THE RELATIONSHIPS OF SEX, SELF-ESTEEM, MASCULINITY-FEMININITY ORIENTATION, AND ATTITUDES TOWARD WOMEN TO THE SELF-INDUCED HELPLESSNESS PHENOMENON

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Submitted to the Faculty of the Graduate College
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in partial fulfillment of the requirements
for the Degree of
DOCTOR OF PHILOSOPHY
December, 1980

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ACKNOWLEDGMENTS

To Vicki, for her encouragement and judicious counsel as my adviser, her contagious enthusiasm as my fellow researcher, and her dedication to the task of guiding me through the dissertation process.

To Frances, Bob, and Jeannine, the other members of my committee, for their astute judgments, their research expertise, and their complementary scopes of knowledge.

To Ted my husband, for his time and patience as my grammatical consultant and co-experimenter, and for his moral support and encouragement as the sharer of my dreams.

To my parents, for their part in the construction of those dreams.

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CHAPTER I

STATEMENT OF THE PROBLEM

During the last few decades the participation of women in work outside the home has increased drastically. In the last 28 years, the percentage of the U.S. female population either holding or seeking jobs has risen from 34 percent to 50 percent, and is predicted to climb to 57 percent by 1990. In spite of the large number of women in the work force, Bedeian and Armenakis (1975) found that only one in every 600 top U.S. executives were female. It is apparent from the results of several surveys constructed to measure attitudes toward women that there are many prevalent beliefs which support a preference for males as managers. In what is considered a classic study of attitudes toward female executives, Bowman, Wortney, and Greyser (1965) found that 51 percent of the males sampled felt that women were temperamentally unfit for management. The majority of both males and females sampled believed that men would not feel comfortable with a female boss. Sixty-three percent of the females sampled believed that women feel comfortable working for women; however, 60 percent of the males disagreed with this notion. Inherent in this survey's findings are two common beliefs which lead to a bias against the hiring of females as managers: (1) employee morale is lowered by the presence of a female supervisor and (2) females are not as effective as males in management positions.

Of prime importance to those considering the installation of either

males or females in a managerial position is the effect such installations will have on the productivity of the group. Central issues include not only the effect of the sex of the manager on the productivity of the supervisees, but also the effect of the acquisition of supervisory status on the manager's own performance. Langer and Benevento (1978) have discovered that an individual's performance on an overlearned task is extremely sensitive to the effects of contextual factors. Their results indicate that receiving a label that connotes incompetence or dependence (e.g., "assistant," "worker") leads to a performance decrement on these tasks. Conversely, the label of "manager" was found to produce an increase in performance level. So far, the research generated by Langer and her associates involving the assignments of "manager" and "assistant" or "worker" labels has been limited to subjects participating in same-sex dyads. Also, a comparison of the relative effects of these labels on males and females performing on the same tasks has not been made.

The purpose of the present study is to compare the effects of "manager" and "assistant" labels on the performances of males and females participating in same-sex and opposite-sex dyads.[1] The present study seeks to determine if the popular bias against female managers is justifiable by determining if groups under female supervision suffer decreased productivity. By comparing the effects of participating in a simulated work experience, in which sex of subject, sex of dyad partner

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[1]The term "manager" will be used to refer to any leadership or supervisory role.

and assistant and manager status are varied, it is hoped that a clearer understanding of the effects of these variables on level of performance will be gained.

CHAPTER II

LITERATURE REVIEW

Many researchers have found evidence against the idea that women managers have a negative effect on employee morale. These investigators, sampling from several different populations, have determined that the sex of the supervisor has no consistent influence on subordinate satisfaction. Studies which simulated work situations with college students as subjects (Bartol, 1975; Maier, 1970; Lee and Alvares, 1977) as well as investigations of the satisfaction levels of actual employees (Day and Stogdill, 1972; Bartol and Wortman, 1975) produced no evidence that subordinates of female managers were less satisfied than subordinates of male managers. Other researchers found an interaction between supervisor's sex and style of supervision. Subordinates tended to prefer males over females when their supervisor's style was high in structure, while they preferred female supervisors when a high consideration style was implemented (Petty and Lee, 1975; Bartol and Butterfield, 1976).

These findings indicate that whereas a bias against hiring female managers may or may not exist, those who work under them are not more dissatisfied with their supervision than with that of male supervisors. In the situation in which a bias against working under a female supervisor does exist, actual experience with a female leader reduces or erases this prejudice. This statement is supported by Barter's (1959)

findings that Texas school teachers who held unfavorable beliefs about female principals tended to be males who had not taught in schools headed by female administrators.

Just as the contention that employees are less satisfied with females as bosses has not been supported by systematic investigation, no scientific evidence has been found to confirm the belief that females are less effective than males in managerial positions. Researchers have found that the performance of male and mixed-sex college student groups competing with other groups at a simulated business game is unaffected by the sex of their leaders (Bartol, 1975). Male and female supervisors occupying similar positions in the U.S. Air Force Logistics Command were also evaluated as equally effective by their subordinate (Day and Stogdill, 1972). Finally, employees of a large psychiatric hospital evaluated their male and female supervisors as differing on only one of twelve leadership qualities. These male and female subordinates rated female supervisers as higher than males on the "initiating structure" dimension (Bartol and Wortman, 1975).

How, then, is the stereotype of women as unsatisfactory managers maintained in face of evidence to the contrary? The answer seems to be in observer attributions of success and failure for the different sexes. Observers are more likely to attribute a female's failure at a "masculine" task (and a managerial job is considered such a task in our society) to lack of ability than a comparable failure by a male (Etaugh and Brown, 1975). Likewise, observers more often attribute success on a masculine task to ability when the performer is male, and to effort or luck when the performer is female (Etaugh and Brown, 1975; Deaux and Emswiller, 1974; Feldman-Summers and Kiesler, 1974).

