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## A Study of the Relationship of Efficacy and Outcome Expectations, Depression, Insecurity, and Psychotherapeutic Change

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A STUDY OF THE RELATIONSHIP OF EFFICACY AND OUTCOME  
EXPECTATIONS, DEPRESSION, INSECURITY, AND  
PSYCHOTHERAPEUTIC CHANGE

by

Ronald Craig Fish

A Dissertation Submitted to the Faculty of the Graduate School  
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May

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## LIFE

The author, Ronald Craig Fish, is the son of Louis Fish and Shirley (Aronowitz) Fish. He was born September 2, 1953, in Joliet, Illinois.

His elementary education was obtained in the public schools of Joliet, Illinois, and secondary education at Joliet Township High School West Campus, where he graduated in 1971.

In September, 1971, he entered Northwestern University, and in June, 1975, received the degree of Bachelor of Arts with a major in psychology. In September, 1976, he entered the University of Chicago and in June, 1977, was awarded the Master of Arts in Social Sciences.

In December, 1977, he married Linda Stone. In July, 1979, he was granted an assistantship in clinical psychology at the Loyola University Child Guidance Center, and in July, 1981, he began an internship in clinical psychology at Hines Veterans Administration Hospital. In September, 1981, he began a training program in family therapy at the Institute for Juvenile Research in addition to his internship. He completed both programs in June, 1982. In May, 1983, he was granted the Doctor of Philosophy in Clinical Psychology from Loyola University of Chicago.

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## CHAPTER I

### REVIEW OF THE RELATED LITERATURE

#### Introduction

In the few years which have elapsed since Albert Bandura (1977a) introduced the construct of self-efficacy, or efficacy expectations, a considerable amount of research has been generated which supports Bandura's claim that self-efficacy is a critical variable mediating the process of therapeutic change. As Kirsch (1982) points out, however, self-efficacy is not a new construct: Murray and Jacobson (1971) proposed that "the critical change required (in fear reduction treatments) appears to be that the person comes to believe that he can cope with the situation. Once this belief is attained, anxiety declines" (p. 725). Similarly, Efran and Marcia (1972) concluded, "The pairing of relaxation and anxiety images is important only because the experience raises the subject's expectations of being able to perform competently" (p. 526).

Self-efficacy, under various names, has long been recognized as a crucial mediating variable underlying human functioning. For example, one method by which religions positively reinforce faith is by promoting and promising increased feelings of self-efficacy in their

followers. "But they that wait for the Lord shall renew their strength; they shall mount up with wings as eagles; they shall run, and not be weary; they shall walk, and not faint" (Jewish Publication Society, 1973, p. 349).

The concept of self-efficacy has been used in this century to mobilize a nation. Mao Tse-tung (1966) presented his "paper-tiger theory" to the people of mainland China. "While one's enemies are real and formidable and must be taken seriously, they are, at the same time, paper tigers that can be defeated by the will of the people" (p. 8), or collective efficacy expectations. An impressive operationalization of the paper tiger theory, or applied self-efficacy, is illustrated by the treatment rationale of the Shanghai Mental Hospital. Each patient's illness is viewed as an enemy. The patients are organized into "fighting groups" instead of wards and it is recognized that it "is not enough to have the doctors' or nurses' initiative; we need the patients' initiative to fight against the disease" (Sidel & Sidel, 1973, p. 73). Thus, because of the effect of their actions on the collective effort and well-being, each patient's sense of personal responsibility and efficacy expectations are marshalled to defeat the "paper tiger" of mental illness.

It is to Bandura's credit that he has introduced the concepts of efficacy and outcome expectations in an operationalizable form and in a manner which has captured

the attention of the psychological world. The present research is designed to examine the clinical utility of these constructs; specifically, it will examine the relationship of efficacy and outcome expectations to depression, insecurity, and psychotherapeutic change. The following review will begin with a brief introduction of the concept of expectancy. Bandura's (1977a,b) social learning theory, the context in which the concepts of efficacy and outcome expectations were introduced, will also be outlined. This will be followed by a review of the literature related to efficacy and outcome expectations, respectively. A summary of previous, antecedent research by Fish (Note 1), will precede the final section which details the goals and hypotheses of the present study.

### Expectancy and Social Learning Theory

Research on the concept of expectancy has traditionally employed the framework of Rotter's (1954) social learning theory. Rotter defines expectancy as the probability held by an individual that specific reinforcements will occur in a specific situation following certain behaviors. Rotter subdivides expectancies into two complementary types. Specific expectancies are based upon the previous experience of reinforcement in the same situation, while generalized expectancies include the history of reinforcement in other situations for functionally related

behaviors. The interaction of generalized expectancies with locus of control, a belief in the degree to which an individual is responsible for his or her own reinforcements, has been rather thoroughly studied (Nowicki & Duke, 1978). For example, it has been found that the magnitude of expectancy change following a success or a failure is influenced by the perceived locus of control of the event, with internal or personal control producing greater shifts than external or environmental control (Phares, 1957).

Rotter developed a 23-item forced-choice inventory, the I-E scale (Rotter, 1966), to test the concept of generalized expectancy for locus of control. As Rotter and his associates were developing the scale, they attempted to broaden its scope by developing subscales for various areas such as achievement and affection. However, item analysis indicated that the subscales were not sufficiently discriminating and attempts to measure more specific areas of internal-external control were abandoned (Rotter, 1966).

Controversy over the utility of Rotter's formulations ensued. Darlington (1969) criticized Rotter's expectancy for locus of control as too general for predicting "real-life" behavior in specific situations. Phares (1973) defended the I-E construct on the grounds that the amount of variance contributed by the I-E dimension in the studies he reviewed is consistent, though small. Weiner, Nieren-

berg, and Goldstein (1976) presented the argument that expectancy is influenced by the stability of causal factors, as attribution theory states, rather than by the locus of control of causal factors stipulated by Rotter's social learning theory. In other words, if conditions are expected to remain the same, then the outcome experienced on past occasions will be expected to recur; and if causal conditions are perceived as likely to change, then the present outcome may not be expected to repeat itself in the future (Mischel, Jeffrey, & Patterson, 1974). Weiner et al. (1976) presented the findings from a series of so-called "crucial" experiments, concluding that attribution theory more correctly explained expectancy of success and expectancy shifts than did Rotter's formulations.

Attribution is a process whereby individuals "explain" their world. Numerous accounts have illustrated that attribution procedures are relevant to the problems encountered by psychotherapists (Nisbett & Valins, 1971). It is argued (Valins & Nisbett, 1971) that the failure to use social consensus to check self-ascriptions of abnormality and personal inadequacy can lead to profound personal upset to the extent that delusional systems are formed. Conversely, discussing undesirable beliefs and being provided with "normal" explanations for behavior presumed by the sufferer to be abnormal has been found to result in some symptom relief in single-case studies (Davison, 1966;

Ross, Rodin, & Zimbardo, 1969). In evaluating this treatment concept, researchers have attempted to modify avoidance behavior by manipulating the cognitive labelling of emotional arousal (Valins & Nisbett, 1971). This relabelling or misattribution process has had essentially negative results (Gaupp, Stern, & Galbraith, 1972; Kent, Wilson, & Nelson, 1972).

Bandura (1977a,b) has modified Rotter's expectancy concept and attribution principle by placing them in perspective. He developed a new social learning theory based on his belief that psychological changes, regardless of the methods used to achieve them, derive from a common cognitive mechanism. All psychological procedures, he argues, serve as ways to create and strengthen feelings of being in control, of being able to cope, and being competent, so that individuals attribute to themselves greater expectations of personal efficacy. In this formulation, efficacy expectations are differentiated from Rotter's expectancy concept, which Bandura has termed outcome or response outcome expectancy:

An outcome expectancy is defined as the estimate that a given behavior will lead to certain outcomes. An efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes. Efficacy and outcome expectations are differentiated because individuals can come to believe that a particular course of action will result in certain outcomes, but question whether they can perform those actions (Bandura, Adams, & Beyer, 1977, p. 126).

Bandura has documented that behavior change and, thus, alterations in levels of self-efficacy, develop from four main sources of information. Performance accomplishments are the most influential source of efficacy information (Bandura, Jeffrey, & Gajdos, 1975). Successes will generally raise mastery expectations and repeated failures lower them, depending upon cognitive appraisal of informative factors such as the difficulty of the task, the amount of effort expended, the number of situational supports, and the pattern and rate of successes (Bandura, Adams, & Beyer, 1977). Vicarious experiencing, or watching a model, is another, albeit weaker, source of efficacy expectations. Verbal persuasion, a third method of inducing self-efficacy change, is still weaker but yet widely used in psychotherapy because of its convenience. The fourth source of efficacy information, emotional arousal, is used as a cue in threatening situations when people respond with anxiety. It is this source of information (anxiety) that is manipulated in desensitization procedures. Thus it can be seen that the attribution experiments cited earlier failed to obtain significant results because attribution of emotional arousal is only one source of self-efficacy information and only one of four sources of possible variance in a psychological change procedure.

Bandura (1977b, 1978) also incorporates the notion of locus of control in his social learning theory, but has relegated the concept to an ancillary position. He has proposed that individuals consistently monitor and evaluate their behavior, and that there are three component processes in this self-regulation of behavior: self-observation, self-judgment, and self-response. The first and third steps are self-explanatory, while in the judgmental process the individual rates his or her performance against reference points. An individual's previous behavior and other personal standards are used, as are social comparisons. The value of the activity is weighted in the judgmental process, with performance in areas affecting one's welfare and self-esteem activating personal consequences more than task performance in areas of little personal significance (Simon, 1978, quoted in Bandura, 1978).

Performance attribution is the other referential comparison Bandura perceives as relevant to the judgmental process. His evidence indicates that individuals take pride in their accomplishments when they ascribe their successful performances to their own abilities and efforts but derive little satisfaction from performances whose effects are heavily dependent upon external factors. Conversely, individuals respond self-critically to inadequate performances for which they feel responsible but not



to those which they perceive as due to circumstances beyond their control. Thus Bandura seems to be asserting that locus of control is one attributional construct, and that attribution principles comprise the parameters of the judgmental process in the self-regulation of behavior. Indeed, he ascribes to the reformulated theory of learned helplessness (Abramson, Seligman, & Teasdale, 1978), which asserts that an individual's reaction to an uncontrollable event is determined by the attributions he or she makes about that event. Internal-external, stable-unstable, and global-specific are the three orthogonal dimensions or parameters of attribution in this model. Attributions to internal factors are hypothesized to cause greater loss in self-esteem than external attributions, stable attributions produce more enduring deficits than unstable attributions, and attributions to global factors are expected to result in greater generalization of performance deficits than specific attributions.

### Efficacy Expectations

Bandura and his colleagues are currently generating a series of experiments to test his theoretical position regarding the importance and relevance of self-efficacy as a unifying construct (Bandura, 1977a; Bandura & Adams, 1977). Subjects with severe and chronic snake phobias rated their fear arousal during an initial test of avoid-

ance behavior, which also served to screen out those considered insufficiently fearful for the treatment and the experiment. After this task, subjects rated their efficacy expectations, the certainty they had about being able subsequently to interact with the snakes, on a 100-point Behavioral Approach Test scale. Level of self-efficacy was defined for this scale as the number of snake approach behaviors rated with a probability value better than 10 (virtual impossibility). Strength of self-efficacy was computed by summing each subject's total score and dividing by the number of performance tasks. Generalizability of self-efficacy expectations was indicated by subjects' ratings of the level and strength of their expectations with an unfamiliar snake and one similar to that used in the experiment.

Efficacy expectations were measured after the behavioral pretest, before the behavioral posttest which was administered within a week after treatment was concluded, and after the posttest. The data remained private until after the conclusion of the experiment so as to minimize the effects of any demand characteristics.

Treatment consisted of systematic desensitization. For those who failed to achieve terminal performance goals with this method, participant modeling was used until the subject was able to perform all the therapeutic tasks successfully.

Analyses indicated a significant positive correlation between overall level and strength of self-efficacy and approach behavior with similar as well as dissimilar snakes. There was a high (over 80%) correspondence when subjects' self efficacy ratings were compared to their performance on each specific task. There was a strong negative correlation between reported level of self-efficacy and anxiety arousal. A follow-up experiment with different subjects entailed dividing the hierarchical snake approach behaviors into 11 natural blocks consisting of 29 tasks of increasing difficulty and threat value. In this study, subjects received individual treatment targeted to the block of tasks failed on their previous attempt, were tested, and then privately recorded their level and strength of self-efficacy on each of the 29 tasks before repeating the cycle.

It turned out that subjects varied widely in their performances. Some were unable to perform snake approach behaviors they had already accomplished and had to be re-treated, and some moved beyond their treated level. Thus their previous behavior was not an accurate predictor of their later performance. Self-efficacy, on the other hand, predicted subsequent performance in 92% of the total assessment tasks.

Another experiment (Bandura, Adams, & Beyer, 1977) assessed self-efficacy for a control, modeling and a

participant modeling group. Results indicated that self-efficacy ratings were excellent predictors of performance, with one exception. All subjects in the participant modeling group performed maximally but not all developed maximal efficacy expectations. However, their behavior towards a dissimilar threat was predicted better by their efficacy expectations than by their past performance, thus providing evidence for the generalizability of self-efficacy expectations.

In a further test of a different generalizability, Bandura, Adams, Hardy, and Howells (1980) conducted an experiment similar to the above but with agoraphobics. Consistent with their previous findings, the degree of congruency between perceived self-efficacy and subsequent performance was 79% in the pretest phase and 88% in the posttreatment assessment. Bandura's assertion that self-efficacy is a common cognitive mechanism in all psychological change procedures received support from this experiment with an agoraphobic sample, to the extent that phobics with differing fear sources are dissimilar.

Bandura's assertion that various psychotherapeutic methods produce change by altering individuals' self-efficacy expectations has begun to receive constructive attention from other researchers. Kendall and Korgeski (1979) suggested that the self-efficacy construct be used

as a dependent measure in outcome studies. Brown and Inouye (1978) found that self-judged efficacy is a determinant of how much effort people will expend and how long they will persist in the face of obstacles and aversive experiences; relatively stronger self-efficacy was positively correlated with more vigorous and persistent efforts.

The relationship between self-efficacy, effort, and achievement has been investigated in a series of experiments by Schunk (Bandura & Schunk, 1981; Schunk, 1981; Schunk, Note 2). His subjects were children exhibiting gross deficits and disinterest in mathematical tasks; they received various forms of arithmetic instruction. Regardless of treatment condition, it was found that persistency<sup>1</sup> increased the likelihood of success in learning division or subtraction principles. Perceived self-efficacy was found to be positively related to persistency, to accuracy or mathematical performance, and to later interest in arithmetic activities.

