:

This could be remedied by requiring a more
active manner of responding and by making
a competitive element more salient to the
subjects. (1971, p. 3005)

Dua (1970) attempted to compare the effects of

psychotherapy reeducation with behaviorally oriented

action programs in a study done with college freshmen

females who had expressed concern about relating to

others in interpersonal situations. Subjects were

seen individually for half an hour twice a week for

eight weeks. He found success in the form of more

internalized scores with both the reeducative group and

the action-oriented group when compared to the controls.

However, he reported significantly more internalized

scores on the I-E Scale with the action-oriented group

than either the control or the reeducative group.

It is apparent that various methods and techniques

have been used in an attempt to directly manipulate locus

of control. Laboratory studies such as Lefcourt &

Ladwig (1965) reported change in locus of control with

a small amount of treatment. In therapy studies, however,

small amounts of treatment were shown to be ineffective

in producing a shift toward a more internal locus of

control, whereas; more intensive treatment over a longer

period of time was shown to result in more an internalized

expectancy of control.

Wolpe's Theory of Reciprocal Inhibition

Wolpe's theory states that:

If a response antagonistic to anxiety can
be made to occur in the presence of anxiety-
provoking stimuli so that it is accompanied
by a complete or partial suppression of the
anxiety-provoking responses, the bond between
these stimuli and the anxiety responses will
be weakened. (1958, p. 71)

Wolpe (1958) further states that neurotic anxiety

is a conditioned response and, since it is learned, it

can be unlearned. The purpose of therapy is to detach

neurotic fear from non-threatening situations.

He employs several methods for accomplishing this,

such as Systematic Desensitization and Assertive Training.

Assertive Training is called for when the disturbance

is inhibitory of satisfactory interpersonal relations.

According to Wolpe, "Assertive responses inhibit anxiety

and are reinforced by operant conditioning" (1958, p. 30).

Salter (1949) in his Social Learning Theory also

stresses the importance of being assertive. He refers

to assertive behavior as excitatory responses following

the Pavlovian tradition of reflex therapy. He states

that unassertive people develop inhibitory responses

which are learned by classical conditioning in the presence

of others. He further states that people are born basically

excitatory, but they become inhibited when these behaviors

are punished by society, and therapy is "getting the

individual to reeducate himself back to the healthy spontaneity of which his life experiences have deprived him" (p. 12).

Salter saw assertive and unassertive behavior as an extremely general trait. Wolpe (1958) also saw it as a trait but more restricted. Wolpe and Lazarus (1966) and more recent writers (Lawrence, 1970; McFall & Lillesand, 1971; McFall & Marston, 1970) agree that assertive behavior is a broad, heterogeneous situation-specific response class.

Assertive behavior has been defined by Wolpe as "the outward expression of practically all feelings other than anxiety" (1969, p. 61). It allows for expression of feelings without hurting others. These feelings include not only anger, disagreement, and irritation, but also joy, praise, affection, and respect.

Unassertive behavior may be of two types: (a) the timid, inhibited individual who is easily hurt and self-conscious and who cannot express his feelings and desires (termed NON-ASSERTIVE); and (b) the impulsive, assaultive individual who humiliates, intimidates, and irritates others (termed AGGRESSIVE). Both responses are socially inappropriate, and both may be reactions to anxiety, skills that were never learned, or behaviors that were never extinguished.

Test Development

McFall & Marston (1970) developed a behavioral role-playing test consisting of 16 tape-recorded stimulus situations which required assertive responses. Subjects were instructed to respond to each situation as if it were happening to them at that time. Responses were recorded and rated for their assertiveness by "blind" judges.

Lawrence (1970) developed a multiple-choice, self-report inventory consisting of difficult stimulus situations based on an assertion questionnaire by Wolpe & Lazarus (1966). Four alternatives are presented in which the subject is asked to indicate which alternative most closely approximates the response he would give if he were in that situation. There are two versions of this test; the Male Form and the Female Form. Higher scores are indicative of more assertive behavior.

