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THE EFFECT OF VERBAL REINFORCEMENT ON THE SELF-REFERENCES OF PSYCHIATRIC PATIENTS WHO ARE CHARACTERIZED BY A HIGH NUMBER OF NEGATIVE SELF-REFERENCES

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THE EFFECT OF VERBAL REINFORCEMENT ON THE SELF-REFERENCES OF
PSYCHIATRIC PATIENTS WHO ARE CHARACTERIZED BY A
HIGH NUMBER OF NEGATIVE SELF-REFERENCES

A Thesis Submitted to the Graduate Division in Partial
Fulfillment of the Requirements for the
Degree of Master of Science

By 

Earl William Rakestraw II

KANSAS STATE COLLEGE OF PITTSBURG

Pittsburg, Kansas

January, 1969

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ABSTRACT

The effect of positive verbal reinforcement on the verbal self-references of hospitalized psychiatric patients was studied. Eighteen patients, characterized by a high production rate of negative, verbal self-references, were matched on the following variables: age, length of hospitalization, medication, psychotherapy participation, intelligence quotient, sex, and adjustment score discrepancy obtained on a Q-sort test. After the subjects were given the pre-experimental Q-sorts and matched on the other variables, nine were randomly assigned to the experimental group and nine to the control group. All of the subjects were then administered six individual interviews in which they responded to 30 questions and statements per interview. The questions and statements were designed to elicit verbalizations from the subject about himself (self-references). In addition to the examiner, two additional judges were employed to classify the questions and statements. The mean interjudge percentage of agreement was 84%. A chi square technique was used to analyze this data and it was found there was no significant difference in the classifications of the three judges.

Verbal reinforcement consisting of "That's very good," "That's just fine," or "That's great" was given by the examiner following any positive self-reference made by the experimental subjects. The control subjects were not given any systematic reinforcement although, head nodding was randomly used to maintain speech. Forty-eight hours after the last interview, each subject was again given the Q-sorts to obtain a post-experimental adjustment score discrepancy. The reliability of scoring the subjects' self-references as negative, positive, or neutral was determined by having two

additional judges score the self-references. A mean percentage of 88% was obtained for interjudge agreement. Using the chi square technique again, it was found that there was no significant difference in interjudge classifications.

A t test for correlated data was employed to analyze the results statistically. The number of positive and negative verbal self-references in the last interview were compared to those in the first interview. This comparison was made for both groups. The discrepancy between how the subjects described themselves versus their ideal selves before and after the six interviews was analyzed statistically. The results indicated that the verbal reinforcement used was effective in significantly increasing the number of positive verbal self-references and subsequently decreasing significantly the number of negative verbal self-references. When no systematic verbal reinforcement was given, the positive verbal self-references significantly decreased while the negative verbal self-references significantly increased. The subjects reinforced for their positive self-references manifested a significant increase in the congruency between their self and ideal-self Q-sorts. There was no significant increase in this congruency for the subjects who did not receive the systematic reinforcement.

Discussion of the results and implications for verbal conditioning experimentation, behavior modification, and personnel working with patients such as those used in this study were drawn.

CHAPTER I

INTRODUCTION

In the past decade, the field of psychology has experienced a great influx in research dealing with behavioral modification. This type of research has been concerned with taking a particular behavior and subjecting it to an experimental condition or conditions. The objective of such research is to establish what resultant change the experimental condition will produce in the behavior under study. Various types of experimental procedures have been employed in the behavioral modification research in order to change behavior. These procedures are based upon learning theories and involve such techniques as reinforcing and extinguishing behavior.

Employing the same techniques as used in behavioral modification research, behavioral therapists such as those reported in Ullmann and Krasner (1965) have produced successful behavior changes in therapeutic situations. The objective for the behavioral therapist is that of producing an advantageous change in behavior along the continuum of adaptiveness-maladaptiveness.

One particular type of behavior, on which a great deal of research time has been spent, is that of verbal behavior. In the past fifteen years a very large number of experiments have been published in which an attempt was made to modify the verbal behavior of the subjects. In these research endeavors, attempts at behavioral modification have been made based on learning theory principals and using primarily the techniques of reinforcement and extinction.

The verbal conditioning studies in the past have generally used the operant conditioning method of Skinner (1957). Using this method, ". . . a contingency is arranged between a verbal response and a generalized conditioned reinforcer"

(Skinner, 1957). In operant verbal conditioning the reinforcement is the independent variable. The dependent variable is the emission by the subject of the verbal response selected as the stimulus to be conditioned. The independent variable follows, and is contingent upon, the dependent variable.

Statement Of Problem

The problem which was studied was whether positive self-references made by hospitalized psychiatric patients could be increased by using verbal reinforcement in an interview setting. A second problem was whether the changes in verbal self-references effected in the interview setting would result in other behavioral changes.

The findings of previous work in the area of verbal conditioning of positive self-references suggests that the emission of these self-references can be modified by the examiner via verbal reinforcement. In accordance with learning theories, if a behavior is positively reinforced, it should become a learned response and generalize to similar though different situations. For this reason, it seemed consistent to expect generalization of the verbal conditioning effect to another situation; specifically, Q-sort performance.

Need For The Study

Previous research has indicated that verbalizations can be conditioned in a designated direction by the experimenter employing the technique of verbal reinforcement. There are, however, some conflicting results which may indicate, that some important variables have not been controlled, or are unknown; that some forms of reinforcement are more effective than others; and that perhaps not all classes of verbalizations can be conditioned. Therefore, there is still a need to demon-

strate the effect of different types of reinforcement on different types of subjects in different types of settings.

A large majority of verbal conditioning researchers have used "normals" (generally college students) as their subjects. Very little research has been reported in which "abnormal" or hospitalized psychiatric patients have been used as the subjects in which verbal conditioning was attempted. As a result, it is difficult at this point to state whether or not psychiatric patients' verbal behaviors are modifiable.

The particular verbal response class of self-references is of interest and importance in both the experimental and clinical settings. Firstly, self-references seem to be of a more complex verbal class than are, for example, singular words in speech (such as personal pronouns which have often been used as the reinforced class in earlier studies). Secondly, one's verbal self-references occupy an important position in many of the theoretical schools of psychotherapeutic approaches. What a patient says about himself is an important factor in evaluating his progress, his psychological state and determining a treatment program. In client-centered therapy the clients' self-referent expressions of feeling are given primary emphasis (Patterson, 1959; Rogers, 1951; Seeman, 1949). Many eclectic and psychoanalytically oriented theorists point out the importance in therapy of expressions of self-referent affect (Brammer and Shostrom, 1960; Truax and Cardhuff, 1964). Munroe (1955) and Raimy (1948) have written about the importance in psychotherapy of self-referent negative feelings and attitudes. Ullman (1965) reports the interest the behavior therapist must have in the patient's affective self-references in order to modify or train him in the direction of more adaptive behavior. Finally, previous verbal conditioning studies in which self-references were the response class to be conditioned

have yielded conflicting results.

Although there have been a large number of verbal conditioning studies, an extremely small number of these studies have made an attempt to see if the conditioning effect would generalize outside of the experimental session or setting. The lack of such knowledge has greatly restricted the implications that might have been made as a result of verbal conditioning research.

In summary, additional verbal conditioning research seemed to be needed in order to gain further knowledge concerning the conditionability of self-references. The question in relation to conditioning verbal responses in hospitalized psychiatric patients seemed to lack a clear cut answer. Finally, the numerous research efforts in the area of verbal conditioning seemed to have neglected the possibility of the effects of the conditioning generalizing to other behavior and/or settings.

Purpose of the Study

The purpose of this study was to see if hospitalized psychiatric patients who made a high number of negative self-references could be verbally conditioned to make significantly more positive self-references. An attempt was made to show this change could be effected by using positive verbal reinforcement in six interview settings. A second purpose of this study was to see if the effects of the verbal conditioning would generalize to the Q-sort adjustment scores made by the subjects.

Hypotheses

Hypothesis 1a

The experimental group will make significantly more positive self-references in the last interview than in the first interview.

Hypothesis 1b

The control group will not make significantly more positive self-references in the last interview than in the first interview.

Hypothesis 2a

The experimental group will show a significant increase in their self-ideal congruency as measured by the Q-sort adjustment scores when the post-testing scores are compared to the pre-testing scores.

Hypothesis 2b

The control group will not show a significant increase in their self-ideal congruency as measured by the Q-sort adjustment scores when the post-testings scores are compared to the pre-testing scores.

It was decided that a confidence level of .05 or less would have to be achieved in order for significance to be claimed.

Delimitations

1. The patients used as subjects in this study were referred to the experimenter by staff members of Larned State Hospital, Larned, Kansas, and met the requirements as were defined.

2. All subjects were in-patients of the Larned State Hospital, Larned, Kansas. This hospital serves 52 counties in the western half of the state.

3. Those patients known to be actively hallucinating were not considered as potential subjects.

4. Because time was an important factor, a relatively small number of subjects were used.

Limitations

1. The examiner was usually younger than the subject and was currently working toward a master's degree. Research reported by Travers (1963) has shown that the status of the person applying the verbal reinforcement may be an important variable in the experimental situation.

2. The verbal reinforcement used may not have been reinforcing for some of the subjects. The reinforcement used may have held little value for one patient while it held a great deal of value for another.

Operational Definition of Terms

Adjustment score. The number of Q-sort positive statements (Appendix A) the subject felt were characteristic of himself or his ideal-self as was indicated via his Q-sorts.

Adjustment score discrepancy. The divergency between the subject's adjustment score for his self Q-sort and his ideal-self Q-sort.

Contingency. The conditional relationship wherein the subject was given verbal reinforcement immediately following any positive self-reference he verbalized.

Continuous reinforcement schedule. The schedule used in which the experimental subject was given verbal approval (reinforcement) for every positive self-reference.

Experimenter (interviewer). The individual who conducted the research and the interviews.

Hospitalized psychiatric patient. An individual residing in the Larned State Hospital on a 24 hour per day basis due to psychological disturbance.

Ideal (Ideal-self) Q-sort. The sorting of the Q-sort statements (Appendix A) into two piles; one of which contained statements unlike the subject's ideal person, and one of which contained statements like the subject's ideal person.

Interview. An experimenter-subject relationship in which the subject made verbal responses to statements and questions presented verbally by the experimenter.

Negative self-reference. Any self-reference by the subject that reflected an unfavorable or disapproving attitude toward himself.

