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Situational and Generalized Expectancies for a Success as a Function of Race, Gender, and Experience in Helplessness Training

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SITUATIONAL AND GENERALIZED EXPECTANCIES FOR
SUCCESS AS A FUNCTION OF RACE, GENDER, AND
EXPERIENCE IN HELPLESSNESS TRAINING

by

Sandra E. Lowe

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
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VITA

The author, Sandra Elveta Lowe, is the daughter of Senora (Stith) and James Elwood Lowe. She was born September 27, 1946 in Petersburg, Virginia.

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INTRODUCTION

Through the course of our lives, most of us will experience many successes, and many failures as well. These experiences may be in all arenas of our lives: in interpersonal relationships, in academic strivings, in vocational pursuits, and in extracurricular activities. Though even the successes may, at times, be frightening for some of us (Horner, 1970), it is the failures that have the potential to be the most devastating. Further, it is the failures we experience over which we have no control from which we have reason to believe that profound psychological upset can result, from which feelings of helplessness in regard to one's environment can result. Seligman (1974, 1975) has argued that helplessness as a result of feelings of lack of control may be an important factor in the development of such disorders as depression and, thus, the accompanying feelings of hopelessness and defeat and a low expectancy of success. At the same time, feelings of lack of control have also been viewed to result in many types of antisocial, or acting out, behaviors.

By integrating Brehm's (1966) theory of psychological reactance and Seligman's (1974, 1975) learned helplessness model, Wortman and Brehm (1975) suggest in their reactance-learned helplessness model of depression that the amount of experience with helplessness determines perception of noncontingency. Therefore, it follows that situational expectancy of success becomes increasingly influenced by the amount of

experience on the task at hand (Jones, 1977). The present investigation is concerned with the relationship between expectancy of success in a specific situation, i.e., conditions of helplessness, and expectancy of success in one's life in general. In addition, it will look at these expectancies in terms of race and gender.

REVIEW OF RELATED LITERATURE

Learned Helplessness

As a brief overview, the theory of learned helplessness proposes that the expectation that an outcome is independent of responding (a) reduces the motivation to control that outcome and (b) interferes with learning that responding controls the outcome (Maier and Seligman, 1976). Thus, it accounts directly for deficits in motivation and "cognition as well as actual operant behaviors." Maier and Seligman (1976) noted that the theory consists of three steps and they represented it as follows:

Information about contingency → Cognitive representation of the contingency (learning, expectation, perception, belief) → Behavior
(p. 17)

The concept of "learned helplessness" has been of increasing interest since 1967 when Overmier and Seligman did a series of experiments using mongrel dogs. In these experiments, Overmier and Seligman (1967) showed that exposure to inescapable shock resulted in subsequent interference in the acquisition of escape-avoidance learning. Further investigations with animals have also indicated that exposure to uncontrollable aversive stimulation results in impaired learning of adaptive responses (Seligman, Maier, and Solomon,

1971). This phenomenon of learned helplessness refers to the process whereby noncontingent reinforcement results in a perception that events are uncontrollable, that responses and reinforcements are independent. The focus of much research on learned helplessness has been on inappropriate generalizations from an uncontrollable situation to a situation in which control is in fact possible. Research has been done with both animal and human subjects to examine the learned helplessness model. A brief summary of some of this research follows.

Seligman and Maier (1967) demonstrated that it is lack of control over aversive stimulation and not the stimulation itself that produces helplessness. They furthermore found that, if an animal receives controllable shock before being subjected to uncontrollable aversive stimulation, this prior experience with controllable shocks will interfere with subsequent learning that shock is uncontrollable. These experiments also suggest that learned helplessness might possibly be eliminated by forcibly demonstrating to a helpless animal that responses on its part can result in shock termination. Seligman, Maier, and Geer (1968) did just that and were successful in retraining dogs to escape and avoid shock. More recently, however, Maier (1970) has found that experience with controllable shocks does not eliminate entirely helpless behavior in rats.

One of the first helplessness experiments with human subjects was done in 1971 (Fosco and Geer, 1971). In their experiment solutions of problems avoided shock for the subject while non-solution resulted in shock. The results indicated that more mistakes occurred with increased prior experiences with no control. Thornton and Jacobs

(1971) also attempted to test the learned helplessness hypothesis with human subjects. In their experiment subjects received electric shocks while working on a button-pressing task. During the training phase of the experiment one group of subjects (Perceived Avoidance condition) could avoid shocks by pressing the correct button; two other groups were yoked to the first, receiving the same amount of shock. One performed the task, but was told that task performance and shocks were unrelated and the other was given no task, but was merely asked to endure the shocks. The results of this experiment showed that subjects in the Perceived Avoidance condition performed significantly better on the test task than the remaining groups which did not differ from one another.

Hiroto (1974) found in his experiment, using noise as the uncontrollable condition, that subjects who were unable to escape the noise in the training situation, but had been led to believe they had control, performed significantly worse on the escape-avoidance task used in testing. They had longer response latencies and more failures to escape than did subjects in the escape and no pretreatment groups. This experiment and that of Fosco and Geer (1971) do not provide unequivocal support for the learned helplessness model since both experiments have confounded the uncontrollability of the aversive stimulation with the aversive stimulation itself. However, in their experimental design, Thornton and Jacobs (1971) attempted to control for this factor.

A series of experiments relevant to the learned helplessness model was presented in a book by Glass and Singer (1972). In this

book they reported experiments designed to examine the effects of stress, adaptation to stress, and adverse aftereffects of stress. Their studies showed that subjects who had access to an escape button and perceived themselves as in control over aversive stimulation showed fewer poststress performance decrements than did subjects without such a button.

The purpose of the above experiments has been to demonstrate learned helplessness in human subjects. There have been other studies which have sought to determine whether learned helplessness impairs performance only on tasks similar to the training task or whether performance would also be impaired on tasks different from that in the training situation. Hiroto and Seligman (1975) conducted experiments using either instrumental pretraining which involved pressing a button to avoid aversive noise or cognitive pretraining which involved solving concept formation problems. There were four simultaneous experiments as follows: a) subjects received pretreatment on an instrumental task followed by testing on another instrumental task, b) instrumental pretreatment and cognitive testing, c) cognitive pretreatment and instrumental testing, and d) cognitive pretreatment and cognitive testing. The authors suggest that their data supports the hypothesis that learned helplessness does generalize across different situations.

Thornton and Jacobs (1972) and Roth and Bootzin (1974) attempted to demonstrate learned helplessness effects, but found that subjects who were exposed to uncontrollable stimulation in the training session exhibited less helplessness in the testing session than

subjects who were not. Thornton and Jacobs (1972) found that subjects receiving inescapable shock during pretraining significantly increased their scores on a test of mental ability from pretest to posttest, whereas scores of subjects receiving avoidable shock or no shock during pretraining remained unchanged. Roth and Bootzin (1974) found that subjects who were exposed to helplessness training in one concept formation experiment exhibited more controlling behavior in the testing phase which was presented as a second concept formation experiment than subjects who did not receive helplessness training.

Learned helplessness has been proposed as a model of depression by Seligman (1972, 1974). Seligman, Klein, and Miller (1976) have proposed that learned helplessness is a laboratory model for naturally occurring depression in man. They have further proposed that there are helpless depressions suffered by passive individuals with negative cognitive sets about the effects of their own actions. The two most important characteristics of learned helplessness are learning impairment and passivity, and the research in this area is concerned with these characteristics.

Nondepressed students exposed to uncontrollable events in form of inescapable noise showed subsequent performance deficits when compared to nondepressed subjects exposed to controllable events or no events (Miller and Seligman, 1975). These deficits were comparable to those in people with naturally occurring depressions who had not undergone helplessness training. Miller and Seligman (1975) furthermore showed depressed subjects to be cognitively impaired relative to controls. Specifically, they found that, in the noise group,

depressed subjects were much poorer at solving anagrams than were nondepressed subjects and, in fact, on most anagram measures, depressed-no noise subjects tended to do worse than did nondepressed-inescapable noise subjects.

Another study (Miller and Seligman, 1973) focused on how the depressive views reinforcement. They found that depressed subjects perceived reinforcement as more response independent than did nondepressed subjects. The more depressed subjects were, the more they saw reinforcement as independent of response.

Reactance Theory

While learned helplessness has been found in humans (Dweck and Reppucci, 1973; Fosco and Geer, 1971; Glass and Singer, 1972; Hiroto, 1974; Hiroto and Seligman, 1975; Thornton and Jacobs, 1971), there have been several other experiments which have found the opposite effects (Thornton and Jacobs, 1972; Roth and Bootzin, 1974). The latter experiments implied that subjects who are exposed to uncontrollable outcomes in training will exhibit less helplessness in testing than subjects not exposed. This supports Brehm's theory of psychological reactance (1966) in which he maintains that when a person's behavioral freedom is threatened, he or she will become motivationally aroused. This arousal, called reactance, leads individuals to try to restore their freedom. Wortman and Brehm (1975) have suggested that a better understanding of depression might be reached through an integration of learned helplessness with reactance theory.

Hammock and Brehm (1966) demonstrated that a person will experience psychological reactance when behavioral choices are eliminated or control over behaviors is threatened, only if he or she holds the expectation of freedom to engage in the given behavior. The more important a particular freedom is to the individual, the more reactance he or she will experience when that freedom is threatened or taken away (Brehm and Cole, 1966). An individual will manifest more reactance if he or she believes that the particular threat has implications for the future (Brehm and Sensenig, 1966).

Reactance theory makes several predictions concerning the behavior of people subjected to uncontrollable outcomes (Wortman and Brehm, 1975). These include the following: a) that if a person's freedom to engage in certain behaviors is threatened, his/her motivation to engage in that behavior will increase; b) direct attempts to engage in the threatened or eliminated behavior will increase; c) an attempt may be made to restore behavioral freedom by engaging in an activity which suggests by implication that the individual could engage in the threatened behavior; and d) hostility and aggression are believed to be products of the restriction of behavioral freedom.