Research on Assertive Training

Lawrence (1970) has divided the procedures used in assertive training into two broad categories: (a) the logical directive approach; and (b) behavior rehearsal. Salter's (1949) method of therapy is an example of the logical directive approach. This is a strongly-directive method using Pavlovian theorizing and forceful persuasion, extolling the virtues of assertive behavior, attempting

to convince the client that his unassertive behavior has effected his interpersonal relationships, and that these behaviors can be changed. Then gives the client instructions on how to behave more assertively. Salter also uses exercises such as "feeling talk" and "facial talk" which are designed to acquaint the client with alternative more assertive behaviors.

Ellis (1962), though basically a cognitive theorist also shares this concern for assertive behavior. However, he is concerned with what goes on between the stimulus and the response; thoughts, which he calls self-verbalizations. He uses a logical directive approach to bring to the client an awareness of his self-defeating behaviors.

The logical directive approach of Stevenson (1959) emphasizes client failure to assertion and direct instruction in an attempt to influence the client toward self-expression.

On the other hand, many behavior therapists feel that instruction, direction, or new knowledge about assertive behavior alone is not sufficient for behavior change. Rather, such information must be translated into action. Behavior rehearsal is the technique employed most often in assertive training to accomplish this.

Behavior rehearsal is a term first used by Lazarus (1966) to define the role-playing techniques used in

assertive training. Lazarus compared direct advice and reflection-interpretation (non-directive therapy) with behavior rehearsal techniques and found behavior rehearsal far superior to either of the other two methods in changing behavior.

Lawrence (1970) used four groups--a behavior rehearsal group, a logical directive group, and two control groups. He, too, found behavior rehearsal most effective in initiating behavior change.

Role-playing is a technique widely used in therapy and has been employed in various forms. Kelly (1955) used a Fixed-Role Therapy in which the client role-plays a person (himself) free of anxiety and behavioral deficiencies. This forces the client to act, and hopefully the behaviors will be incorporated into the client's permanent behavior repertoire.

Moreno's (1946) Psychodrama emphasizes spontaneity and improvisation (as Salter, 1949, also emphasizes) in a veridical experience where the client plays himself in various situations. Moreno also introduced role-reversal. Corsini (1966) employs role-playing in imaginary situations for the client's self-understanding, improving of skills, and analysis of behavior.

It is evident that what Lazarus (1966) calls "behavior rehearsal" is not a standardized technique. For instance, the role-playing techniques used in the behavior rehearsal

groups of Lazarus (1966) included not only basic role-playing but also shaping, modeling, constructive criticism, role-reversal, feedback, deep relaxation, and encouragement.

In the Lawrence (1970) study, role-playing was combined with modeling, feedback, and direct instruction.

How behavior rehearsal is actually used in therapy varies greatly with each therapist, each situation, and each client. The need for standardized techniques in behavior therapy is not unfounded. To this end, several experimenters have taken different elements of behavior rehearsal and combined them in various ways in order to determine their relative effectiveness. McFall & Marston (1970) took the first step in what they call a "constructive investigation" of behavior rehearsal starting with the most fundamental treatment components and assessing their effect on behavior. Then building on this base, they assess the effects again, retaining only the effective components. They began the process using role-playing with and without performance feedback and found feedback enhanced the results but not significantly.

A second study by McFall & Lillesand (1971) combined two types of behavior rehearsal with symbolic (recorded) modeling and therapist coaching (what makes a good assertive response in that situation). The two types

of behavior rehearsal were overt response practice (with performance feedback) and covert response practice (with reflection). Again, the behavior rehearsal groups showed significant gains over a placebo control and a no-treatment control, and even though overt responding brought the highest absolute gain, there was not a significant improvement over the covert group.

Young, Rimm, & Kennedy (1973) employed behavior rehearsal with therapist modeling (the "ideal" response) and with and without verbal reinforcement (for appropriate assertiveness and forcefulness and with a "good" or "well done"). Though modeling did produce a significant change, reinforcement did not augment the effect significantly. However, the two behavior rehearsal groups improved significantly more than a no-treatment control or a logical directive therapy control group.