Negative statement or question. Any question or statement that would elicit a self-reference by the subject that would reflect an unfavorable or disapproving attitude toward himself.

Neutral self-reference. Any self-reference (or other verbal expression) by the subject that neither reflected a favorable or unfavorable, nor approving or disapproving attitude toward himself.

Neutral statement or question. Any question or statement that could just as easily have elicited either a negative or positive self-reference by the subject.

Operant conditioning. The process of setting up a response-reward contingency in which a reward (verbal approval) immediately followed a response (positive self-reference) consequently increasing the probability that the response would be repeatedly emitted.

Post-test sort. The Q-sort given 48 hours following the last interview.

Pre-test sort. The Q-sort given 48 hours preceding the first interview.

Positive self-reference. Any self-reference by the subject that reflected a favorable or approving attitude toward himself.

Positive statement or question. Any question or statement that would have elicited a self-reference by the subject that would have reflected a favorable or approving attitude toward himself.

Q-sort. A set of 74 statements (Appendix A) of which 37 were positive self-descriptive statements and 37 were negative self-descriptive statements. The statements could be sorted so as to describe one's self, ideal-self, spouse, etc.

Reinforcement (positive). Any stimulus, (i.e., verbal approval) following a behavior (i.e., positive self-reference) that increased the probability of the occurrence of that behavior.

Self-ideal congruency. The adjustment score difference between how one described himself and how he described his ideal-self.

Self Q-sort. The sorting of the Q-sort statements (Appendix A) into two piles; one of which contained statements the subject felt were characteristic of him, and one of which the subject felt were not characteristic of him.

Subject (interviewee). The individual (patient) upon whom the experiment was conducted.

Systematic reinforcement. Administering reinforcement on a prescribed ratio basis of 1:1, 1:3, etc.

Verbal approval. A verbal response ("That's very good", "That's just fine", or "That's great") that was indicative of approval, acceptance, or attention.

Verbal conditioning. The process of operantly conditioning a verbal response (positive self-reference).

Verbal reinforcement. The administration of verbal approval as a positive reinforcement.

Verbal self-reference. Any verbal expression which either directly or indirectly revealed a description of the subject as he saw himself or as others saw him.

CHAPTER II

REVIEW OF LITERATURE

A great deal of research has been done in the past in the area of verbal conditioning. Since the objective of this study was to discover verbal conditioning possibilities in certain hospitalized psychiatric patients, it was necessary to review the significant research dealing with verbal conditioning.

It was noted that in the literature reviewed, a particular task was presented to the subjects but the task was not presented as a learning one. The subject was not instructed to learn the task nor was he informed that the study involved learning as such. The subject was merely required to emit verbal responses in relation to a specific task. The examiner then attempted to reinforce a pre-determined class of verbal responses with verbal or nonverbal stimuli that were carefully controlled.

Early History Of Verbal Conditioning

Probably the most commonly known research studies in verbal conditioning and the ones recognized as the pioneer studies were those of Greenspoon (1951, 1954, 1955). Greenspoon's early work was an attempt to parallel the earlier infrahuman operant conditioning research using human subjects.

The studies that have been made in which reinforcement of positive and negative self-references have been the reinforced response class show conflicting results. Ullman et al., (1964) reports a study using hospitalized psychiatric patients who received verbal approval reinforcement for "healthy talk" in a structured interview setting. In a similar group, "sick talk" was reinforced. The "healthy talk" group showed a significant change via the reinforcement while the "sick talk" group did not. Rogers (1960) used a similar setting (unstructured

quasi-therapy interview) and found that the verbal conditioning group for negative self-references showed a significant increase in the desired response while the group reinforced for positive self-references did not. Babladelis (1962) obtained the same results as the Ullman et al., study using an unstructured quasi-therapy setting. One thing these studies don't show is whether or not in a group reinforced for positive self-references the negative self-references decrease in proportion to the increase in the reinforced response class.

Verbal Conditioning of Self-references

Several studies are included in the verbal conditioning literature in which an attempt was made to condition those verbalizations by the subject that personally referred to himself (self-references).

One of the first of these reported studies was made by Adams and Hoffman (1960). The two experimental and control groups were each comprised of 31 male and female, graduate and undergraduate students at Stanford University. Each subject was interviewed individually and told that the psychology department was holding a survey and would appreciate their opinions. The interview was divided into four consecutive periods with the first three consisting of ten minutes each and the last 20 minutes. During the first 10 minute period no reinforcement was given in either group. All self-references made by the experimental subjects in the second 10 minute period were reinforced by the examiner looking at the subject rather than his note pad and saying "mm-hmm". The control subjects received no systematic reinforcement. The purposes of the study were to see if the reinforcement by the examiner would increase the self-references and to see what effects prolonged extinction (30 minutes) might have on the subjects' behavior.

It was concluded the reinforcement was effective as the relative frequency and rate of self-references significantly increased for the experimental subjects during the conditioning period but did not for the control subjects. The relative frequency and rate of occurrence of self-references significantly decreased for the experimental subjects during extinction. This significant decrease was not found for the control group. Emotional changes such as anger and hostility were noted in the experimental subjects during extinction. This was not noted in the control Ss. There were no reported evidences of awareness by the subjects to the conditioning procedure.

One of Merbaum's (1963) early research endeavors was a verbal conditioning study in which the effectiveness of three different types of verbal reinforcers on affective self-references was studied. The subjects were 10 female and 20 male undergraduate students at the University of North Carolina. The subjects were divided into three groups of 10 and each group received a different type of verbal reinforcer. The affective self-references were defined as "any statement describing or evaluating the state (other than intellectual or physiological) of the subject by himself". The three types of verbal reinforcers used were noncommittal ("Mmm-hmm" or "Uh-huh"); mild positive ("Good", "Yes", "I see", "I understand", "I'm sure", and "Fine"); and reflection of feeling (a paraphrase or direct re-statement of the affective self-reference). The subjects were each individually seen for five 20 minute sessions. They were instructed that the examiner was interested in peoples' ability to speak freely about themselves and asked to tell the examiner about themselves. No reinforcement was given during the first interview. During the next four interviews, reinforcement was given following each affective self-references. An "awareness interview" was also held immediately following the completion of the last interview. This was done in order to see if

the nuance of the subject's awareness of the conditioning procedure was a significant variable in the verbal conditioning. No significant relationship was found between the rate of affective self-references and the subject's awareness.

In a somewhat similar study by Merbaum and Southwell (1965), 30 junior medical students were used as the subjects. The subjects were randomly assigned to three different groups with 10 in each. Each subject was interviewed for 30 minutes. The instructions for the interview conversation were so designed to encourage the subject to talk about his feelings and personal experiences in relation to the hospital ward to which he was assigned. The affective self-reference was defined exactly as Merbaum defined it in the study reviewed in the preceding paragraph. Paraphrasing was used as the verbal reinforcement in one group. This type of reinforcement was a direct restatement or "reflection of feeling" of the affective self-reference. For example, if he so stated, "I feel mad" the examiner would have remarked, "You feel irritated". The second group received echoic verbal reinforcement which was a repetition by the examiner of the affective self-reference made by the subject. Thus, if the subject said, "I feel sad" the examiner said, "You feel sad". In the third group, which was a control group, the examiner made approximately the same number of verbalizations of both a repetition and paraphrasing nature as he made to either of the other groups. However, these verbalizations were arbitrarily administered following nonaffective self-references. The interviews were divided into three 10 minute periods. The first ten minutes were used to establish an operant level and no systematic reinforcement was given. The second ten minute period was designated as the acquisition period in which the two types of verbal reinforcement were

administered following the predetermined verbal responses. A short questionnaire to check awareness was answered by each subject. The results indicated that paraphrasing was significantly more effective in increasing the number of affective self-references in the acquisition period than either of the other two types of reinforcement conditions. In fact, paraphrasing was the only conditioner that significantly increased the number of affect self-references in each of the three periods. While the control group significantly increased their nonaffect self-references during the acquisition period, the other two groups significantly decreased in their rise of nonaffective self-references. None of the subjects were able to verbalize awareness of the relationship between their responses and those of the examiner.

Other experimenters (Salzinger, 1960; Krasner, 1961) have reported verbal conditioning studies in which self-references were conditioned. The studies reviewed in this paper were felt to be those most relevant to this research.

Verbal Conditioning in an Interview Setting

Because an interview setting was used in this research, several pertinent studies using a similar setting were reviewed.

A relatively early study by Buss and Durkee (1958) was made to investigate the effectiveness of the experimenter's verbal behavior on the subject's verbalizations. The 40 male and 40 female subjects were all college students. They were randomly assigned to one of the two groups so that each group was comprised of an equal number of males and females. Each subject was seen in an individual setting in which he was presented 60 3X5 cards. Each card contained a neutral verb (i.e., "invented"), a mildly hostile verb (i.e., "argued"), and an intensely hostile verb (i.e., "tortured"). The subject was instructed to make a

sentence for each card using one of the three verbs. During trials (cards) 1-10 the experimenter made no verbal response to either the subjects in the experimental group or in the control group. For trials 11-60 the experimenter said "Right" after the subjects in one group used the intensely hostile verb and "Wrong" when one of the other two verbs was used. The word "Right" was used when the subjects in the other group used a neutral verb and "Wrong" when they used either of the other two words. Following statistical analysis, it was found that intensely hostile verbalizations were conditioned faster than neutral verbalizations. Also of significance was the fact that women produced fewer intensely hostile responses than men.

Kanfer's (1960) investigation of verbal behavior in a standardized interview was an extremely interesting one with pertinent implications. A total of 60 female volunteers from the nursing staff and nursing students at the University of Oregon Medical School were used to comprise the experimental and control groups. Each subject was individually seen for a 35 minute interview. The subjects were informed that the interviews were an attempt to find how best to conduct interviews with psychiatric patients who needed to discuss their problems in order to improve. From the post-experimental interviews it was felt that the subjects saw the interview as one in which they discussed their personalities, problems, and emotional attitudes. An Interaction Chronograph was employed to measure the average duration of the verbal action of the subject and the experimenter. The interview was broken into one 15 minute period and two 10 minute periods. During the first period the subjects responded to the experimenter's questions which were of an exploratory and information getting nature. During the next 10 minutes he administered 12 interpretive statements. These interpretations were defined as

statements or questions which "analyze; relate several of S's described experiences, attitudes, or feelings; generalize S's statements to suggest a determinant of his behavior; or give a psychological explanation; or a motivational description". A given example of an interpretive statement was, "I imagine that you resented the fact that sometimes when you are with him you almost feel like a little child yourself". In the third and final time period the experimenter again made exploratory and information getting statements and questions. In all three periods, the experimenter's verbal, gestural, and postural behavior was restricted to a five-second interval. He was required to respond within one second after the subject had ceased talking. Whenever the subject failed to verbally respond for a period in excess of 15 seconds, the examiner would make his next verbalization. There were no interpretations administered to the control subjects. The results showed that interpretations significantly shorten the amount of time spent by the subject verbalizing immediately following the interpretation. It was also found that after the verbalizations ceased the interviewees receiving interpretations significantly increased the duration of their verbal output. The control subjects showed no significant changes in duration of verbal output in the three periods.