Thus the two theories, psychological reactance and learned helplessness, appear to be in opposition. While reactance theory predicts that individuals will react to loss of control by becoming hostile and aggressive towards those restricting their freedom, the learned helplessness model predicts that individuals will react with passivity. Reactance theory predicts that individuals will attempt to restore their freedom by engaging in behaviors that imply they have

freedom in the area which has been threatened, while the learned helplessness model leads to the prediction that repeated exposure to uncontrollable outcomes results in learning that responses and reinforcement are independent.

Reactance and Learned Helplessness Theory

Wortman and Brehm (1975) suggest that if a person expects to have control over outcomes that are of some importance to him/her, moderate amounts of experience with helplessness should arouse psychological reactance or increase motivation to maintain control. As a person continues to experience that he/she cannot control the outcome, he/she will stop trying--helplessness results.

Glass and Singer (1972) reported an experiment in which the hypothesis was that whether or not subjects became hostile and negativistic or passive and compliant would depend on whether the experience with bureaucracy was one over which the subject expected to maintain some control. The results of their experiment supported the hypothesis and the integrative model as well.

Roth and Kubal (1975) examined the interaction of the amount of helplessness training and the importance of the tasks in college students. Subjects were given the impression that they were simply to try to solve a concept formation task (Low Importance) or that success on the concept formation task was a good indicator of success in college (High Importance). Subjects were also assigned to various conditions of reinforcement (contingent versus varying amounts of

noncontingent). As predicted by the integrative model, subjects in the high importance condition who received low amounts of helplessness training solved significantly more problems and were more persistent than subjects receiving no training. In contrast, high importance subjects receiving large amounts of helplessness training performed more poorly than the no training groups.

Lowe (1980) investigated racial differences and the effects of varying amounts of experience with helplessness over uncontrollable outcomes on performance on concept formation problems. In addition, she attempted to experimentally validate Wortman and Brehm's (1975) reactance-learned helplessness model of depression. Subjects received either four solvable discrimination problems (no helplessness), two insolvable problems out of four problems (single helplessness), or four insolvable problems out of four problems (double helplessness). Thus, in accordance with the reactance-learned helplessness model, it was predicted that single helplessness subjects having moderate amounts of no control would become motivationally aroused and attempt to maintain control relative to the other treatment groups, whereas double helplessness subjects having large amounts of no control would become passive and stop trying relative to the other treatment groups. Both helplessness and reactance were measured behaviorally by means of six dependent measures, three measures of ability and three measures of persistence. The findings did not provide significant support for the reactance-learned helplessness model on the behavioral measures. However, data from the post-experimental questionnaires supported predictions made by the learned helplessness model where

experience with large amounts of no control had a significant effect on feelings of helplessness. Further, the data from the questionnaires suggested that Blacks experienced more feelings of helplessness or lack of control than did Whites.

Expectancy of Success

As aforementioned, the phenomenon of learned helplessness refers to the process whereby noncontingent reinforcement results in a perception that events are uncontrollable, that responses and reinforcements are independent. Cole and Coyne (1977) and Wortman and Brehm (1975) agree that the question of generalization has to do with the very meaning of helplessness; that it is critical to any argument that laboratory-induced helplessness is a suitable analogue of depression. Although Roth and Kubal (1975) provided evidence which suggested that helplessness generalizes across situations, other studies (Cole and Coyne, 1977; Ruth and Bootzin, 1974) have not demonstrated generalization across diverse situations. The question of the extent to which perceived helplessness in one situation generalizes to other situations has still not received a clear answer. Jones (1977) notes that it seems reasonable to suppose that one of the key factors influencing generalizability of learned helplessness is one's attribution of the cause of his or her failure in a given situation. Several studies, some of which follow, have

examined the question of attribution and expectancy changes in skill and chance tasks.

In a study which attempted to demonstrate the effect of situational variables on expectancy changes subjects performed two experimental tasks under either skill or chance conditions (Phares, 1957). He found that the chance situation produced smaller changes in expectancy of success than the skill situation and the frequency of expectancy shifts was greater in the skill situation. Rotter, Liverant, and Crowne (1961) investigated the growth and extinction of expectancies in chance and skill tasks under four different reinforcement schedules. Subjects on each task received 25 percent, 50 percent, 70 percent, or 100 percent positive reinforcement and after having the task explained each subject stated his/her expectation of succeeding on subsequent trials. The findings indicated that expectancies for future reinforcement [or success] are likely to change less when the subject regards the occurrence of reinforcement to be beyond his/her control. Further, under skill conditions positive and negative reinforcement leads to greater increments and decrements, respectively, in verbalized expectancies. Schwarz (1969) analyzed the change in correlation between generalized expectancy and successive expectancy statements elicited after each trial under two sequences of reinforcement on a novel motor-skill task. He found that under a reinforcement schedule beginning with three failures generalized expectancy is significantly correlated with expectancy on a novel task over several trials whereas under a reinforcement schedule beginning with three successes correlation between

generalized expectancy and expectancy on a novel task fell below statistically significant levels by the second successful trial. McMahan (1973) designed a study in which sixth-grade, tenth-grade, and college students attempted to solve five anagram problems and required them to state their expectancy of success prior to each anagram and their causal attributions for success or failure following each anagram. Attributions to ability and to task [difficulty] were found to be associated with high expectations following success and with low expectations following failure, while attributions to effort and to luck were found to be associated with low expectations following success and with high expectations following failure. Heiner, Nierenberg, and Goldstein (1976) definitively demonstrated support for the attributional concept and contradicted predictions from social learning theory. They found that the stability of causal attributions, and not their locus of control, is related to expectancy of success and expectancy shifts. On the other hand, in his doctoral research in which the data was collected through the use of questionnaires, Ard (1976) showed that level of performance, measured by cumulative grade point average, had a strong, direct relationship with expectancy of subsequent performance, regardless of causal attribution. In other words, how well a student performed in one year of college was directly related to his/her prediction regarding success in the following year.

In their study of depressed subjects, Miller and Seligman (1973) examined changes in expectancies of success of 32 college students following reinforcement in chance and skill tasks. The

findings were that depressed subjects show less change in expectancy following reinforcement than nondepressed subjects in a skill task, while depressed and nondepressed subjects do not differ in expectancy change following reinforcement in a chance task. Nondepressed subjects' expectancy changes are affected more by the chance-skill manipulation than are the expectancy changes of depressed subjects. In another study depressed and nondepressed college students received experience with solvable, unsolvable, or no discrimination problems (Klein, Fencil-Morse, and Seligman, 1976). The results suggested that failure in itself is apparently not sufficient to produce helplessness deficits in people, but failure that leads to a decreased belief in personal competence is sufficient. Using 48 male hospital inpatients who were exposed to experimentally-manipulated success and failure on two tasks that were ambiguous regarding their luck or skill determinants, Romanoff (1976) demonstrated that depressed subjects stated lower initial expectancies as well as lower overall expectancies than nondepressed subjects and that depressed subjects' expectancies changed less over both success and failure trials than the expectancies of nondepressed subjects. In addition, the results showed that all subjects attributed their failure to a combination of internal and external factors and they attributed their success to their abilities and efforts, though depressed subjects attributed their success to luck to a significantly greater extent than nondepressed subjects. In another study (Tennen, 1976), depressed and nondepressed college females, exposed to a series of anagrams, were used to test the proposed attributional model of depression of Miller

and Seligman (1973) which suggested that observed differences in expectancy shifts between depressed and nondepressed college students are modulated by different perceptions of the causes of success and failure. Tennen only partially confirmed this model. Nondepressed subjects had a higher expectancy of future success following success than depressed subjects, but the difference between groups was not significant in their expectancy ratings following failure. The obtained expectancy shifts follow directly from the differences in causal attributions: depressed subjects who attributed their success to a variable causal factor (luck) also showed smaller expectancy shifts following success.

Changes in verbalized expectancies of success on skill and chance tasks at either 50 percent or 75 percent rate of reinforcement were assessed for depressed and nondepressed college students (McNitt and Thornton, 1978). The subjects modified their expectancies of future success in accordance with their prior successes and failures more on a skill task than on a chance task. The results suggested that the depressed person overgeneralizes from any experience of success or failure in forming expectations for future successes.

In their study, O'Leary, Donovan, Krieger, and Cysewski (1978) analyzed the expectancy statements for future success of 62 alcoholic inpatients, varying in level of depression, within both the skill and chance tasks. They found that, regardless of level of depression, subjects rated the skill task as requiring more personal ability than did the chance task and, further, subjects rated their expectations

for future success significantly higher on the skill task relative to the chance task.

Abramson, Garber, Edwards, and Seligman (1978) assessed changes in expectancy following success and failure in skill and chance tasks for depressed nonschizophrenics (unipolar depressives), depressed schizophrenics, nondepressed schizophrenics, and normal controls. The unipolar depressives showed smaller changes in expectancy of future success after failure in the skill task than did the normal controls and both schizophrenic groups. Both depressed and nondepressed schizophrenics showed the pattern of expectancy change characteristic of normals. Smolen (1978) had subjects perform card-sorting and peg-sorting tasks in which measures of performance, ratings of mood and expectancy of success, and subjective evaluations of performance were obtained under chance and skill reinforcement conditions. He obtained some support for the prediction that depressives provide lower evaluations of their performance than nondepressives, but showed no statistically significant differences in expectancies between depressed nonschizophrenic and nondepressed nonschizophrenic subjects and between depressed schizophrenic and nondepressed schizophrenic subjects.

Jones (1977) states that the perception that one is helpless in a particular situation clearly corresponds to a very low subjective probability of success. Further, he suggests that it follows that the perception of helplessness decreases the likelihood of initiating and sustaining task-relevant behaviors and thereby decreases the likelihood of success. Several studies have taken on

the task of examining the learned helplessness phenomenon as it relates to expectations of success.