Furthermore, Young et al. (1973) used six situations modeled after McFall & Marston (1970) in pretest and posttest assessment. Young et al. employed three of these situations as training situations during the first treatment session with the experimental groups. The remaining three situations used in testing were not used in training. This was done to determine if treatment effects generalized from trained situations to untrained situations. They found meager evidence for generalization

of treatment effect from trained to untrained situations. These findings lend support to those of Lawrence (1970), McFall & Lillesand (1971), McFall & Marston (1970), and Wolpe & Lazarus (1966) as to the situation specific nature of assertive behavior and that therapy utilizing assertive training must concentrate its efforts on specific situations relevant to the individual's problem.

According to Rimm & Masters (1974), on the basis of recent research, it appears that the most effective method of behavior rehearsal at the present time would be to employ the techniques of role-playing after which the therapist pinpoints the exact behaviors in need of changing and gives corrective feedback, then models an appropriately assertive response, followed by client role-playing (by imitation). Following this, verbal reinforcement can be administered for components of the client's response which reflects improvement and the use of the principles of successive approximations (shaping).

Rationale and Purpose

Persons described as external and unassertive are considered to be ineffective, less competent, less spontaneous, more anxious, with inability to cope with certain life circumstances.

The active responding of behavior rehearsal teaches a behavioral response which is intended to bring the

person a reinforcement in specific situations. If
assertive training in the form of behavior rehearsal
is effective in increasing assertive behavior, it seems
logical that increased feelings of effectiveness, self-
esteem, and personal control which comes with assertive
behavior will also raise the measure of a generalized
expectancy for internal control and bridge the gap that
Rotter (1954) speaks of when he says that externals do
not see a causal relationship between a behavior and
a reinforcement.

The purpose of this study is an attempt to increase
assertive behavior in a group of juvenile delinquents
using the techniques of behavior rehearsal and to deter-
mine if more assertive behavior will result in a more
internalized expectancy of control. Information will
also be gathered from staff ratings of behavioral change
in subjects as compared to change as measured by the
assessment scales.

METHOD

Subjects

The total population of 70 female students, who were serving indeterminant sentences at a juvenile correctional institution, were asked to volunteer for the experiment. Their ages ranged from 14 to 16 years. Thirty-six subjects who did volunteer were administered two assessment measures. These were the Rotter I-E Scale (Rotter, 1966) and the Lawrence Assertive Inventory (Lawrence, 1970, LAI).

The Rotter Scale and the LAI are both self-report measures which were administered in groups of 4 to 12 students, and were scored according to procedures described by Rotter (1966) and Lawrence (1970). It was originally planned that selection of subjects would be based on the results of these two assessment measures. That is, only those subjects who were rated external on the Rotter Scale and unassertive on the LAI would be used as subjects since it was felt that those individuals would benefit most from assertive training. However, the number of students who volunteered was not sufficient to warrant this means of subject selection. As a result,

all 36 subjects who completed the two questionnaires were assigned to groups as described below.

Experimental Design

Twelve subjects were randomly assigned to each of three groups; a treatment group, an attention-placebo control group and a no-treatment control group.

Following group assignment, each subject was seen individually for a 15-minute pretreatment assessment session during which the Behavioral Role-playing Test (BRT) adapted from McFall & Marston (1970) was administered.

At this same time, staff members were asked to complete the MACC Behavioral Adjustment Scale (Ellsworth, 1962).

The treatment group and the attention-placebo control group then attended two one-hour training sessions held one week apart. At the beginning of the first training session, only 22 subjects remained. This was mainly the result of the transfer of students to other facilities, some releases on parole, and disciplinary measures imposed by the school. Eight subjects remained in both the treatment group and attention-placebo control group, and six subjects remained in the no-treatment control group. Training sessions for the treatment group and the attention-placebo control group were conducted with four subjects each.

Within a week after training, posttreatment assessment, consisting of the Rotter Scale, the LAI and the BRT was again administered to all subjects, and the staff was again asked to complete the MACC test.

All testing and training procedures were conducted by the present writer who also served as experimenter.