Waskow (1962) hypothesized that if the experimenter selectively responded to the content or feeling aspects of the subject's verbalizations then the subject would increase his number of verbalizations concerning the content or feeling aspect reinforced. She used three groups with 12 introductory psychology students in each group. The subjects in the three groups were matched for initial level of expressing content and feeling. The groups each contained the same number of male and female subjects.

The subjects were voluntarily accepted after they were informed that the experiment was for research in psychological interviewing and psychotherapy. Each subject was seen in four 30 minute interviews. The subject was instructed to consider himself in therapy and to talk about the same types of things he thought one would discuss in a real therapy session. "Reflection of feeling" was used as the verbal reinforcement in which the experimenter would "mirror, in her own words, some aspect of what the subject had said". Group F subjects were verbally reinforced by the therapist reflecting the feeling aspect of their responses. The subjects in Group C were verbally reinforced by reflection of the descriptive and intellectual aspects of their communications. The third group was reinforced by the experimenter reflecting a combination of feeling and content. The results of statistical analysis revealed that only the C group obtained a significant increase.

Other experimenters such as Moss (1963), Kanfer (1960), and Levine (1958) have published verbal conditioning research in which an interview setting was used.

Verbal Conditioning Studies Using "Abnormal" Subjects

The majority of the research in verbal conditioning has been done using normal subjects. More specifically, the subjects have usually been college students.

There have been several studies reported incorporating subjects that might generally be classified other than normal. Because this study was one using abnormal subjects, (hospitalized, psychiatric patients) it was considered important that literature involving the use of "abnormal" subjects be reviewed.

Schizophrenic patients at the Brooklyn State Hospital were obtained to act as subjects in research by Salzinger and Pisoni (1961). A total of 10 female and 4 male schizophrenic patients were individually interviewed for a period of 30 minutes. The purpose of the study was to compare the difference in effectiveness of verbal reinforcement when administered at the first of the interview versus at the middle of the interview. The subjects were accepted as schizophrenics based on the diagnosis they received at the hospital distribution center. The interview was divided into three 10 minute periods. During the first 10 minute period questions were asked and all subject responses of affect ("any statement by the subject describing or evaluating his own state in other than intellectual or physiological terms") were verbally reinforced by the examiner saying "mm-hmm," "uh-hu", or "I see". For the second and third 10 minute periods, the verbal reinforcement was withheld regardless of the subject's response. The three periods were statistically analyzed and compared to the results of Salzinger's and Pisoni's 1958 study. It was concluded that whether the subjects are reinforced at the first of the interview or in the middle of the interview, makes no significant difference. Under both reinforcement conditions the subjects emitted significantly more affect verbalizations than they did during non-reinforcement conditions.

A similar study by Salzinger (1960) has been published.

The first study using this experimental situation of completing sentences was designed by Taffel. In this work the subjects who were hospitalized psychiatric patients, were handed a three by five card on which appeared a verb in the simple past tense. Below the verb the the pronouns I, we, you, he, she, and they were written. The pronouns were listed in a different order for each card. The subject was instructed to make up a sentence beginning with one of

the pronouns and including the verb appearing on the card. All sentences beginning with either I or we were reinforced. Two types of reinforcement were used. A verbal reinforcer, "good" was employed for one group and a non-verbal reinforcer, a light flash, was used with the other group. The subjects were differentiated using the Taylor Manifest Anxiety Scale in order to find if anxiety level were an important variable in verbal conditioning. The light did not increase the frequency of the reinforced class. It was also found that the verbal stimulus would increase significantly the reinforced class in those subjects who were in the high or medium anxiety groups, but not those who rated low on the anxiety scale.

Generalization Effects As A result of Verbal Conditioning

Very few verbal conditioning researchers have incorporated into their designs an attempt to determine if verbal conditioning effects would generalize to another situation. This lack of information has no doubt resulted in a prohibition of generalizing the results of the verbal conditioning studies to other nonexperimental situations and the practical use of the technique.

In a quasi-therapy situation, Rogers (1960), used thirty-six, male, college students to see if he could condition self-reference responses. The subjects were randomly placed in either of two experimental groups or a control group. The reinforcing stimulus was a simultaneous "mm-hmm" and a nod of the head. The first group received the reinforcement following any positive self reference. The second group was reinforced for all negative self references. The control group received no reinforcement. Six, ten minute sessions were used for each subject. Each interview session was taped for later analysis. (The self references were defined very similarly to those found in the intro-

duction of this thesis.) Each subject was instructed to spontaneously describe his personality characteristics. A structured interview was held at the termination of the experiment to determine the subject's awareness of conditioning. A pre- and post-test battery of tests were given to determine if any personality change resulted from the conditioning. Rogers made the following conclusions:

Operant conditioning of verbal behavior in a quasi-therapy situation was demonstrated by establishing, beyond the .01 level, that negative self references could be increased by interpolating simple reinforcing stimuli and that such conditioning could be accomplished without the subject's awareness. It was further shown, beyond the .01 level, that whereas positive self references without reinforcement tended to extinguish themselves in quasi-therapy, with reinforcement their extinction could be arrested, this too without the subject's awareness.

Rogers also found no relationship between conditionability and either anxiety or the emotional adjustment score. There was neither an anxiety level reduction nor an effect of self references outside of the therapy session in relation to the pre- and post-measures. According to the Q-Sort Adjustment Test the experimental groups did show improvement in adjustment. This improvement was not enough to be significantly different from the control group.

Fifty-five, psychiatrically hospitalized male patients were divided into nine experimental and two control groups in an experiment by Kahn (1966). The first three experimental groups received "verbal approval" as reinforcement for positive self-references, negative self-references, or non-contingent self-references. The second three experimental groups were administered "reflection of feeling" as reinforcement for one of the three previously mentioned types of self-references. The last three experimental groups

received "interpretation" as their reinforcement dependent upon which of the three types of self-references they emitted. One control group received no verbal reinforcement and one control group participated only in the pre- and post-testing sessions. All groups were administered a pre- and post-experimental Q-sort to determine if there was a change in the way the subject described himself and his ideal person. A positive self-reference was generally defined as a verbalization by the subject that indicated a positive attitude toward himself. A negative self-reference was the antithesis of the positive self-reference. A non-contingent self-reference was a self-reference, either negative or positive, that was reinforced on a 3:1 fixed ratio. "Verbal approval" reinforcement consisted of experimenter responses such as, "mm-hmm", "I see", "Fine", and "O.K." A "reflection of feeling" reinforcement was given by the examiner making a short interpretive statement in relation to the content of the subject's verbalization. The subjects were individually asked structured questions in a thirty minute interview. For the experimental subjects, the first 10 minutes were spent by the questions being asked and the subject responding. There was no reinforcement administered during this time. During the second 10 minute period the reinforcements were given following the appropriate type of self-reference. The third 10 minutes was spent the same as the first 10. No reinforcement was given to the interviewed control group. Results indicated no significant changes in self-references during the interview for the control group. All nine experimental groups made significantly more of the self-references for which they were reinforced during the second 10 minute period. "Verbal Approval" was significantly more effective as a reinforcer than were either of the other two types of reinforcement. None of the groups showed a significant generalization effect as measured by the pre-

and post-experimental Q-sorts. Finally, the control groups experienced a significant decrease in their self ideal-self scores on the post Q-sorts.

Q-Sort Technique

Because a Q-sort was involved in this study, it was felt by the writer that a review of the literature in which the particular Q-sort used was developed would be advantageous in understanding the research being reported.

The Q-technique was developed as a research method by Stephenson (1953). It may be used for several purposes but is ideally suited for investigating the patient's or subject's self-concept. It has been widely used in research based upon the client-centered frame of reference (Rogers and Dymond, 1954). In using the Q-sort, the subject is given a set of cards on which are printed self-reference statements. He is instructed to sort the statements into a quasi-normal distribution. This is set up on a continuum from statements most like him to those least like him. In addition to sorting the cards as to how he sees himself, the subject may also sort the cards into an ideal-self description or how he would like to be.

In an attempt to see what changes in self-perception occurred as a result of client-centered therapy, Butler and Haigh (1954) randomly selected 100 self-referent statements from available therapy protocols and rewarded them for clarity. These statements were then given to two well-trained, practicing, clinical psychologists outside of the client-centered orientation. They were asked to sort the statements into two piles: those the well-adjusted would say were like him and those the well-adjusted would say were unlike him. They both were permitted to discard those statements they felt were irrelevant to one's adjustment status. The two distributions made by

the two judges differed on only two of the 100 items. They both agreed on 26 items as being irrelevant and they were subsequently removed from the sort. Four new judges were then employed to sort the 74 items into the "like me" and "unlike me" piles. They were instructed to place an equal number of items in each of the two piles. The agreement was very high with the largest discrepancy between any two judges being four items.

It can be seen that one's resemblance to the hypothetically well-adjusted individual may be ascertained by merely counting the number of statements he sorts into the "like me" pile when asked to describe himself via this Q-sort. This number was designated as the "adjustment score" by Dymond (1954). The optional adjustment score one may obtain is therefore, 37.

The basic hypothesis tested by Dymond (1954) was that client-centered therapy would increase the congruency between the way one described himself and the way he described his ideal person. Forty-six college students were used as subjects with half of them seeking counseling at a college counseling center. Those 23 involved in client-centered counseling were designated as the experimental group and those 23 involved only in pre- and post-testing served as the control subjects. The control group obtained a reliability correlation of .86 between their pre- and post- adjustment scores. For the experimental group, the correlation was .92. The increase in self ideal-self congruency as indicated by the adjustment score was significant for the experimental group while it was not for the control group. Each counselor, who was unaware of the purpose of the study, rated the success of his case on a nine point scale with one indicating a complete failure while a rating of nine was indicative of marked success. The adjustment scores were significantly related to the counselors' ratings.