In a standard "public" design with the experimenter present depressed-anxious, nondepressed-anxious, and nondepressed-nonanxious college students estimated their changes for success in a skill or a chance task (Miller, Seligman, and Kurlander, 1975). They found that nondepressed subjects exhibited greater change in expectancy than depressed subjects. Sacco and Hokanson (1978) were unable to replicate these findings when comparing subjects who were depressed, nondepressed, and nondepressed pretreated with an inescapable-noise-insoluble-problems manipulation on anagram performance and on stated expectations of success on trials of a perceptual task in both a public (experimenter present) and a private (experimenter absent) condition. In the public condition where the experimenter was present, both depressed and nondepressed-inescapable noise subjects showed numerically less expectancy change during the perceptual task than the nondepressed subjects; whereas in the private condition where the experimenter was absent, that pattern was reversed. In the private condition depressed subjects displayed significantly greater expectancy change than nondepressed subjects. Therefore, it was suggested that these results may be accounted for by interpersonal mechanisms between subject and experimenter rather than a learned helplessness conceptualization.

Another study was attempted in an effort to explain the discrepancy between the expectations of depressives and their actual performance on psychomotor tests (Hale, 1976). The results revealed

no discrepancy--depressives not only reported lower expectancies, they actually performed significantly more poorly than nondepressives. Further, there was an overall main effect for the performance feedback with subjects in the failure condition reporting greater depressive mood, lower expectancies for success on the test, and lower post-test estimates of their performance.

Pohlmann (1977) also examined both expectation of success and actual performance of depressed and nondepressed subjects. The data confirmed the prediction that depressed subjects would show lower expectancies of success regardless of rate of reinforcement and, in addition, depressed subjects were found to vary their expectancies consistent with changes in feedback, indicating that they do perceive differences in rates of reinforcement and react appropriately to those changes. However, the results indicated that they changed their behavior in an apparent attempt to avoid success.

Willis and Blaney (1978) did three separate tests of predictions derived from Seligman's learned helplessness model of depression. The results of the first study in which a motor skill task was used revealed that there was no association between depression and measures of perceived noncontingency as predicted, but that the expectancy changes for depressed subjects was higher than those for nondepressed subjects which was in the opposite direction than had been predicted. The second study utilized discrimination problems in the training phase and a motor skill task in the testing phase. The findings of this study contradicted the assumption that the psychological state induced by so-called helplessness manipulations is the

same state in which an individual fails to adjust his/her expectations of future success/failure in a skill task on the basis of past success/failure. In the third and final study a subject's anagram performance was evaluated by (1) mean response latency to anagram solution, (2) number of anagrams not solved within 100 seconds, and (3) trials to criterion for pattern solution. The findings indicated that depressed subjects showed an inferior level of learning and problem-solving; however, they did not reveal differences in self-reports of perceived noncontrol over outcomes.

The Ott (1978) study assessed the applicability of Seligman's learned helplessness model to a population of normal children and the effects of the induction of helplessness on situational versus generalized expectancy. The children were assigned to either the response-dependent group, the response-independent group, or the control group and exposed to situations designed to induce different expectancies concerning response-outcome independence. However, the findings failed to replicate any of the findings of previous learned helplessness studies.

A unique study designed by Motowildo (1976) investigated the effects of state and trait factors on expectancy of success and performance level. The trait factor was evaluated by a questionnaire developed to measure an individual's generalized expectancy of task success which was defined as a general sense of self-competence and expectancy of succeeding in any task. The state factor was measured by the effect of the participant's assigned objective probability of solving arithmetic problems on their own expectancies of success.

The results revealed that people in situations with high objective probabilities of success will form higher subjective expectancies of success and perform at higher levels than people in situations with low success probabilities. However, the results revealed no significant effects of generalized expectancy of success on either expectancy of success (specific) or level of performance.

Differences in race and gender. In a study designed to determine the extent to which sex differences in expectancy can be generalized across achievement areas including two intellectual subtests of the WISC and a social task, the findings suggested that both sex and ethnic differences may be reflected in levels of self-confidence and internal evaluation (Robertson, 1977). The results showed that boys initially expected to do better than girls, but girls raised their estimates more than boys following reinforcement, regardless of whether the feedback was positive or neutral. Hispanic children tended to have the highest expectancies on both intellectual and social tasks when compared to Black and White children. The expectancies for Whites was higher than for Blacks on intellectual tasks and the reverse was true on social tasks.

Lee (1976) performed an experiment to determine whether sex differences existed in locus of control and expectancy of success in a physical skill achievement such as tennis, in addition to other issues related to class membership (coed versus same sex). The findings suggested that sex differences exist in performance, but do not exist in locus of control and tennis expectancy of success. Lefcourt and Ladwig (1965) compared White and Black prison inmates on

three scales pertinent to the internal-external control dimensions and on three performance variables from Rotter's Level of Aspiration Board task and reported that on all measures Blacks revealed greater expectancy of control being external. They were found to have low expectancies for internal control of reinforcements both in attitude and behavior measures.

Steele (1975) examined the role of sex and race in the depressive experience of a non-clinical adult population. The results demonstrated a statistically significant difference between Blacks and Whites regarding the number of stressful life events and in terms of expectancies for internal control of reinforcements. The findings further indicated that females were more depressed, more dependent, and more guilty than males. However, no statistically significant differences were found between Blacks and Whites on any of the depression measures and other psychological variables.

Summary of Literature and Statement of Problem

In summary, learned helplessness research suggests that noncontingent reinforcement results in the perception that events are uncontrollable, that responses and reinforcements are independent, and this perception corresponds to a very low expectancy of success. The attribution reformulation suggests that the attribution an individual makes for noncontingency between responses and outcomes in the here and now is the determinant of subsequent expectations of success or failure (Abramson, Seligman, and Teasdale, 1978).

Reactance-learned helplessness research suggests that the amount of experience with helplessness (moderate versus large) determines an individual's perception of noncontingency which corresponds, as aforementioned, to expectancy of success. Specifically, moderate experience with helplessness should increase motivation to maintain control and, thus, high expectancy of success should result, whereas, large amounts of experience with helplessness should result in helplessness and, thus, low expectancy of success should follow. Both gender and race variables may be expected to interact or influence expectancies of success. Research data suggest that Blacks experience more feelings of helplessness than Whites and their perception of noncontingency results in low expectancies of success and, likewise, women when compared to men.

Based upon the results just summarized, it is the thrust of the present research to evaluate the effects that experience with helplessness, when examined within the context of race and gender, has on behavior. Specifically, the following experimental hypotheses are proposed.

1. Large amounts of experience with no control produce greater feelings of helplessness than moderate experience with no control.
2. Large amounts of experience with no control produce greater feelings of helplessness than no experience with no control.
3. Moderate experience with no control produces greater feelings of reactance no experience with no control.

4. Large amounts of experience with no control produce lower expectancy of success in a specific situation (situational expectancy) than moderate experience with no control.
5. Large amounts of experience with no control produce lower situational expectancy of success than no experience with no control.
6. Moderate experience with no control produces greater situational expectancy of success than no experience with no control.
7. Blacks have lower situational expectancy of success than Whites in the face of large amounts of experience with no control.
8. Women have lower situational expectancy of success than men in the face of large amounts of experience with no control.
9. Blacks have lower generalized expectancy of success than Whites.
10. Women have lower generalized expectancy of success than men.

METHOD

Subjects

The subjects were 15 Black females, 15 Black males, 15 White females, and 15 White males who were enrolled in introductory psychology and/or Black Studies courses at a large midwestern university. The subjects participated in the experiment to partially fulfill course requirements. Within race, they were equally and randomly assigned to the following three experimental conditions: no helplessness, single helplessness and double helplessness training.

Materials

For the helplessness training, discrimination problems (Levine, 1971) were used which consisted of 3 x 5 stimulus cards, on each of which were two stimulus patterns. The stimulus patterns were composed of five different dimensions and two values associated with each dimension. The five dimensions and their associated values are as follows: a) letter--A or T, b) letter color--black or white, c) letter size--large or small, d) border shape--circle or square, and e) border number--one or two. Four different problems were presented in blocks of ten trials each. For the helplessness conditions either two or four of the problems were insolvable for the single helplessness and for the double helplessness conditions respectively.

A stopwatch was used to measure response latency.

Subjects were required to fill out two questionnaires, included in Appendix A, following helplessness training. The first was a 15-item Likert type questionnaire with items selected from a questionnaire developed by Roth and Kubal (1975). This questionnaire was used to determine subjects' feelings of helplessness and their expectations of success in regards to the helplessness training. The second was a 30-item Likert type questionnaire (Fibel and Hale, 1978) used to assess subjects' expectations of success in their lives in general.

Procedure

Subjects were randomly assigned to the experimental groups. Each group, single helplessness, double helplessness, and no helplessness, contained 20 subjects, 10 Blacks and 10 Whites. In addition, each group contained an equal number of females and males. Each subject was seen individually.

All subjects were introduced to the experiment in the following way:

This is an experiment in learning. You will be asked to fill out a couple of questionnaires and to solve some problems in concept formation.

Subjects in the three groups were then given the following, somewhat revised, instructions from Hiroto and Seligman (1975):

In this experiment you will be looking at 3 x 5 index cards, each of which contains two stimulus patterns. The sample patterns are composed of five different dimensions and two values associated with each dimension. [The five dimensions and associated values were then described in accordance with the above description.] Each stimulus pattern has one value from each of the five dimensions.

I have arbitrarily chosen one of the ten values as being correct. For each card I want you to choose which pattern contains this value and I will then tell you if your choice was correct or incorrect. In a few trials you can learn what the correct value is by this feedback. The object for you is to figure out what the answer is so you can choose correctly as often as possible. At the end of the ten trials, I want you to give me, by name, the correct value.

No helplessness subjects received four out of four solvable discrimination problems. Single helplessness subjects received two insolvable problems out of four problems which were randomly distributed across the training set. Out of four problems, double helplessness subjects received all four insolvable problems, two of which were the same insolvable problems as in the single helplessness condition. A time limit of 15 seconds was set for each trial in the ten-trial block.