This attitude of biased attributions of observers is mirrored in the attributions of the performers themselves. In a study using third and fifth grade students as subjects, Etaugh and Ropp (1976) attempted to create an experimental situation in which male and female self-attributions of success and failure could be measured on male- and female-typed tasks. The experimenter labeled the female-typed task as "a brand new game just for girls . . . like another game that girls play--jacks" (p. 117). Additionally, the experimenter added a competition component to the situation by labelling the subject's performance as either much worse (in the failure condition) or much better (in the success condition) than other members of the subject's own sex. The trait of competitiveness has been found to belong to the stereotype of the ideal male but not to that of the ideal female (Spence, Helmreich, and Stapp, 1974). Thus, although the task itself may have been labeled as feminine, this competitive element added a masculine valence to the procedure. The findings of this study were as follows: (1) on both male-and female-type tasks, girls attributed their failure to lack of ability more than did boys; and (2) girls but not boys attributed failure to poor ability more than they attributed success to good ability.

Societal stereotypes define females as being incompetent in certain situations. So resilient are these stereotypes that even when females do perform successfully in such situations, their success is attributed to non-enduring circumstances (e.g., luck) and, therefore, neither others nor the females themselves expect their success to be repeated. Certainly, women's lack of confidence in their own abilities to perform effectively in traditionally male areas is partly responsible for the scarcity of female executives. Individuals who expect to fail

in a given role are less likely to seek the challenge of that role. Low expectancy of success also has a detrimental effect on performance (Battle, 1965; Feather, 1966). Thus, even when a female pursues a traditionally male vocation, if she expects to fail at this vocation, her chances of success are greatly reduced.

The effects of subjective feelings of incompetence have been explored by the investigators of the learned helplessness phenomenon. These investigators conclude that experienced loss of control over the outcome of events, particularly events involving painful stimuli, result in a number of detrimental effects. These effects include loss of motivation, lowered ability to recognize when coping strategies are successful, psychosomatic illnesses (e.g., ulcers), anxiety, depression and even death (Seligman, 1975). Upon further investigation of this phenomenon, Langer and her colleagues discovered that similar effects seemed to occur in the elderly when subjected to contextual factors which implied incompetence or helplessness, such as are often found in nursing homes (Langer and Rodin, 1976; Rodin and Langer, 1977). Thus, the actual experience of helplessness did not appear to be necessary to the production of the detrimental behavior changes observed in Seligman's subjects.

A more recent series of investigations focused upon the production of inferred or "self-induced" helplessness in a laboratory setting (Langer and Benevento, 1978). These authors first measured the subject's ability to perform alone on an over-learned task; that is, a task that is so familiar that one can perform it mindlessly (e.g., simple arithmetic problems). In a second phase of the experiment, the subject performed a task jointly with another subject and was concurrently

given a label of either "assistant" or "manager." It was theorized that the subject who was labelled as the "assistant" of the other was given the illusion of dependence, or inability to perform competently alone. In the third phase, a second measure was taken of the subject's ability to perform the original overlearned task. Langer and Benevento found a significant reduction in performance level between the first and third phases of the experiment for the "assistant" subjects. This performance decrement was explained as the result of the psychological incongruence between the dependent role inferred from the "assistant" label and the ability to perform the task competently alone.

According to Langer (1979) performance on an overlearned, "mindless" task is particularly vulnerable to the effects of self-induced helplessness. Langer hypothesized that this vulnerability is due to the tendency of the individual performing such a task to lose awareness of exactly how he/she was achieving competence (i.e., what specific steps he/she was following that led to the success). Manipulations which induced consciousness of the performance process (e.g., instruction to attend to the various steps of the performance prior to the helplessness-induction phase of the experiment) tended to obviate the usual detrimental effects (Langer, 1979). Novel tasks, in which learning of the necessary steps to success had not yet occurred, were also found to be vulnerable to performance decrements from self-induced helplessness (Langer, 1979).

In contrast to the detrimental effects noted in individuals who received labels connoting dependence, Langer (1979) found the opposite effect in individuals who received labels connoting superiority. The subjects who were labelled as "managers" showed an increase from pre- to

post-labelling measures of overlearned task performance. Langer explained this improvement in performance as due to the induction of increased self-esteem from the manager label. The higher self-esteem may be creating elevated expectancies of success, and thus increasing persistence at the task.

Although Langer has not compared males and females in terms of vulnerability to the effects of self-induced helplessness, there is evidence that the two sexes may vary significantly in their reactions to the labelling process. In a review article summarizing sex differences in self-confidence, Lenney (1977) concludes that females tend to respond with decreased self-confidence to certain contextual factors. These are: a competitive atmosphere, ambiguous feedback about performance, and a traditionally-male task. In contrast, males appear to be less affected by these factors. Likewise, Feather and Simon (1971) have found the satisfaction levels of females to be more responsive to success and failure experiences in attempting to solve anagrams; compared to their male counterparts, females tended to be less satisfied with their failures and more satisfied with their successes.

Additional research indicates that women view social power relationships differently from men. In one example of such research, subjects were asked to place six-inch dolls which depicted human figures of the same sex as the subject according to the distance they considered appropriate for the various types of interpersonal interactions (Little, 1968). Little's results indicated that women saw interactions of women with female authority figures as taking place at a significantly greater distance than men viewed similar transactions of male figures. Larsen and Minton (1971) also found women to be more likely than men to view

power relationships in terms of dominance and submission. Their scale for assessing attributed social power (AP) in relationships such as foreman-worker and policeman-citizen correlated significantly ($r = .54$) (with male scored 1, and female 2). A significant correlation ($r = .46$) was also found between the AP scale and Janis and Field's Self-Esteem scale, indicating a tendency for both males and females with low self-esteem to attribute a high degree of power to power relationships. Larsen and Minton suggest that women are unduly impressed by the power of others because they have been socially conditioned to take a submissive role, and that low self-esteem is coexistant with this phenomenon. A synthesis of these findings indicates that women are more influenced by contextual cues, and are specifically more inclined to respond to cues connoting differences in social power, than are men. Thus, one might expect women to be more subject to self-induced helplessness, as well as to the effects of being assigned a label connoting superiority.