The link between initially high or increased self-efficacy and sustained involvement in challenging activities is being established across a range of behavioral domains. Neufeld and Thomas (1977) studied tolerance to pain as a function of variations in the stated efficacy of

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<sup>1</sup>"Genius, that power which dazzles mortal eyes,  
Is oft but perseverance in disguise" (Austin, 1944, p. 731).

relaxation as a coping technique. Subjects who were informed that relaxation aided pain tolerance (high presented efficacy) were able to keep their hand immersed in a cold pressor device substantially longer than subjects whose self-efficacy had not been artificially increased. Interestingly, physical (GSR) and subjective measures of actual relaxation indicated no group differences. Apparently, differences in tolerance to pain were attributable to the subjects' cognitive appraisal of coping efficacy rather than actual coping efficacy.

Marlatt and Gordon (1980) have postulated that in heroin addiction, alcoholism, and smoking, a common process is operative in which higher perceived self-regulatory efficacy decreases vulnerability to relapse. In tests of this theory, DiClemente (1981) measured self-perceived efficacy of cigarette smokers to resist relapse in a variety of situations after they had successfully quit smoking through different methods. He found that subsequent relapsers expressed lower self-efficacy about their ability to resist smoking than those who maintained abstinence throughout the follow-up period. Condiotte and Lichenstein (1981) also assessed newly abstaining smokers' perceived capability to resist the urge to smoke in a variety of situations. These judgments of self-regulatory efficacy predicted months later who would relapse, when,

and in what circumstances, and how they would respond to a relapse. Subjects with higher self-efficacy reinstated control whereās their less self-efficacious counterparts tended to relapse completely.

Alden, Safran, and Weidman (1978) recommended the use of the self-efficacy construct in the analysis of assertiveness training, a field currently embroiled in controversy over the relative merits of cognitive behavior modification and behavioral skills training. It has been shown that low-assertive individuals differ from those high in assertiveness in their beliefs, assertion-related expectancies, and self-instructions, but not in their knowledge of appropriate responses (Alden & Safran, 1978; Eisler, Fredericksen, & Petersen, 1978; Schwartz & Gottman, 1976). However, contrary to these findings, cognitive interventions have not proved superior to skills training programs, nor have they added appreciably to their effectiveness when the two treatments were combined [Carmody, 1978; Linehan, Goldfried, & Goldfried, 1979; Wolfe & Fodor, 1977]. Alden et al. (1978) hypothesized that this standoff is due to the two strategies producing changes through the same mechanism, by augmenting the individuals' sense of competency or efficacy in assertion situations. This hypothesis was explored in a recent study (Hammen, Jacobs, Mayol, & Cochran, 1980) from which the authors concluded that

subjects' behavioral change was related more to "the changing of belief in one's own ability to act in a more assertive manner" (p. 694), or measured self-efficacy, than to the two competing methods of intervention. Kazdin (1979), in studying the effectiveness of his covert modeling treatment, was also able to report that clients' improvements in assertiveness were associated with increases in self-efficacy.

In fact, the issue had already been addressed by Bandura who, in 1973, observed that individuals unable to behave assertively were likely to suffer considerable mistreatment because of their inability to defend a position in the face of opposition or, in general, stand up for their rights. He advocated self-directed performance along with participant modeling to extinguish residual fears and to reinforce a sense of personal efficacy in coping with threatening situations (Bandura, 1976a). He added that people who feel less vulnerable and who expect to succeed in what they do will behave more boldly and persistently than if they harbor self-doubts. Furthermore, from these procedures Bandura (Bandura, Jeffrey, & Gajdos, 1975) expected a generalized reduction in fearful behavior on the basis of stimulus similarity, reinforcement of ideas of personal capability through success and expectations of future success, and a generalizable skill for coping with stress. It should be noted that Bandura's program is



methodologically similar in many respects to a behavioral skills training program with cognitive restructuring overtones. Furthermore, it necessarily entails all four sources of efficacy expectations mentioned earlier, that is: emotional arousal, verbal persuasion, vicarious experiencing, and performance accomplishments.

Bandura (1974, 1976b) has asserted that psychological functioning involves a continuous reciprocal interaction between behavior and its controlling conditions. He argues that the equation,  $B=f(P,E)$ , meaning that behavior is a function of personal and environmental variables, misses the point because it treats response dispositions and the environment as independent entities. Bandura (1974) wrote, "To the oft-repeated dictum, change contingencies and you change behavior, should be added the reciprocal side, change behavior and you change the contingencies" (p. 866). The partially bidirectional conceptualization,  $B=f(P \rightleftarrows E)$ , is also faulty in that it posits a unidirectional view of behavior. Bandura (1978) argues the merits of a triadic model of reciprocal interaction wherein behavior, internal personal factors, and environmental influences all operate as interlocking determinants of each other, conceptualized as the circular process,  $E \rightleftarrows B \rightleftarrows P \rightleftarrows E$ , with no beginning and no end-points. Thus, in the social learning analysis, one and the same event can be a stimulus, a response, or an environmental reinforcer

depending upon the place in the sequence at which the analysis arbitrarily begins (Bandura, 1977b).

Research tends to support this view that behavior, the environment, and response dispositions are all potentialities. Sidman (1966) devised a situation in which animals could postpone painful shocks by depressing a lever. Animals who learned quickly created an environment essentially free of punishment while their less adept counterparts experienced a highly unpleasant milieu. Another study (referred to in Bandura, 1976c) examined the behavior of schizophrenic and normal children in a room with a wonderful assortment of electronic games. To activate the toys, the children had simply to deposit available coins which, however, only worked when a light was on. Coins deposited when the light was off extended the device's non-operative period. Normal children quickly learned the behaviors necessary to create an amusement park-like atmosphere whereas the schizophrenic children, failing to learn, experienced the room as both depriving and disturbing.

Years ago, Mowrer (1948) conducted an experiment in which hungry rats were taught to come to a food trough for a pellet of food whenever a buzzer sounded. Then the rats were split into two groups. One group received an immediate shock if they ate the pellet before three seconds had elapsed after the buzzer sounded. Most of the rats in

this group learned to wait before eating. The second group differed only in that there was a delay in receiving the shock, thereby inhibiting learning of the response-consequence connection. Some of the rats in this group persisted in eating the pellet; others gave up attempting to eat in the experimental situation.

The common denominator in the above studies is the illustrated difference that proper utilization of the operative environmental contingencies makes. Patterson (1975) describes in detail how parents train their children to display high rates of problem behaviors. He presents the stereotypical example of the mother who reinforces her son to behave in a helpless and immature fashion by "helping" him when he begins to whine as he starts to butter his bread or do something which tests the limits of his frustration tolerance. She ties his shoes when he has difficulty tying them. Then, when the child tries to tie his own shoes, he father says, "Look at that kid; he can't even do that right" (p. 27). In effect, the child is then punished for trying to develop skills and is reinforced for remaining helpless. He becomes a "trained incompetent" (Ebner, 1970, personal communication quoted in Patterson, 1975).

Another, somewhat similar example comes from Rausch (1965), who studied the behavior of normal and

aggressive children in social interactions. Not surprisingly, he observed that in approximately 75% of the instances he studied hostile behaviors elicited unfriendly responses whereas cordiality seldom did. Thus aggressive children created a hostile environment and friendly children generated an amicable environment.

These experiments support the idea that although the potential environment is theoretically identical for all animals the parameters of the actual environment depend upon their behavior. Merton's (1948) self-fulfilling prophecy, defined as a belief, prediction, or expectation that operates to bring about its own fulfillment, conceptualizes the ramifications and possibilities inherent in the above model of reciprocal interaction. Efficacy and outcome expectations are similarly relevant because the strength of people's convictions in their effectiveness determines the degree to which they will attempt to master or cope with difficult situations:

Perceived self-efficacy not only reduces anticipatory fears and inhibitions but, through expectations of eventual success, it affects coping efforts once they are initiated. Efficacy expectations determine how much effort people will expend, and how long they will persist in the face of obstacles and aversive experiences. The stronger the efficacy or mastery expectations, the more active the efforts. Those who persist in performing activities that are subjectively threatening but relatively safe objectively will gain corrective experiences that further reinforce their sense of efficacy thereby eventually eliminating fears and defensive behavior. Those who give up prematurely will retain their self-debilitating expectations and fears for a long time (Bandura, 1977b, p. 80).

Thus individuals with high efficacy and high outcome expectations should be differentiated from those with less "confidence." And, indeed, as shown earlier, writers in the assertiveness training field are beginning to believe that an increase in feelings of self-efficacy is the common denominator underlying successful assertiveness treatments. Similarly, studies of outcome expectations have proved the utility of this complementary construct. In fact, Seligman's (1975) learned helplessness theory can be interpreted as stating that outcome expectations and depression are related in that the existence of low outcome expectations is a necessary and sufficient condition for the presence of a depressive disorder. A sampling of relevant studies will illustrate and support this theoretical position.

### Outcome Expectations

In an experiment performed by Seligman and Maier (1967), dogs placed in a shuttle box quickly learned to jump to the other side when a light was turned on, indicating the imminence of an electric shock. However, dogs who had previously been in a situation where shocks were inescapable and unavoidable simply sat and took the shock. To overcome their helplessness, the dogs had to be forcibly pulled, by experimenters using long leashes, from one side of the shuttle box to the other. The experimenters had to

drag the dogs back and forth up to 50 times before the dogs responded initially to escaping from the aversiveness of the situation. These and other animals subjected to traumatic conditions that they are unable to avoid (electric shock or loud noise) develop signs of depression: apathy, decreased appetite, loss of sexual potency, and lack of normal aggressiveness. These symptoms are not, however, found in animals subjected to traumatic conditions that can be avoided or terminated by an appropriate response (Seligman, 1974, 1975; Maier & Seligman, 1976).

Studies of and reports from concentration camp survivors revealed a trend termed the "apathy reaction," characterized by withdrawal on the part of inmates in a traumatic environment where unpredictable killings and beatings were the norm. The most severe result of this syndrome was death. Subjects simply curled up on their bunks and waited to die, making no effort to eat or take care of themselves. Getting them on their feet and doing something, no matter how trivial, or getting them interested in some problem, were two remedies that saved some prisoners from death (Strassman, Thaler, & Schein, 1956). The similarity in the above accounts lies in the idea that continued aversive consequences that are perceived to be independent of actions tend to produce a decrease in response frequency and an emotional reaction with symptoms similar to those of depression.

Human subjects placed in experimental situations in which they are unable to control shock or loud noise make fewer escape responses, when escape is possible, than subjects who have not had a prior experience of helplessness (Thornton & Jacobs, 1971). In another study, subjects who had previously been given unsolvable problems made no attempt to learn how to terminate a loud, unpleasant noise; those subjects given solvable problems or no problems quickly learned the response (Hiroto & Seligman, 1975).

These studies lend support to the learned helplessness model of depression advanced by Seligman (1975). The theory states that learned helplessness, or learning that reinforcement and responding are independent, inhibits future responding. It has been demonstrated that non-depressed subjects given helplessness training exhibit a parallel impairment in anagram performance to that of depressed subjects given no pretreatment (Miller & Seligman, 1975).

Ferster (1967, 1973; Ferster, Culbertson, & Boren, 1975) views depression as a "loss of behavior," a reduction in the frequency of commonly engaged in and commonly positively reinforced activities; an escape from aversiveness in the sense of asking for help, complaining, and avoiding or postponing effort and responsibility where previously the person handled these obligations satisfactorily; and a loss of behavior due to the individual's

failure to initiate, sustain, and be reinforced by those activities that maintain a high degree of relatedness with others.

Lewinsohn (1974) considers any schedule of reinforcement that reduces responding as potentially depression-inducing and believes that depression mainly represents less behavior. A low rate of positive reinforcement is cited by Lewinsohn as the most frequent eliciting condition for depression.

There is agreement between learned helplessness. Lewinsohn's, and Ferster's models in terms of outcome expectations and depression. The learned helplessness paradigm presents a situation in which reinforcement is presented or perceived as independent of responding, while the latter theories posit sets of contingencies in which reinforcement is withdrawn from the situation. In both models, however, the individuals learn to have very low outcome expectations.

Outcome expectancies have been studied in other relevant respects. Black and Blankenship (1974) found that sexually delinquent girls, as contrasted with normal adolescents, placed high reward value on love and affection but had a low expectancy for attaining them. Mischel, Ebbesen, and Zeiss (1976) found that subjects correctly remembered their personality assets relatively more than their liabilities when they expected to succeed than when



they expected to fail on an abilities test. When depressed subjects succeed at a task they are more likely to explain their success in terms of "luck" than as a function of their own ability (Abramson, Garber, Edwards, & Seligman, 1978).

Bandura (1977a) suggested that research on learned helplessness, and presumably depression, might benefit by considering the essential differences between low efficacy and low outcome expectations. He explained that people can stop trying because they feel unable to execute the required behavior (low self-efficacy) or because they feel the required behavior will not produce a positive environmental response (low outcome expectations). Therapeutic interventions could then be modified and enhanced by knowing whether a feeling of futility was efficacy-based or outcome-based.

### Antecedent Research

A previous study (Fish, Note 1) investigated the relationship between efficacy and outcome expectations, depression, and insecurity.<sup>2</sup> It was a correlational study

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<sup>2</sup>The insecure subject was defined as one who will show emotional instability, will tend to give up, will be uncontrolled and disorganized, will feel unable to cope with life, will be easily upset by and submissive to authority, and otherwise will be withdrawn, restrained, rule-bound, restricted in interests, tormented by an unreasonable sense of inferiority, and not be able to keep up with all that is going on (Fish, Note 1).

which involved administering a questionnaire packet to psychotherapy patients and determining the manner in which the above constructs were related. Efficacy and outcome expectations scores were derived from subjects' responses to the Efficacy-Outcome Instrument,<sup>3</sup> devised by the author for use in the previous research. Depression scores were derived by the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Insecurity scores were obtained by summing subjects' responses to Scales C, E, H, and O of the Institute for Personality and Ability Testing's Sixteen Personality Factor Questionnaire (Cattell, 1946). A summary of the experimental hypotheses and results is presented below.

It was hypothesized that insecure subjects, possessing greater uncertainty about their ability to deal effectively with their environment than noninsecure subjects, would evidence relatively weaker efficacy expectations than symptom-free controls.

It was the second hypothesis of the previous research that depressed individuals would indicate lower outcome expectations than symptom-free controls. Beck (1967, 1973) asserts that depressive ideation is dominated by a "cognitive triad" whose central themes are a negative

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<sup>3</sup>The process of its development is detailed in the "Measures" section and a copy of the instrument is included in Appendix A.

view of the self, of the outside world, and of the future. The self-concept of the depressed individual is obsessively that of a "loser." Also, the depressed individual selectively interprets experiences as detracting from self-image in some substantive way. Thus, in Beck's opinion, and consistent with the original learned helplessness theory, the depressive's negative view of life inhibits accurate perceiving of the response-consequence connection, and serves to lower outcome expectations.