Description of Pre- and Posttest Assessment Measures

Self-report inventories. Rotter's (1966) I-E Scale is a 29-item forced-choice inventory which compares external beliefs to internal beliefs regarding a person's expectation about how reinforcement is controlled.

Rotter has reported internal consistency between .65 and .70. Test-retest reliability over one month ranges from .60 to .72, and a low correlation (median of .22) with the Marlow-Crowne Social Desirability Scale has been obtained. Control of one's environment was considered by Rotter as the most effective measure of construct validity of the I-E Scale. Evidence has shown (Davis & Phares, 1967; Seeman, 1963; Seeman & Evans, 1962) that internals tend to take a more active role in attempts to control their environment.

The Lawrence (1970) Assertive Inventory-Female Form consists of 69 multiple-choice items. They are statements of difficult situations with four alternative responses. Subjects are asked to indicate that response

which most nearly approximates a response they would give if they were in that situation. Appropriately assertive responses were obtained by Lawrence by gaining a consensus of six of eight graduate students with knowledge of assertive behavior. Lawrence reports KR-20 reliability of .88 for the female form.

Behavioral role-playing test. This second measure of assertive behavior was administered since it was believed to be a more sensitive instrument than the questionnaire for detecting changes in assertiveness.

Modeled after the McFall & Marston Behavioral Role-playing Assessment (1970), it consists of nine role-playing situations, composed by the experimenter and designed to represent real-life interpersonal situations likely to be encountered by the present population (See Appendix A). Subjects were asked to respond to each of the situations in the most appropriately assertive way possible. The first situation presented was used as an example, and the subjects' responses to this situation were not recorded. The responses to the other eight situations were recorded and later rated by "blind" judges as described below.

Staff ratings. The MACC Behavioral Adjustment Scale (Ellsworth, 1962) consists of 16 items such as, "Is he pleasant, never seems to be irritable, and grouchy?" and is rated on a five-point Likert type scale. The

test was revised from the MACC I by beginning with 10
problem areas most frequently mentioned concerning the
socially withdrawn patient. Ellsworth reports inter-
rater reliability at .86 when comparing the ratings of
day shift to evening shift senior aides. A reliability
of .91 was reported for ratings by the same person over
a one-week period. Ellsworth reports construct validity
of .93 when compared to the MACC I which the author felt
was a reliable means for determining the validity of the
MACC II.

Information from the MACC test was obtained in an
attempt to determine whether the effects of the assertive
training which was given to the subjects would transfer
to the daily routine of institutional life. Two staff
members were selected from each of the three cottages
in which the subjects lived. The staff members had no
knowledge of which group the subjects represented. The
staff was asked to rate the subjects assigned to the
staff members' cottage according to his or her perception
of the subjects' behavior. The six raters were individuals
who were presumed to have sufficient daily contact with
the subjects to allow for accuracy in detecting behavior
change. In each cottage one rater was from the day shift
(the cottage supervisor whose title was Correctional Program
Officer) and one from the evening shift (a full-time staff
member with the title of Correctional Service Officer.)

Ratings were made without the subjects' knowledge.

Treatment Conditions

Treatment group. The treatment group attended two one-hour treatment (training) sessions held one week apart in which behavior rehearsal was used.

The first treatment session began with a brief statement explaining the rationale of assertive training and expectations of treatment (See Appendix B for details). This was followed by a brief explanation of behavior rehearsal techniques which would be used in training. That is, subjects were told that stimulus situations would be presented, and they would be given the opportunity to practice assertive responses to each situation.

The sample situation which was used during pretreatment assessment was repeated. Following this, each subject engaged in behavior rehearsal with the experimenter. Then eight training situations were presented (Appendix B) and behavior rehearsal was performed on each. Four of these situations were taken from the eight used in the pretreatment assessment. The remaining four situations were new; that is, subjects had not previously been exposed to them. Thus, four of the eight pretreatment assessment situations were repeated during the first training session, and the remaining four situations were not used. This was done to determine if the treatment effect generalizes from trained situations to untrained situations.