As was indicated earlier, sex-linkage of the task is one of the contextual factors found to affect the self-confidence of women (Lenney, 1977). Both boys and girls have been found to have lower expectancies for success on tasks which are labelled as linked to the opposite sex (Stein, Pohly, and Mueller, 1971). Deaux and Farris (1974) determined that women's performance expectancies on an anagram task were lower than men's when the task was labelled masculine, but that the expectancies of the two sexes were not significantly different when the task was labelled as feminine. One might predict an interaction effect between self-confidence on male- versus female-linked tasks and self-induced helplessness. A preexistent expectancy to do poorly on a male-biased task could increase the detrimental effect of receiving a label

connoting dependency. Males and females tend to have equal levels of confidence when attempting to solve anagrams (Feather and Simon, 1971), as well as commensurate levels of performance on ths task when a visual representation of the anagrams are present (Mendelsohn and Covington, 1972).

Sex-Role Orientation, Self-Esteem, and Attitudes Toward Women

When comparing the sexes in terms of their reactions to self-induced helplessness, which is the object of this study, it is important to take into account factors other than sex which could contribute to the variance in the dependent variables. Sex-role orientation, self-esteem, and attitudes toward women are three personality factors which may have some relationship to the self-induced helplessness phenomenon.

Degree of adherence to the masculine and feminine stereotypes would seem to be an important mediating factor in the subject's response to self-induced helplessness. Studies concerning this assumption have produced conflicting results. Jones, Chernovetz, and Hansson (1978) investigated the relationship of sex-role orientation, as measured by the Bem Sex-Role Inventory (BSRI), to vulnerability to cognitive deficits following experience with an insolvable concept learning task. Learned helplessness effects were measured on a subsequent anagram-solving task, in which latency to criterion, number correct to criterion and trials to criterion were the dependent measures. Highly masculine, highly feminine, and androgynous males and females were found to not differ significantly on their vulnerability to learned helplessness in this study. However, highly masculine males and females in both the

helplessness and the control groups were found to perform better on the anagram task (solving the anagrams faster and with fewer errors) than their less masculine counterparts. These authors also found highly masculine males to be more secure, less neurotic, less sensitive to criticism, more internal in locus of control, and to have higher self-esteem and fewer problems with alcohol than less masculine males. They found highly masculine females to be more feminist in their attitudes (as measured by the Women's Liberation Ideology Scale) and to be more politically aware, more extroverted, more heterosexually involved, and more popular with the opposite sex.

Contrary to the findings of Jones et al. (1978), Baucom and Danker-Brown (1979) found that a relationship did exist between sex-role orientation and vulnerability to learned helplessness. They found both males and females who were either highly masculine or highly feminine (as measured by the Baucom masculinity and femininity scales) to be more vulnerable to the cognitive deficits produced by learned helplessness than subjects who achieved high scores on both the masculinity and femininity scales, or who achieved low scores on both scales. They also found that females were less motivated to continue working on anagrams that they could not solve immediately than were males, in both helplessness and control groups. However, when sex-role orientation was held constant, they found no sex differences in terms of the changes induced by the learned helplessness manipulation.

The following studies offer additional evidence in support of the hypothesis that sex-role orientation may be related to vulnerability to self-induced helplessness. Carey (1958) found a positive relationship between masculine sex-role identification and success at a

problem-solving task for male and female subjects. Smokler (1974) found the following variables to be interrelated: possession of the traditional feminine personality characteristics, competence in traditionally female interests, interest in competence in non-feminine tasks, such as academic performance, and self-esteem. Her results were as follows: (1) Adolescent females with the highest self-esteem tended to have an interest in acquiring competence in both feminine and non-feminine tasks, and tended to be the least feminine in terms of personality styles; (2) Adolescent females with a medium level of self-esteem were more feminine in both interests and style; (3) Adolescent females with the lowest self-esteem seemed to be the least competent at feminine tasks. Additionally, Smokler (1974) found a positive correlation between masculine personality traits and self-esteem. Similarly, Recely (1973) found a positive correlation between self-esteem and masculinity in both male and female subjects. In addition, she found that men with low self-esteem were more likely to display a bias favoring the products attributed to male authors over female-authored literature. This finding suggests the possibility of a more general relationship between male self-esteem and sex-role attribution as measured on the Spence, Helmreich, and Stapp PAQ (1974). With the exception of the previously-mentioned Jones et al. (1978) study, relating feminism to sex-role orientation in females, no other literature relevant to the relationship of self-induced helplessness and attitudes toward women is currently available.

The cognitive component of self-esteem has been variously described as mastery of the environment (Woodworth, 1958), control of reward contingencies (Ziller, Hagey, Smith, and Long, 1969), sense of social

adequacy (Janis and Field, 1959; Dittes, 1959a), and interpersonal competence (Fitts, 1970). All of these definitions appear to involve a sense of power and independence, particularly in the social sphere. Thus, it might be hypothesized that level of self-esteem would be important in interpersonal situations in which labelling implied status (i.e., "manager" or "assistant" label). Negative feedback about the subject's performance on a measure of personality or on a task has been a common procedure in research aimed at manipulating self-esteem. Negative feedback has been found to produce significant decrements in performance on tasks unrelated to the feedback (Perez, 1973; Schalon, 1968; Shrauger and Rosenberg, 1970). However, Wylie (1968), after reviewing the self-esteem literature, concluded that negative feedback was less likely to affect global self-esteem than measures of self-confidence regarding the specific abilities involved in the feedback. The subject's level of self-esteem prior to the manipulation appears to be an important factor in the effectiveness of the manipulation. Wells and Marwell (1976), after reviewing numerous studies in this area, stated that low "chronic" self-esteem increased the subject's vulnerability to the deflating effect of the negative feedback; while high "chronic" self-esteem resulted in a greater increase in self-esteem following positive feedback.