It was also hypothesized that insecure subjects would have relatively lower outcome expectations than those in the symptom-free sample and that depressed subjects would indicate relatively lower efficacy expectations than symptom-free subjects. This result was anticipated in accordance with Bandura's (1978) triadic model of reciprocal interaction and was anticipated insofar as depressed and insecure individuals have response deficiencies: as they respond less their behavior and/or internal personal factors have fewer opportunities to be shaped by corrective environmental feedback. In other words, depressed people initiate fewer activities than nondepressed people. Consequently they have less opportunity to practice coping skills so that over time they develop deficiencies in their behavioral repertoires secondary to the depressive disorder. Similarly, insecure individuals will characteristically tend not to persevere when initial attempts at

mastery are frustrated and thus will learn effective problem-solving techniques at a slower rate than more persistent individuals. An insecure person would be expected to become relatively less and less adept at manipulating environmental contingencies in his or her favor the longer this pattern of response deficiencies persists. Individuals who were both depressed and insecure, the depressed-insecure sample, were expected to indicate the weakest efficacy and outcome expectations.

In sum, it was anticipated that symptom-free controls would evidence the strongest efficacy expectations, followed respectively by the depressed, insecure, and finally the depressed-insecure samples (see Figure 1). The clinical controls were also expected to portray themselves as having the strongest outcome expectations, followed respectively by the insecure, depressed, and depressed-insecure groups.

The results tended to support the experimental hypotheses and Bandura's (1977a,b) contention that efficacy and outcome expectations are practical constructs. As indicated in Table 1, the group of symptom-free individuals indicated significantly greater efficacy and outcome expectations than subjects in either the depressed or insecure samples. Depressed individuals indicated the weakest outcome expectations, although the insecure group indicated comparable but slightly greater outcome expecta-

Efficacy expectation hypotheses  
(from weakest to strongest):

<p>No. 1 Depressed- Insecure</p>	<p>No. 2 Insecure</p>	<p>No. 3 Depressed</p>	<p>No. 4 Symptom-free (Control) Criterion group</p>
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Outcome expectation hypotheses  
(from weakest to strongest):

<p>No. 1 Depressed- Insecure</p>	<p>No. 2 Depressed</p>	<p>No. 3 Insecure</p>	<p>No. 4 Symptom-free (Control) Criterion group</p>
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Figure 1. Expected Results for Samples on Efficacy and Outcome Expectations

Table 1

Comparison Between Sample Means on Efficacy and Outcome Expectations<sup>a</sup> from Previous Research (Fish, Note 1)

Sample	<u>N</u>	Efficacy Mean	Outcome Mean
Control (Symptom-Free)	21	58.76	56.71
Depressed	7	53.71	45.43**
Insecure	14	48.29*	45.64**
Depressed-Insecure	22	52.81	51.05

\*  $p < .05$  for difference between sample and control means.

\*\*  $p < .05$  for difference between sample and control means.

<sup>a</sup>Efficacy and Outcome means were derived from subjects' responses to the Efficacy-Outcome Instrument (Fish, Note 1). It consists of 18 hypothetical situations each followed by two questions: the first is intended to measure efficacy expectations and the second purports to measure outcome expectations. Responses are given on an equal interval scale ranging from 1 (uncertainty) to 6 (certainty). Thus higher scores indicate stronger expectations. Efficacy and Outcome scores could possibly range from 18 to 108.

tions, and insecure subjects the weakest efficacy expectations, as predicted. The depressed-insecure group, however, presented the most unexpected results by performing in the midrange on both efficacy and outcome expectations.

The psychotherapeutic context of the study was considered crucial to the explication of these findings. It was hypothesized that the depressed subjects, who had somewhat low efficacy expectations and very low outcome expectations, were "state" depressives rather than "trait" depressives. In fact, the Beck Depression Inventory, the measure used to categorize the depressed sample, is considered to be a measure of state rather than trait depression (Bumberry, Oliver, & McClure, 1978).

The insecure group had the lowest efficacy expectations and indicated outcome expectations almost as low as those of the depressed group, but did not acknowledge the depressive symptomatology listed on the self-report depression scale. It was thought that insecure subjects were actually trait depressives and it was hypothesized that these subjects were denying or masking their depression with secondary symptoms such as drug or alcohol abuse or psychosomatic symptomatology.

The psychotherapeutic context of the study was also invoked to explain the Efficacy and Outcome scores of the depressed-insecure sample. They were hypothesized to be

former depressed or insecure subjects who were facing their life's problems and experiencing the struggle and pain of achieving change in therapy. It was expected that their moderate efficacy and outcome expectations indicated that they had a better prognosis in therapy than the insecure group of subjects.

Any study involving the use of a relatively untested measure such as the Efficacy-Outcome Instrument has an automatic confound. If the experimental hypotheses are supported then it is permissible to infer support for the construct validity of the instrument, as well as for the hypotheses. If the hypotheses are not supported, however, it is unclear whether the instrument is faulty, the conceptualization is in error, or whether some combination of these factors is in operation. Since the hypotheses in this study were not convincingly supported it is possible that there is an instrumentation confound, that efficacy and outcome expectations were not necessarily being correlated with depression and insecurity as planned. Thus more investigation of the construct validity of the Efficacy-Outcome Instrument is required.

#### Goals and Hypotheses of the Present Research

The present research is designed to continue the exploration of the relationship between efficacy and outcome expectations, and depression and insecurity, and to



address the issues raised in the first study regarding the relationship of the above variables to psychotherapeutic change. To achieve this, the three interrelated goals of the present research are identified as:

1. Continued assessment of the reliability and validity of the Efficacy-Outcome Instrument;
2. Examination of the relationship between efficacy expectations and psychotherapeutic change; and
3. Replication and explication of the earlier research.

The Efficacy-Outcome Instrument, EOI, was devised by the author and used in previous research (Fish, Note 1). Its test-retest reliability and internal consistency (split-half reliability) will be examined, along with its construct validity. Convergent validity of the Efficacy half of the EOI will be assessed by correlating Efficacy scores with scores on the Rathus Assertiveness Schedule, RAS, (Rathus, 1973). It is believed that more efficacious individuals would tend to act more assertively, in accordance with Bandura's theory (1977a,b). It is similarly hypothesized that Outcome scores will be correlated with scores on the Generalized Expectancy for Success Scale, GESS (Fibell & Hale, 1978) because having high outcome expectations is synonymous with having strong expectations for success. Discriminant validity will be assessed by



correlating Efficacy and Outcome scores with age. A more stringent test of discriminant validity will involve cross-correlating Efficacy scores with GESS scores and Outcome scores with RAS scores. While these correlations are expected to be significant and positive, they should be less than the convergent (Efficacy-RAS and Outcome-GESS) correlations.

The second goal of the present research addresses Bandura's (1977a,b; 1982) contentions that (1) initial levels of efficacy expectations predict future performance and (2) that psychotherapeutic interventions produce change by altering subjects' levels of self-efficacy. Thus, the first hypothesis of the present research is that initial levels of efficacy expectations will correlate with subsequent psychotherapeutic change. The second hypothesis of the present research is that changes in the levels of efficacy expectations over time will correlate with psychotherapeutic change.

The third goal of the present study is to replicate previous research by Fish (Note 1) to determine if the results are reliable. The data will also be examined to determine if hypotheses proffered to explain the previous results are supported by longitudinal data. The third hypothesis, then, of the present research, is congruent with the original theory of learned helplessness (Seligman, 1975) and the results of previous research

(Fish, Note 1): that depressed subjects will indicate lower initial outcome expectations than clinical control subjects.

The fourth hypothesis concerns psychotherapeutic change in the depressed group. The reformulated theory of depression (Abramson, Seligman, & Teasdale, 1978) essentially shifts the locus of detrimental effects from response-outcome independence to perceived inefficacy. This attributional model predicts that the most debilitating feelings of (learned) helplessness will occur when an individual attributes failure to personal deficiencies of a generalized and enduring nature, i.e., to profound feelings of self-inefficacy. Thus a prediction consistent with the reformulated theory of learned helplessness is that improvement in the depressed group will correlate with an increase in perceived self-efficacy. A prediction consistent with the original theory of learned helplessness is that improvement in the depressed group will correlate with a decrease in the Efficacy-Outcome difference score; in other words, over time during successful therapy, improved depressed persons would perceive responses and outcomes to be more contingently related than independent. Thus, the fourth hypothesis of the present research is that psychotherapeutic improvement in the depressed group will correlate more with a decrease in the Efficacy-Outcome

difference score than with increased self-efficacy scores.

The final three hypotheses of the present research are designed to test the explanations proffered to explain the findings of the previous research (Fish, Note 1). It was postulated that insecure subjects, who had very low efficacy and outcome scores, were actually "trait depressives" who were denying their depressive symptoms. It was expected that the individuals in the insecure group had "masked" their depression by developing a functionally truncated lifestyle. Thus it is the fifth hypothesis of the present research that insecure subjects will demonstrate lower initial efficacy and outcome expectations than clinical control subjects. The sixth hypothesis then, is that insecure subjects will exhibit a higher (therapist) reported incidence of psychosomatic symptoms, drug and alcohol abuse than clinical control subjects, in accordance with Lubow, Rosenblatt, & Weiner's (1981) broader, trait-oriented definition of depression and learned helplessness.

The seventh hypothesis of the present research concerns the depressed-insecure group. They admit to the greatest degree of subjective discomfort; they indicate that they are both depressed and insecure. However, their levels of efficacy and outcome expectations fell approximately midway between the control group and the other two clinical groups. It was argued that they, in contrast to

the individuals in the insecure group, are in the process of refusing to incorporate their depression into their personality or lifestyle, refusing to allow momentary setbacks to become permanent, and deciding not to accept a downward spiral of functioning. It was postulated that they would formerly have been in the Depressed group but are making changes in their lifestyle and perspective which are inducing "state insecurity" but engendering hope at the same time. Thus it is the seventh hypothesis of the present research that the depressed-insecure group will achieve more psychotherapeutic change than will be indicated by the insecure group.

In sum, the present research was designed to continue assessing the reliability and validity of the Efficacy-Outcome Instrument and to test the following hypotheses:

1. Initial levels of efficacy expectations will correlate with psychotherapeutic change;
2. Changes in the levels of efficacy expectations over time will correlate with psychotherapeutic change;
3. Depressed subjects will indicate lower initial outcome expectations than clinical control subjects;
4. Psychotherapeutic improvement in the depressed group will correlate more with a decrease in the

Efficacy-Outcome difference score than with increased self-efficacy scores;

5. Insecure subjects will indicate lower initial efficacy and outcome expectations than clinical control subjects;
6. Insecure subjects will indicate a higher reported incidence of psychosomatic symptoms, drug and alcohol abuse than clinical control subjects; and
7. The depressed-insecure group will achieve more psychotherapeutic change than the insecure group.

## CHAPTER II

### METHOD

#### Subjects

Subjects were solicited from three mental health agencies in the Chicago area: Calumet Township Youth Services, the Mental Hygiene Clinic at Hines Veterans Administration Hospital, and Midwest Family Resource Associates. One hundred patients participated in the first half of the study, which involved answering a questionnaire packet and giving permission for their therapists to rate them on a level-of-functioning scale then and again after at least a six week period. A total of 81 patients completed the study by repeating the procedure an average of seven weeks later. Of these, 63 were from Hines Veterans Administration Hospital, 12 were from Midwest Family Resource Associates, and 6 were from Calumet Township Youth Services Agency. The subjects (59 males and 22 females) ranged in age from 18 to 71 years, with a mean age of 45.24 years. The subjects were divided into four groups: 28 Symptom-Free Controls, 19 Depressed, 13 Insecure, and 40 Depressed-Insecure. The method and criteria of their selection is detailed below.

## Measures

The following self-report instruments were used in the present study: Beck Depression Inventory, BDI (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961); Efficacy-Outcome Instrument, EOI (Fish, Note 1); Generalized Expectancy for Success Scale, GESS (Fibell & Hale, 1978); Scales C, E, H, and O of the Institute for Personality and Ability Testing's Sixteen Personality Factor Questionnaire, IPAT 16 PF (Catell, 1946); Rathus Assertiveness Schedule, RAS (Rathus, 1973); and the Social Adjustment Scale-Self Report, SAS-SR (Weissman & Bothwell, 1976). The EOI, BDI, and IPAT 16 PF scales were used in previous research (Fish, Note 1) and in the present research to assess the relationships between efficacy and outcome expectations, depression, and insecurity, respectively. The GESS and RAS were employed in the present research to examine the convergent and discriminant validity of Efficacy and Outcome scores on the EOI. The SAS-SR was used in the present research to measure behavioral change achieved during the seven week period of psychotherapy between test administrations.

The Efficacy-Outcome Instrument (Fish, Note 1) was originally composed of 28 hypothetical situations each followed by two questions, the first purporting to measure efficacy expectations and the second, outcome expectations. For example:



You are in a great hurry. The elevator stops for you but it is jam-packed full of people who all seem like they are ignoring you. You would like to take this elevator.

a. How certain are you that you would try to squeeze onto this elevator?

1            2            3            4            5            6

b. If you tried to get onto the elevator this trip, would you succeed?

1            2            2            4            5            6

Eleven graduate students in clinical psychology at Loyola University of Chicago judged the adequacy of the proposed items against the criteria. Definitions of the two constructs were on the last page of the questionnaire, along with a request to decide whether each question was an accurate assessment of efficacy or outcome expectations as defined, or neither. An efficacy expectation was defined as "the conviction that one can successfully execute the behavior required to produce an outcome" (Bandura et al., 1977, p. 126). An outcome expectancy was defined as "the estimate that a given behavior will lead to certain outcomes" (Bandura et al., 1977, p. 126).

On the basis of these judgments, ten items were eliminated using the following criteria: not enough variance in the responses to the items per se; a lack of consensus in the efficacy and outcome ratings; and possible biases in the items. For example, one item was considered likely to confound sex and age and it was noted that certain

other items were applicable mostly to college students. The items that were chosen for the final Efficacy-Outcome Instrument had an 82% validity rating average from the 11 judges. A copy of the EOI is included in Appendix A.

Scores on the EOI are arrived at by simple summation of each category of responses to the 18 hypothetical situations. The Efficacy score for each subject is the sum of his responses to each question "a" while each subject's Outcome score is his total of 18 "b" responses.

If the previous study (Fish, Note 1) had yielded results in congruence with the experimental hypotheses, it would have been possible to infer evidence in support of the construct validity of the EOI. The inconclusive nature of the results is construed as a lack of support for the construct validity of the EOI.