The paradigm for presenting the training situations in the group treatment setting was as follows. The experimenter read a situation, and one of the subjects in the group responded. Experimenter and subject then discussed the response and how it might be improved (experimenter gave corrective feedback). Experimenter then modeled a predetermined "right" (appropriately assertive) response. Following this, subject was encouraged to practice a more assertive response. Improved behaviors were pinpointed, and reinforcement was given for these behaviors. Members of the group were encouraged to give corrective feedback and reinforcement.

Another person in the group was then asked to respond, and response practice followed as above until each member of the group had the opportunity to practice with each of the eight situations. The order of first subjects' responding was counter-balanced for each situation so that no one subject always responded first.

The second treatment session was based on essentially the same format, except that all eight of the situations used were new ones. That is, the subjects had not previously been exposed to these situations either in the pretreatment assessment or in the first training session.

Control groups. The attention-placebo control group attended two one-hour training sessions held one week apart.

The first session began with a standardized interview similar to Young (1971) in which information such as name, age, and family composition was talked about (See Appendix C for details). This was followed by a group discussion on how unassertive behavior has effected their (the subjects') interpersonal relationships.

The second session began with a 20-minute lecture (Appendix C). The lecture was partially taken from Lawrence's (1970) logical directive procedure and was modified to suit the present population. It emphasized the negative consequences of behaving unassertively, yet gave no instruction on how unassertive behavior may be changed. Following the lecture, there was a group discussion on the subjects' experiences with unassertive behavior.

The no-treatment control group was told that the groups were filled and that they would be in the next group which would start in two or three weeks.

Following data collection, subjects in the no-treatment control group, as well as all subjects in the other groups were given the opportunity to participate in extensive assertive training sessions.

CHAPTER III

RESULTS

To correct for unequal sample sizes, the weighted
sum method was used when necessary in the statistical
analyses described below. In addition, Scheffe (1953)
post-analysis comparisons significant at the .10 level
are included due to the highly conservative nature of
this test.

Pretest Analysis

As shown in Table 1, separate one-way analyses of
variance for the pretest scores on the Lawrence Assertive
Inventory (LAI) and on the MACC Behavioral Adjustment
Scale yielded no differences between group means.

As Table 1 shows, however, a significant difference
between group means was found on the Rotter I-E Scale
and on the BRT. The results of a Scheffe test of
significance on the mean scores of the Rotter I-E Scale
and the BRT are shown in Table 2. For the Rotter Scale,
the results indicate no difference between the treatment
group and the no-treatment control. However, the attention-
placebo control differed significantly from both the
treatment group and the no-treatment control group. On

TABLE 1

GROUP MEANS AND F-RATIOS FOR PRETEST MEASURES

	Treatment Group	Placebo Control	No-treatment Control	F-ratios
Lawrence Assertive Inventory	33.25	38.38	30.33	1.01
Rotter I-E Scale	9.00	11.88	9.17	5.47*
Behavioral Role-playing Test	22.63	27.25	20.67	3.75*
MACC Behavioral Adjustment	59.25	59.44	63.42	.98

*Fs significant at .05 level, with 2/19 df.

TABLE 2

SCHEFFÉ TEST OF SIGNIFICANCE ON PRETEST MEASURES

		Rotter I-E Scale	Behavioral Role-playing
Treatment	Placebo		
Group	vs Control	9.01**	3.87
Treatment	No-treatment		
Group	vs Control	.03	.60
Placebo	No-treatment		
Control	vs Control	6.86*	6.71*

* F significant at .10 level

**F significant at .05 level

All dfs = 2/19

the BRT, the treatment group did not differ from either control group. There was a significant difference, however, between the two control groups.

These results, taken together with the group means shown in Table 1, indicate that although the group members were randomly assigned, the attention placebo control group was more external (on the Rotter Scale) and more assertive (on the BRT) than the other two groups, although the difference between the placebo control group and the treatment group was not significant. Thus, while all groups were not equated initially, no difference existed between the treatment group and either control group in terms of assertive behavior, the primary focus of attention in the investigation.

Analysis of Difference Scores

Pre- to posttest difference scores were obtained for each of the three groups on each of the four assessment measures. Difference scores were used in all of the following analyses for assessing treatment effects.