Following helplessness training subjects filled out selected items from a questionnaire (Roth and Kubal, 1975) in which they were asked their reactions to the training. Six items of the questionnaire were used to assess expectancies of success and of failure and nine items on this post-experimental questionnaire was used to assess the participants' feelings of helplessness. The instructions for the questionnaire which were read aloud by the experimenter as the subjects read along silently were as follows:

Now will you please fill out this questionnaire. Indicate your responses of how you are feeling right now on a scale of 1 for never true to 7 for always true.

A second questionnaire, the Generalized Expectancy for Success Scale (Fibell and Hale, 1978), was then administered. The instructions

which were read aloud by the experimenter as the subjects read along silently were as follows (Fibell and Hale, 1978):

This is a questionnaire to find out how people believe they will do in certain situations. Each item consists of a 5-point scale and a belief statement regarding one's expectations about events. Please indicate the degree to which you believe the statement would apply to you personally by circling the appropriate number [1 = highly improbable, 5 = highly probable]. Give the answer that you truly believe best applies to you and not what you would like to be true or think others would like to hear. Answer the items carefully, but do not spend too much time on any one item. Be sure to find an answer for every item, even if the statement describes a situation you presently do not expect to encounter. Answer as if you were going to be in each situation. Also try to respond to each item independently when making a choice; do not be influenced by your previous choices.

Upon completion of this questionnaire, subjects were debriefed and questions answered.

RESULTS

The data of this 2 x 2 x 4 (Race x Gender x Experience with helplessness) factorial design for each of seven dependent measures were analyzed by means of the analysis of variance. The fifteen dependent measures were nine measures of the feeling of helplessness, three measures regarding expectancy of success in a specific situation (score on positive/success statements, score on negative/failure statements, and overall situational expectancy of success score [positive score minus negative score]), and three measures regarding generalized expectancy of success (score on positive/success statements, score on negative [failure] statements, and overall generalized expectancy of success score [positive score minus negative score]).

Evaluation of Hypotheses

Effect of varying amounts of control. Feelings of helplessness were assessed through the use of a questionnaire. Specifically, they were determined by subjects' answers regarding their feelings during helplessness training. The higher was the score on eight of these nine questions, the greater the helplessness; the lower was the score, the greater the reactance. On the ninth question, "Felt friendly toward the experimenter," the opposite was true. The means and standard deviations on each of these questions are presented in Table 1. Analyses of variance for helplessness conditions were

TABLE 1

MEANS AND STANDARD DEVIATIONS (IN PARENTHESES) FOR MEASURES OF FEELINGS
OF HELPLESSNESS FOR DOUBLE HELPLESSNESS (D), SINGLE HELPLESSNESS (S),
AND NO HELPLESSNESS (N) GROUPS

| Question | Single Helplessness | Double Helplessness | No Helplessness | Direction of Significance |
|--|------------------------|------------------------|--------------------|------------------------------|
| Important to do well | 5.60 (1.02) | 5.55 (1.02) | 6.05 (0.92) | n.s. |
| Things beyond control | 2.95 (1.12) | 3.80 (1.83) | 2.35 (1.42) | D = S > N |
| Stressed | 2.75 (1.13) | 4.35 (1.59) | 2.55 (1.46) | D > S = N |
| Frustrated | 3.05 (1.24) | 4.65 (1.80) | 2.40 (1.16) | D > S = N |
| Bored | 2.00 (1.10) | 3.70 (1.38) | 2.10 (1.22) | D > S = N |
| Depressed | 2.60 (1.36) | 3.60 (1.62) | 1.90 (1.26) | D > S = N |
| Angry | 2.50 (1.24) | 3.10 (1.22) | 1.75 (1.13) | D > S = N |
| Unfair | 1.85 (1.06) | 3.70 (1.42) | 1.85 (1.11) | D > S = N |
| Felt friendly toward the experimenter | 6.45 (0.74) | 5.50 (0.92) | 6.50 (0.74) | S = N > D |

computed and the results are presented in Table 2. The results of the analyses revealed significant effects due to treatment groups.

Significance emerged on the following questions: Things beyond control, $F(2,48) = 4.72$, $p = .01$; Stressed, $F(2,48) = 9.34$, $p = .00037$; Frustrated, $F(2,48) = 12.72$, $p = .00004$; Bored, $F(2,48) = 14.46$, $p = .00001$; Depressed, $F(2,48) = 6.64$, $p = .003$; Angry, $F(2,48) = 7.27$, $p = .002$; Unfair, $F(2,48) = 16.11$, $p = .00000$; Felt friendly toward the experimenter, $F(2,48) = 8.86$, $p = .00053$.

In an effort to further partial out the variance between treatment groups, the Newman-Keuls test for significance was employed. Results indicate that the Double Helplessness group differed significantly from both the Single and the No Helplessness groups at the .01 level of significance. In comparison to subjects in the Single and the No Helplessness groups, the Double Helplessness subjects (1) felt more stressed ($R_2(E)^* = 1.22$ and $R_2(O)^* = 1.60$ and $R_3(E) = 1.40$ and $R_3(O) = 1.80$), (2) felt more frustrated ($R_2(E) = 1.22$ and $R_2(O) = 1.60$ and $R_3(E) = 1.40$ and $R_3(O) = 2.25$), (3) felt more bored ($R_2(E) = .97$ and $R_2(O) = 1.60$ and $R_3(E) = 1.09$ and $R_3(O) = 1.70$), (4) had greater feelings that the problems were unfair, and (5) felt less friendly toward the experimenter ($R_2(E) = .54$ and $R_2(O) = .95$ and $R_3(E) = .65$ and $R_3(O) = 1.00$). At the .05 level the Double Helplessness subjects had significantly greater feelings that things were beyond their control than did subjects in the No Helplessness group, where $R_3(E) = 1.17$

*E indicates expected values, O indicates observed values.

TABLE 2
ANOVA FOR TREATMENT GROUPS ON MEASURES OF
FEELINGS OF HELPLESSNESS

| Question | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| 1. Important to do well | 2 | 1.52 | 1.33 | 0.28 |
| 2. Things beyond control | 2 | 10.62 | 4.72 | 0.01 |
| 3. Stressed | 2 | 19.47 | 9.34 | 0.0004 |
| 4. Frustrated | 2 | 26.82 | 12.72 | 0.00004 |
| 5. Bored | 2 | 18.20 | 14.46 | 0.00001 |
| 6. Depressed | 2 | 14.60 | 6.64 | 0.003 |
| 7. Angry | 2 | 9.15 | 7.27 | 0.002 |
| 8. Unfair | 2 | 22.82 | 16.11 | 0.00000 |
| 9. Felt friendly toward the experimenter | 2 | 6.35 | 8.86 | 0.001 |

and $R_3(0) = 1.45$. The Double Helplessness group felt significantly more depressed than the No Helplessness group at the .01 level ($R_3(E) = 1.44$ and $R_3(0) = 1.70$) and the Single Helplessness group at the .05 level ($R_2(E) = .94$ and $R_2(0) = 1.00$). The No Helplessness group felt significantly less angry than the Double Helplessness group at the .01 level ($R_3(E) = 1.09$ and $R_3(0) = 1.35$) and the Single Helplessness group at the .05 level ($R_2(E) = .72$ and $R_2(0) = .75$). In sum, the significant differences between treatment groups are in the direction the learned helplessness model would predict. That is, experience with large amounts of no control had a significant effect on feelings of helplessness about the cognitive task itself. Thus, hypothesis 1 that large amounts of experience with no control produce greater feelings of helplessness than moderate experience with no control and hypothesis 2 that large amounts of experience with no control produce greater feelings of helplessness than no experience with no control were confirmed. However, hypothesis 3 that moderate experience with no control produces greater feelings of reactance than no experience with no control was not confirmed.

Within the context of the factorial design, main effects for treatment groups (no helplessness, single helplessness, double helplessness) were computed on the three measures of expectancy of success in a specific situation. Means and standard deviations for these measures are presented in Table 3 and the ANOVA summaries are presented in Table 4. Results of the analysis of variance on each of these three dependent variables revealed significant effects due to treatment condition. The critical values for each of the dependent

TABLE 3
 MEANS AND STANDARD DEVIATIONS (IN PARENTHESES) FOR
 MEASURES OF SITUATIONAL EXPECTANCY OF SUCCESS

| Group | Positive Score | Negative Score | Overall Score |
|--------|-------------------|-------------------|------------------|
| Single | 14.60 (2.24) | 6.55 (2.38) | 8.05 (3.32) |
| Double | 11.20 (2.24) | 10.60 (3.15) | 0.60 (4.90) |
| No | 15.65 (1.90) | 5.95 (2.62) | 9.70 (4.05) |

TABLE 4
ANOVA FOR TREATMENT GROUPS ON MEASURES OF
SITUATIONAL EXPECTANCY OF SUCCESS

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 2 | 108.22 | 21.01 | 0.0000 |
| Expectancy for failure (Negative Score) | 2 | 127.95 | 22.35 | 0.0000 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 2 | 470.12 | 35.84 | 0.0000 |

variables for the main effect of experience with helplessness are as follows: positive score, $F(2,48) = 21.01$; negative score, $F(2,48) = 22.35$; overall situational expectancy of success score, $F(2,48) = 35.84$. The Newman-Keuls test was used to further partial out the variance between treatment groups for the dependent variables. At the .01 level of significance, the following results were found: for positive score, $R_2(E) = 1.95$ and $R_2(0) = 3.40$ and $R_3(E) = 2.23$ and $R_3(0) = 4.45$; for negative score, $R_2(E) = 2.06$ and $R_2(0) = 4.05$ and $R_3(E) = 2.36$ and $R_3(0) = 4.65$; for overall score, $R_2(E) = 3.09$ and $R_2(0) = 7.45$ and $R_3(E) = 3.54$ and $R_3(0) = 9.10$. Thus, hypothesis 4 that large amounts of experience with no control produce lower expectancy of success in a specific situation (situational expectancy) than moderate experience with no control ($R_2(E) = 3.09$ and $R_2(0) = 7.45$) and hypothesis 5 that large amounts of experience with no control produce lower situational expectancy of success than no experience with no control ($R_3(E) = 3.54$ and $R_3(0) = 9.10$) were confirmed. However, hypothesis 6 that moderate experience with no control produces greater situational expectancy of success than no experience with no control was not confirmed.