The Rathus Assertiveness Schedule was employed in the present study to assess the convergent construct validity of Efficacy scores (efficacy expectations) because it was believed that individuals with strong feelings of self-efficacy would tend to act more assertively on their environment. In the original validation of the RAS scale, Rathus (1973) compared RAS scores to external measures of assertiveness, such as tester's ratings of subjects' assertiveness and the subjects' own indications of how they would behave in specific situations in which assertive be-

havior is appropriate. Pearson product moment correlations were satisfactory,  $.33 < \underline{r} < .70$ ,  $\underline{p} < .01$ . The RAS has adequate test-retest reliability,  $\underline{r} = .78$ ,  $\underline{p} < .01$ , and split-half reliability,  $\underline{r} = .77$ ,  $\underline{p} < .01$ .

The Generalized Expectancy for Success Scale measures a construct defined as "the expectancy held by an individual that in most situations he/she will be able to attain desired goals" (Fibell & Hale, 1978, p. 924). Since expectancy for success and outcome expectations are similarly defined, the GESS was used in the present study as a convergent criterion for construct validation of the Outcome scale of the EOI.

Fibell and Hale (1978) assessed the construct validity of the GESS by correlating GESS scores to measures of depressive cognition. There were significant negative correlations between the GESS and the BDI,  $-.54 < \underline{r} < -.61$ ,  $\underline{p} < .01$ , the Beck Hopelessness Scale (Beck, Weissman, Lester, & Trexler, 1974),  $-.31 < \underline{r} < -.69$ ,  $\underline{p} < .01$ , and the Self Rating Depression Scale (Zung, 1965),  $-.48 < \underline{r} < -.58$ ,  $\underline{p} < .01$ . The GESS has a test-retest correlation of .83 for scores taken at a six-week interval. The split-half reliability coefficient for odd versus even items, using the Spearman-Brown correction formula, was .90. The correlation between the first 15 and the last 15 items was reported to be .82. The test's 30 items correlated with the total score but were not

significantly related to social desirability. Thus the GESS appears to possess adequate validity, reliability and internal consistency.

The Beck Depression Inventory and Scales C, E, H, and O of the Institute for Personality and Ability Testing's Sixteen Personality Factor Questionnaire were used in previous research (Fish, Note 1) to classify subjects as depressed, insecure, or both. The BDI is considered by Becker (1974) to be the best-developed and most widely used self-report depression measure. Analysis of reliability as indexed by internal consistency criteria yielded a split-half Spearman-Brown corrected Pearson correlation coefficient of .93. All items are significantly related to the total score at the  $p < .001$  level and it has highly significant correlations with clinicians' independent ratings of severity of depression. These findings, plus the scale's high positive correlations with other established measures of depression, such as the MMPI, Lubin's Depression Adjective Check List, and the Hamilton Rating Scale, establish its validity (Beck, 1973).

Four scales from Cattell's (1946) Institute for Personality and Ability Testing Sixteen Personality Factor Questionnaire (IPAT 16 PF) were chosen as a measure of "insecurity," which is herein defined as being what Scales C, E, H, and O of the IPAT 16 PF measure. According to these criteria, a person who is insecure will show emo-

tional instability, will tend to give up, will be uncontrolled and disorganized, will feel unable to cope with life, will be easily upset by and submissive to authority, and otherwise will be withdrawn, restrained, rule-bound, restricted in interests, tormented by an unreasonable sense of inferiority, and not able to keep up with all that is going on (IPAT Staff, 1972a).

The items in the IPAT 16 PF were culled from several thousands of items originally tried, and include only those which have significant convergent validity against their conceptual criteria (as listed above) after ten successive factor analyses on different samples (Cattell, 1973). The correlations for the individual scales are as follows: C=.81; E=.86; H=.92; and O=.69 (Cattell, Eber, & Tatsuoka, 1974). The construct validity was also evaluated indirectly by determining the correlation of the pure factors operationalized in each scale with a sample of diverse psychological variables. Measured in this manner, the indirect or circumstantial concept validities are: C=.95; E=.91; H=.95; and O=.84 (Cattell, 1964a,b). These results are from studies which combined Form C, used in the present research, with a similar version, Form D.

Reliability was also assessed with both Forms C and D. Test-retest reliabilities for short (2-7 day) intervals of the scales used in the present study are as

follows: C=.83; E=.77; H=.86; and O=.79 (IPAT Staff, 1972a).

The Social Adjustment Scale-Self Report is designed to measure functioning in six major role performance areas: work as worker, housewife, or student; social and leisure activities; relationships with nuclear and extended families; and marital and parental roles (Weissman & Bothwell, 1976). The SAS-SR was derived directly from the Social Adjustment Scale (Weissman & Paykel, 1974) which was a modification of Gurland's (Gurland, Yorkston, Goldberg, Fleiss, Sloane, & Cristol, 1972; Gurland, Yorkston, Stone, Frank & Fleiss, 1972) Structured and Scaled Interview to Assess Maladjustment. Both of these required a trained interviewer to administer. The SAS-SR was developed because self-report inventories are inexpensive, simple to administer, and avoid interviewer bias. The SAS-SR has reasonably high test-retest stability, as indicated by a mean correlation coefficient of .80 across three testing sessions each two weeks apart, and high internal consistency, indicated by a mean  $r$  of .74 (Edwards, Yarvis, Mueller, Zingale, & Wagman, 1978). It has been used previously to assess psychotherapeutic change (Weissman & Bothwell, 1976; Weissman, Klerman, Paykel, Prusoff, & Hanson, 1974) and change in SAS-SR scores appears to be an appropriate measure of change in the psychotherapeutic situation.

Procedure

The present research involved two basic procedures repeated after an approximately seven week period of psychotherapy: administering a packet of self-report questionnaires to outpatient psychotherapy patients and collecting level-of-functioning ratings on those patients by their therapists.

Permission to recruit research subjects was obtained from the Mental Hygiene Clinic of Hines Veterans Administration Hospital, Midwest Family Resource Associates, and Calumet Township Youth Services. For one week, all outpatient psychotherapy patients aged 18 years and older in the Mental Hygiene Clinic at Hines Veterans Administration Hospital were approached by the experimenter in an attempt to elicit their cooperation. Also during that week, a therapist working at Midwest Family Resource Associates and another employed by Calumet Township Youth Services requested the participation of all of their psychotherapy patients aged 18 years and older. Eighteen years was chosen as a lower chronological age limit for the adult because it was believed that adolescents and adults would have qualitatively different experiential referents to draw on in responding to the EOI. The subjects in the present study, then, were adult outpatients from three different mental health clinics in the Chicago area; they had been engaged in diverse therapeutic modalities for differing

lengths of time with therapists from a variety of therapeutic orientations.

Those patients who agreed to consider participating in the study were asked to review an informed consent sheet (see Appendix B) which requested permission for their therapists to answer a questionnaire about them at that time and once again after a six week interval.<sup>4</sup> The consent form also explained the research nature of the study, promised complete anonymity, and assured the prospective subjects that they were free to refuse participation. They were also assured that their refusal to participate in the research project would in no way affect or jeopardize their participation in the treatment program. Those who agreed to participate in the study and who signed the consent form were asked to complete a packet containing questions from seven standardized psychological tests, one questionnaire devised by the experimenter (EOI), and demographic questions on sex, age, education, and socioeconomic status. Approximately 18 patients refused to serve as subjects in this study; unfortunately, no information is available about these individuals which would enable them

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<sup>4</sup>The consent form explained that the experimental procedures would be repeated "after a six week interval." Many clients failed their psychotherapy appointment six weeks after the initial testing and others were scheduled on a less-than-weekly basis; the second testing entailed "tracking down" clients during the sixth, seventh, and eighth weeks of the study. Thus, on the average, the experimental procedures were repeated after an approximately seven week period.



to be compared to the patients who agreed to serve as subjects.

The seven standardized self-report inventories included in the questionnaire packet were the Beck Depression Inventory, the Generalized Expectancy for Success Scale, Rathus Assertiveness Schedule, Scales C, E, H, and O of the Institute for Personality and Ability Testing's Sixteen Personality Factor Questionnaire, the Social Adjustment Scale-Self-Report, and two measure not relevant to the present experimental hypotheses: the Anxiety and Depression Scale and the Sulliman Scale of Social Interest. The Efficacy-Outcome Instrument was also included. These measures were arranged in differing orders in each questionnaire packet (incomplete counterbalancing) to control for order effects.

The psychologists, social workers, and one psychiatric nurse who served as therapists at the three agencies were asked to participate in the project. They were aware that the research was an investigation of efficacy and outcome expectations but were unaware of the specific experimental hypotheses. An informed consent form (see Appendix C) was reviewed with those therapists who agreed to rate their patients who had consented to serve as subjects. The therapists who agreed and signed the consent form filled out a questionnaire entitled "Patient Rating Form," which is included in Appendix D. It begins

with a Severity (of psychological dysfunction) scale adapted from the APA/CHAMPUS Outpatient Provider Manual (American Psychological Association, 1981) as well as questions about predominant therapeutic modality, length of time in therapy, and client's level of motivation for psychotherapeutic change. The questionnaire asked about client drug abuse, alcohol abuse, psychosomatic symptoms, and number of previous psychiatric hospitalizations. All of the therapists approached by the investigator agreed to participate in the study by rating those patients of theirs who agreed to serve as subjects.

An average of seven weeks later subjects were requested to fill out the questionnaire packet again. It was identical to the first packet except for the omission of the RAS and GESS. These two measures were not included because their purpose, to assess the convergent and discriminant validity of the EOI, was fulfilled in the initial administration of the questionnaire packet.

At this time the therapists completed the second "Patient Rating Form" on each of their patients who had initially served as subjects. In addition to the aforementioned questions, the therapists were asked to rate their patients on a Progress scale similar in format to the Severity scale and to report how many therapy sessions had transpired with each client since the initial rating.

Subjects were assigned to experimental groups on

the basis of their initial scores on the BDI and IPAT 16 PF scales. Depressed subjects were defined as those who had a score of 11 or above on the BDI, which is one point higher than Beck's (Beck et al., 1961) suggested criterion. Nineteen subject qualified for initial inclusion in this group and 13 of these completed the study.

The four scales of the IPAT 16 PF were scored by assigning one point for each "Maybe" or "In between" response and two points for each question answered in the direction indicating pathology (insecurity). A cutoff score of 20 was arrived at by summing the mean scores of the IPAT standardization sample (IPAT Staff, 1972b) for Scales, E, C, H, and O, and adding one. Thus, subjects who scored 20 or above on the IPAT 16 PF scales were classified as insecure. Thirteen subjects qualified for inclusion in the initial Insecure sample and 10 completed the study. The Depressed-Insecure sample in the present experiment, then, was composed of those individuals who scored 11 or above on the BDI and 20 or above on the IPAT 16 PF scales. It consisted of 40 subjects initially; of these, 34 completed the study. The Symptom-Free or Clinical Control group consisted of 28 subjects who failed to reach the criterion level on either of the clinical measures. Four subjects in this group failed to complete the second half of the study.

The criterion levels for both the Depressed and Insecure samples were raised one point over the cutoff scores used in previous research (Fish, Note 1). This was done to increase the number of subjects in the Depressed and Insecure samples relative to the Depressed-Insecure group, which had been disproportionately large in the previous research. The Depressed-Insecure group had also had the greatest variance on the dependent measures in the previous research and so it was expected that raising the criteria for inclusion in this group would increase the homogeneity of the sample.

## CHAPTER III

### RESULTS

The data were examined to determine if there were consistent differences between the 81 subjects who completed the experiment and the 19 (Dropouts) who participated in the first test administration only. There were no differences between subjects and Dropouts on any of the experimental variables, whether from patients' self-report measures or therapists' report of subjects' functioning. Patients' self-report measures included initial scores on the IPAT 16 PF scales,  $t(97) = -0.72$ , ns, the BDI,  $t(97) = -0.55$ , ns, SAS-SR,  $t(97) = -1.63$ , ns, and Efficacy,  $t(97) = -0.74$ , ns, and Outcome scores,  $t(97) = -0.78$ , ns. Therapist reports were obtained from the Patient Rating Form which was completed at the time of both test administrations by the therapists whether or not the subject dropped out of the study. There were no differences between subjects and Dropouts in therapeutic modality employed (individual, group, marital or family),  $\chi^2(3) = 1.36$ , ns, length of current therapeutic relationship,  $\chi^2(4) = 3.40$ , ns, the number of therapy sessions held between test administrations,  $\chi^2(4) = 3.89$ , ns, adjudged drug, corrected  $\chi^2(1) = 0.34$ , ns, or alcohol abuse, cor-

rected  $\chi^2(1) = 0.53$ , ns, or psychosomatic symptomatology, corrected  $\chi^2(1) = 0.48$ , ns, and number of previous psychiatric hospitalizations,  $\chi^2(2) = 1.53$ , ns. There were no differences between the two groups in the therapists' ratings of severity of psychological problems (Severity) at Time 1,  $t(97) = 0.29$ , ns, or for progress in therapy (Progress). There were, however, significant differences between the two groups in the therapists' ratings of Severity at Time 2,  $t(97) = 2.00$ ,  $p < .05$ , and for the difference between Severity at Time 1 and Time 2,  $t(97) = -2.40$ ,  $p < .05$ , with Dropouts indicating significantly less improvement. Since the therapists rated all subjects at both Time 1 and Time 2 the scores on all of the subjects will be presented for Severity (and Progress) ratings whenever possible to minimize potential bias. In sum, there were significant differences between Dropouts and subjects on therapists' ratings of Severity but there were no differences between these two groups on any other experimental variables employed in the present research.

The Depressed, Insecure, Depressed-Insecure, and Symptom-Free samples were examined to determine if hypothesized group differences on the dependent variables could be confounded by demographic differences. There were no differences in age,  $F(3,96) = 0.72$ , ns, gender, corrected  $\chi^2(1) = 0.01$ , ns, years of education,  $F(3,93) = 0.89$ , ns, or socioeconomic status as indicated by nature of

employment,  $\chi^2 (2) = 1.53$ , ns, between the four samples. Thus, these four potential rival hypotheses for explaining the experimental results appear implausible. There was also no difference in the proportion of Dropouts from each of the four experimental groups,  $\chi^2 (3) = 2.91$ , ns.

#### Validation of the Efficacy-Outcome Instrument

The first goal of the present research was to continue assessments of the reliability and validity of the EOI. A Pearson correlation coefficient yielded a test-retest reliability value of .60,  $r (81) = .60$ ,  $p < .001$ , for Efficacy and .67,  $r (81) = .67$ ,  $p < .001$ , for Outcome scores. Split-half reliability was computed by comparing the answers to odd-numbered items to those of even-numbered items. Using the Spearman-Brown correction formula, this measure of internal consistency yielded coefficients of at least .88,  $r (81) = .88$ ,  $p < .001$ , for Efficacy and Outcome scores obtained from both test administrations.