CHAPTER III

METHOD

Q-Sort

The Q-sort was used in this study to see if the verbal conditioning of positive self-references had additional behavioral effects that would be manifested outside of the interview setting. It appeared that the discrepancy between the pre- and post-test adjustment scores on the Q-sort would serve this purpose. It has been hypothesized (Butler and Haigh, 1954) that discrepancies between a person's self and ideal-self are indicative of self-dissatisfaction. If this is the case, then possibly those techniques which can be successfully employed to reduce self-dissatisfaction have practical implications.

The subjects in this experiment were all administered the Q-sort 48 hours prior to their first interview and 48 hours following their last interview. Instructions for sorting the Q-sort or adjustment score items were as follows:

1. Self-sort. "Sort these cards to describe yourself as you see yourself today. Place half of the cards in one pile that are like you and half of the cards in another pile that are unlike you. You must have 37 cards in each pile. Do you understand?"

2. Ideal-sort. "Now sort these cards to describe your ideal person - the person you would most like within yourself to be. Place half of the cards in one pile that are like your ideal person and half of the cards in another pile that are unlike your ideal person. Remember, you must have 37 cards in each pile. Do you understand?"

Interview Procedure

The interview procedure used in this study consisted of a structured interview in which the same 30 questions or statements were asked of all subjects. A total of six structured interviews and a total of 180 structured statements and questions (Appendix B) were administered to all control and experimental subjects. The statements and questions covered a wide range of topics (school, family, work, physical and mental health, social and recreational activities, etc.) that were designed so that the subject would respond in terms of a self-reference.

The construction of the questions and statements was governed by three criteria. First, they would have to be so designed so as to elicit the dependent variable, self-references. Secondly, they would have to be similar to questions and statements used in clinical interviews and encourage emotional involvement between the interviewer and interviewee in order that the subject's interest would not be lost and his verbalizing would be maintained. Finally, the questions and statements would have to be specific and structured so that a high degree of standardization could be achieved.

Each interview question and statement was identified as to the type of self-reference it would most probably elicit (positive, negative, or neutral). After the 180 interview statements and questions had been constructed, they were given to two independent judges (clinical psychologists) with an instruction sheet (Appendix C) and evaluated as to which of the three types of self-references they would elicit. Each interview was designed to contain 10 positive self-reference eliciting questions or statements, 10 negative, and 10 neutral. Inter-judge percentage of agreements are presented in Table 1, page 25.

TABLE 1

Inter-Judge Percentage of Agreement on the Classification
of Interview Questions and Statements

Judges	Agree	Disagree	Percentage of Agreement
E and A	154	26	86%
E and B	147	33	81%

TABLE 2

A 2X2 Chi Square Table for Significance Between the Way the
Judges Rated the Interview Questions and Statements

	Agree		Disagree	
Judges	Observed	Expected	Observed	Expected
E and A	154	150.50	26	29.50
E and B	147	150.50	33	29.50
$\chi^2=1.00$		df=1		$p<.05$

Verbal Behavior Reinforced

Positive self-references versus negative self-references was the verbal class of behavior chosen for differential reinforcement. The definitions for the various self-references may be found in the operational definitions, page 7. Positive self-references were the only responses systematically reinforced. Any response considered by the examiner to be obviously due to psychotic delusional processes was not reinforced.

The Verbal Reinforcement

The verbal reinforcement was administered by using one of three verbal responses: "That's very good", "That's just fine", or "That's great". This type of verbal reinforcement falls under the heading of "verbal approval". They are considered to be generalized verbal reinforcers indicative of approval, acceptance, or attention. Similar verbal approval reinforcers have been "sure", "great", "ok", "I see", "mm-hmm", and "fine". Examples of the use of the verbal reinforcements are:

(S) "I'm in good physical shape."
(E) "That's great."

(S) "I was good at football."
(E) "That's very good."

(S) "I think my parents loved me."
(E) "That's just fine."

Experimental Design

Eighteen subjects were matched on the following variables; age, length of hospitalization, medication (tranquilizer, energizer, both, or none), psycho-

therapy participation, intelligence quotient, sex, and Q-sort adjustment scores. The matched pairs were then placed, one being in the experimental group and one being in the control group. A total of nine subjects were consequently in each group. The dependent variable, positive self-references, was examined; being reinforced on a continuous schedule of 1:1. The control group followed the same procedures as the experimental group; however, the interviews were administered without any systematic reinforcement from the examiner. Both groups were given the pre- and post-testing sorts to obtain adjustment scores.

Subjects

The subjects for this study were eighteen patients, hospitalized on psychiatric wards of a general Kansas state psychiatric hospital. All patients of the hospital who made a high number of negative self-references (as seen by the ward personnel), could follow the instructions, could verbally communicate, and were not known to be hallucinating were considered as potential subject population. No particular diagnostic classification was considered to be a subject criterion. The subjects and their matched variables are presented in Table 3, page 28.

Procedure

Each ward received a letter (Appendix D) asking them to refer those patients who regularly made negative self-references. The charts of these patients were then gone through to record the information necessary for matching the variables. After the pairs had been constituted, the subjects were then given the pre-testing sorts in groups of two, three and four. They were told: "You will each be seen individually for several sessions in the next week. It is hoped these

TABLE 3
Subjects and Matched Variables

Control Subjects							
Subject	Age	L.H.*	Medication	Therapy*	I.Q.*	Sex	Ad. Score*
A	35	2720	tranquilizer	group	85	f	24
B	44	1950	tranquilizer	group	90	f	24
C	47	569	energizer	group	126	f	38
D	20	647	tranquilizer	group	82	f	22
E	15	358	none	group	75	m	16
F	15	245	tranquilizer	group	78	m	10
G	21	40	tranquilizer	none	84	f	38
H	42	8	energizer	none	105	f	22
I	36	79	tranquilizer	none	80	m	10
Means:							
	30.55	774.88			89.44		23.77
Experimental Subjects							
Subject	Age	L.H.*	Medication	Therapy*	I.Q.*	Sex	Ad. Score*
A'	33	3001	tranquilizer	none	78	f	24
B'	44	2265	both	none	93	f	18
C'	37	1185	energizer	none	123	f	42
D'	18	502	tranquilizer	group	86	f	18
E'	17	377	none	group	83	m	38
F'	15	117	tranquilizer	group	92	m	14
G'	22	117	tranquilizer	none	92	f	34
H'	49	21	energizer	none	109	f	16
I'	31	31	tranquilizer	none	78	m	12
Means:							
	29.55	735.11			92.66		22.88

L.H.*=length of hospitalization (# of days). Therapy*=psychotherapy participation. I.Q.*=intelligence quotient from the Wechsler Adult Intelligence Scale. Ad. Score*=pre-experimental adjustment score.

sessions will help in your hospitalization."

The subjects then started their "sessions" forty-eight hours later. Each subject was told the following:

"As I told you the other day, we will be having several sessions during the next few weeks. I hope our sessions will help in your hospitalization. You've probably noticed the tape recorder (in plain view). I would like to use the recorder so that I may go back over what we have said later. Do you have any objections to our using the recorder?"

With permission secured for using the recorder, the examiner then began the interview with the lead-in comment to the questions and statements: "I'd like for us to spend our sessions talking about you". Each interview had a lead-in comment. The questions and statements were then presented. After the subject had responded to each of the interview questions and statements, the interview was terminated by the examiner saying, "That's all for today. I'll see you (the next schedule day) at the same time".

With the experimental subjects, the examiner gave verbal reinforcement immediately following each positive self-reference. No verbal response was made by the examiner for any other type of response on the subject's part. The examiner was also careful not to smile, nod his head, or use any other form of gesture that might be reinforcing. For the control group interviews there was no such contingency designed. They were treated the same way as the experimental subjects but no systematic reinforcement was given. Head nodding was randomly used to maintain speech.

Following the last interview by 48 hours, the subjects were given, again, the Q-sorts in order to obtain a post-experimental adjustment score. Following the completion of the post-sorts, each subject was asked: "Can you tell me what the object of our sessions was and did you notice any particular thing

I was doing during our sessions?" This was done in order to find if the subjects were aware of the contingency between the dependent and independent variables.

The same examiner was used to execute all the procedures.

Interview Scoring Reliability

In addition to the examiner, two other judges (clinical psychologists) rated the interview responses as to their self-reference values. This was done by furnishing the two judges with 100 random typed responses each, from both the experimental and control group interviews and instructions as how to rate the responses (Appendix E). The inter-judge percentages of agreement are presented in Table 4, page 31. Using a 2X2 chi square statistical procedure (Edwards, 1959), there was found to be no significant difference in the inter-judge agreements. These results are presented in Table 5, page 31. The formula used was:

$$\chi^2 = \sum \frac{(f-F)^2}{F}$$

TABLE 4

Inter-Judge Percentage of Agreement on
the Subjects' Interview Responses

Judges	Agree	Disagree	Percentage of Agreement
E and A	174	26	87%
E and B	182	18	91%

TABLE 5

A 2X2 Chi Square Table for Significance Between the Way the
Judges Rated the Subjects' Interview Responses

	Agree		Disagree	
Judges	Observed	Expected	Observed	Expected
E and A	174	178	26	22
E and B	182	178	18	22
$\chi^2=1.64$		df=1		$p < .05$

Statistical Analysis of the Data

The t test for the two-matched-groups design (McGuigan, 1960) was employed to analyze statistically the data in relation to the hypothesis. The equation for this test:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{D^2 - (D)^2/n}{n(n-1)}}$$

There are several underlying assumptions involved that should be dealt with when one used the t test. These assumptions that should be considered are: (a) random selection of cases or subjects from a specified population, (b) a normal distribution of the dependent variable, and (c) equivalence of population variances.

The subjects in this research were randomly selected and the score obtained by any one subject had no effect or influence upon the score obtained by any other subject.