In a reformulation of the original learned helplessness paradigm, Abramson, Seligman, and Teasdale (1978) theorized that self-esteem is lowered only in situations in which "personal helplessness" is inferred by the subject. "Personal helplessness" is defined as that which occurs when the individual believes that s/he is unable to control aversive outcomes and that relevant others <u>are</u> able to control such outcomes.

Thus, they differientiated "personal helplessness" from "universal helplessness," which they defined as a situation in which both the individual and relevant others are unable to control aversive outcomes. Abramson et al. (1978) theorized that, while cognitive and motivational deficits occur following both types of helplessness, self-esteem is only affected in situations of "personal helplessness."

Additional research has revealed a negative correlation between level of self-esteem and the existence of anxiety and neurotic behaviors (Wylie, 1974; Fitts, 1972a, 1972b, and 1972c). The similarity between these behaviors and those produced in the learned helplessness research suggests self-esteem as a possible factor in the learned helplessness phenomenon. Self-esteem has also been found to correlate positively with ability to perform effectively under stress and failure (Schalon, 1968; Shrauger and Rosenberg, 1970).

Using Langer and Benevento's (1978) basic paradigm, the proposed study will explore unexamined facets of self-induced helplessness. The following additions and changes will be incorporated into the basic paradigm: (1) A comparison of male and female performance on identical tasks; (2) A comparison of the effects of the labelling process in same-sex and opposite-sex dyads upon performance; and (3) An examination of the relationships of the subject's self-esteem, masculinity-femininity orientation, and attitudes toward women to the effects of the labelling process.

Treatment effects will be operationalized as change scores from pre to posttreatment administrations of a simple arithmetic task. In a pretest of the dependent measure to be used in this study no significant differences in male and female performances on the arithmetic task were

found. Thus, sex bias of task should not be a factor in this study. During the treatment phase, the subjects will work in dyads, in which one is to solve anagrams and the other is to time the solver with a stop watch. Feather (1966) found the five anagrams to be used in the present study to be solvable within the 30-second time limit for each anagram by virtually all of his undergraduate subjects. Therefore, all subjects solving anagrams in the treatment phase of this study should experience success.

The short form of the Personal Attributes Questionnaire (PAQ) (Spence, Helmreich, and Stapp, 1974) will be used to measure the subject's masculinity-femininity orientations. The 25-item short form of The Attitudes toward Women Scale (AWS) (Spence and Helmreich, 1978) will also be administered to each subject. These two measures have been added because of the important role such attitudes and orientations seem to play in an individual's reaction to traditional versus non-traditional sex-role experiences. Measures of the subject's self-esteem will be obtained through the administration of the Rosenberg Self Esteem Scale (RSE) (Rosenberg, 1965).

The following hypotheses are to be tested in this study. Given that a label implying degree of interpersonal power produces a commensurate change in ability to perform a task alone: (1) "Managers" will have a significant increment in arithmetic scores following the treatment phase of the experiment and (2) "Assistants" will have a significant decrement in arithmetic scores following the treatment phase of the experiment. Given that female performances are more vulnerable to the effects of contextual cues than are males performances, it is hypothesized that (3) Female subjects labelled as "assistants" will exhibit a

greater decrease in pre to posttreatment arithmetic scores than will males similarly labelled, and (4) Female subjects labelled as "managers" will exhibit a greater increment in pre to posttreatment arithmetic scores than will male "managers." Given that having a female as opposed to a male supervisor does not have a detrimental effect on the performance of the supervisee, (5) Neither male nor female "assistants," when paired with female "managers," will exhibit performance decrements which are significantly greater than those exhibited by "assistants" paired with male "managers." Given that individuals with low self-esteem will more readily accept as valid a label implying their interpersonal inferiority than will high self-esteem individuals and given that high scores on the Rosenberg Self-Esteem Scale (RSE) reflect low self-esteem, it is hypothesized that (6) The magnitude of decrements in the pre to posttreatment arithmetic scores of "assistants" will correlate positively with scores on the RSE. Given that individuals with high self-esteem will more readily accept as valid a label implying their interpersonal superiority than will low self-esteem individuals, it is hypothesized that (7) The magnitude of increments in the pre to posttreatment arithmetic scores of "managers" will correlate negatively with scores on the RSE. Given that individuals with a highly masculine orientation are less likely to accept as a valid a label connoting dependence than are less masculinely oriented individuals, it is hypothesized that (8) The magnitude of decrements in pre to posttreatment arithmetic scores of "assistants" will correlate negatively with Personal Attributes Questionnaire (PAQ) masculinity scores. Finally, given that females with traditional attitudes toward the female sex-role are more likely to accept as valid a label implying their dependence, it is hypothesized

that (9) The magnitude of decrements in pre to posttreatment arithmetic scores of female "assistants" will correlate negatively with Attitudes toward Women Scale (AWS) scores.

CHAPTER III

METHOD

Subjects

Forty-nine males and forty-seven females from a south-midwestern university's fall, 1980, Introductory Psychology classes served as subjects. Bonus points were added to their psychology test scores as an incentive for voluntary participation in the experiment. The subjects were scheduled to appear for the experiment in pairs. Each subject was randomly assigned to one of four groups: "assistant" with a female dyad partner; "assistant" with a male dyad partner; "manager" with a female dyad partner; and "manager" with a male dyad partner.

Instruments

The following instruments were administered to all subjects:

1. Two forms of an arithmetic task, one used to obtain a pre-treatment performance measure and the other to obtain a post-treatment performance measure. (Refer to Appendix A for copies of the two arithmetic tasks.) Each form of the task is composed of 12 two- and three-digit addition problems, 12 two- and three-digit subtraction problems and 12 two-digit multiplication problems. In a pilot study, both forms of this task were administered to 22 students in a south-midwestern university's summer, 1980, Introductory Psychology class. (Refer to

Appendix B for the results of this pilot study.)