Convergent validity was examined by correlating initial Efficacy with RAS scores and initial Outcome with GESS scores. Discriminant validity was assessed by correlating Efficacy scores with age and GESS scores and by correlating Outcome scores with age and RAS scores. As can be seen from Table 2, Efficacy scores correlated higher with RAS scores,  $r (100) = .55$ ,  $p < .001$ , than with GESS

Table 2  
 Convergent and Discriminant Validity of the  
 Efficacy-Outcome Instrument

	Outcome	RAS <sup>a</sup>	GESS <sup>b</sup>	Age
Efficacy	.74***	.55***	.31*	.04
Outcome		.39***	.38***	.15
RAS			.44***	.13
GESS				-.24*

\*  $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

<sup>a</sup>RAS = Rathus Assertiveness Schedule (Rathus, 1973).

<sup>2</sup>GESS = Generalized Expectancy for Success Scale (Fibell & Hale, 1978).



scores,<sup>5</sup>  $r(97) = .31, p < .01$ . A  $t$ -test for the difference between non-independent correlations indicated that these correlations were significantly different,  $t(94) = 2.64, p < .01$ . Efficacy scores did not correlate significantly with age,  $r(100) = .04, ns$ , as predicted. Outcome scores did not, however, correlate higher with GESS scores,  $r(97) = .38, p < .001$ , than with RAS scores,  $r(100) = .39, p < .001$ . Outcome scores were not significantly correlated with age,  $r(100) = .15, ns$ . Thus there is support for the convergent and discriminant validity of efficacy expectations as measured by the EOI but not necessarily for the validity of outcome expectations as measured by the EOI. Since the EOI is a new, relatively unvalidated measure, the decision was made in the course of data analysis to employ the RAS and GESS in the present study as dependent measures to supplement Efficacy and Outcome scores, respectively.

#### Efficacy Expectations and Psychotherapeutic Change

The second goal of the present research was to examine the relationship of efficacy expectations to psychotherapeutic change. There were three measures of change

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<sup>5</sup>Three subjects responded incorrectly to the GESS to the extent that it was impossible to assign them a GESS score. Thus, the degrees of freedom for any analysis involving GESS scores will be three less than those involving the other measures employed in the study.

employed in this study: the difference between therapists' ratings of Severity at Time 1 and Time 2, therapists' ratings of Progress, and the difference between SAS-SR scores between Time 1 and 2 (see Table 3). Therapists' ratings of Severity and Progress were unrelated to change in patients' self-report measures (SAS-SR, IPAT 16 PF, BDI, Efficacy, and Outcome), but were related to each other (see Table 4).

The first hypothesis of the present research is that initial levels of efficacy expectations will correlate positively with psychotherapeutic change. A Pearson  $r$  was computed between Efficacy scores and the three change scores listed above. Initial Efficacy scores correlated negatively with SAS-SR difference scores,  $r(81) = -0.25$ ,  $p < .05$ , but were not significantly related to therapists' ratings of Severity difference,  $r(100) = .08$ , ns, or Progress,  $r(100) = -.07$ , ns. RAS scores, used to supplement initial Efficacy scores, did not correlate significantly with the difference in SAS-SR scores,  $r(81) = -.08$ , ns, or with the difference in Severity ratings,  $r(100) = -.11$ , ns, but evidenced a trend in the negative direction with Progress ratings,  $r(100) = -.18$ ,  $p < .08$ .

Given the unexpected negative correlation between Efficacy scores and SAS-SR change scores, and the con-

Table 3

## Means and Standard Deviations of Therapists' Ratings

Rating	<u>N</u>	Mean	Standard Deviation
Severity <sup>a</sup> -Time 1	100	11.47	4.10
Severity-Time 2 <sup>b</sup>	100	10.45	4.11
Severity Change <sup>c</sup>	100	1.02	2.91
Progress <sup>d</sup>	100	12.02	9.49
SAS-SR <sup>e</sup> -Time 1	81	2.29	0.61
SAS-SR-Time 2	81	2.21	0.60
SAS-SR Change <sup>f</sup>	81	0.07	0.35

<sup>a</sup>Severity scores are the sum of therapists' ratings of severity of patient psychological dysfunction on an equal interval scale ranging from 0 (no dysfunction) to 4 (extreme dysfunction) in six areas: home/family, school/work, interpersonal relations, bodily function, substance abuse/impulse control, and personal comfort (adapted from American Psychological Association, 1981).

<sup>b</sup>Time 2 is seven weeks after Time 1.

<sup>c</sup>Severity Change is the difference between Severity scores at Time 1 and Time 2.

<sup>d</sup>Progress ratings are the sum of therapists' ratings of progress in the six areas of psychological dysfunction used for Severity ratings. The Progress scale is an equal interval scale ranging from 0 (none) to 4 (complete); a "five" rating means "Not applicable" and is scored as zero.

<sup>e</sup>SAS-SR = Social Adjustment Scale-Self-Report (Weissman & Bothwell, 1976). Higher scores indicate greater mean dysfunction in six role performance areas; work as worker, housewife, or student; social and leisure activities; relationships with nuclear and extended families; and marital and parental roles.

<sup>f</sup>SAS-SR Change is the difference between SAS-SR scores at Time 1 and Time 2.

Table 4

Correlations of Therapists' Ratings of Severity Change and Progress with Patients' Self-Report Measures

	Progress	SAS-SR Change	IPAT 16 PF Change	BDI Change	Efficacy Change	Outcome Change <sup>g</sup>
Severity Change <sup>a</sup>	.23*	.09	.05	.02	-.17	-.14
Progress <sup>b</sup>		.10	.04	.00	.00	-.13
SAS-SR Change <sup>c</sup>			.37***	.15	.40***	.28*
IPAT 16 PF Change <sup>d</sup>				.37***	.27*	.32**
BDI Change <sup>e</sup>					.05	.09
Efficacy Change <sup>f</sup>						.67***

\* $p < .05$

\*\*  $p < .01$

\*\*\*  $p < .001$

<sup>a</sup>Severity scores are the sum of therapists' ratings of severity of patient psychological dysfunction on an equal interval scale ranging from 0 (no dysfunction) to 4 (extreme dysfunction) in six areas: home/family, school/work, interpersonal relations, bodily function, substance abuse/impulse control, and personal comfort (adapted from American Psychological Association, 1981). Severity Change is the difference between Severity scores at Time 1 and Severity scores at Time 2, seven weeks later.

<sup>b</sup>Progress ratings are the sum of therapists' ratings of progress in the six areas of psychological dysfunction used for Severity ratings. The Progress scale is an equal interval scale ranging from 0 (none) to 4 (complete); a "five" rating means "Not applicable" and is scored as zero.

<sup>c</sup>SAS-SR = Social Adjustment Scale-Self-Report (Weissman & Bothwell, 1976). Higher scores indicate greater mean dysfunction in six role performance areas: work as worker, housewife, or student; social and leisure activities; relationships with nuclear and extended

Table 4.--Continued

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families; and marital and parental roles. SAS-SR Change is the difference between SAS-SR scores at Time 1 and SAS-SR scores at Time 2.

<sup>d</sup>IPAT 16 PF = Institute for Personality and Ability Testing's Sixteen Personality Factor Questionnaire (Cattell, 1946). Four scales from the IPAT 16 PF were used to measure insecurity in the present study. IPAT Change is the difference between IPAT scores at Time 1 and Time 2.

<sup>e</sup>BDI = Beck Depression Inventory (Beck, Ward, Mendelson, Mock & Erbaugh, 1961). The BDI was used to measure depression in the present study. BDI Change is the difference between BDI scores at Time 1 and Time 2.

<sup>f</sup>Efficacy and Outcome scores were derived from the Efficacy-Outcome Instrument (Fish, Note 1), used to measure efficacy and outcome expectations, respectively. Efficacy Change is the difference between Efficacy scores at Time 1 and Time 2.

<sup>g</sup>Outcome Change is the difference between Outcome scores at Time 1 and Time 2.

sistent though nonsignificant negative correlations between assertiveness and change scores, the data were examined further to determine the strength of these relationships. The subjects were split into three groups on the basis of their Efficacy scores; the highest third on Efficacy were compared to the lowest third. The above pattern was replicated. The group with the strongest Efficacy scores had significantly lower SAS-SR change scores than the group with the lowest initial Efficacy scores,  $t(54) = -3.15$ ,  $p < .01$ , although they did not differ on initial SAS-SR scores,  $t(54) = -1.12$ , ns. This analysis was also done with therapists' ratings but again there was no statistically significant difference between change in Severity,  $t(67) = -0.80$ , ns, or Progress,  $t(67) = -0.06$ , ns. Subjects were also split into three groups on the basis of their RAS scores. There were no differences between subjects on SAS-SR change scores,  $t(54) = 1.11$ , ns, therapists' ratings of Severity difference,  $t(67) = 1.47$ , ns, or Progress ratings,  $t(67) = 0.67$ , ns.

The results of these analyses cohere with the above findings: initial Efficacy scores are not correlated with therapists' ratings of change in psychotherapy but are negatively related to change in patients' self-report of social adjustment scores. Those subjects with the lowest initial Efficacy scores indicated greater

improvement in self-reported social adjustment over a seven week period than their more efficacious counterparts. The results utilizing RAS scores indicate that, although RAS and Efficacy scores are highly correlated, they are not equivalent.

The second hypothesis stated that changes in the levels of efficacy expectations over time would correlate with psychotherapeutic change. There was a significant positive Pearson correlation coefficient between improvement in Efficacy scores and better social adjustment as measured by the difference in SAS-SR scores,  $r(81) = .39$ ,  $p < .001$ , but not with psychotherapeutic change as measured by therapists' ratings of Severity difference,  $r(81) = -.17$ , ns, or Progress,  $r(81) = .01$ , ns. The significant positive correlation between increased Efficacy scores and patients' ratings of improved social adjustment on the SAS-SR is considered partial support for the second hypothesis.

The data were also examined to determine the relationship between the difference in Outcome scores from Time 1 to Time 2 and the three measures of psychotherapeutic change employed in the present study. Increases in Outcome scores correlated positively with improved social adjustment scores,  $r(81) = .29$ ,  $p < .01$ , but not with therapists' ratings of Severity difference,  $r(81) = -.16$ ,

ns, or Progress,  $r(81) = -.08$ , ns. These correlations are very similar to those obtained for Efficacy difference scores and add support for the conclusion that change in expectations correlates positively with change in self-reported social adjustment. These results are also germane to the issue of the apparent functional lack of differentiation between Efficacy and Outcome scores addressed in the previous section.

#### Replication and Explication of Previous Research

The third goal of the present research was to replicate previous research by Fish (Note 1) to determine if the previous results would be repeated and to provide evidence for or disconfirm proffered explanations of the previous findings. In previous research an analysis of variance (ANOVA) by groups revealed no main effect for Efficacy scores and a significant main effect for Outcome scores. In the present research an ANOVA by groups revealed a trend towards a main effect for Efficacy scores,  $F(3,96) = 2.51$ ,  $p < .07$ , and a significant main effect for Outcome scores,  $F(3,96) = 3.26$ ,  $p < .05$ . These findings are considered to be a partial replication of the previous research and support for the idea that the Depressed, Insecure, Depressed-Insecure, and Symptom-Free samples can be differentiated on the basis of their Efficacy and Outcome scores.



The data were further examined by comparisons of the experimental and Clinical Control (Symptom-Free) groups on the basis of their initial Efficacy and Outcome scores (see Table 5). The Control group indicated the strongest efficacy expectations by having significantly higher Efficacy scores than the Insecure group,  $t(39) = 2.23$ ,  $p < .05$ , as in previous research. The difference between the Control and Depressed groups was negligible,  $t(45) = 0.36$ , ns. The Depressed-Insecure sample aligned as in previous research, between the Depressed and Insecure samples. The difference between the Control and Depressed-Insecure samples was significant,  $t(66) = 2.13$ ,  $p < .05$ . An examination of the mean Efficacy scores listed in Table 5 reveals that they are rank ordered by group as in previous research and thus the results for Efficacy scores in the two studies are considered comparable.

Outcome scores were not, however, ordered in the same way as in the previous research. The Depressed group, which indicated the lowest Outcome scores in previous research, has the highest Outcome scores in the present research. The Depressed-Insecure group, formerly in the midrange on Outcome scores, indicated the lowest Outcome scores in the present research and differed significantly from both the Depressed,  $t(57) = -2.56$ ,  $p < .05$ , and Symptom-Free,  $t(66) = -2.40$ ,  $p < .05$ , samples. The Insecure group was aligned closest to the Depressed-Insecure group

Table 5

Comparison Between Sample Means on Efficacy and Outcome Expectations<sup>a</sup>  
with Previous Research (Fish, Note 1)

Sample	Previous Research				Present Research			
	N	Efficacy Mean	Outcome Mean	N	Initial Efficacy		Initial Outcome	
					Mean	SD	Mean	SD
C	21	58.76	56.71	28	55.75	14.59	49.64	11.47
D	7	53.71	45.43**	19	54.16	15.25	51.47	10.75
I	14	48.29*	45.64**	13	44.46*	16.12	44.85	15.22
DI	22	52.81	51.05	40	47.35*	16.89	41.43*	15.35

\*  $p < .05$  for difference between control and sample means

\*\*  $p < .01$  for difference between control and sample means

<sup>a</sup>Efficacy and Outcome means were derived from subjects' responses to the Efficacy-Outcome Instrument (Fish, Note 1). It consists of 18 hypothetical situations each followed by two questions; the first is intended to measure efficacy expectations and the second purports to measure outcome expectations. Responses are given on an equal interval scale ranging from 1 (uncertainty) to 6 (certainty). Thus higher scores indicate stronger expectations. Efficacy and Outcome scores could possibly range from 18 to 108.

but did not differ from either the Depressed,  $t(30) = -1.45$ , ns, or Symptom-Free,  $t(39) = -1.12$ , ns, samples. These results fail to replicate the configuration of Outcome scores from previous research. Thus the third hypothesis of the present study, that previous research would be replicated with the Depressed sample indicating lower initial outcome expectations than Clinical Control subjects, was not supported.

Since the configuration for Outcome scores was so different from previous research a comparison was made between data obtained from the sample recruited from the Mental Hygiene Clinic at Hines Veterans Administration Hospital and the pooled data from the samples from Midwest Family Resource Associates and Calumet Township Youth Services. This was done because the previous research used subjects from the latter two agencies. There were differences in age,  $t(98) = 6.09$ ,  $p < .001$ , sex, corrected  $\chi^2(1) = 30.9$ ,  $p < .001$ , and number of previous psychiatric hospitalizations,  $\chi^2(2) = 13.8$ ,  $p < .01$ , but not in years of education,  $t(95) = -0.85$ , ns, or socioeconomic status,  $\chi^2(2) = 3.30$ , ns. The Veterans Administration sample consisted of a greater percentage of males who were an average of 19 years older and had had a greater number of psychiatric hospitalizations than subjects from the other two mental health agencies. There were no differences, however, in depression,  $t(98) = 0.78$ , ns, insecurity,

$t(98) = 0.56$ , ns, or initial social adjustment scores,  $t(98) = 0.73$ , ns, between these groups. Perhaps most significantly, however, is that there were no differences on either Efficacy,  $t(98) = -0.35$ , ns, or Outcome scores,  $t(98) = 1.32$ , ns. The above evidence supports the conclusion that the different configuration of results in the present as compared to previous research is not due to relevant differences in the samples.