There was no reason to suspect from the raw data that the various score distributions were markedly skewed. In relation to this assumption, Edwards (1959) states, "The assumption of normality of distribution of the individual observations in the population is one that can be greatly relaxed without seriously distorting conclusions based upon tests of significance concerning means, as long as random selection of the observations is involved." Andreas (1960) also makes comment on normality of distribution. He related that when the sample size is small any statistical analysis in relation to this assumption is insensitive. He goes on to state that unless the data is markedly skewed, "We often proceed with computing a t ratio without any demonstration that we have met this assumption." Finally, Hays (1963) states, "So long as the sample size is even moderate for each group quite severe departures from

normality seem to make little practical difference in the conclusions reached."

This last assumption which is concerned with population variance or homogeneity seems to be a critically important assumption that should be statistically analyzed. The reason for the importance of this assumption is that if one does not have variance homogeneity between the groups (and thus heterogeneity of variance) a significant difference between the means may be obtained due to the comparison of two different populations rather than the effect of the experimental conditions. Therefore, the equation for an F test was applied to the various data in order to determine if the variances differed significantly. If a nonsignificant F value is obtained, then one may assume the variances to be estimates of the same population. If the F value is significant, then one may assume he has heterogeneous populations. To test for homogeneity of variance the following formula was used (Edwards, 1960):

$$F = \frac{\sum (x_2 - \bar{x}_2)^2}{n-1}$$

CHAPTER IV

RESULTS

Hypothesis 1a

This hypothesis predicted that the experimental group would make significantly more positive self-references in the last interview than in the first interview. The results shown in Table 6, page 36, reveal this hypothesis was substantiated ($p > .001$ level) by the statistical analysis. It was also found that there were significantly more negative self-references for the experimental group in the first interview than in the last (Table 7, page 37).

Hypothesis 1b

It was hypothesized that the control group would not make significantly more positive self-references in the last interview than in the first interview. This hypothesis was upheld, and the data may be found in Table 6, page 36. Interestingly enough, there were significantly more positive self-references in the first interview ($p > .05$ level). It was also found that there was a significant increase in negative self-references when the first and last interview for the control group were compared. (Table 7, page 37.)

Hypothesis 2a

It was predicted that the pre- and post-testing adjustment score discrepancies for the experimental group would indicate a significant increase in self-ideal congruency. This prediction was substantiated beyond the .01 level of confidence and is presented in Table 8, page 38.

Hypothesis 2b

No significant increase in self-ideal congruency shown in the pre- and post-testing adjustment score discrepancies for the control group was hypo-

thesized. This hypothesis was also upheld as the p score of 1.07 was significant only at the .25 level of confidence. The data are presented in Table 8, page 38.

Additional F tests for homogeneity of variances were made and are presented in Table 9, page 39. As can be seen, there were no significant differences in variances between the groups.

The number of positive and negative self-references per interview for each group is graphically presented in Figure 1.

None of the subjects verbalized awareness of their sessions being for experimental purposes. Without exception, the subjects related the purpose of the sessions to be to help them with their problems, to make them think more about their problems, or to help the examiner understand them better. None of the subjects verbalized awareness of the reinforcement or the reinforcement contingency.

The mean length per interview for the experimental subjects was found to be 25.20 minutes and for the control subjects to be 23.84 minutes. This difference was not significant.

TABLE 6

Comparison of Number of Positive Self-References in Interview I
Versus Interview VI for the Experimental and Control Groups

Experimental Group						Control Group					
Interview I			Interview VI			Interview I			Interview VI		
S Self-Refs.			S Self-Refs.			S Self-Refs.			S Self-Refs.		
A'	21		A'	31		A	12		A	14	
B'	9		B'	26		B	12		B	9	
C'	11		C'	18		C	15		C	15	
D'	17		D'	29		D	16		D	12	
E'	20		E'	32		E	21		E	15	
F'	13		F'	33		F	14		F	13	
G'	22		G'	36		G	6		G	6	
H'	25		H'	43		H	21		H	20	
I'	28		I'	36		I	21		I	18	
Mean: 18.44			Mean: 31.55			Mean: 15.33			Mean: 13.55		
SD	<u>t</u>	df	<u>p</u>	<u>F</u>	<u>p</u>	SD	<u>t</u>	df	<u>p</u>	<u>F</u>	<u>p</u>
4.51	8.74	8	>.001	1.19	<.10	2.44	2.18	8	<.05	1.42	<.10

TABLE 7

Comparison of Number of Negative Self-References in Interview I
Versus Interview VI for the Experimental and Control Groups

Experimental Group						Control Group					
Interview I			Interview VI			Interview I			Interview VI		
S	Self-Refs.		S	Self-Refs.		S	Self-Refs.		S	Self-Refs.	
A'	29		A'	17		A	30		A	32	
B'	26		B'	16		B	20		B	25	
C'	28		C'	27		C	32		C	31	
D'	19		D'	17		D	15		D	24	
E'	22		E'	15		E	19		E	19	
F'	31		F'	13		F	19		F	17	
G'	41		G'	22		G	25		G	40	
H'	33		H'	20		H	40		H	27	
I'	20		I'	16		I	8		I	15	
Mean: 27.66			Mean: 18.11			Mean: 23.88			Mean: 25.55		
SD	<u>t</u>	df	<u>p</u>	<u>F</u>	<u>p</u>	SD	<u>t</u>	df	<u>p</u>	<u>F</u>	<u>p</u>
6.58	4.37	8	>.005	2.68	<.10	2.59	2.83	8	>.02	1.75	<.10

TABLE 8

Comparison of Pre- and Post-Experimental Adjustment Score
Discrepancies for Experimental and Control Groups

Experimental Group						Control Group					
Pre-			Post-			Pre-			Post-		
S			S			S			S		
A'	24		A'	26		A	24		A	42	
B'	18		B'	10		B	24		B	16	
C'	42		C'	42		C	38		C	24	
D'	18		D'	0		D	22		D	18	
E'	38		E'	14		E	16		E	6	
F'	14		F'	6		F	10		F	10	
G'	34		G'	28		G	38		G	44	
H'	16		H'	6		H	22		H	6	
I'	12		I'	8		I	10		I	4	
Mean:24.00			Mean:15.56			Mean:22.67			Mean:18.89		
SD	<u>t</u>	df	<u>p</u>	<u>F</u>	<u>p</u>	SD	<u>t</u>	df	<u>p</u>	<u>F</u>	<u>p</u>
8.23	3.10	8	>.01	1.44	<.10	10.60	1.07	8	>.20	2.16	<.10

TABLE 9

Homogeneity of Variance Between the Experimental and
Control Groups on Six Variables

Variable	<u>F</u>	df	<u>p</u>
1. Pre- Self Ideal-Self Adjustment Score Discrepancies	1.19	8	<.10
2. Post- Self Ideal-Self Adjustment Score Discrepancies	1.24	8	<.10
3. Number of Positive Self-References, Interview I	1.57	8	<.10
4. Number of Positive Self-References, Interview VI	2.70	8	<.10
5. Number of Negative Self-References, Interview I	1.83	8	<.10
6. Number of Negative Self-References, Interview VI	3.34	8	<.05

— Positive Self-references for experimental group
 - - - Positive self-references for control group
 Negative self-references for experimental group
 - - - Negative self-references for control group

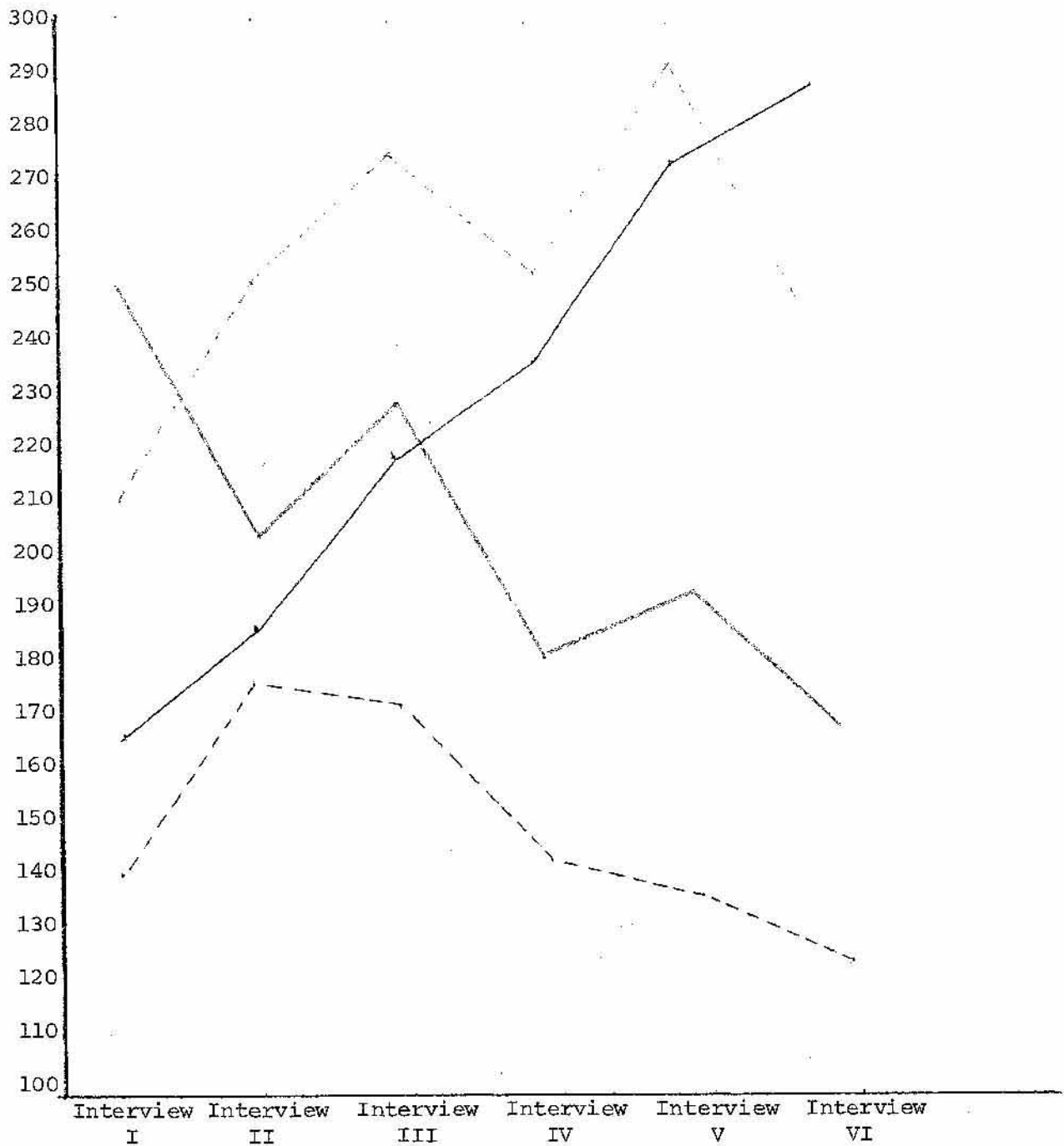


Figure 1

Number of positive and negative self-references per interview for the experimental and control groups

CHAPTER V

DISCUSSION

Reinforced Response Class and Conditioning Effects

The major conclusion of this study was that the self-references of psychiatric patients characterized by a high emission rate of negative self-references could be experimentally manipulated in a designated direction by using verbal conditioning techniques. The conclusion that the number of both positive and negative self-references could be significantly changed seems to be of particular importance in view of the negative results obtained by some researchers who have attempted to manipulate these same responses using verbal conditioning procedures.