Effect of race of subject by varying amounts of control. The interactions of race by treatment group for the three measures of situational expectancy of success were computed. The results of the analyses which are presented in Tables 5, 6, and 7 revealed that there was no significance on the three dependent variables: positive

TABLE 5
ANOVA FOR MAIN EFFECTS AND INTERACTIONS ON
MEASURE OF SUCCESS/POSITIVE STATEMENTS

| Source of Variance | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|------------------------|-----------|-----------|----------|----------|
| Race | 1 | 3.75 | 0.73 | 0.398 |
| Gender | 1 | 33.75 | 6.55 | 0.014 |
| Treatment Group (TxGp) | 2 | 108.22 | 21.01 | 0.000 |
| Race x Gender | 1 | 2.82 | 0.55 | 0.463 |
| Race x TxGp | 2 | 4.05 | 0.79 | 0.461 |
| Gender x TxGp | 2 | 2.15 | 0.42 | 0.661 |
| Race x Gender x TxGp | 2 | 18.32 | 3.56 | 0.036 |
| Error | 48 | 5.15 | | |

TABLE 6
ANOVA FOR MAIN EFFECTS AND INTERACTIONS ON
MEASURE OF FAILURE/NEGATIVE STATEMENTS

| Source of Variance | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|------------------------|-----------|-----------|----------|----------|
| Race | 1 | 48.60 | 8.49 | 0.005 |
| Gender | 1 | 6.67 | 1.16 | 0.286 |
| Treatment Group (TxGp) | 2 | 127.95 | 22.35 | 0.000 |
| Race x Gender | 1 | 6.67 | 1.16 | 0.286 |
| Race x TxGp | 2 | 3.65 | 0.64 | 0.533 |
| Gender x TxGp | 2 | 39.12 | 6.83 | 0.002 |
| Race x Gender x TxGp | 2 | 13.22 | 2.31 | 0.110 |
| Error | 48 | 5.73 | | |

TABLE 7
ANOVA FOR MAIN EFFECTS AND INTERACTIONS ON
MEASURE OF OVERALL EXPECTANCY OF SUCCESS

| Source of Variance | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|------------------------|-----------|-----------|----------|----------|
| Race | 1 | 79.35 | 6.05 | 0.018 |
| Gender | 1 | 70.42 | 5.37 | 0.025 |
| Treatment Group (TxGp) | 2 | 470.12 | 35.84 | 0.000 |
| Race x Gender | 1 | 0.82 | 0.06 | 0.804 |
| Race x TxGp | 2 | 4.55 | 0.35 | 0.709 |
| Gender x TxGp | 2 | 57.72 | 4.40 | 0.018 |
| Race x Gender x TxGp | 2 | 62.62 | 4.77 | 0.013 |
| Error | 48 | 13.12 | | |

score, $F(2,48) = .79$; negative score, $F(2,48) = .64$; overall score, $F(2,48) = .35$. Due to the lack of significance, hypothesis 7 that Blacks have lower situational expectancy of success than Whites in the face of large amounts of experience with no control was not confirmed.

Effect of gender by large amounts of control. The interactions of gender by treatment group for the three measures of situational expectancy of success are presented in Table 8. No significance was found for the positive score, $F(2,48) = .42$, $p = .66$. However, the findings revealed significant interactions for the negative score, $F(2,48) = 6.83$, $p = .0025$ and for the overall expectancy of success score, $F(2,48) = 4.40$, $p = .0176$. The data from the Newman-Keuls test for significance which was used to further partial out variance between groups revealed that at the .05 level of significance females in the double helplessness group had higher negative (expectancy of failure) scores than males in the double helplessness group ($R_2(E) = 2.17$ and $R_2(O) = 2.80$) and at the .01 level of significance females in the double helplessness group had lower overall scores of expectancy of success ($R_2(E) = 4.39$ and $R_2(O) = 5.00$). Although there was no significant difference between the female and the male double helplessness groups for positive (success) scores, significant differences were found for negative (failure) scores and for overall expectancy of success scores. Therefore, according to these data, hypothesis 8 that women

TABLE 8
ANOVA FOR GENDER BY TREATMENT GROUP INTERACTION

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 2 | 2.15 | 0.42 | 0.6611 |
| Expectancy for failure (Negative Score) | 2 | 39.12 | 6.83 | 0.0025 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 2 | 57.72 | 4.40 | 0.0176 |

have lower situational expectancy of success than men in the face of large amounts of experience with no control was confirmed.

Effect of race on generalized expectancies of success. Within the context of the factorial design, main effects for race were computed on the three measures of generalized expectancy of success. Means and standard deviations for these measures are presented in Table 9 and the ANOVA are presented in Table 10. Results of the analysis of variance on each of these three dependent variables revealed no significant effects due to race. The critical values for each of the dependent variables for the main effect of race are as follows: positive score, $F(1,48) = 2.76$; negative score, $F(1,48) = 1.88$; overall generalized expectancy of success score, $F(1,48) = 3.00$. Therefore, hypothesis 9 that Blacks have lower generalized expectancy of success than Whites was not confirmed.

Effect of gender on generalized expectancies of success. Within the context of the factorial design, main effects for gender were computed on the three measures of generalized expectancy of success. Means and standard deviations for these measures are presented in Table 11 and the ANOVA are presented in Table 12. Results of the analysis of variance on each of the three dependent variables revealed no significant effects due to gender. The critical values for each of the dependent variables for the main effect of gender are as follows: positive score, $F(1,48) = 2.04$; negative score, $F(1,48) = .25$; and overall score, $F(1,48) = 1.22$.

TABLE 9

MEANS AND STANDARD DEVIATIONS (IN PARENTHESES) FOR RACE
ON MEASURES OF GENERALIZED EXPECTANCY OF SUCCESS

| Group | Positive Score | Negative Score | Overall Score |
|--------|-------------------|-------------------|------------------|
| Blacks | 65.60 (7.35) | 32.47 (5.90) | 33.13 (11.81) |
| Whites | 68.43 (5.91) | 30.17 (6.56) | 38.27 (10.94) |

TABLE 10
ANOVA FOR RACE ON MEASURES OF GENERALIZED
EXPECTANCY OF SUCCESS

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 1 | 120.42 | 2.76 | 0.103 |
| Expectancy for failure (Negative Score) | 1 | 79.35 | 1.88 | 0.176 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 1 | 395.27 | 3.00 | 0.089 |

TABLE 11
MEANS AND STANDARD DEVIATIONS (IN PARENTHESES) FOR GENDER
ON MEASURES OF GENERALIZED EXPECTANCY OF SUCCESS

| Group | Positive Score | Negative Score | Overall Score |
|---------|-------------------|-------------------|------------------|
| Females | 65.80 (7.00) | 31.73 (7.12) | 34.07 (12.93) |
| Males | 68.23 (6.29) | 30.90 (5.44) | 37.33 (9.99) |

TABLE 12
ANOVA FOR GENDER ON MEASURES OF GENERALIZED
EXPECTANCY OF SUCCESS

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 1 | 88.82 | 2.04 | 0.16 |
| Expectancy for failure (Negative Score) | 1 | 10.42 | 0.25 | 0.62 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 1 | 160.07 | 1.22 | 0.28 |

Thus, hypothesis 10 that women have lower generalized expectancy of success than men was not confirmed.

Other Significant Findings of Interest

Effect of race. Analyses of variance were computed on the measures of helplessness. Race of the subject was found to have a differential effect on three of the nine measures of helplessness. These dependent variables and the critical values follow: (1) Things beyond control, $F(1,48) = 6.67$, $p = .01$; (2) Bored, $F(1,48) = 4.29$, $p = .04$; and (3) Angry, $F(1,48) = 5.84$, $p = .02$. Thus, Blacks, as compared to Whites, were found to (1) have greater feelings that things were beyond their control, (2) feel more bored, and (3) have greater feelings of anger.

Within the context of the factorial design, main effects for race were computed on the three measures of situational expectancy of success. The results of the analysis of variance, presented in Table 13, revealed significant effects due to race. Significance was found on two of the three measures. Specifically, no significance was found on positive score, $F(1,48) = 0.73$, $p = 0.40$. However, significance was found on negative score, $F(1,48) = 8.49$, $p = 0.01$ and on overall expectancy of success score, $F(1,48) = 6.05$, $p = 0.02$. Therefore, it can be concluded from the data that Whites have a greater situational expectancy of success than Blacks, but that this effect is independent of experimental experience with helplessness.

TABLE 13
ANOVA FOR RACE ON MEASURES OF SITUATIONAL
EXPECTANCY OF SUCCESS

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 1 | 3.75 | 0.73 | 0.40 |
| Expectancy for failure (Negative Score) | 1 | 48.60 | 8.49 | 0.01 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 1 | 79.35 | 6.05 | 0.02 |

Effect of gender. The main effect for gender on the three measures of situational expectancy of success was computed by means of the analysis of variance. The results, presented in Table 14; revealed significant effects due to gender. Significance was found on two of the three measures--positive score, $F(1,48) = 6.55$, $p = 0.01$; and overall expectancy of success score, $F(1,48) = 5.37$, $p = 0.02$. However, no significance was found on negative score, $F(1,48) = 1.17$, $p = 0.29$. Thus, the data indicate that women have a lower situational expectancy of success than men.