2. The Rosenberg Self Esteem Scale (RSE). (Refer to Appendix C for a copy of the RSE.) The RSE is a ten-item Guttman scale, on which the subject is asked to indicate how closely each description matches him/herself by selecting one of four possible ratings. The RSE items are balanced for agreement; that is, for half the items, agreement represents high self-esteem, and for the other half, agreement represents low self-esteem. Thus, the potential threat of agreement bias to the validity of the scale is avoided. Rosenberg (1965) presents as evidence for construct validity the negative associations of the RSE with a number of psychological indicators: the appearance of depression and disappointment symptoms, physiological indicators of neurosis, self-reported frequency of psychosomatic symptoms, ability for self-criticism, etc. Rosenberg (1965) also reports a positive association of the RSE with indicators of good interpersonal adjustment: leadership ratings, social reputation ratings, and the subject's perceptions of other's opinions of him. Rosenberg (1965) has obtained Coefficients of Reproductibility of .92 and higher for the RSE, suggesting that it is a reasonably reliable scale.

3. The short form of the Personal Attributes Questionnaire (PAQ). (Refer to Appendix D for a copy of the PAQ.) In order to produce a scale which could provide a brief and convenient means of measuring masculinity and femininity orientation, Spence, Helmreich, and Stapp (1974) revised the Rosenkrantz, Vogel, Bee, Broverman, and Broverman (1968) Sex Role Stereotype

Questionnaire. The PAQ short form (abbreviated from the original PAQ) is composed of three eight-item subscales consisting of male-valued items (primarily connoting instrumentality), female-valued items (consisting of expressive characteristics), and sex-specific items (ideal male and female characteristics which fall toward different poles). Each item is accompanied by a 6-point likert-like scale, with the two end points labelled by a verbal description (e.g., Not at all aggressive - Very aggressive). Subjects are instructed to rate themselves on each bipolar item. Spence, Helmreich, and Stapp (1974) found the PAQ Full Form to have a satisfactory internal consistency and test-retest reliability. The short form of the PAQ correlated highly (r = .92 and .94) with the full form of the scale (Spence, Helmreich, and Stapp, 1974).

4. The 25-item short form of the Attitudes toward Women Scale (AWS). (Refer to Appendix E for a copy of the AWS.) The scale developed by Spence and Helmreich (1978) consists of 25 declarative statements for which there are four response alternatives: Agree Strongly, Agree Mildly, Disagree Mildly, and Disagree Strongly. Each item is given a score from 0 to 3, with 0 reflecting the most traditional, conservative attitude and 3 reflecting the most liberal, profeminist attitude. The subject's score is obtained by summing the values for the individual items. A comparison of data collected from University of Texas psychology students during two different semesters (fall, 1971, and spring, 1972) indicates that the AWS is a reliable instrument (Spence and Helmreich, 1978). Spence and

Helmreich (1978) found the mean male score on the AWS to be significantly lower than that of females, an indication that males characteristically have a more traditional view of the female role than do females. These same authors found the AWS to have virtually no relationship with the masculinity-femininity dimension as measured by the California Personality Inventory (CPI). Correlations between the CPI Femininity Scale and the AWS were quite low ($r = .07$ for males, $r = .05$ for females) (Spence and Helmreich, 1978).

Procedure

Subjects were scheduled to present themselves for the experimental procedure in pairs. Subjects were then seated in student desks on opposite sides of the room; each was screened from awareness of the activities of the other subject. The experimenter informed both subjects that the experiment was an investigation of the effects of working alone on a task versus working with another person. They were told that all of the tasks they would be asked to perform were designed to provide a better understanding of these two working conditions. All subjects were then given a copy of the arithmetic instructions. (Refer to Appendix F for a copy of these instructions.) The experimenter read the instructions aloud and then asked the subjects to complete Form A of the arithmetic task within a three minute period. The subjects were then asked to complete a copy of the RSE.

After completing the two instruments, subjects were told they would work together on the next part of the experiment, and were asked to move to adjacent desks at the end of the room. One subject was told s/he

would be the manager of their pair, while the other subject was told s/he would serve as the manager's assistant. An equal number of males and females were randomly assigned to the manager and assistant positions. An equal number of subjects for the four treatment groups were assigned to the two different tasks involved in this phase (solving anagrams and timing the solver). Subject anagram solvers were then given a copy of the anagram instructions, a booklet containing five anagrams and an anagram answer sheet. (Refer to Appendix G for a copy of the instructions, to Appendix H for a copy of the anagram booklet, and to Appendix I for a copy of the anagram answer sheet.) The experimenter then read the anagram instructions aloud to the subject anagram solver. Separate instructions were given to the subject timer. These instructions (revised from Langer and Benevento, 1978) varied according to the status condition which they were assigned. "Managers" were told to "time your assistant as s/he works on the anagrams," while "assistants" were told to "keep track of the time to help your manager." The timer was then shown how to operate the stopwatch and told to use it to time the solver. The solver was told to record the time reported by the timer on the anagram answer sheet. The experimenter then gave the signal for the solver to start the first anagram. Following the completion of each anagram, or at the end of the 30-second time period, whichever occurred first, the solver was told to turn the page and begin the next one. When the last anagram had been solved, the subjects were again seated separately. Subjects were then given the arithmetic task instructions. The experimenter read the instructions aloud and then asked the subjects to complete Form B of the arithmetic task within a 3-minute period. Subjects were then asked to complete copies of the

RSE, the PAQ short form and the 25-item form of the AWS. Finally, the subjects were advised that debriefing sessions, to be attended by several subjects at a time, would be scheduled shortly after data collection had been completed, and that they would receive notification of the date and times of the debriefings in their Introductory Psychology classes. These debriefing sessions occurred two weeks following data collection.