It was hypothesized that behavior rehearsal (assertive training) would (a) increase assertive behavior and (b) that increased assertive behavior would be reflected in a shift toward a more internal locus of control. To test these hypotheses, a one-way analysis of variance was performed on the difference scores of the Rotter I-E

Scale and on each of the two measures used to assess asser-
tive behavior--the LAI and the BRT.

Lawrence assertive inventory. The mean difference
scores on the LAI for each group is presented in Table 3.
As Table 3 shows, both the treatment and no-treatment
control groups demonstrated improved assertive behavior,
whereas, the placebo control showed a decrease. As
Table 3 also indicates, the results of the analysis of
variance on the difference scores of the LAI yielded a
significant difference between group means. The results
of a Scheffe test of significance are shown in Table 4.
These results indicate a significant difference between
the treatment group and the placebo control. All other
comparisons were not significant.

The difference between the treatment group and the
placebo control appears to be due to the large unexpected
decrease in assertive behavior as measured by the LAI.
Thus, while the treatment group showed greater improve-
ment in LAI measured assertive behavior than either of
the control groups, the statistical findings are not
clearly supportive of the hypothesis that behavior re-
hearsal increases assertive behavior.

Behavioral role-playing test. Each subject's set
of eight tape-recorded responses for the pretest and
posttest were coded and randomized. They were then
played back to three "blind" judges who were third-year

TABLE 3

GROUP MEANS AND F-RATIOS FOR DIFFERENCE SCORES

	Treatment Group	Placebo Control	No-treatment Control	F-ratios
Lawrence Assertive Inventory	12.38	-5.88	4.50	5.57*
Rotter I-E Scale	.50	- .75	-3.00	2.10
Behavioral Role-playing Test	6.17	1.83	- .22	5.93**
MACC Behavioral Adjustment	3.00	4.19	3.08	.10

* F significant at .05 level

**F significant at .01 level

All dfs = 2/19

TABLE 4

SCHEFFE' TEST OF SIGNIFICANCE OF DIFFERENCE SCORES

		Lawrence Assertive Inventory	Behavioral Role-playing Test
Treatment Group	Placebo vs Control	11.09*	14.27**
Treatment Group	No-treatment vs Control	1.77	26.69**
Placebo Control	No-treatment vs Control	3.07	2.75

* F significant at .05 level

**F significant at .01 level

All dfs = 2/19

graduate students in clinical psychology and very familiar
with the theory and practice of assertive training.
Briefing consisted of familiarizing the raters with the
eight situations and some possible responses. Each of
the eight responses for each subject was rated on a
5-point scale where one was the least assertive and five
the most assertive.

The sum of the ratings of each set of eight responses
for each subject on pre- and posttesting was obtained
for each of the three raters. These totals were then
decoded by matching the code numbers with the subjects'
names, thus yielding pre- and posttest scores for each
subject for each rater.

Difference scores were than obtained for each subject
for each of the three raters. Using these difference
scores for each rater, a Spearman-Brown rater reliability
yielded an $r = +.87$.

The difference scores for each of the raters for
each subject was then totaled and averaged. The mean
difference scores for the BRT are shown in Table 3. As
Table 3 indicates, improved assertive behavior was demon-
strated by the treatment group. The placebo control
group showed a moderate increase, whereas, the no-treatment
control group indicates a slight decrease in assertive
behavior. The results of an analysis of variance on the

mean difference scores yielded a significant difference, as shown in Table 3. The results of a Scheffe' test of significance are shown in Table 4. These results indicate a significant difference between the treatment group and both control groups with no difference between the two controls.

Thus, the results shown in Tables 3 and 4 for the BRT strongly support the hypothesis that assertive training with behavior rehearsal techniques increases assertive behavior.