Effect of gender by varying amounts of control. As aforementioned, the interactions of gender by treatment group for the three measures of situational expectancy of success were computed (see Table 8). No significance was found for positive score, $F(2,48) = .42$, $p = .66$; however significance was for both negative score, $F(2,48) = 6.83$, $p = .0025$ and overall expectancy of success score, $F(2,48) = 4.40$, $p = .0176$. The Newman-Keuls test for significance was used to further partial out the variance between groups. The results at the .01 level of significance were as follows: females in the no helplessness group had lower negative (failure) scores than the males and females in the double helplessness group where $R_5(E) = 3.75$ and $R_5(0) = 4.50$ and $R_6(E) = 3.88$ and $R_6(0) = 7.30$, respectively; males in the single helplessness group and in the no helplessness group and females in the single helplessness group had lower negative scores than females in the double helplessness group

TABLE 14
ANOVA FOR GENDER ON MEASURES OF SITUATIONAL
EXPECTANCY OF SUCCESS

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 1 | 33.75 | 6.55 | 0.01 |
| Expectancy for failure (Negative Score) | 1 | 6.67 | 1.17 | 0.29 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 1 | 70.42 | 5.37 | 0.02 |

where $R_5(E) = 3.75$ and $R_5(0) = 6.30$, $R_4(E) = 3.57$ and $R_4(0) = 4.80$, and $R_3(E) = 3.32$ and $R_3(0) = 4.60$, respectively; females in the double helplessness group had lower overall scores of expectancy of success than all other groups including female single, male no, male single, and female no helplessness where $R_3(E) = 5.03$ and $R_3(0) = 8.40$, $R_4(E) = 5.41$ and $R_4(0) = 10.80$, $R_5(E) = 5.67$ and $R_5(0) = 11.50$, and $R_6(E) = 5.88$ and $R_6(0) = 12.40$, respectively; finally, males in the double helplessness group had lower overall scores than male no, male single, and female no helplessness groups where $R_3(E) = 5.03$ and $R_3(0) = 5.80$, $R_4(E) = 5.41$ and $R_4(0) = 6.50$, $R_5(E) = 5.67$ and $R_5(0) = 7.40$ respectively. Further, the results at the .05 level of significance were as follows: males in the single helplessness group had lower negative scores than males in the double helplessness group where $R_4(E) = 2.88$ and $R_4(0) = 3.50$ and males in the double helplessness group had lower overall scores than females in the single helplessness group where $R_2(E) = 3.29$ and $R_2(0) = 3.40$.

Effect of race by gender by varying amounts of control. The interactions of race by gender by treatment group for the three measure of situational expectancy of success are shown in Table 15. Results of the analysis of variance revealed significant effects due to the race by gender by treatment group interaction for two of the three dependent measures. The critical values for each of the dependent variables are as follows: positive score, $F(2,48) = 3.56$, $p = .04$; negative score, $F(2,48) = 2.31$, $p = .11$; overall situational

TABLE 15

ANOVA FOR RACE BY GENDER BY TREATMENT GROUP ON
MEASURES OF SITUATIONAL EXPECTANCY OF SUCCESS

| Dependent Variable | <u>df</u> | <u>MS</u> | <u>F</u> | <u>p</u> |
|---|-----------|-----------|----------|----------|
| Expectancy for success (Positive Score) | 2 | 18.32 | 3.56 | 0.04 |
| Expectancy for failure (Negative Score) | 2 | 13.22 | 2.31 | 0.11 |
| Overall expectancy for success (Difference between Positive and Negative Score) | 2 | 62.62 | 4.77 | 0.01 |

expectancy of success score, $F(2,48) = 4.77$, $p = .01$. The Newman-Keuls test for significance was used to further partial out the variance. The results on the positive scores were as follows: at the .05 level Black female double helplessness scored lower than all other groups; at the 0.01 level Black female double helplessness scored lower than Black female single, White female single, White female no and White male single, Black male no, Black female no, Black male single, and White male no where $R_5(E) = 4.98$ and $R_5(0) = 5.20$, $R_6(E) = 5.16$ and $R_6(0) = 5.80$, and $R_7(E) = 5.32$ and $R_7(0) = 6.20$, $R_8(E) = 5.44$ and $R_8(0) = 6.60$, $R_9(E) = 5.56$ and $R_9(0) = 7.40$, and $R_{10}(E) = 5.66$ and $R_{10}(0) = 7.60$, and $R_{11}(E) = 5.75$ and $R_{11}(0) = 8.80$, respectively; at the 0.05 level White male no helplessness scored higher than White female double, White male double, and Black male double where $R_{10}(E) = 4.79$ and $R_{10}(0) = 5.40$, $R_9(E) = 4.68$ and $R_9(0) = 5.20$, and $R_8(E) = 4.57$ and $R_8(0) = 4.60$, respectively. The results on the overall situational expectancy of success scores were the following: at the 0.05 level Black female double helplessness scored lower than all other groups; at the 0.01 level Black female double helplessness scored lower than White male double, Black male double, Black male no, Black female single, White female single, Black male single, White male single, White female no, Black female no, and White male no where $R_3(E) = 6.77$ and $R_3(0) = 7.40$, $R_4(E) = 7.29$ and $R_4(0) = 7.60$, $R_5(E) = 7.64$ and $R_5(0) = 9.60$, and $R_6(E) = 7.92$ and $R_6(0) = 9.80$, $R_7(E) = 8.17$ and $R_7(0) = 12.00$, $R_8(E) = 8.36$ and $R_8(0) = 13.80$, $R_9(E) = 8.53$ and $R_9(0) = 14.20$, and $R_{10}(E) = 8.68$ and

$R_{10}(0) = 14.40$, and $R_{11}(E) = 8.82$ and $R_{11}(0) = 15.40$, and $R_{12}(E) = 8.94$ and $R_{12}(0) = 17.00$, respectively; White female double helplessness scored lower than White female single at the 0.05 level ($R_6(E) = 6.56$ and $R_6(0) = 7.00$) and than Black male single, White male single, White female no, Black female no, and White male no at the 0.01 level where $R_7(E) = 8.17$ and $R_7(0) = 8.80$, $R_8(E) = 8.36$ and $R_8(0) = 9.20$, $R_9(E) = 8.53$ and $R_9(0) = 9.40$, and $R_{10}(E) = 8.68$ and $R_{10}(0) = 10.40$, and $R_{11}(E) = 8.82$ and $R_{11}(0) = 12.00$, respectively; White male double helplessness scored lower than White male no at the 0.01 level ($R_{10}(E) = 8.68$ and $R_{10}(0) = 9.60$) and than White male single, White female no, and Black female no at the 0.05 level where $R_7(E) = 6.80$ and $R_7(0) = 6.80$, $R_8(E) = 7.00$ and $R_8(0) = 7.00$, and $R_9(E) = 7.18$ and $R_9(0) = 8.00$, respectively; Black male double helplessness scored lower than White male no at the 0.01 level ($R_9(E) = 8.53$ and $R_6(0) = 9.40$) and than White male single, White female no, and Black female no at the 0.05 level where $R_6(E) = 6.56$ and $R_6(0) = 6.60$, $R_7(E) = 6.80$ and $R_7(0) = 6.80$, $R_8(E) = 7.00$ and $R_8(0) = 7.80$, respectively; finally at the 0.05 level of significance White male no helplessness scored higher than Black male no and Black female single where $R_8(E) = 7.00$ and $R_6(0) = 7.40$ and $R_7(E) = 6.80$ and $R_7(0) = 7.20$, respectively.

DISCUSSION

The Reactance-Learned Helplessness Model

Seligman (1976) suggests that learning that trauma is uncontrollable has three effects, motivational, cognitive, and affective or emotional. In looking particularly at the third effect, this study used the integrative model of Wortman and Brehm (1975) as a basis from which to generate hypotheses. According to Wortman and Brehm in their reactance-learned helplessness model of depression, if an individual has an expectation of control over an outcome of some importance to him or her, moderate amounts of experience with no control should arouse feelings of psychological reactance, while continued experience with no control will result in feelings of helplessness. The results obtained in the present study were not consistent with these predictions. Subjects exposed to moderate amounts of experience with helplessness, in the form of two insolvable problems out of a set of four discrimination problems, did not experience feelings of reactance as reported on the post-experimental Questionnaire B. However, subjects exposed to large amounts of experience with helplessness, in the form of four insolvable problems out of a set of four discrimination problems, did experience feelings of helplessness as reported on the post-experimental Questionnaire B. Specifically, the double helplessness subjects had significantly greater feelings that things

were beyond their control than did subjects in the no helplessness group.

Further, in other questions on Questionnaire B included to assess subjects' affective state, significant effects due to treatment group emerged. The results of the analyses of Questionnaire B indicate that the double helplessness group differed significantly from the single and the no helplessness group on questions stating that they felt more stressed and more frustrated. In addition, increases in helplessness training resulted in continually increasing feelings of anger, boredom, unfairness and depression and in decreasing feelings of friendliness toward the experimenter. These results suggest that the amount of experience with no control corresponded to the impact of the experimental situation as shown in the subjects' self-report questionnaire regarding affective state. Thus, they support predictions made by the learned helplessness model, but not those made by the reactance-learned helplessness model.

Wortman and Brehm's reactance-learned helplessness model of depression hypothesizes a curvilinear relationship between experiences of no control and the three components of helplessness. The results of this study raises the question of why this hypothesis was not supported. The following are possible explanations for these results: 1) laboratory methodology, 2) amount and duration of helplessness training and the resultant impact of the experiences of no control, 3) importance of the outcome, and 4) subjects' initial expectations of control.

The laboratory methodology may be an issue in this study as the use of cognitive tasks, each as discrimination problems, may not be a valid test of this or any model of depression. The laboratory is an artificial situation in which it is difficult, if not impossible, to create an exact analogue of a real life situation. In addition, it is questionable as to whether or not generalizations can be made about real life from laboratory studies.

According to Wortman and Brehm's theory, moderate amounts of no control or large amounts of no control cause resistance or helplessness, respectively. In many laboratory studies, including this study, these conditions are produced through the use of insolvable discrimination problems, insolvable anagrams, or uncontrollable noise, but these situations may not be, and probably are not, equivalent to flunking out of college, to having an incurable illness, or to the death of a loved one and, thus, brings to question the validity and/or applicability of this laboratory model/theory of depression. Furthermore, real life stresses occur as singular experiences within the context of other life influences, whereas this study and other laboratory studies occur as isolated experiences which have no relationship to real life events. Buchwald, Coyne, and Cole (1978) have suggested that demonstration that a procedure can produce some features of a disorder in the laboratory is not sufficient to demonstrate the etiology of the disorder. In other words, not only may laboratory studies not correspond to real life, but, even if the laboratory study achieves the desired effects--in this case, reactance

and helplessness, the results will not necessarily give us a better understanding of the underlying causes of depression.