CHAPTER IV

RESULTS

Eighteen subjects assigned to the solver condition did not successfully solve all the anagrams within the 30-second time period. Eight subjects (five male "assistants," one male "manager" and two female "managers) solved only 3 out of 5 anagrams, and ten subjects (four male "managers," two male "assistants," one female "manager" and three female "assistants") solved only 4 out of 5 anagrams. An unweighted means analysis was used to assess the effects of number of anagrams failed (0, 1 or 2) and status (manager or assistant) on the increment scores (post-treatment minus pretreatment arithmetic scores) of the 48 subjects in the solver condition. No significant effects were found for these factors. (Refer to Table I for a summary of these results.) Nevertheless, as a failure to solve two anagrams in the treatment phase of the experiment could have been subjectively experienced by some subjects as a lack of success, only data from those subjects who solved four or more anagrams were included in the rest of the analyses reported in this study. Data from eight other subjects were also randomly omitted from the analyses in order to balance the cells of the design.

Two experimenters, one female (the author of the study) and one male, conducted the experiment. The assignment of subjects and experimental conditions to experimenters was random, with the female experimenter in charge of the procedure for 29 males and 28 female subjects

TABLE I

UNWEIGHTED MEANS ANALYSIS - WITH NUMBER OF ANAGRAMS FAILED AND STATUS AS THE FACTORS AND ARITHMETIC INCREMENTS (POSTTREATMENT MINUS PRETREATMENT ARITHMETIC SCORES) AS THE DEPENDENT MEASURE

Source	Degrees of Freedom	Mean Square	F Ratio
Status	1	0.28	0.018
Anagrams Failed	2	4.07	0.267
Interaction	2	10.24	0.672
Error	42	15.24	

and the male experimenter in charge for 11 males and 12 female subjects. An unweighted means analysis was used to compare the effects of sex of experimenter and sex of subject on subjects' arithmetic increments (posttreatment minus pretreatment arithmetic scores). None of the effects were found to be significant. (Refer to Table II for a summary of these results.)

The independent variables were:

1. Sex of subjects (SEX)
2. Status of subject during treatment phase (STATUS)
3. Job performed by subject during treatment phase (JOB)
4. Sex of partner in treatment phase (PARTNER)
5. Subject's score on the pretreatment administration of the Rosenberg Self Esteem Scale (RSE1)
6. Subject's score on the M scale of the Personal Attributes Questionnaire (PAQM)
7. Subject's score on the F scale of the Personal Attributes Questionnaire (PAQF)
8. Subject's score on the Attitudes toward Women Scale (AWS)

The dependent measures were:

1. Subject's performance score on the pretreatment administration of the arithmetic task (PRE)
2. Subject's performance score on the posttreatment administration of the arithmetic task (POST)
3. The change score derived from a subject's performance scores (PRE minus POST) (CHG). This score is calculated in the opposite direction (POST minus PRE) when referred to as the arithmetic score increments.

TABLE II

UNWEIGHTED MEANS ANALYSIS - WITH SEX OF EXPERIMENTER AND SUBJECT'S SEX AS THE FACTORS AND ARITHMETIC INCREMENTS AS THE DEPENDENT MEASURE

Source	Degrees of Freedom	Mean Square	F Ratio
Experimenter's Sex	1	0.180	0.014
Subject's Sex	1	1.459	0.114
Interaction	1	18.295	1.435
Error	76	12.752	

4. Subject's score on the posttreatment administration of the Rosenberg Self Esteem Scale (RSE2)

(Refer to Table III for a summary of all means and standard deviations for all quantifiable variables by sex.)

The Pearson Product Moment Correlation was used to assess the relationship among the following variables by sex and status:

1. PRE
2. POST
3. CHG
4. RSE1
5. RSE2
6. PAQM
7. PAQF
8. AWS

The results of the correlational analyses are found in Table IV. Significant negative correlations were found between the PAQ M scale and the scores obtained on both the pre and the posttreatment administrations of the RSE for male "assistants" and female "managers" and "assistants." This indicates that highly masculine individuals in these three groups tended to have higher self-esteem than those who were less masculine. For males a significant negative correlation was found between the posttreatment arithmetic scores (POST) and the arithmetic change scores (CHG). This indicates that those males who manifested the greatest improvement in pre to posttreatment arithmetic scores also tended to obtain the highest posttreatment arithmetic scores. Also for male "managers," posttreatment arithmetic scores correlated positively with PAQ M scale scores, and correlated negatively with PAQ F scale scores. This

TABLE III

MEANS AND STANDARD DEVIATIONS FOR ALL QUANTIFIABLE VARIABLES BY SEX

Variable	Males		Females	
	Mean	S.D.	Mean	S.D.
RSE1	18.28	3.12	18.10	3.87
PAQ M	23.05	3.74	20.60	5.31
PAQ F	23.03	3.81	25.45	3.59
AWS	42.45	9.11	51.25	9.52
PRE	17.65	4.48	19.73	5.96
POST	19.40	5.48	20.73	6.03
CHG	-1.00	3.52	-1.75	3.70
RSE2	18.30	3.57	18.05	3.95

N = 40

N = number of subjects in the sample

S.D. = standard deviation

TABLE IV

CORRELATION OF VARIABLES (AND LEVELS OF SIGNIFICANCE)
BY SEX AND STATUS

	Female Managers							
	PRE	POST	CHG	RSE1	RSE2	PAQ M	PAQ F	AWS
PRE	1.000 (.00)	.838 (.00001)	.308 (.187)	-.394 (.085)	-.339 (.143)	.098 (.680)	-.952 (.827)	.046 (.846)
POST		1.000 (.00)	-.261 (.266)	-.296 (.206)	-.297 (.256)	.241 (.307)	-.026 (.912)	.187 (.430)
CHG			1.000 (.00)	-.182 (.441)	-.136 (.569)	-.246 (.296)	-.046 (.847)	-.244 (.300)
RSE1				1.000 (.00)	.962 (0.0001)	-.601 (.005)	-.195 (.409)	-.319 (.170)
RSE2					1.000 (.00)	-.555 (.011)	-.257 (.275)	-.326 (.161)
PAQ M						1.000 (.00)	-.121 (.612)	.290 (.215)
PAQ F							1.000 (.00)	.168 (.479)
AWS								1.000 (.00)