To assess for effects of generalization of treatment from trained to untrained situations, the mean scores of the eight situations from the treatment group only, were separated into two sets consisting of (a) the scores from the four situations used in testing that were also used for training during the first treatment session, and (b) the scores of the four situations used in testing but on which no training was given during either treatment session. The group means of the trained and untrained situations of the BRT for the experimental group are presented in Table 5. As shown in Table 5, increased assertive behavior was demonstrated for both the trained and the untrained situations. A test of the difference between the means for uncorrelated data was not signifi-cant, as shown in Table 5. These results suggest a

TABLE 5

GROUP MEANS AND STANDARD DEVIATIONS OF

TRAINED VERSUS UNTRAINED SITUATIONS

OF THE BEHAVIORAL ROLE-PLAYING

TEST, TREATMENT GROUP ONLY

	Mean	Standard Deviation
Trained	7.90	4.06
Untrained	4.58	2.35

$\underline{Z}$ = 1.23, $\underline{p}$ > .10

generalization effect from trained to untrained situations
for the treatment group.

Presented in Table 6 are the mean scores of the four
untrained situations of the BRT for all three of the groups.
As shown in Table 6, the treatment group demonstrated an
increase in assertive behavior on untrained situations,
whereas, a decrease was indicated for both of the control
groups on the four untrained situations. As Table 6
also shows, an analysis of variance performed on the mean
scores of the four untrained situations for the three
groups yielded a significant effect. The results of a
Scheffe test of significance (See Table 7) indicate a
difference between the treatment group and both control
groups, whereas, there was no difference between the
two controls. These findings taken together with those
in Table 6, indicate that generalization effects were
obtained for the treatment group only, further demonstrat-
ing that behavior rehearsal resulted in increased assertive
behavior for the situations on which there was no practice.

Rotter I-E Scale. As shown in Table 3, the results
of an analysis of variance on difference scores of the
Rotter Scale yielded no difference between the means. The
mean scores shown in Table 3 indicate a small shift toward
internalization in the treatment group and a shift toward
a more external locus of control for each of the two

TABLE 6

GROUP MEANS AND F-RATIO FOR UNTRAINED SITUATIONS

OF THE BEHAVIORAL ROLE-PLAYING TEST

Treatment Group	Placebo Control	No-treatment Control	F-ratio
4.58	-3.17	-.33	8.71*

*$\underline{F}$ significant at .01 level

$\underline{df}$ = 2/9

TABLE 7

SCHEFFE TEST OF SIGNIFICANCE ON UNTRAINED SITUATIONS

OF THE BEHAVIORAL ROLE-PLAYING TEST

Treatment Group	vs	Placebo Control	17.01**
Treatment Group	vs	No-treatment Control	6.83*
Placebo Control	vs	No-treatment Control	2.29

* F significant at .10 level

**F significant at .01 level

All dfs = 2/19

control groups. Thus, while the shift in the treatment group was in the expected direction, the change was not sufficient to support the hypothesis that increased assertive behavior would be reflected in a shift toward a more internal locus of control.

MACC behavioral adjustment scale. An attempt was made to determine if increased assertive behavior resulting from treatment would transfer to real-life situations in the subjects' cottages.

A. Spearman-Brown rater reliability performed on the difference scores obtained from the three Correctional Programs Officers and the difference scores obtained from the three Correctional Service Officers yielded an $r = +.48$, which is significant at the .05 level ($df = 20$).

The group means of the MACC presented in Table 3 indicate that assertive behavior increased in all three groups. As Table 3 also shows, an analysis of variance performed on difference scores yielded no difference between the means. These results indicate that staff ratings did not reflect behavior change as a result of treatment.

The Pearson-r correlation matrix shown in Table 8, indicates no relationship between the MACC test and any of the other three assessment measures, whereas, the other three scales did correlate significantly with each other. Thus, it appears that the MACC may have been

TABLE 8

PEARSON-r CORRELATION MATRIX FOR

ALL ASSESSMENT MEASURES

	Lawrence Assertive Inventory	Behavioral Role-playing Test	MACC Behavioral Adjustment Scale
Rotter I-E Scale	.39*	.57**	.11
Lawrence Assertive Inventory		.69**	.09
Behavioral Role-playing Test			.08

* $p < .10$

**$p < .01$

All dfs = 20

CONTINUED

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