A second explanation as to why this study did not support the Wortman and Brehm theory may have been related to the amount and duration of helplessness training and, as a result, the impact of that experience with no control. In their experiments, Glazer and Weiss (1976a, 1976b) showed that rats experience an interference with learning as a result of inescapable shocks of long duration and at least moderate intensity. The shocks in their second study were of five second duration, having found in their previous study that only those experiences of no control of five seconds or longer resulted in subjects showing a subsequent interference effect. Therefore, they concluded that the duration of helplessness training is critical in causing interference effects with subjects' capacity for learning. In addition, the intensity, amount, or strength of the helplessness training is an important factor as well.

In this study the training situation consisted of a total of four Levine discrimination problems with two insolvable problems for the single helplessness condition and four insolvable problems for the double helplessness condition. Although times have been reported for animal studies, times have not generally been reported for human studies. The duration of the experiences of varying amounts of no control in this study was not specifically timed, but ranged from approximately 120 seconds to approximately 600 seconds. It is uncertain whether the duration of the experiences was a factor.

Along with the duration of experience with no control comes the intensity or strength of the helplessness training and the resultant impact. Roth and Bootzin (1974) offered as an explanation for not getting the hypothesized results in their study the suggestion that the manipulations were not strong enough to produce the desired effect. They proposed that the experiences producing expectancies of external control may differ in impact and, depending on the impact, different behavioral results would be expected. Further, if the helplessness experience were intense/strong, subjects would report such on Questionnaire B through questions regarding such feelings as stress and frustration. As aforementioned, there were significant differences in the way subjects responded to these questions. The double helplessness group felt more stressed and more frustrated than did the single helplessness and no helplessness groups. However, there was no significant difference between the single helplessness and the no helplessness groups which indicates that, while the manipulations may have been strong enough to produce a differential effect in the double helplessness group, the manipulations were not strong enough to produce a differential effect between the single helplessness and the no helplessness groups. Thus, in regards to strength/intensity, four insolvable discrimination problems may have produced only moderate feelings of helplessness. On the other hand, two insolvable problems, in contrast to no insolvable problems, were virtually inconsequential in producing feelings of no control.

One of the most critical theoretical constructs is the importance of the uncontrollable outcome (Wortman and Brehm, 1975).

Subjects in the present experiment indicated that the tasks were of such importance to them that they wanted to do well. There was no differential effect between any of the treatment groups regarding importance. On Questionnaire B the mean score for all three groups on the question "Important to do well" was 5.73 on a scale of 1 for "Never True" to 7 for "Always True." Thus, it appears to be unlikely that the importance of outcome accounts for the results regarding feelings of helplessness being in the direction predicted by the learned helplessness model. Perhaps a more sensitive (real-life) measure of importance would have been a question regarding the consequences of doing well or poorly.

Wortman and Brehm (1975) state that the theoretically psychological reactance should be aroused if a person expects to be able to control or influence outcomes that are of some importance to him/her and finds those outcomes to be uncontrollable. In this experiment the results of the situational expectancy of success measures revealed significant effects due to treatment condition. Specifically, at the .01 level of significance it was found that there was a significant difference between the double helplessness group and both the single and the no helplessness groups on situational expectancy of success. However, there was no significant difference between the single helplessness group and the no helplessness group. These results indicate that the double helplessness did not expect to achieve success on the task at hand, while both the single and the no helplessness groups expected to do so.

It must be noted that the questionnaire was administered following helplessness training and, thus, the fact that the double helplessness group had solved none of the discrimination problems may have influenced their report of what their expectancies were during the training situation. In view of the fact that they did not solve any of the problems correctly, their after-the-fact feelings were that they had not really expected to get them right in the first place. Likewise, the no helplessness subjects had been successful in solving all of the problems correctly and, therefore, reported that they had expected the success they attained. On the other hand, single helplessness subjects had experienced two successes and two failures and, as a result, appeared to feel hopeful in regards to their expectation to achieve success. As aforementioned, the two insolvable problems, in contrast to no insolvable problems, apparently was virtually inconsequential in producing feelings of no control and, thus, led to no difference between the groups in terms of situational expectancy of success.

Wortman and Brehm's reactance-learned helplessness model of depression is still only a theory of how people respond to experiences of varying amounts of no control and, obviously, much more research must be done to test its hypotheses.

Differences between Blacks and Whites

It was hypothesized that Blacks would have lower situational expectancy of success than Whites in the face of large amounts of

experience with no control. It was also hypothesized that Blacks would have lower generalized expectancy of success than Whites. This prediction was based largely on the findings of Lefcourt and Ladwig (1965) and Steele (1975) who reported that Blacks revealed greater expectancy of control being external. In other words, Blacks were found to have low expectancy that they can control their reinforcements. This feeling of having no control or of helplessness corresponds to low expectancy of success (Jones, 1977). Thus, it was expected that with repeated failure Blacks would feel helpless and would not expect to be able to attain success. Further, it was assumed that, due to the tremendous hardships and struggle against extreme odds to accomplish what Whites have been able to take for granted that Blacks have had to endure, Blacks would not feel that they had considerable control over their destinies and, therefore, would have lower expectancy of success in their lives in general.

The results of the analyses revealed that Blacks did not have lower expectancy of success than Whites in the face of large amounts of experience with no control. In addition, there was no significant difference between Blacks and Whites on generalized expectancy of success. Significant differences did emerge on three measures of helplessness. In comparison to Whites, Blacks had greater feelings that things were beyond their control, felt more bored, and had greater feelings of anger. Furthermore, Blacks had lower situational expectancy of success than Whites, but this effect was independent of experimental experience with helplessness.

It is apparent that, despite the turn of the decade's Bakke decision and charges of reverse discrimination, Blacks are optimistic about their individual futures and feel that they indeed have considerable control over their destinies. This may be explained by the fact that the sample used here included college students who may, by the mere fact that they are in college, be attempting to work towards a better future for themselves, feel that they can achieve success in their lives. Virtually all of the Black students were from Chicago and the Chicago public schools. Further, a number of Black students enrolled in introductory psychology classes are students admitted to the university through a program called the Educational Opportunity Program. Within this program, a student's SAT or ACT scores are not major criteria for admission; in fact, these scores are generally lower than those of students admitted through the standard admission procedure. Despite their educational backgrounds and their scores on college admission exams, these students were admitted to the university. This alone may give students a boost in self-esteem and the sense that, having been given the chance, they can achieve success in their lives.

As aforementioned, there were differential effects due to race in the specific situation, i.e., helplessness training, though they were independent of helplessness conditions. It is very likely that Blacks entered the experimental situation recognizing that they were required to participate in the experiment to receive credits in their introductory psychology class and that, if they wanted to get a good grade in the course, they had virtually no choice but to participate.

Thus, unlike Whites who participated under the same circumstances, Blacks may have been the experimental situation as another in a series of uncontrollable events they encounter in their daily lives and responded accordingly. In other words, they realistically felt that things were beyond their control and, as a result, were bored and angry about the situation. Concomitantly, they had lower expectancy of success in the experimental situation than did their White counterparts.

Differences between Females and Males

It was hypothesized that women would have lower situational expectancy of success than men in the face of large amounts of experience with no control. It was also hypothesized that women have lower generalized expectancy of success than men. Broverman, Vogel, Broverman, Clarkson, and Rosenkrantz (1972) noted that American culture places a greater value on activity, achievement, and competition for males and passivity, interpersonal warmth, and nonassertion for females. Further, Horner (1970, 1972) revealed that women showed significantly more evidences of the motive to avoid success than did men. It was, therefore, assumed that not only do women not expect success, but they "actively" move to avoid success in life in general. Furthermore, in a specific situation, i.e., condition of helplessness, women would experience greater feelings of helplessness in comparison to men and, as a result, would have lower situational expectancy of success.

The results revealed that women had lower overall situational expectancy of success than did men, as predicted. However, there was no significant difference between women and men on generalized expectancy of success.

The decade of the 70s witnessed the tremendous growth of the Women's Movement, particularly during the latter years of the decade. The results found in this study on generalized expectancy of success may be a direct result of that movement. While women in the late 60s and early 70s may have associated success with the loss of femininity, social rejection, and/or personal or social destruction, the Women's Movement has helped change women's views of themselves and, among other things, their views of achievement and success. It is very likely that the college women in this study are of this "new" breed of woman who wants to and expects to succeed in her endeavors.

Implications for Future Research

Data from this study revealed significant differences between groups on measures of feelings of helplessness and on measures of situational expectancy of success. Further, although the data revealed a relationship between race and subjects' affective state regarding uncontrollable outcomes and situational expectancy of success, this relationship was independent of experimental experience with helplessness. On the other hand, data revealed significance for the gender by treatment group interaction on the dependent variables of negative score and overall score of situational expectancy of

success. No significance for race nor gender was found on generalized expectancy of success. In terms of affective states, the data supported the predictions of the learned helplessness model, while giving no support to reactance theory. Thus, further experimental validation of the reactance-learned helplessness theory is necessary, in addition to further experimental validation of race and gender differences.

Changes in the design used in the present experiment may be helpful in studying the reactance-learned helplessness theory. Specifically, as noted above, the amount and duration of helplessness training may not have been enough to have had the desired impact on affective states and on expectancy of success in a specific situation. The total number of Levine discrimination problems should be increased. Not only would this increase the amount of helplessness training, but it would, at the same time, increase the length of time or the duration of the helplessness training. This would better insure that the pretraining would be aversive enough to have an effect on affective states and expectancy of success in a specific situation. Duration could also be manipulated as an independent variable in an effort to find the optimal level, if it indeed exists.