	Male Managers							
	PRE	POST	CHG	RSE1	RSE2	PAQ M	PAQ F	AWS
PRE	1.000 (.00)	.640 (.002)	.389 (.089)	-.107 (.653)	-.158 (.507)	.207 (.380)	-.385 (.094)	-.054 (.820)
POST		1.000 (.00)	-.459 (.042)	-.012 (.961)	-.002 (.995)	.576 (.008)	-.511 (.021)	.263 (.262)
CHG			1.000 (.00)	-.109 (.646)	-.180 (.447)	-.450 (.046)	.167 (.481)	-.378 (.100)
RSE1				1.000 (.00)	.920 (.0001)	-.163 (.491)	-.039 (.871)	.141 (.554)
RSE2					1.000 (.00)	-.143 (.547)	-.135 (.571)	.203 (.391)

TABLE IV (Continued)

	Male Managers							
	PRE	POST	CHG	RSE1	RSE2	PAQ M	PAQ F	AWS
PAQ M						1.000 (.00)	-.082 (.732)	-.220 (.352)
PAQ F							1.000 (.00)	-.067 (.779)
AWS								1.000 (.00)

	Male Assistants							
	PRE	POST	CHG	RSE1	RSE2	PAQ M	PAQ F	AWS
PRE	1.000 (.00)	.834 (.0001)	-.197 (.406)	.071 (.765)	.020 (.933)	.061 (.800)	-.135 (.572)	-.268 (.254)
POST		1.000 (.00)	-.705 (.0005)	.211 (.372)	.209 (.376)	-.040 (.869)	-.102 (.670)	-.412 (.071)
CHG			1.000 (.00)	-.283 (.226)	-.346 (.136)	.148 (.533)	.008 (.973)	.388 (.091)
RSE1				1.000 (.00)	.934 (.0001)	-.478 (.033)	-.425 (.062)	.181 (.446)
RSE2					1.000 (.00)	-.510 (.022)	-.440 (.052)	.202 (.393)
PAQ M						1.000 (.00)	.571 (.212)	.144 (.546)
PAQ F							1.000 (.00)	.225 (.340)
AWS								1.000 (.00)

	Female Assistants							
	PRE	POST	CHG	RSE1	RSE2	PAQ M	PAQ F	AWS
PRE	1.000 (.00)	.814 (.0001)	.254 (.279)	-.381 (.100)	-.256 (.276)	.378 (1.00)	-.065 (.784)	.168 (.480)

TABLE IV (Continued)

	Female Assistants							
	PRE	POST	CHG	RSE1	RSE2	PAQ M	PAQ F	AWS
POST		1.000 (.00)	-.355 (.125)	-.244 (.300)	-.128 (.592)	.249 (.290)	-.118 (.621)	.037 (.876)
CHG			1.000 (.00)	-.208 (.380)	-.200 (.400)	.194 (.411)	.091 (.704)	.333 (.152)
RSE1				1.000 (.00)	.933 (.0001)	-.487 (.030)	-.237 (.315)	.040 (.869)
RSE2					1.000 (.00)	-.476 (.034)	-.287 (.221)	.002 (.993)
PAQ M						1.000 (.00)	-.100 (.685)	.118 (.621)
PAQ F							1.000 (.00)	-.172 (.469)
AWS								1.000 (.00)

Numbers in parentheses = levels of significance

finding indicates that those males in the manager condition who obtained the highest posttreatment arithmetic scores tended to be more masculine and less feminine than those who obtained lower posttreatment arithmetic scores. Male "managers" arithmetic change scores correlated negatively with PAQ M scale scores. This is an indication that those males in the manager condition who obtained the greatest increase in pre to post-treatment arithmetic scores tended to be those who were the most masculine. Correlations between pretreatment arithmetic scores and posttreatment arithmetic scores for all groups were positive and highly significant. This finding is in keeping with the finding of the pilot study of no significant differences between the two forms of the instrument in terms of subjects' scores.

A 2 x 2 x 2 x 2 analysis of variance was used to assess the differences between the 16 groups composing the major design of the study. The four factors included in the analysis were sex of subject, status ("manager" or "assistant"), job (anagram solver or timer), and sex of dyad partner, and arithmetic change score (pre minus posttreatment arithmetic score) was the dependent variable. A four-way interaction effect reached the .05 level of significance. No other effect in the analysis was found to be significant. (Refer to Table V for a summary of these results.) This indicates that a combination of the effects of these four factors acts to differentiate the 16 groups in the design in terms of their arithmetic change scores.

The first hypothesis tested was: "Managers" will have a significant increment in arithmetic scores following the treatment phase of the experiment. A one-tailed t-test for correlated measures was used to assess the average increments (posttreatment minus pretreatment

TABLE V

ANALYSIS OF VARIANCE - WITH SEX OF SUBJECT, STATUS, JOB AND SEX OF PARTNER AS FACTORS AND ARITHMETIC CHANGE SCORES AS THE DEPENDENT MEASURE

Source	Degrees of Freedom	Mean Square	F Ratio	Level of Significance
SEX	1	11.25	0.83	0.365
STATUS	1	20.00	1.48	0.229
SEX X STATUS	1	5.00	0.37	0.545
JOB	1	0.05	0.00	0.952
SEX X JOB	1	8.45	0.62	0.432
STATUS X JOB	1	28.80	2.13	0.156
SEX X STATUS X JOB	1	0.80	0.06	0.809
PARTNER	1	4.05	0.30	0.586
SEX X PARTNER	1	0.45	0.03	0.856
STATUS X PARTNER	1	0.00	0.00	1.000
SEX X STATUS X PARTNER	1	3.20	0.24	0.628
JOB X PARTNER	1	11.25	0.83	0.365
SEX X JOB X PARTNER	1	8.45	0.62	0.432
STATUS X JOB X PARTNER	1	3.20	0.24	0.628
SEX X STATUS X JOB X PARTNER	1	57.80	4.27	0.043
ERROR	64	13.53		

arithmetic scores) for subjects in the manager status condition. The results of the t-test were in the predicted direction but were, however, nonsignificant, $t = 1.658$, $p < .053$. (Refer to Table VI for a summary of the means and standard deviations.) Thus, the findings did not support the prediction that "managers" would exhibit a significant increase in pre to posttreatment arithmetic scores.