However, a direct comparison of the present subjects with those from previous research indicates that there were significant differences between the two samples in almost every relevant category. The sample in the present study consisted of a greater proportion of males, 72% to 25%,  $p < .001$ , who were an average of 12 years older,  $t(143) = 3.64$ ,  $p < .001$ , and a greater percentage who were in the lowest socioeconomic category as indicated by occupational status, 60% as compared to 41%,  $p < .05$ , than the subjects from the previous study. The present sample was significantly more depressed as measured by the BDI,  $t(143) = 2.24$ ,  $p < .05$ , and more insecure as measured by the IPAT 16 PF,  $t(143) = 1.96$ ,  $p < .05$ . The two samples did not differ on Efficacy scores,  $t(143) = 1.43$ , ns, although the present sample had lower Outcome scores,  $t(143) = 2.71$ ,  $p < .01$ . It appears, then, that even though the subjects from the Veterans Administration Hospital are not distinguishable from subjects from the other

two agencies on depression, insecurity, Efficacy or Outcome scores, the present sample as a whole is significantly different from the sample employed in the previous research.

In an attempt to determine if the configuration of Outcome scores was due to inadequacies in that scale or to sampling error as indicated above, RAS and GESS scores were examined by group (see Table 6). Analyses of variance revealed significant differences for both RAS,  $F(3,96) = 9.32$ ,  $p < .001$ , and GESS,  $F(3,93) = 14.94$ ,  $p < .001$ , scores. RAS scores appear to be grouped according to degree of insecurity, with the Control and Depressed groups evidencing the highest RAS scores and the Insecure and Depressed-Insecure groups indicating the least assertiveness. This configuration parallels the alignment of Efficacy scores.

GESS scores align differently from Outcome scores, however. The Symptom-Free group has the highest GESS scores, followed by the Depressed and Insecure groups, which are comparable, and the Depressed-Insecure group, which has the lowest GESS scores. There is a trend for both the Depressed,  $t(44) = 1.71$ ,  $p < .10$ , and Insecure,  $t(38) = 1.94$ ,  $p < .07$ , groups to be lower on GESS scores than the Control group. The Depressed-Insecure group indicated significantly lower GESS scores than the Control group,  $t(62) = 6.24$ ,  $p < .001$ . A comparison of the third of the

Table 6

## RAS and GESS Scores by Group

	<u>N</u>	RAS <sup>a</sup> Mean	<u>SD</u>	<u>N</u>	GESS <sup>b</sup> Mean	<u>SD</u>
Control (Symptom-Free)	29	5.55	32.21	27	117.19	17.90
Depressed	19	8.37	22.74	19	108.47	15.72
Insecure	13	-17.23***	16.81	13	106.38	12.85
Depressed-Insecure	39	-14.79***	23.99	37	90.89***	15.68

\*\*\*  $p < .001$  for difference between Control and Sample means

<sup>a</sup>RAS = Rathus Assertiveness Schedule (Rathus, 1973). Higher scores indicate greater assertiveness.

<sup>b</sup>GESS = Generalized Expectancy for Success Scale (Fibell & Hale, 1978). Higher scores indicate greater expectancy for success.

sample lowest on GESS scores with the third which had the highest GESS scores revealed significant group differences for both depression and insecurity scores. The group with a high expectancy for success was an average of 12 points less depressed as indicated by the BDI,  $t(70) = 5.83$ ,  $p < .001$ , and an average of six points less insecure as indicated by the IPAT 16 PF,  $t(70) = 4.98$ ,  $p < .001$ , than the group with a low expectancy for success. Depression and insecurity appear to contribute equally and in an additive fashion to lowering GESS scores.

The fourth hypothesis of the present research concerned whether psychotherapeutic improvement in the Depressed group would be related more to increased feelings of self-efficacy or to a diminution of the Efficacy-Outcome difference score. Spearman correlation coefficients indicated a trend for increased Efficacy scores to be correlated with improvement on the SAS-SR,  $r(13) = .44$ ,  $p < .07$ , but not with change in Severity ratings,  $r(13) = .02$ , ns, or therapists' ratings of Progress,  $r(13) = .27$ , ns. Change in the Efficacy-Outcome difference scores was also not correlated with the SAS-SR,  $r(13) = -.12$ , ns, or Severity difference scores,  $r(13) = -.14$ , ns, or Progress ratings,  $r(13) = .08$ , ns. Thus neither hypothesis was supported by the experimental results.

The final hypotheses tested specific explanations advanced to explain the previous results. The fifth hypothesis was that Insecure subjects would demonstrate lower efficacy and outcome expectations than Clinical Control subjects. As noted above, the Insecure group in the present study indicated significantly weaker Efficacy but not Outcome scores in comparison with the Symptom-Free group. Similarly, they indicated significantly weaker RAS scores,  $t(40) = 3.00$ ,  $p < .01$ , and a trend towards weaker GESS scores,  $t(38) = 1.94$ ,  $p < .07$ . The sixth hypothesis was that the Insecure group would have a higher reported incidence of psychosomatic symptoms, drug and alcohol abuse than Clinical Control subjects. As noted above, the two groups did not differ on the reported incidence of psychosomatic symptoms, drug and alcohol abuse, combined,  $t(32) = .30$ , ns.

The seventh hypothesis of the present research was advanced to explain the midrange performance of the Depressed-Insecure group in previous research; it posited that the Depressed-Insecure group will achieve more psychotherapeutic change than the Insecure group. The Depressed-Insecure group did not perform in the midrange in the present research. In fact, the Depressed-Insecure sample did not differ significantly from the Insecure group on difference in SAS-SR scores,  $t(42) = -0.22$ , ns,



or the difference in therapists' ratings of Severity over time,  $t(42) = -0.91$ , ns. The therapists' ratings of Progress indicated significantly more improvement for the Insecure group than for the Depressed-Insecure sample, however,  $t(42) = 2.38$ ,  $p < .05$ .

The amount of psychotherapeutic change by diagnostic category was examined more closely. An ANOVA by groups revealed no significant difference for change in SAS-SR scores,  $F(3,77) = 1.87$ , ns, or for the difference in therapists' ratings of Severity,  $F(3,96) = 1.79$ , ns. However, an ANOVA by groups revealed a significant difference in therapists' ratings of Progress,  $F(3,77) = 2.81$ ,  $p < .05$ . As can be seen from Table 7, the Insecure group was rated as achieving significantly more Progress than the Control,  $t(32) = 2.57$ ,  $p < .05$ , Depressed,  $t(21) = 2.29$ ,  $p < .05$ , and Depressed Insecure,  $t(42) = 2.38$ ,  $p < .05$ , groups. Thus the Insecure group was rated by the therapists as having achieved the most Progress from Time 1 to Time 2. It had been hypothesized that the Insecure group would indicate the least improvement, but the results on which that hypothesis was based were unreliable.

Efficacy and Outcome scores from the second test administration were also examined (see Table 8). As in the first administration, the Depressed group appears similar to the Control group and the Depressed-Insecure group indicated significantly weaker Efficacy and Outcome

Table 7

## Psychotherapeutic Change for the Four Groups

	Control		Depressed		Insecure		Depressed-Insecure	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
SAS-SR Change <sup>a</sup>	-.03	0.27	0.18	0.31	.08	0.31	.11	.11
Severity Change <sup>b</sup>	0.57	2.00	0.16	2.34	0.85	3.33	1.80	3.41
Progress <sup>c</sup>	10.38	8.59	10.23	8.12	19.50	11.30	11.47	8.77

<sup>a</sup>SAS-SR = Social Adjustment Scale-Self-Report (Weissman & Brothwell, 1976). Higher scores indicate greater mean dysfunction in six role performance areas; work as worker, housewife, or student; social and leisure activities; relationships with nuclear and extended families; and marital and parental roles. SAS-SR Change is the difference between SAS-SR scores at Time 1 and SAS-SR scores at Time 2, seven weeks later.

<sup>b</sup>Severity scores are the sum of therapists' ratings of severity of patient psychological dysfunction on an equal interval scale ranging from 0 (no dysfunction) to 4 (extreme dysfunction) in six areas: home/family, school/work, interpersonal relations, bodily function, substance abuse/impulse control, and personal comfort (adapted from American Psychological Association, 1981). Severity Change is the Difference between Severity scores at Time 1 and Severity scores at Time 2.

<sup>c</sup>Progress ratings are the sum of therapists' ratings of progress in the six areas of psychological dysfunction used for Severity ratings. The Progress scale is an equal interval scale ranging from 0 (none) to 4 (complete); a "five" rating means "Not applicable" and is scored as zero.

Table 8

Efficacy and Outcome Scores<sup>a</sup> for the Second Administration

Sample	N	Efficacy			Outcome		
		Mean	SD	Change <sup>b</sup>	Mean	SD	Change
Control (Symptom-Free)	24	56.67	16.23	1.75	54.08	12.65	5.04
Depressed	13	59.46	12.02	2.31	54.08	12.50	1.08
Insecure	10	47.80	10.49	7.00	49.00	10.26	7.60
Depressed-Insecure	34	44.16**	15.30	-3.44	42.59**	15.62	1.18

\*  $p < .05$  for difference between control and sample means

\*\*  $p < .01$  for difference between control and sample means

<sup>a</sup>Efficacy and Outcome means were derived from subjects' responses to the Efficacy-Outcome Instrument (Fish, Note 1). It consists of 18 hypothetical situations each followed by two questions: the first is intended to measure efficacy expectations and the second purports to measure outcome expectations. Responses are given on an equal interval scale ranging from 1 (uncertainty) to 6 (certainty). Thus higher scores indicate stronger expectations. Efficacy and Outcome scores could possible range from 18 to 108.

<sup>b</sup>Change scores are differences in Efficacy and Outcome scores from Time 1 to Time 2, seven weeks later, for only the subjects who completed both test administrations.

scores than the Control group. However, the Insecure group did not differ from the Control group on Efficacy scores as in the first administration. Instead, it appears as though the Insecure group developed stronger efficacy and outcome expectations, which is consistent with the finding above concerning change in therapists' ratings of Severity. An ANOVA by groups yielded no significant differences for either Efficacy Change,  $F(3,77) = 1.79$ , ns, or Outcome Change,  $F(3,77) = 1.21$ , ns, thus it is not possible to do more than speculate about inter-group differences.

## CHAPTER IV

### DISCUSSION

The three goals of the present research were to:

1. Continue assessments of the reliability and validity of the EOI;
2. Examine the relationship of efficacy expectations to psychotherapeutic change; and
3. Replicate previous research by Fish (Note 1) and test explanations of the earlier findings.

The results of the present research as they specifically relate to each of these goals will be discussed in turn. They will be analyzed in terms of methodological and theoretical considerations relevant to the present experimental hypotheses and research design.

#### Validation of the Efficacy-Outcome Instrument

The moderately high test-retest and very high internal consistency correlations for both the Efficacy and Outcome scales of the EOI suggest that it is a reliable instrument. In fact, testing psychotherapy patients is a very stringent test of reliability because of the possibility of differential improvement; efficacy and outcome expectations are state measures which would be expected to

improve throughout the course of treatment. Evidence for the convergent construct validity of the Efficacy scale of the EOI was provided by its significant positive correlation with the RAS; the expectation that more efficacious individuals (high Efficacy scores) would tend to perceive themselves as behaving more assertively (high RAS scores) was supported by the data. Evidence for the discriminant construct validity of the Efficacy scale was indicated by its relatively lower correlation with the GESS as compared to the RAS and its predicted lack of significant correlation with age.

The evidence relating to the construct validity of the Outcome scale of the EOI was not as confirming, however. It had been expected that Outcome scores would be related positively to GESS scores because optimistic outcome expectations are synonymous with high expectations for success. Although Outcome scores correlated significantly in the expected direction with GESS scores, that relationship was relatively weak and not stronger than the Outcome-RAS correlation, used to test divergence. This result is interpreted as a lack of support for the convergent and discriminant construct validities of the Outcome scale of the EOI as assessed in the present research.

It appears that the Efficacy scale of the EOI is reliable and valid while the Outcome scale does not necessarily serve the purpose for which it is intended and needs

further development. There appear to be three issues germane to future validation studies of the EOI. The first issue concerns sampling difficulties. It was illustrated earlier that the samples in the two studies differed on a number of characteristics, which confounds explanations of differing results. In addition, in the previous research there were only seven subjects in the Depressed sample, but they indicated lower outcome expectations than the Symptom-Free sample, as hypothesized. This result could be erroneous and due to sampling error or it could be an accurate representation of the typical interaction of outcome expectations and depression. The failure to replicate those results in the present study could be accounted for by the nature of the present sample. The subjects were characteristically older and poorer and presumably more debilitated than the subjects in the previous research. This explanation assumes that even those subjects who did not indicate depressive symptomatology had few optimistic expectations for the future. At any rate, future research would probably benefit by employing a comparison group of subjects who are relatively symptom-free, or at least not in therapy.

The second issue concerns the Outcome scale's reliability and generalizability. Although it indicated adequate test-retest reliability, results from earlier research by group were not replicated. The independent

measures used in the two studies, the BDI and IPAT 16 PF, have been thoroughly tested and are quite reliable (in the present study their test-retest correlations were .77 and .76, respectively). Even though there may have been sampling confounds, the fact that the results on the Efficacy scale were replicated raises the possibility that the Outcome scale may have adequate reliability within the same sample but limited generalizability.

The third issue concerns the constructs and instruments used in the present validation study. The RAS was used to test the convergent validity of the Efficacy scale and the discriminability of the Outcome scale. A plausible explanation for the present findings is that assertiveness is indeed related to both efficacy and outcome expectations. In theory, efficacy and outcome expectations are different; perhaps in practice, functionally, they are similar. In this study, Efficacy scores correlated very strongly with Outcome scores.

Analyses were conducted to more clearly ascertain the functional interrelationships between Efficacy, Outcome, RAS, and GESS with depression and insecurity scores. A comparison between the third of the sample lowest on Efficacy and Outcome scores with those indicating the strongest expectations revealed no difference on BDI scores for Efficacy,  $t(54) = 1.55$ , ns, or Outcome,  $t(52) = 1.82$ , ns, but highly significant differences on



IPAT 16 PF scores for both Efficacy,  $t(54) = 5.05$ ,  $p < .001$ , and Outcome,  $t(52) = 4.95$ ,  $p < .001$ , scores.