A second methodological change would be to change the order of procedure such that the Generalized Expectancy of Success Scale would be administered prior to the helplessness training. Although the data revealed a slight relationship between generalized expectancy of success and situational expectancy of success, it is unclear as to whether or not generalized expectancy of success was influenced by the

helplessness training and change in the order of administration would eliminate any possibility of such being the case. Thus, a more accurate measure of the relationship between generalized and situational expectancies of success could be assessed.

A third change in methodology would involve the inclusion of attributional measures. As noted in the above review of the literature, possibly one of the key factors influencing the generalizability of learned helplessness is one's attribution of the cause of his/her failure in a given situation (Jones, 1977). Obviously, if an individual attributes his/her success or failure to a personal or internal factor as opposed to an external factor, his/her expectancy in one situation is more likely to generalize to subsequent situations. Therefore, inclusion of attributional measures would give insight into and understanding of why a subject achieves a particular level of situational expectancy of success.

A fourth methodological change would be to give pre- and post-measures of situational expectancy of success. As noted above, measures of situational expectancy were determined through the use of a questionnaire administered following helplessness training. Therefore, how well they had done during this training situation may very likely have influenced how they reported what their expectancies had been. In other words, if none of the problems had been solved correctly, as in the case of the double helplessness subjects, they may naturally report that they had not expected to solve the problems correctly in the first place.

The reactance-learned helplessness model of depression lends itself to other laboratory studies as well as to the area pursued in the present investigation. A laboratory study that may be fruitful is a repeated measures study where ability and persistence scores are gathered at different time intervals following helplessness training. Such a study would be helpful in assessing the lasting effects, if any, of helplessness training. It would also be interesting to study the simultaneous manipulation of expectancy for control, the importance of outcome, and experience with helplessness. The present investigation studied only Blacks and Whites, but another study that may give us some insight into the differences and likenesses of various races of people would be to include other oppressed minorities, i.e., Hispanics and Native Americans, as well as Asian Americans. It might also be beneficial to use some direct measure of social oppression/disadvantage rather than using race alone. Finally, it would be interesting to study the reactance-learned helplessness model across various age groups.

As noted previously, the laboratory is an artificial situation in which it is difficult to create an exact analogue of a real life situation and, thus, to make generalizations about real life. Therefore, the most logical area of research is to study individuals and their responses to naturally occurring events which are uncontrollable. Such events would include loss of a loved one by death and failure through the loss of a job.

Research in the area of reactance and learned helplessness does have some implications regarding the diagnosis and treatment of

depression. Throughout the helplessness literature is the assumption that helpless behavior is maladaptive. Therefore, researchers have begun to focus on the modification of such behavior. For example, Seligman (1974) advocates "immunization training" where individuals are made more resistant to learned helplessness by making clear to them that they have control over outcomes in their lives. Wortman and Brehm (1975), on the other hand, argue that individuals should be taught to discriminate between situations where they have control and those where they do not have control since there do, indeed, exist situations where individuals have absolutely no control. They should then be taught coping strategies for both types of situations.

In addition, if there truly are racial differences due to cultural effects which influence individuals' responses to events over which they have no control, then there are further implications for treatment. With their cultural backgrounds or uniqueness due to race in mind, individuals may be taught to better their coping skills such that they can develop the ability to tolerate feelings of helplessness and to not permit these feelings to generalize to all situations.

SUMMARY

The present investigation was concerned with the relationship between expectancy of success in a specific situation, i.e., conditions of helplessness, and expectancy of success in one's life in general. In addition, it examined these expectancies in terms of race and gender and it based its predictions on Wortman and Brehm's (1975) reactance-learned helplessness model of depression.

The subjects included 15 Black females, 15 Black males, 15 White females, and 15 White males. Within race, they were equally and randomly assigned to one of the following three experimental conditions: No Helplessness, Single Helplessness, and Double Helplessness. In the helplessness training No Helplessness subjects received four solvable Levine discrimination problems, Single Helplessness subjects received two of four insolvable problems, and Double Helplessness subjects had all four insolvable problems. Following helplessness training, all subjects filled out two questionnaires--the first regarding feelings of helplessness and expectancies of success in a specific situation and the second regarding expectancies of success in life in general.

Results indicated that large amounts of experience with no control produce greater feelings of helplessness than both moderate and no experience with no control. Further, it was found that large amounts of experience with no control produce lower expectancy of

success in a specific situation (situational expectancy) than both moderate and no experience with no control. These data supported predictions made by the learned helplessness model.

The race by treatment group interaction for the three measures of situational expectancy of success revealed no significant differences. The gender by treatment group interaction for the three measures of situational expectancy of success revealed significant differences on two of the three dependent measures, suggesting that women have lower situational expectancy of success than men in the face of large amounts of experience with no control. The results of the analysis of variance on each of the three measures of generalized expectancy of success revealed no significant effects due to race. Likewise, results of the analysis of variance on these three dependent variables revealed no significant effects due to gender.

The results were discussed in terms of the learned helplessness phenomenon as well as the reactance-learned helplessness model. In addition, the effects of race and gender were evaluated. Finally, implications for future research were discussed.

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APPENDIX A

QUESTIONNAIRE B

Indicate your responses of how you are feeling right now on a scale of 1 for Never True to 7 for Always True. Circle your choices and be sure that all check marks are directly across from the items to which they correspond.

| | Never True | Almost Never True | Usually Not True | Sometimes True Sometimes Not True | Usually True | Almost Always True | Always True |
|--|------------|-------------------|------------------|--------------------------------------|--------------|--------------------|-------------|
| 1. Important to do well | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Things beyond control | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Stressed | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Frustrated | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Bored | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Depressed | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. Angry | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. Unfair | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9. Felt friendly toward the experimenter | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 10. Expected to solve problems | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 11. Confident | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 12. Felt that no matter what, couldn't solve problems | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 13. Incompetent | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 14. Thought problems insolvable | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 15. Certainty of having solved problems | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

QUESTIONNAIRE D

Directions:

This is a questionnaire to find out how people believe they will do in certain situations. Each item consists of a 5-point scale and a belief statement regarding one's expectations about events. Please indicate the degree to which you believe the statement would apply to you personally by circling the appropriate number. [1 = highly improbable, 5 = highly probable.] Give the answer that you truly believe best applies to you and not what you would like to be true or think others would like to hear. Answer the items carefully, but do not spend too much time on any one item. Be sure to find an answer for every item, even if the statement describes a situation you presently do not expect to encounter. Answer as if you were going to be in each situation. Also try to respond to each item independently when making a choice; do not be influenced by your previous choices.

In the future I expect that I will

| | Highly Improbable | Improbable | Sometimes Probable Sometimes Improbable | Probable | Highly Probable |
|--|-------------------|------------|--|----------|-----------------|
| 1) find that people don't seem to understand what I am trying to say | 1 | 2 | 3 | 4 | 5 |
| 2) be discouraged about my ability to gain the respect of others | 1 | 2 | 3 | 4 | 5 |
| 3) be a good parent | 1 | 2 | 3 | 4 | 5 |
| 4) be unable to accomplish my goals | 1 | 2 | 3 | 4 | 5 |
| 5) have a successful marital relationship | 1 | 2 | 3 | 4 | 5 |
| 6) deal poorly with emergency situations | 1 | 2 | 3 | 4 | 5 |
| 7) find my efforts to change situations I don't like are ineffective | 1 | 2 | 3 | 4 | 5 |
| 8) not be very good at learning new skills | 1 | 2 | 3 | 4 | 5 |
| 9) carry through my responsibilities successfully | 1 | 2 | 3 | 4 | 5 |
| 10) discover that the good in life outweighs the bad | 1 | 2 | 3 | 4 | 5 |
| 11) handle unexpected problems successfully | 1 | 2 | 3 | 4 | 5 |
| 12) get the promotions I deserve | 1 | 2 | 3 | 4 | 5 |

| Highly Improbable | Improbable | Sometimes Probable Sometimes Improbable | Probable | Highly Probable |
|-------------------|------------|--|----------|-----------------|
|-------------------|------------|--|----------|-----------------|

| | | | | | |
|---|---|---|---|---|---|
| 13) succeed in the projects I undertake | 1 | 2 | 3 | 4 | 5 |
| 14) not make any significant contributions to society | 1 | 2 | 3 | 4 | 5 |
| 15) discover that my life is not getting much better | 1 | 2 | 3 | 4 | 5 |
| 16) be listened to when I speak | 1 | 2 | 3 | 4 | 5 |
| 17) discover that my plans don't work out too well | 1 | 2 | 3 | 4 | 5 |
| 18) find that no matter how hard I try, things just don't turn out the way I would like | 1 | 2 | 3 | 4 | 5 |
| 19) handle myself well in whatever situation I'm in | 1 | 2 | 3 | 4 | 5 |
| 20) be able to solve my own problems | 1 | 2 | 3 | 4 | 5 |
| 21) succeed at most things I try | 1 | 2 | 3 | 4 | 5 |
| 22) be successful in my endeavors in the long run | 1 | 2 | 3 | 4 | 5 |
| 23) be very successful working out my personal life | 1 | 2 | 3 | 4 | 5 |
| 24) experience many failures in my life | 1 | 2 | 3 | 4 | 5 |
| 25) make a good impression on people I meet for the first time | 1 | 2 | 3 | 4 | 5 |
| 26) attain the career goals I have set for myself | 1 | 2 | 3 | 4 | 5 |
| 27) have difficulty dealing with my superiors | 1 | 2 | 3 | 4 | 5 |
| 28) have problems working with others | 1 | 2 | 3 | 4 | 5 |
| 29) be a good judge of what it takes to get ahead | 1 | 2 | 3 | 4 | 5 |
| 30) achieve recognition in my profession | 1 | 2 | 3 | 4 | 5 |

APPROVAL SHEET

The dissertation submitted by Sandra Elveta Lowe 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.

December 3, 1980
Date

James E. Johnson
Director's Signature