It is felt to be of great importance that in the control group receiving no systematic reinforcement, their number of positive self-references not only significantly decreased but also that their number of negative self-references significantly increased. The subjects used in this study were all characterized by their high rate of negative self-references. These verbalizations were considered by the attending ward personnel to be an obvious manifestation of psychological abnormality. The most obvious suggestion from these findings is that a patient being interviewed or in therapy may possibly be harmed rather than helped if the therapist or interviewer is not aware of the effect of his own verbalizations.

Type of Reinforcement and Conditioning Effects

It is somewhat difficult to explain the failure of achieving self-reference conditioning by other experimenters who used verbal approval as the

reinforcement. Perhaps one possible reason for success in this study versus failure in others was that of the immediate contingency between response and reinforcement. In this study the reinforcement was administered immediately following the desired response. A second possible major factor was that of experimental structure and operational procedure. The subjects in this study were hospitalized psychiatric patients who characteristically had a high emitting rate of negative self-references. As was indicated by the subjects' verbalizations concerning the purpose of the interviews, the experimental design and environmental setting were so designed so as to represent some form of therapy endeavor. Consequently, it is quite likely that these conditions created higher degrees of motivation and emotional involvement than in studies using college students as subjects. A third important factor was that in this study a series of six acquisition periods were used. Earlier examiners have generally restricted themselves to much shorter acquisition periods.

"Verbal approval" was the only type of systematic reinforcement used in this study. The results indicate this form of reinforcement to be highly effective in verbal conditioning. That is not to say that other types of verbal reinforcement are not effective. There have been other studies in which such responses as "reflection of feeling" and "interpretation" were used with resultant significant findings. However, "verbal approval" has shown itself to be the most effective form of verbal reinforcement. The findings of this study in addition to other research suggests that any type of verbal behavior, when positively administered by the examiner, can be highly effective as a verbal reinforcement.

This conclusion follows and was expected in regard to operant verbal

conditioning theory. According to this theory, the subject becomes attuned to those cues from his environment that give him evaluative feedback in relation to his behavior. These cues were the verbal responses emitted by the examiner in the verbal conditioning procedure. What was apparently important and influential to the subject was the attention factor and the accompanying implication of approval of the subject's verbal behavior inherent in the examiner's response (reinforcement).

Several other aspects of these findings hold implications for psychotherapeutic interaction. The finding that what, a person says about himself can be specifically directed by verbal cues emitted by the therapist, suggests that the therapist may purposefully or inadvertantly influence the verbal responses of his patient. The importance of this conclusion is that the therapist may influence his patient's verbal behavior not only through responses he intentionally administers, but also through responses inadvertently emitted. Many verbal responses such as "yes", "I see", "mm-hmm", etc., may be inadvertant on the part of the therapist but received as reinforcing stimuli on the part of the patient. Therefore, the therapist may be unintentionally and subtly reinforcing and conditioning classes of responses in his patient that are contradictory to his therapeutic goals. If the therapist's goal is to encourage the patient to talk about himself in a specific way or in relation to a specific response, the findings suggest it is not necessary for the therapist to direct the content of his response since any verbal response by him which indicates attention and approval on a contingency basis may serve to increase the patient's verbalization rate of that verbal class.

It is possible that a subject or patient who expects activity from the therapist may become disappointed or frustrated if "verbal approval" were

the only type of response emitted by the examiner or therapist over a long period of time. This would probably result in the loss of the positive reinforcing value of "verbal approval". This was not suggested by the findings as a result of six interviews. However, these interviews were of short duration and additional research is indicated in order to determine if and at what point "verbal approval" would lose its positive reinforcing effect.

Generalization of the Conditioning Effects

It was felt by the examiner that the practical implications of verbal conditioning have been quite limited because there has been a lack of research indicating that the verbal conditioning effects extend beyond the experimental setting per se. It is difficult to justify the practical application of verbal conditioning on individuals such as those used as subjects in this research unless it effects some change in their behavior that may be deemed "therapeutic". The finding of desirable changes in how one described himself in relation to how he described his ideal-self reported in this study support the possibility of using verbal conditioning as a therapeutic technique.

A pre-versus a post-experimental measure for congruency between the subject's self ideal-self on a Q-sort was used in this study to investigate "generalization" effects. The highly significant findings of generalization on this measure for the experimental group and the lack of significant findings for the control group bears an important implication as to what the subject experiences when verbal reinforcement is given or withheld. The suggestion from this finding is that verbal reinforcement is experienced by the subject as generally self-enhancing and rewarding. The verbal reinforcement positively effects his verbal behavior and subsequently his self-

concept comes to correspond more closely to the concept of his ideal-person.

Even though there were found to be significant changes on the Q-sorts, additional investigation is indicated. The results were obtained forty-eight hours following the last conditioning session. The examiner was unable to determine how lasting this effect was due to the rapid turn-over rate of patients at the hospital where the research subjects were residing.

Previous writings on operant conditioning indicate that the generalization effects could have been enhanced and had more lasting effects had a different reinforcement schedule been used. Ferster and Skinner (1957) reported that although continuous reinforcement (such as was used in this study) results in more rapid response acquisition, the response extinguishes more rapidly than the response conditioned on an intermittent schedule. Using a group of seven-year old boys, Walters and Brown (1963) found that by using a fixed ratio schedule the boys showed greater persistence of the learned response and that it generalized to new situations significantly more than the group of boys on a continuous reinforcement schedule. Craddick and Stern (1964) also used a fixed ratio schedule of reinforcement to show that it was significantly more effective in conditioning than a continuous schedule.

Implications

Further clarification and understanding of verbal conditioning as an experimental technique has been provided by the findings of this study. The "conditionability" of the verbal class "self-references" has been given added confirmation. The fact that subjects were chosen particularly because of their high number of negative self-references, and that these responses were sig-

nificantly decreased while their antithesis response was significantly increased, certainly suggests that successful manipulation of positive and negative self-references can be achieved via verbal reinforcement. In addition, it is suggested that there is probably no class of verbal responses that can not be experimentally manipulated in a specified direction. In view of the findings, it is suggested that the unsuccessful results of other examiners, (Babladelis, 1961; Kanfer, 1960; Levine, 1958; Rogers, 1960; and Ullman, et al., 1965) might be explained by the experimental design and procedures used.

In contrast with unsuccessful results reported by others, the reported results of this study indicate the need to place emphasis on controlling a number of cues in the environment and characteristics of the examiner to enhance the similarity between the experimental setting and the external social situation to which one wishes to make comparisons. In this study the verbal conditioning setting was controlled in a number of ways to increase its similarity in examiner, subject, and environmental characteristics to a psychological interview setting. This may be a possible explanation for the successful results obtained in this study while other examiners, studying the same variables, were unsuccessful.

The finding of positive changes in the congruency between one's self and ideal-self Q-sort descriptions as a result of verbally conditioned behavior is of major importance for the potential of verbal conditioning as a treatment procedure. It is felt by the examiner that although a generalization effect (as revealed by the Q-sort in this study) of verbal conditioning was significantly demonstrated, there is need for further investigation in this area. Investigation into the area of verbal conditioning generalization

should be made by using a number of generalization criteria other than the Q-sort before the real potential of verbal conditioning can be adequately evaluated.

Because conditioning is supposedly more effective when an intermittent reinforcement schedule is used; and because significant results were obtained in this study using a continuous reinforcement schedule, it is felt that additional research in verbal conditioning and the generalization effects thereof is needed.

Perhaps the most important implication to be made from the findings of this study is for the practice of a therapeutic technique. The result that subjects who received verbal reinforcement showed a significant increase in self ideal-self congruency on their post-test measure adds confirmation to the contention that interview-conversation therapy is in fact therapeutic. That is to say, when a patient talks about himself to another person (therapist) who gives verbal approval of positive self-references emitted by the patient, it does make the patient feel better about himself. This being the case as shown by the results of this study, the therapist that is interested in enhancing self-concept in the patient should be more concerned with the attitude he conveys to the patient rather than the content conveyed to him. This point has previously been emphasized in therapeutic approaches. Highly recognized therapists such as Rogers (1951) have stated that because "verbal approval" may be the most effective of all the "therapeutic" responses in achieving this goal (enhancement of self-concept) it is recommended as a general therapist response.

The reported achievement of generalization effects associated with a change in "self-concept" with less than three hours of contact with the

examiner certainly suggests the need of further investigation of verbal conditioning as a treatment technique. Kanfer (1966) emphasized the need for integration between conditioning techniques and interview methods. He has expounded on the application of conditioning research in the areas of providing rules of conduct for the interviewer and as a behavior modification technique. This implication is of major importance in light of the fact that interviews do and will continue to serve as instruments for evaluating progress in treatment, making changes in treatment, and selecting the content of treatment.

The direct and practical implications of the findings reported in this study go far beyond that of the formal psychotherapy or experimental settings. In the modern psychological treatment agencies today there is an ever increasing emphasis on comprehensive treatment programs involving many different types of therapies and disciplines. No longer does the hospitalized patient have to become closely interpersonally involved with but one "therapist". In today's modern treatment centers the patient may have a substantial number of "therapists", any one of which he has the opportunity for a close interpersonal and therapeutic relationship. Every individual, be he psychiatric aide, psychologist, industrial therapist, psychiatrist, music therapist, or recreational therapist, that comes in contact with the patient acts advertantly or inadvertantly as a behavior conditioner for the patient. Because of this unavoidable but highly potential fact, every staff member should be aware of the potential impact he has on the patient merely by what, when, and how he verbalized to the individual in treatment. With this idea in mind, there is obvious additional investigation indicated.