An examination of the third of the subjects with the highest RAS scores with those with the lowest RAS scores indicates the extent to which level of depression and insecurity impact upon RAS scores. The subjects with high assertiveness had an average BDI score of 10 compared to 18,  $t(67) = 3.22$ ,  $p < .01$ , and an IPAT score of 23 compared to 17,  $t(67) = 4.48$ ,  $p < .001$ , for their less assertive counterparts. This indicates that more assertive subjects were less depressed and less insecure than relatively unassertive subjects. As indicated previously, subjects with high GESS scores were significantly less depressed and less insecure than subjects who indicated lower expectancies for success.

The results of these analyses support inferring the construct validity of the Efficacy scale but not the Outcome scale. As hypothesized, Efficacy scores correlate with insecurity and assertiveness scores but not with depression scores. Assertiveness correlates with both insecurity and depression. Thus Efficacy scores appear to be functionally different from both insecurity and assertiveness. In contrast, Outcome scores appear similar to Efficacy scores and correlate with insecurity and assertiveness but not with depression scores; this presumed relationship between depression and outcome expectations was

the basis for two of the present experimental hypotheses, that depressed subjects will indicate lower outcome expectations than clinical controls and that psychotherapeutic improvement in the depressed group will be indicated by a decrease in the Efficacy-Outcome difference scores.

GESS scores appear to be aligned somewhat differently from Outcome, Efficacy, and RAS scores. The configuration by group for GESS scores is similar to that hypothesized for outcome expectations. Even though in this study assertiveness proved to be a more central intervening variable in GESS scores than was hypothesized for outcome expectations, expectancy for success as measured by the GESS is a superior approximation to outcome expectations than the Outcome scale of the EOI.

In sum, there may have been a sampling bias which interfered with replicating the configuration of Efficacy and Outcome scores by group from the previous study. More likely, however, is the possibility that the Outcome scale is flawed. The construct validity of the Efficacy scale is inferred through convergent and discriminant correlations and it appears to be an adequate measure.

#### Efficacy Expectations and Psychotherapeutic Change

The results of this section will be considered within the context of the process of assessment and

analysis of the two variables involved: efficacy expectations and psychotherapeutic change. The previous section provided support for inferring the validity of efficacy expectations as measured in the present research. The analyses of psychotherapeutic change data obtained in the present research yielded inconsistent results and thus warrant further examination. In addition, although methodological considerations make treatment process and outcome research difficult in general (Bergin, 1971), several features of the present research biased against establishing a treatment effect. The reasons that this was a less than ideal design in which to assess reliable, discriminable amounts of psychotherapeutic change will be discussed in detail below.

The first factor relating to the difficulty of reliably assessing psychotherapeutic change is the measuring instruments used. There were two instruments to measure psychotherapeutic change used in the present research: therapists' ratings of patients' functioning on a scale adapted from the American Psychological Association/CHAMPUS Outpatient Provider Manual (1981) and the change on a patient self-report measure of social adjustment (SAS-SR) over the seven week interval. The former instrument included two measures of change: the difference between ratings over the seven week experimental interval on a Severity of functioning scale and therapists'

ratings of Progress at the end of that interval. It had been anticipated that there would be high intercorrelations between the above three measures of change, that therapists' ratings of Severity difference would be very highly correlated with Progress while the patients' self-report change measure would be somewhat less highly correlated, although still significantly, with the therapists' ratings. In fact, the therapists' ratings were only moderately intercorrelated and did not correlate with any of the patient self-report measures utilized in the present study.

One serious deficiency in the present research is that the therapists did not receive adequate orientation and training in the use of the Severity and Progress Scales. Another major difficulty with the therapist rating scales used in the present study is that they are not exactly comparable. Change in therapists' ratings of Severity can yield a positive, neutral, or negative value. The scale for therapists' ratings of Progress, however, is constructed in such a manner that it fails to account for the possibility of patient deterioration or retrogression; it can yield only a neutral (no change) or positive value. Thus the two scales are somewhat different. Neither, however, helped elucidate the issues operationalized in the experimental hypotheses.

The impulse to discount the therapists' ratings

was tempered by several factors in the literature on psychotherapy outcome research. First of all, global improvement ratings by therapists are the single most often used criterion measure in psychotherapy research (Luborsky, 1971). In one review of 165 studies of factors influencing the outcome of psychotherapy, therapist-rated global improvement was used as the sole measure or as one among a variety of measures by 64% of the authors (Luborsky, Chandler, Auerbach, Cohen, & Bachrach, 1971). Furthermore, Garfield and Bergin (1978), in their review of methodological issues in the evaluation of process and outcome psychotherapy research, assert that there are relatively few standardized evaluation procedures applied directly by the therapist. They also conclude that therapists' ratings "seem to measure an independent factor in change, or perhaps simply a point of view is being measured" (p. 178).

There is a great deal of controversy regarding the independence of psychotherapy outcome data. Studies by Garfield, Prager, and Bergin (1971) and Luborsky (1971) indicate that criteria for the outcome of psychotherapy intercorrelate only slightly or insignificantly. There are others, though, who present evidence that therapists' ratings of global improvement are the only criterion that shows consistent correlations with other measures of outcome (Cartwright, Kirtner, & Fiske, 1963; Fiske, Cartwright, & Kirtner, 1964; Strupp & Bloxom, 1975). Fiske

(1975, 1977) also argues that there is little reason to expect that outcome ratings from different vantage points should agree with one another. Rather, he believes they represent different perspectives that are not reducible to one another.

Finally, it is recognized that therapists' ratings of improvement are quite subjective and are influenced by expectable and perhaps ineradicable sources of bias, such as social desirability and other demand characteristics (Kendall & Norton-Ford, 1982). However, the therapists in the present study had worked directly with their clients for greater or lesser periods of time and could be reasonably expected to have a thorough, if not intimate working knowledge of their clients. It has been argued that even though participants' ratings might be biased, their viewpoints are nevertheless valuable (Mintz, 1977).

The above review indicates that the literature is inconclusive enough so that the lack of relationship between therapists' and patients' reports of change does not automatically invalidate one or both sources of data. Further, Severity ratings registered a test-retest correlation coefficient of .72, indicating a certain reliability and internal consistency. Therapists' ratings of less improvement for Dropouts than subjects in terms of Severity difference scores indicates that factors such as coopera-

tiveness, punctuality, and reliability in meeting appointments might influence the therapists' ratings. The significant finding for a difference between groups in Progress ratings does not lend more credibility to this measure; there was no a priori expectation that the Insecure group would achieve the most psychotherapeutic change. In fact, it was hypothesized that the Insecure group would indicate the least change in psychotherapy. Further, this finding is not corroborated by the Severity difference ratings listed in Table 7, in which the Depressed-Insecure group indicates the most improvement. Basically, the low, albeit significant relationship between therapists' ratings of Severity difference and Progress and the lack of relationship with the patients' self-report measures indicates that they may be of less value than was anticipated.

This creates a problem similar to that engendered by the construct validation concerns of the EOI: when a hypothesis is not supported does that indicate faulty conceptualization or inadequate instrumentation? The difficulty with the EOI was partially solved by employing the RAS and GESS as dependent measures. Thus the question of how to interpret those results utilizing therapists' ratings of change is actually an issue of what weight to assign to patients' self-report scores. The SAS-SR is a

reliable instrument (it registered a test-retest correlation of .83 in the present research) which has been used previously to measure psychotherapeutic change (Weissman & Bothwell, 1976; Weissman et al., 1974). That it is primarily a measure of reported behavior is considered further support for its construct validity.

The necessity of employing the SAS-SR as the solitary criterion measure is the second factor relating to the difficulty of reliably assessing the magnitude of psychotherapeutic change in the present research. It has been suggested (Garfield & Bergin, 1978; Kendall & Norton-Ford, 1982) that if multiple criteria are employed the actual effects of psychotherapy will be more accurately assessed.

The third factor mitigating against establishing change effects in the present research concerns the methodology employed. The above reviewers of process and outcome research literature (Garfield & Bergin, 1978; Kendall & Norton-Ford, 1982) also suggest that specific criteria of change, such as presenting complaint, be employed in the assessment of change. It would have been difficult to employ specific criteria of change in the present research given the differing lengths of time subjects had been in therapy. Taking a cross-section of patients at different phases in treatment was expected to result in a greater generalizability of results; this is



true but turned out to be impractical given the difficulty of establishing more than limited treatment effects in such a sampling. Studying patients at different phases in treatment also involves the implicit assumption that the change process is linear and that change will be distributed equally. This is probably an erroneous assumption, generally, although an analysis of variance of psychotherapeutic change as measured by change in SAS-SR scores by "time in therapy" (divided into four phases) yielded no significant differences,  $F(3,77) = 0.18$ , ns.

While the SAS-SR means in the present study (2.25) were comparable to the means Weissman (Weissman, Prusoff, Thompson, Harding, & Myers, 1978) has presented for acute depressives (2.53), alcoholics (2.23), and schizophrenics (1.96), the mean difference scores in the present research (0.07) are a fraction of those she has presented for acute depressives (0.44) (Weissman & Bothwell, 1976). It appears that Weissman and Bothwell arranged the experimental situation to maximize the degree of observed change. They administered the SAS-SR to 76 depressed female outpatients in acute distress who were initiating pharmacological treatment at a mental health center in a medical complex. Only patients who completed the four week ataraxic trial and presumably, responded favorably, again took the SAS-SR.

The present sample differed from Weissman's in two

significant respects: it consisted of a majority of males from a Veteran's Administration Hospital. Most studies of depression employ women as subjects so that perhaps the present Depressed group (14 males, 5 females) is an atypical sample. It could also be argued that in the typical Veterans Administration Hospital patient, except in instances of acute psychotic symptomatology and remission of those symptoms via psychotropic medication, there will be minimal observed psychotherapeutic change. It is unclear how these factors would influence the present configuration of results pertaining to efficacy and outcome expectations, however.

It appears preferable to assess patients at the beginning of their treatment and at a prespecified later point. This probably results in an exaggeration of treatment effects since patients generally enter therapy in a state of acute distress. Having a waiting-list group, which can be authorized when treatment is unavailable for everyone desiring treatment, would control and distribute this maturation effect. Although in the present research there were significant relationships observed between therapeutic change and some independent variables, only having one valid measure of change (SAS-SR difference scores) indicating a minute degree of average change (0.07) casts doubt on the validity and reliability of the

findings. The following discussion will utilize only the results obtained from SAS-SR difference scores but the above reservations should be kept in mind by the reader.

It was found in the present research that initial levels of efficacy expectations correlated significantly in a negative direction with psychotherapeutic change. That is, subjects who indicated the lowest initial efficacy expectations subsequently registered the greatest change in their social adjustment scores (SAS-SR) over a seven week period. Furthermore, the subjects in the lowest third on Efficacy scores indicated significantly greater change than those in the upper third. This finding is exactly opposite to the first hypothesis of the present research and is viewed as a lack of support for Bandura's contention that initial levels of efficacy expectations correlate positively with progress in psychotherapy (Bandura, 1977a,b; 1982).

The second hypothesis, that changes in the levels of efficacy expectations would correlate with future psychotherapeutic change, was supported by the present research. It seems contradictory that increased self-efficacy would correlate with improved social adjustment while individuals with lower self-efficacy estimates subsequently improve more than individuals with higher reported self-efficacy. An interpretation incorporating

these results is that current psychotherapeutic procedures function by bolstering the self-efficacy of individuals with extremely low efficacy expectations but has not progressed to the point of helping individuals who indicate greater self-efficacy. Perhaps therapeutic outcome would improve by concentrating effort on improving self-efficacy for individuals at both ends of the continuum. Future research should clarify these issues.

#### Replication and Explication of Previous Research

Analyses of Efficacy and Outcome scores by groups indicated that Depressed, Insecure, Depressed-Insecure, and Symptom-Free samples could be differentiated on the basis of their scores on the EOI. It appears that Efficacy scores in the present research are comparable to those from previous research by Fish (Note 1). Outcome scores for the four experimental groups were not aligned as in previous research, however. For example, the third hypothesis of the present research was that the Depressed sample would indicate significantly lower Outcome scores than the Symptom-Free Control group, consistent with the original learned helplessness theory and the results of the previous research. The present results were that the Depressed group had the highest Outcome scores of any group.

This finding and those below concerning outcome

expectations must be considered in light of the results of the EOI criterion validity study. However, there are two other reasons that could explain why the present research did not replicate the support for the original learned helplessness theory found in the previous research. The first reason concerns sampling error; there were only seven subjects in the Depressed group in the previous research. The second reason is that the clinical manifestations of depression are heterogeneous and learned helplessness may play a greater or lesser role in each type (Depue & Monroe, 1978).

Learned helplessness is a model of naturally occurring reactive depression in man. There are many different forms and variations within forms of depressive disorders, each with varying symptom patterns, etiologic factors, biologic dysfunctions, and therapeutic response patterns to psychotropic medications and/or psychotherapy. Thus an elevated score on the BDI could result from an individual who is relatively normal but unhappy, sad, or lonely at the moment (Katz, 1970; Weissman, Prusoff, & Pincus, 1975), or from someone who has suffered a recent loss of self-esteem (Zung, 1972), or lost a loved one. It would also result from an individual who is seeking help for a more chronic mild depression, for some other medical or psychiatric disorder, or for a major primary depressive

disorder. Thus a rating above criterion on the BDI does not always mean exactly the same thing.

The original model of learned helplessness referred to a subset of depressions, helplessness depressions, that are caused by the expectation of response-outcome independence (Seligman, 1975; Seligman, Klein, & Miller, 1976). It has been recognized that many of the predictions of the original model are true only for certain subpopulations in certain settings (Huesmann, 1978).

The reformulated model, on the other hand, asserts that when people perceive noncontingency they attribute their helplessness to a cause. The attribution chosen determines whether expectations of future helplessness will be chronic or acute, broad or narrow, and whether helplessness will lower self-esteem or not (Abramson, Seligman, & Teasdale, 1978). Bandura (1982), embracing this model, extrapolated from this theory that depression could be either efficacy-based or outcome-based. But in fact the Depressed group was low on neither Efficacy or Outcome scores. Supplemental analyses indicated that depressed subjects had a lower expectancy for success than clinical controls but were not less assertive, providing tentative support for the original learned helplessness model.

The fourth hypothesis of the present research was formulated to test whether the original or reformulated

learned helplessness models better explained psychotherapeutic change in the Depressed group. It was examined whether change correlated more with a decrease in the Efficacy-Outcome difference score (original model) or with an increase in feelings of self-efficacy (reformulated model). Neither of these hypotheses was supported by the data in the present research. Thus the present research did not sufficiently address this issue and it is not possible to speculate about the mechanics underlying psychotherapeutic change in the Depressed group with the present data.