CHAPTER VI

SUMMARY

The problem studied was whether positive self-references could be modified by the examiner over a series of sessions which were structured as nearly as possible to a realistic interview setting. A second problem was whether changes in verbal self-references effected in an interview setting would influence a person's self-concept as measured by pre- and post-Q-sorts.

These questions were investigated in the framework of six structured interviews presented to the subject as "sessions that would hopefully help him in his hospitalization". The examiner verbally emitted one of three "approval responses" as reinforcement for positive self-references made by the subjects in the experimental group. This reinforcement was administered on a continuous schedule (1:1). No verbal reinforcement was given to the experimental subjects for any other type of response. The control group subjects were given no systematic reinforcement for any of their responses. Head nodding was administered in order to avoid extinction of verbal responses in the control subjects.

Eighteen hospitalized psychiatric patients were matched on seven variables to comprise the two groups consisting of nine subjects each. These eighteen subjects were selected from the total number of patients who were referred on the basis of having a high emission rate of negative self-references. The experimental group received systematic verbal reinforcement for their positive self-references. The control group received no systematic reinforcement for their responses.

The six interviews were recorded and 100 random responses from the ex-

perimental subjects and 100 random responses from the control subjects were rated by two independent judges in order to determine a percentage of agreement as to the classification of the responses (positive, negative, or neutral). In addition, two independent judges rated 180 interview questions and statements used in the six interview sessions. This was done in order to determine a percentage of agreement as to the type of subject response the question or statements were most likely to elicit. This was necessary to add additional insurance that the subjects would be "forced" to make some responses that could be reinforced and thus, conditioning to take place.

A self ideal-self Q-sort was administered to each subject before and after the series of sessions. Pre-versus post-test changes in scores derived from the Q-sort were analyzed as a generalization effect measure.

The results of this study were as follows:

1. The number of positive and negative self-references made by the subjects was significantly modified by verbal reinforcement in the therapy-structured interviews.
2. The subjects systematically reinforced for positive self-references made significantly more positive self-references in the last interview than in the first one.
3. The subjects systematically reinforced for positive self-references made significantly fewer negative self-references in the last interview than in the first one.
4. The subjects not systematically reinforced for their self-references made significantly fewer positive self-references in the last interview than in the first one.
5. The subjects not systematically reinforced for their self-references

made significantly more negative self-references in the last interview than in the first one.

6. The subjects systematically reinforced for their positive self-references manifested a significant increase in self ideal-self congruency on their post-experimantal scores.

7. The subjects not systematically reinforced for their self-references manifested no significant change in self ideal-self congruency on their post-experimental scores.

The findings of this study provide further understanding and clarification of verbal conditioning as a technique for experimentation and behavior modification. Important implications for the practice of psychotherapy are suggested by the findings of this study. The findings also bear important implications for all individuals coming in contact with the patient. Discussion of these implications was made.

APPENDIX A
ADJUSTMENT SCORE ITEMS

Q-sort

Negative Statements

Item no. (Indicative of Poor Adjustment if in the "Like Me" File)

- 1 I put on a false front.
- 3 I often feel humiliated.
- 5 I doubt my sexual powers.
- 7 I have a feeling of hopelessness.
- 9 I have few values and standards of my own.
- 11 It is difficult to control my aggression.
- 13 I want to give up trying to cope with the world.
- 15 I tend to be on my guard with people who are somewhat more friendly than I had expected.
- 17 I usually feel driven.
- 19 I feel helpless.
- 21 My decisions are not my own.
- 23 I am a hostile person.
- 25 I am disorganized.
- 27 I feel apathetic.
- 29 I don't trust my emotions.
- 31 It's pretty tough to be me.
- 33 I have the feeling that I am just not facing things.
- 35 I try not to think about my problems.
- 37 I am shy.
- 39 I am no one. Nothing seems to be me.
- 41 I despise myself.
- 43 I shrink from facing a crisis of difficulty.
- 45 I just don't respect myself.
- 47 I am afraid of a full-fledged disagreement with a person.
- 49 I can't seem to make up my mind one way or another.
- 51 I am confused.
- 53 I am a failure.
- 55 I am afraid of sex.
- 57 I have a horror of failing in anything I want to accomplish.
- 59 I really am disturbed.
- 61 All you have to do is just insist with me, and I give in.
- 63 I feel insecure within myself.
- 65 I have to protect myself with excuses, with rationalizing.
- 67 I feel hopeless.
- 69 I am unreliable.
- 71 I am worthless.
- 73 I dislike my own sexuality.

Q-Sort

Positive Statements

Item No. (Indicative of Good Adjustment if in the "Like Me" Pile)

- 2 I make strong demands on myself.
- 4 I often kick myself for the things I do.
- 6 I have a warm emotional relationship with others.
- 8 I am responsible for my troubles.
- 10 I am a responsible person.
- 12 I can accept most social values and standards.
- 14 Self-control is no problem to me.
- 16 I usually like people.
- 18 I express my emotions freely.
- 20 I can usually live comfortably with the people around me.
- 22 My hardest battles are with myself.
- 24 I am optimistic.
- 26 I am liked by most people who know me.
- 28 I am sexually attractive.
- 30 I can usually make up my mind and stick to it.
- 32 I am contented.
- 34 I am poised.
- 36 I am impulsive.
- 38 I am a rational person.
- 40 I am tolerant.
- 42 I have an attractive personality.
- 44 I am ambitious.
- 46 I have initiative.
- 48 I take a positive attitude toward myself.
- 50 I am assertive.
- 52 I am satisfied with myself.
- 54 I am likable.
- 56 My personality is attractive to the opposite sex.
- 58 I am relaxed, and nothing bothers me.
- 60 I am a hard worker.
- 62 I feel emotionally mature.
- 64 I am intelligent.
- 66 I am self-reliant.
- 68 I am different from others.
- 70 I understand myself.
- 72 I am a good mixer.
- 74 I feel adequate.

APPENDIX B

INTERVIEW QUESTIONS AND STATEMENTS

Interview I

Good day (Mr., Miss, Mrs.) _____. I'd like for us to spend our time during our sessions talking about you.

1. Suppose we start by your telling me what you consider to be the most important things about yourself that I should know.
2. What things make you feel happy?
3. Tell me how you would compare yourself with others.
4. How do you feel right now?
5. What things make you feel sad?
6. Tell me about your health.
7. What things make you angry?
8. What do you like best about yourself?
9. I'm sure you sometimes daydream; please tell me about your daydreams.
10. Tell me what you feel about yourself when someone makes you angry.
11. What do you like least about yourself?
12. Why would someone like you for a friend?
13. What has been your greatest success in life?
14. How do you feel when you have done something and you don't really understand why you have done it?
15. What do you sometimes do that pleases others?
16. What has been your greatest failure in life?
17. What has been your greatest fault?
18. We all have ambitions; what is your greatest ambition?
19. What kind of things do you do well?
20. What things would you like to be able to do better but can't?

21. Tell me what worries you the most.
22. What do you think or feel about yourself when someone does you a favor?
23. Tell me how you feel about self-improvement.
24. What is your greatest fear?
25. Tell me please, why some people in your life have loved you?
26. What kind of things hurt your feelings?
27. Tell me about your self-confidence.
28. What are the best things about your personal appearance?
29. What are the worst things about your personal appearance?
30. What do you honestly think people think when you meet for the first time.

Interview II

Hello (Mr., Mrs., Miss) _____

31. Tell me, what does religion have to do with you?
32. What do you feel about yourself when you know you have done something wrong?
33. What things about yourself make you attractive to the opposite sex?
34. What things about yourself make you unattractive to the opposite sex?
35. How do you feel you did in your work before coming to the hospital?
36. In relation to your work outside of the hospital, what are your strong points?
37. What are your weak points on the job?
38. Tell me something you've done that you later wished you hadn't done.

39. How have your bosses felt toward you and treated you in the past?
40. What are some of your ambitions in your work?
41. How do you feel about the work or career you've chosen?
42. How do you feel about making your own living?
43. How do you feel about having sexual relations?
44. What things have you done in the past to feel ashamed or guilty about?
45. What things have you done to feel proud about?
46. What kind of things make you depressed or blue?
47. How do you feel about the appearance of your face? I mean your eyes, hair, teeth, etc.
48. What do you dislike about the rest of your body? I mean your legs, waist, chest (or bust), etc.
49. Tell me how adequate you feel your sexual behavior is.
50. Tell me about your own honesty.
51. How do you feel when you have overcome some difficult obstacle in your life?
52. What do you feel about just being yourself?
53. Tell me please, about some worthwhile project you have been involved in and how you felt about it.
54. How do you feel about making a mistake?
55. What do you think when you know you have made some wise, intelligent decision?
56. As a husband (wife, brother, sister, etc.) what do you feel are your best qualities?
57. Now, as a husband (wife, brother, sister, etc.) what do you feel are your worst qualities?

58. Tell me how important you feel as a person.
59. How do you feel about yourself when you have done something foolish?
60. What's some good thing you would like to do in the future?

Interview III

Are you comfortable (Mr., Mrs., Miss) _____?

61. Tell me about some experience you've had in life where everything just seemed to turn out perfect.
62. What do you think when you're embarrassed?
63. Tell me something good you're going to do when you leave the hospital.
64. What are some of your weaknesses?
65. How do you feel when someone criticized you?
66. What do you feel when you are able to express kindness to someone?
67. What do you feel when you have to be hostile or angry toward someone?
68. What do you think when someone disagrees with your point of view?
69. When it is obvious that you have done something to please someone else, what do you think?
70. How do you feel about yourself when you have been immoral?
71. How good is your ability to size up a situation?
72. How well do you think you can cope with life?
73. Tell me about some difficult situation that you have handled real well.
74. What is something that you are inadequate at doing?
75. Tell me why someone should or shouldn't trust you.

76. How do you feel when you don't carry out your duties and responsibilities?
77. Tell me something about you that gives you confidence.
78. Tell me something about you that sometimes makes you not have confidence in yourself.
79. Tell me something about yourself that you think is hard for others to accept about you.
80. Tell me about your best quality.
81. What do you think about yourself when someone hurts your feelings?
82. Tell me what subject in school you did poorly at.
83. Tell me what subject in school you were good at.
84. Tell me how being at the hospital might be bad for you.
85. What do you do when things don't work out right for you?
86. In what way does being at the hospital make you feel better?
87. What is there about the hospital that makes you feel unpleasant?
88. How do you think life has treated you?
89. Tell me something you do that you dislike about yourself when around other people.
90. Tell me something you do that other people think you do well.