The fifth hypothesis of the present research was that the Insecure group would indicate significantly weaker efficacy and outcome expectations than the Control group. The Insecure group had significantly lower Efficacy scores on the first test administration but not on the second testing, and they did not differ on Outcome scores either time, although the differences were in the expected direction. The Insecure group had significantly weaker assertiveness scores and a trend for weaker GESS scores. It appears that insecure individuals could be characterized as having generalized expectations of inability to control life's stressors, and are, perhaps, "trait depressives." This was the basis of the sixth hypothesis of the present research, that the Insecure group would indicate a higher

reported incidence of alcohol and drug abuse, and psychosomatic symptoms than Symptom-Free Controls. But in fact they did not differ on the incidence of the above three symptoms that commonly indicate "masked" depression and a functionally truncated lifestyle. Thus the explanation advanced to explain the previous research, as well as the trends in evidence in the present study, was not substantiated.

The seventh hypothesis, advanced to explain the previous midrange performance of the Depressed-Insecure group, was that the Depressed-Insecure group would achieve greater psychotherapeutic change over the seven week experimental interval, than the Insecure group. That hypothesis was not supported by the present research, nor did the Depressed-Insecure group replicate its midrange performance.

### Conclusions

The present research was designed to examine the relationship between efficacy and outcome expectations, depression and insecurity, and psychotherapeutic change. Efficacy and outcome expectations as measured by the EOI are reliable, although similar, constructs. The Efficacy scale appears to be an adequate measure but the Outcome scale needs to be developed further to enhance its construct validity and generalizability so that hypotheses



such as those in the present research may be adequately evaluated. The relationship of efficacy and outcome expectations to psychotherapeutic change would be facilitated by examining patients when they initiate psychotherapy so that a substantial treatment effect can be observed.

Previous research by Fish (Note 1) was replicated to the extent that Control, Depressed, Insecure, and Depressed-Insecure subjects were differentiated on the basis of their scores on the Efficacy-Outcome Instrument. Depressed subjects did not indicate lower Outcome scores than Controls, as hypothesized; they did, however, indicate a trend towards having weaker expectations of success than the Control group. An examination of whether change in the Depressed group would function as postulated by the original versus reformulated theories of learned helplessness proved inconclusive.

The Symptom-Free group of subjects indicated stronger efficacy expectations and RAS scores than an Insecure sample, as hypothesized, but did not differ on Outcome scores. They indicated a trend in that direction on GESS scores. Hypotheses concerning secondary symptomatology such as substance abuse or psychosomatic symptoms in the Insecure group were not supported.

The Depressed-Insecure group did not yield results

comparable to that in previous research. They did, however, indicate very low efficacy and outcome expectations, which had been hypothesized for the previous research. The midrange performance of the Depressed-Insecure group in previous research engendered hypotheses for the present research which, not surprisingly, were not supported.

The present study found that individuals with the lowest initial efficacy expectations improved the most over a seven week psychotherapeutic interval. Increases in strength of efficacy expectations were correlated with improvements in self-reported social adjustment. The construct of efficacy expectations appears to be a relevant and perhaps mediating variable in the psychotherapeutic change process.

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APPENDIX A

## IV. EFFICACY-OUTCOME INSTRUMENT

This questionnaire contains a number of situations a person might possibly find him--or herself in. Certainly, nobody would encounter all of these situations.

What I would like you to do is to imagine yourself as being in the situation as it is described. I'm sure there are better solutions to the dilemmas offered, but try to only consider the options which are offered. Try to be as honest, in other words as realistic, as you can be.

Please use the following number guide when answering the questions:

For each question 'a':

I definitely would not do it.....1  
 I probably wouldn't do it.....2  
 It is less than likely that I would do it.....3  
 It is more than likely that I would do it.....4  
 I probably would do it.....5  
 I definitely would do it.....6

For each question 'b':

Definitely not (No).....1  
 Probably not.....2  
 Less than likely.....3  
 More than likely.....4  
 Probably.....5  
 Definitely (Yes).....6

You must circle one number and one number only for each question. Please do not skip any questions--if you are not sure how you would react then just give your best guess. It is best to work quickly and not spend time pondering those questions which prove to be most difficult for you.

1. Traffic is bumper-to-bumper, crawling along on the expressway. You have been daydreaming. Traffic has started to move when you notice your exit almost directly to your right. However, you are three lanes over. The next exit brings you 10 minutes out of you way, longer if the traffic remains bad, so you decide it is in your best interests to take your exit.



a. How strongly do you believe that you would try for the exit and risk honks and dirty looks?

1      2      3      4      5      6

b. If you tried for the exit, would you make it?

1      2      3      4      5      6

2. For months you've planned a trip to the Bears game with some good friends. You are all planning on driving together and in fact you have no other way of getting to the stadium. An emergency arises which you have to take care of but, if your friends wait for you, they'll be late and easily miss the opening kickoff. You feel it is appropriate to ask them to wait, even though the outcome of this game will determine whether the Bears get into the playoffs or not.

a. How certain are you that you would ask them to wait for you?

1      2      3      4      5      6

b. If you asked them to wait, would they?

1      2      3      4      5      6

3. For an hour you've been standing in line waiting for a movie you really want to see. The line is long and there's a slim chance you won't get in. An elderly couple cuts into the line in front of you. You would like to ask them to move.

a. How certain are you that you would ask them to move?

1      2      3      4      5      6

b. If you asked them, would they move?

1      2      3      4      5      6

4. In a restaurant you put ketchup on your french fries. After you take your first bite you realize that the ketchup is bad (sour). You want another order of fries.

a. How strongly do you believe that you would ask for another order of fries?

1      2      3      4      5      6

b. If you asked for another order of fries, would you get more for no extra charge?

1      2      3      4      5      6

5. You were illegally parked. As you're walking to your car you see a policeman about to write you a ticket although he hasn't started yet. You feel like asking him not to write up the ticket.

a. How certain are you that you would ask him not to write you a ticket?

1      2      3      4      5      6

b. If you asked him, would he agree not to write you a ticket?

1      2      3      4      5      6

6. You have a good friend who has just been hospitalized. You go to visit your friend but because of a traffic jam you arrive 15 minutes after the very strictly enforced visiting hours have ended. You would like to sneak in to see your friend.

a. How certain are you that you would try to sneak in to see your friend and risk the embarrassment of being kicked out?

1      2      3      4      5      6

b. If you tried, would you succeed in seeing your friend?

1      2      3      4      5      6

7. You buy a pair of pants from a good store but the first time you wear them the zipper breaks. You decide it is appropriate to try to return the pants.

a. How certain are you that you would try to return the pants even though the salesperson said they had a policy of not accepting returns after two weeks from the time of purchase (it's been a month since you bought them)?

1      2      3      4      5      6

b. If you tried to return them would the store take them back?

1      2      3      4      5      6

8. In an elevator you lose one of your contact lenses. It is in your best interests to try and find it because your eyesight is very poor and your glasses are at home, 20 minutes away.

a. How certain are you that you would stay in the

elevator and continue looking for your lens while the elevator went up and down?

1 2 3 4 5 6

b. Would you eventually find it?

1 2 3 4 5 6

9. You are 2 miles from home, in no hurry. You only have a \$20 bill. The only store around is a fashionable clothing store. You need exact change for the bus.

a. How certain are you that you would go into the fashionable store and request change?

1 2 3 4 5 6

b. If you asked for change, would you get it?

1 2 3 4 5 6

10. You have been lonely recently. You see the guy/gal of your dreams at a party. You know this person is unattached. You desire to talk with this person.

a. How strongly do you believe that you would initiate or arrange a conversation with this person?

1 2 3 4 5 6

b. If you began talking with this person, would he/she respond favorably?

1 2 3 4 5 6

11. The person in question No. 10 above responded somewhat favorably but seemed a little distant or perhaps pre-occupied. You would like to arrange a date with this person because you believe that the two of you have possibilities as a couple.

a. How strongly do you believe that you would ask for or arrange a date with this person?

1 2 3 4 5 6

b. If you asked for or tried to arrange a date with this person, would he/she accept?

1 2 3 4 5 6

12. You need money for the evening and rush to the bank, getting there 2 minutes before closing time. But the tellers have already quit for the day and are totalling up their day's activities. You can't get money elsewhere and, since you were there before closing, you feel it is reasonable to ask to get your check cashed.

a. How certain are you that you would ask to get your check cashed?

1      2      3      4      5      6

b. If you asked to get your check cashed, would you get your money?

1      2      3      4      5      6

13. The bully on the block is picking on your neighbor's children. You feel it is appropriate to tell him to stop.

a. How strongly do you believe that you would tell him to stop?

1      2      3      4      5      6

b. If you told him to stop, would he?

1      2      3      4      5      6

14. The people playing tennis on the court for which you signed up plead that they only have one more game left to finish their set. But it is already 5 minutes after the hour and someone has the hour after your partner and yourself. You would like them to leave.

a. How strongly do you believe that you would ask them to leave?

1      2      3      4      5      6

b. If you asked them, would they leave?

1      2      3      4      5      6

15. You are very coordinated and have the opportunity to learn a skill that could get you a better-paying job. They accept everyone who applies into the training program but only pass half of those who start. It is in your best interests to go through the training program successfully.

a. How certain are you that you would enter the training program?

1      2      3      4      5      6

b. If you did would you pass?

1      2      3      4      5      6

16. You saw your dream home. Mortgage rates are too high for you now but there is a possibility of getting a federally funded low interest loan by standing in line overnight at one of the banks in town. Hundreds of other people will be trying for the loan money, of which there is a limited amount. You would like the low-interest loan, as rates will be high for a long time.

a. How strongly do you believe that you would try for the loan?

1            2            3            4            5            6

b. If you tried for the loan, would you get it?

1            2            3            4            5            6

17. You are in a great hurry. The elevator stops for you but it is jam-packed full of people who all seem like they are ignoring you. You would like to take this elevator.

a. How certain are you that you would try to squeeze onto this elevator?

1            2            3            4            5            6

b. If you tried to get onto the elevator this trip, would you succeed?

1            2            3            4            5            6

18. You need one more sale this week to win a vacation to Hawaii. Your only prospect for a sale is a very mean, nasty man. It is desirable for you to make the sale and win the trip.

a. How strongly do you feel that you would set up an appointment with that person?

1            2            3            4            5            6

b. If you set up the appointment, would he buy the policy and ensure your trip to Hawaii?

1            2            3            4            5            6

Thank you very much. Please make sure you answered every question.

APPENDIX B

## CONSENT FORM

Hello:

We are conducting a research project and would like your help. This project will help us gain an understanding of the type of treatment you're receiving and will be used to improve treatment for others in the future.

Please understand that your decision whether or not to participate in this project is entirely voluntary. Three things are needed from you if you decide to participate.

- 1) filling out the attached forms which we expect will take about 50 minutes or so;
  - 2) filling them out again in at least six weeks;
- and
- 3) giving permission for your therapist to fill out a form about you today and again in at least six weeks.

The enclosed forms consist of a questionnaire and some standardized psychological tests; hopefully you will enjoy filling them out or at least find them interesting. There is no known risk involved in your participating in this study. While there will be no direct benefit to you, the information you give us today may help us to treat others better.

If you have any questions feel free to ask. Please keep in mind that if you decide to participate but for some reason feel that you would like to stop, you are free to do so. If you decide not to participate, that decision will not affect your treatment.

Thank you for your time and cooperation.

Ronald C. Fish

I have read this CONSENT FORM. All my questions have been answered and I freely and voluntarily choose to participate. I understand that my rights and privacy will be maintained. I agree to participate as a volunteer in this program.

\_\_\_\_\_  
Date

\_\_\_\_\_  
Time

\_\_\_\_\_  
Subject's Signature

\_\_\_\_\_  
Ronald C. Fish-Principal Investigator

\_\_\_\_\_  
Witness

APPENDIX C



## Therapist Consent Form

Hello:

I am conducting a research project and would like your help. This project is concerned with change in psychotherapy and hopefully will help us gain a better understanding of different types of patients and how to treat them.

Please understand that your decision whether or not to participate in this project is totally voluntary. Participation involves rating all of your patients who have consented to serve as subjects in this study and thereby have given permission for you to rate them. Rating involves filling out the attached "Patient Rating Form," today and again in at least six weeks, a total of two forms for each of your patients who is participating in this project.

If you have any questions feel free to ask. Please keep in mind that if you decide to participate but for some reason feel that you would like to stop, you are free to do so.

There is no known risk involved in your participation in this study. There will be no direct benefits to you other than those obtained from filling out the rating form; hopefully, that will be interesting for you.

Any information obtained from this study will be treated as confidential.

Thank you:

I agree to serve as a subject in this project by rating those patients of mine who give their permission for me to do so.

\_\_\_\_\_  
Ronald C. Fish-Principal  
Investigator

\_\_\_\_\_  
Therapist's Signature

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Date

\_\_\_\_\_  
Time

APPENDIX D

## Patient Rating Form

Please rate your client in the following six functional areas. The initial Severity (S\_\_\_) rating will constitute a base rating in each area. In at least six weeks you will be requested to make Severity (S\_\_\_) and Progress (P\_\_\_) ratings which will indicate change, if any, and the extent to which therapeutic goals associated with the rated areas have been achieved.

Patient's code: \_\_\_\_\_

Severity Scale:

0=none 1=some 2=moderate 3=severe 4=extreme

Progress Scale:

0=none 1=some 2=moderate 3=substantial 4=complete 5=NA  
(Not applicable)

1. Home/Family      2. School/Work      3. Interpersonal Relations  
S\_\_\_ P\_\_\_                      S\_\_\_ P\_\_\_                      S\_\_\_ P\_\_\_
4. Bodily function      5. Substance abuse/      6. Personal com-  
Impulse control                      fort  
S\_\_\_ P\_\_\_                      S\_\_\_ P\_\_\_                      S\_\_\_ P\_\_\_

7. In what modality do you work with this client?  
Group\_\_\_ Individual\_\_\_ Family\_\_\_ Marital\_\_\_  
(If treatment is multimodal, check what you consider to be the primary mode)

8. How long have you been seeing this client in therapy?  
Under 6 weeks\_\_\_ 6-16 weeks\_\_\_ 17 weeks-1 year\_\_\_  
over 1 year\_\_\_

9. Does this patient abuse drugs?      yes\_\_\_no\_\_\_ (use DSM-III categories)
10. Does this patient abuse alcohol?      yes\_\_\_no\_\_\_
11. Does this patient have psychosomatic symptoms?  
yes\_\_\_no\_\_\_
12. Client's level of motivation for therapeutic change is  
Scale: 0=none 1=minimal 2=moderate 3=considerable  
4=maximal

For second rating only:

Approximately how many sessions have you had with this client since the previous rating?

0-3 \_\_\_      4-7 \_\_\_      over 7 \_\_\_

Approximately how many psychiatric hospitalizations has this patient had?

0 \_\_\_      1-2 \_\_\_      3 or over \_\_\_

APPROVAL SHEET

The dissertation submitted by Ronald C. Fish has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

Dec. 13, 1980  
Date

Roderick W. Pugh  
Director's Signature