Interview IV

Please make yourself comfortable (Mr., Mrs., Miss) _____.

91. Please, tell me something about your health that could be better.
92. Tell me something that leads to your being hopeful about the future.
93. Tell me some fear you have of the future.

94. What do you think to yourself or do when after you have done something other people laugh?
95. Tell me something you have trouble with.
96. Now, tell me something that you can do without any trouble.
97. What do or would you think to yourself if someone invited you to their home for dinner?
98. What is something you do that is good for your health?
99. What is something you do that is not good for your health?
100. Tell me something you wish for.
101. What is something you need to do to improve your personality?
102. Now, tell me something about your personality that is good and needs no improvement.
103. How could you be more attractive?
104. What do you think or do when someone asks you to join a club?
105. What is some bad habit you have?
106. Now, please tell me, what is some good habit you have?
107. Tell me about some hero you have had and something now you feel you can do better than he or she could.
108. Please tell me now something you can't do as well as he or she could.
109. What do you need most?
110. Tell me something others think about you.
111. Tell me about something unpleasant in your life.
112. What one thing gives you the most pleasure in life?
113. How do you think your parents treated you as a child?
114. How, in general, do you think your school teachers treated you?

115. What teacher treated you the best and why do you think she treated you that way?
116. Now, what teacher treated you the worst and why do you think she treated you that way?
117. Tell me what you think about being your age.
118. Tell me something that makes you feel proud.
119. What is something you like about being a man (or woman)?
120. What is your feeling about life in general?

Interview V

Well, let's see, this is our fifth session together now. I'm beginning to feel we're no longer strangers.

121. Tell me something that makes you feel hurt.
122. I'd like to know some job, position, or office you have held that required leadership on your part.
123. What do you think about the way the opposite sex treats you?
124. What is something you often do to others to make them feel better?
125. Now, what do you sometimes do to others that makes them feel badly?
126. What do you think or do when someone pushes you around?
127. What do you think or do when someone irritates you?
128. Why do you think your friends like you?
129. What is there about you that makes your best friend like you?
130. Do you consider yourself to be mature; and if so, why and if not so, why?
131. What thing in your life have you done that upset your parents the most?

132. Tell me something about yourself that even your best friend doesn't like.
133. What about your life here at the hospital makes you the most happy?
134. How do you feel now that you've been here a while?
135. What are you like when you're feeling your best?
136. What are you like when you're feeling your worst?
137. Now tell me something you have now that makes you feel good.
138. Now, what do you have now that makes you feel not too good?
139. What do you think to yourself when things aren't going your way?
140. Even if you could live your life over, what is something you wouldn't change and why?
141. Tell me about one of the toughest decisions you've ever had to make and what your decision was.
142. Tell me about some dream you were in that was unpleasant and why it was unpleasant.
143. Now, a dream you were in that was pleasant and why it was pleasant.
144. If you could live your life over, what is something you would change and why?
145. What do you think about yourself when you are worrying about something?
146. Tell me something you would like to do before you die.
147. What's the worst thing you've ever done to someone?
148. What one thing in your life right now has the greatest influence on you?
149. What do you think your father liked best about you?

150. Describe to me how you feel when you're depressed.

Interview VI

Well, today I'd like to ask you some more questions and find out a little more about you.

- 151. What makes you feel good when you're with friends?
- 152. What makes you feel badly when you're with friends?
- 153. What do you feel like when you know you're being phony?
- 154. Tell me about your respect for yourself.
- 155. Please tell me about a time in your life that seemed hopeless.
- 156. Tell me what you think or do when faced with a crisis or tough decision.
- 157. What about yourself do you think your mother liked best?
- 158. At what sport are you best?
- 159. At what sport are you worst?
- 160. How did your classmates in school treat you or act toward you?
- 161. How does it make you feel to not be able to finish a job you have started?
- 162. Tell me how you feel or what you think when someone smiles at you.
- 163. What has hurt your pride more than anything else?
- 164. What is your greatest potential?
- 165. What do you think about your accomplishments in life?
- 166. What's the worst thing that could happen to you without your dying as a result?

167. What do you think about yourself when someone pulls a practical joke on you?
168. Tell me how able you think you are to take care of yourself.
169. How do you feel when you win a discussion or argument?
170. What do you think about yourself when you have completed a job and it's lousy?
171. Now, how do you feel about yourself when you have completed a job and it's very well done?
172. As a child, what was your greatest achievement?
173. What do you think when you lose a discussion or argument?
174. As a child, what was your greatest failure?
175. What is the worst thing you've ever said to yourself?
176. Describe to me the best feeling you've ever had.
177. What might there be in your future that would be bad for you?
178. What's something about your future that makes you feel hopeful?
179. What do you think will happen in your future?
180. How intelligent do you think you are?

APPENDIX C

INSTRUCTIONS TO THE JUDGES

The following 180 interview questions and statements were designed to elicit self-reference responses from the subjects. Please, read each question or statement once and then place your rating (+ for positive, - for negative, and o for neutral) to the left of the respective number. Your ratings are to be based on the following definitions:

Self Reference: A self-reference is any verbal expression which either directly or indirectly reveals a description of the subject as he sees himself or as others see him.

Positive Self-Reference Question or Statement (+): Any question or statement that would elicit a self-reference by the subject that would reflect a favorable or approving attitude toward himself. (Good health, self-satisfaction, improved feelings, etc.)

Negative Self-Reference Question or Statement (-): Any question or statement that would elicit a self-reference by the subject that would reflect an unfavorable or disapproving attitude toward himself. (Poor health, self-dissatisfaction, worsening feelings, etc.)

Neutral Self-Reference Question or Statement (o): Any question or statement that could just as easily elicit either a negative or positive self-reference by the subject.

APPENDIX D

REFERRAL REQUEST LETTER TO THE WARDS

Due to a research project I am working on, I would greatly appreciate a list of those patients on your ward who are known to regularly make negative comments about themselves. I am attempting to find those patients who speak badly about themselves most of the time. Some examples of negative self-comments might be "I'm a bad person", "I'm no good", "I'm a failure at everything", "I can't do anything right", etc. These types of statements are often made by depressed patients especially.

I would be most grateful if you would complete the information on all patients you have with this type of verbal behavior in the spaces below. Thank you very much.

Name

Sex

Ward

APPENDIX E
INSTRUCTIONS TO THE JUDGES

On the following pages you will find a number of questions and statements. At the end of each response you will notice a blank space. Please place the mark +, -, or o in this space depending on which type of self-reference the response most nearly represents. You are to base your scoring decisions on the following definitions.

Self-Reference: A self-reference is any verbal expression which either directly or indirectly reveals a description of the subject as he sees himself or as others see him.

Positive Self-Reference (+): Any self-reference by the subject that reflects a favorable or approving attitude toward himself: good health, self-satisfaction, improved feelings.

Negative Self-Reference (-): Any self-reference by the subject that reflects an unfavorable or disapproving attitude toward himself: poor health, self-dissatisfaction, worsening of feelings.

Neutral Self-Reference (o): Any self-reference (or other verbal expression) by the subject that neither reflects a favorable or unfavorable, nor approving or disapproving attitude toward himself.

APPENDIX F

LETTERS OF CONSENT TO USE THE Q-SORT TEST

LARNED STATE HOSPITAL
STATE DEPARTMENT OF SOCIAL WELFARE

STATE OF KANSAS
ROBERT B. DOCKING, GOVERNOR

DIVISION OF INSTITUTIONAL MANAGEMENT
COMMUNITY MENTAL HEALTH SERVICES

TENDENT
N. E. ROBINSON, M.D.

ASSISTANT SUPERINTENDENT
VIN BAGMEISTER, M.D.

TRATIVE ASSISTANT SUPERINTENDENT
WAYNE HESHER



LARNED STATE HOSPITAL
LARNED, KANSAS 67550
PHONE (316) 285-2131

ROBERT A. HAINES, M.D., DIRECTOR
KENNETH G. KELLER, ASSISTANT DIRECTOR

STATE BOARD OF SOCIAL WELFARE

ROBERT A. ANDERSON, CHAIRMAN
ROBERT A. JENNISON, VICE-CHAIRMAN
ROSS W. ZIMMERMAN, MEMBER
MARVIN E. LARSON, EXECUTIVE SECRETARY

January 30, 1968

Carl R. Rogers, Ph. D.
c/o Western Behavioral Science Institute
1121 Torrey Pines Road
La Jolla, California 92037

Dear Dr. Rogers:

I am currently planning a research project for my Master's Degree thesis and have found in one of your books (Psychotherapy And Personality Change) a Q-sort technique designed to measure changes in self references as a result of psychotherapy. It is my understanding this was developed by Butler and Haigh and is original.

I would like your written permission to reproduce this SIO Q-sort for use in my research. If you are not the proper source for this request, I would certainly appreciate your directing me as to whom I should contact and where I should direct the correspondence.

A reply at your earliest convenience would be deeply appreciated.

Sincerely,

E. W. Rakestraw
Larned State Hospital
Larned, Kansas 67550

You have my permission. 2/1/68

EWR:gc

LARNED STATE HOSPITAL
STATE DEPARTMENT OF SOCIAL WELFARE

STATE OF KANSAS
ROBERT B. DOCKING, GOVERNOR



ENDENT
E. ROBINSON, M.D.

ASSISTANT SUPERINTENDENT
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MARVIN E. LARSON, EXECUTIVE SECRETARY

January 30, 1968

Gerard Haigh, Ph.D.
Psychological Service Association
1314 Westwood Boulevard
Los Angeles, California 90024

Dear Dr. Haigh:

I am currently planning a research project for my master's degree thesis and have found in Psychotherapy And Personality Change a Q-sort technique designed by yourself and Dr. Butler to measure changes in self references as a result of psychotherapy. It is my understanding that this Q-sort is original.

I would like very much your written permission to reproduce this SIO Q-sort for use in my research. A reply at your earliest convenience would be deeply appreciated.

Sincerely,

E. W. Rakestraw
Larned State Hospital
Larned, Kansas 67550

EWR:cb

You may have my permission with pleasure
Gerard Haigh

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