The second hypothesis tested was: "Assistants" will have a significant decrement in arithmetic scores following the treatment phase of the experiment. A calculation of the average change score between pre and posttreatment scores for those subjects in the assistant status condition revealed that these subjects had achieved increments in their arithmetic scores following the treatment phase, rather than decrements. A two-tailed t-test for correlated measures was used to determine if the increase between the "assistants" pre and posttreatment arithmetic scores was significant. The increase was found to be significant, $t = 2.96$, $p < .01$. (Refer to Table VII for a summary of the means and standard deviations.) Thus, the hypothesis that "assistants" would exhibit a decrease in pre to posttreatment arithmetic scores was rejected.

The third hypothesis tested was: Female subjects labelled as "assistants" will exhibit a greater decrease in pre to posttreatment arithmetic scores than will males similarly labelled. A calculation of average change scores (pretreatment minus posttreatment arithmetic scores) revealed that neither male nor female "assistants" exhibited a decrease in arithmetic scores following the treatment phase. A 2 x 2 x 2 x 2 analysis of variance (with sex of subject, status, job and sex of partner as the four factors) was used to compare the arithmetic change

TABLE VI

MEANS AND STANDARD DEVIATIONS FOR THE PRE AND POSTTREATMENT ARITHMETIC SCORES OF SUBJECTS IN THE MANAGER STATUS CONDITION

Form	Mean	Standard Deviation
PRE	18.33	4.88
POST	19.20	4.92
CHG	-.88	3.34

N = 40

N = number of subjects in the sample

PRE = performance scores on pretreatment administration of the arithmetic task

POST = performance scores on posttreatment administration of the arithmetic task

CHG = PRE minus POST scores

TABLE VII

MEANS AND STANDARD DEVIATIONS FOR ARITHMETIC SCORE INCREMENTS OF SUBJECTS IN THE ASSISTANT CONDITION

Form	Mean	Standard Deviation
PRE	19.05	5.53
POST	20.93	6.53
INC	1.88	3.84

N = 40

N = number of subjects in the sample

PRE = performance scores on pretreatment administration of the arithmetic task

POST = performance scores on posttreatment administration of the arithmetic task

INC = POST minus PRE scores

scores of the subjects in the 16 conditions of the experiment. (Refer to Table VII for a summary of these results.) No interaction effect was found for sex and status. Thus, the findings do not support the prediction that female "assistants" would exhibit greater decrements in pre to posttreatment arithmetic scores than would male "assistants."

The fourth hypothesis tested was: Female subjects labelled as "managers" will exhibit a greater increase in pre to posttreatment arithmetic scores than will male "managers." As was previously reported, the results of a 2 x 2 x 2 x 2 analysis of variance comparing the effects of sex of subject, status, job, and sex of partner indicated that there was no significant interaction between sex and status. (Refer to Table VII for a summary of these results.) Also, a calculation of the average increments (posttreatment minus pretreatment arithmetic scores) of male and female "managers" revealed that the increments for the sexes were virtually equal (average increment for males = .68; average increment for female = .63). Thus, the prediction that female "managers" would exhibit greater pre to posttreatment arithmetic scores increments than would male "managers" was not supported by the findings.

The fifth hypothesis tested was: Neither male nor female "assistants," when paired with female "managers," will exhibit performance decrements which are significantly greater than those exhibited by "assistants" paired with male "managers." A 2 x 2 x 2 x 2 analysis of variance (with sex of subject, status, job and sex of partner as the four factors) was used to assess the effect of sex of partner on the arithmetic change scores of the "assistants." (Refer to Table VII for a summary of these results.) The analysis of variance showed no

significant interaction effects for sex of partner and status, nor for sex of partner, sex of subject and status. However, the four-way interaction effect did reach the .05 level of significance. A comparison of the cell means shows that male timers in the manager condition who were paired with male partners suffered the greatest average decrement in their pre to posttreatment arithmetic scores. Female timers in the assistant condition who were paired with female partners achieved the greatest average arithmetic score increment. (Refer to Table VIII for a summary of the cell means and standard deviations.) Thus, the findings support the prediction that "assistants" paired with female "managers" would not exhibit performance decrements significantly greater than "assistants" paired with male managers.

The sixth hypothesis tested was: The magnitude of decrements in the pre to posttreatment arithmetic scores of "assistants" will correlate positively with scores on the RSE. Pearson Product Moment Correlations were used to compare the "assistants" arithmetic change scores (CHG) to the scores obtained on the pre (RSE1) and posttreatment (RSE2) administrations of the RSE. Non-significant correlations were found between "assistants'" change scores and their pretreatment RSE scores ($r = -.266$) and between "assistants'" arithmetric change scores and their posttreatment RSE scores ($r = -.262$). Thus, the findings did not support the prediction of a positive correlation between "assistants" arithmetic performance decrements and low self-esteem as measured by the RSE.

The seventh hypothesis tested was: The magnitude of increments in the pre to posttreatment arithmetic scores of "managers" will correlate negatively with scores on the RSE. Pearson Product Moment Correlations

TABLE VIII

MEANS AND STANDARD DEVIATIONS FOR ARITHMETIC CHANGE SCORES FOR EACH CELL OF A FOUR-WAY DESIGN - WITH SEX OF SUBJECT, STATUS, JOB AND SEX OF PARTNER AS THE FACTORS

	Males		Females	
	Assistants	Managers	Assistants	Managers
Female Partner				
Timer Mean	-2.4	-1.2	-4.2	-0.2
(S.D.)	(2.51)	(1.34)	(3.11)	(3.03)
Solver Mean	-2.8	-1.8	1.0	-1.2
(S.D.)	(6.18)	(1.17)	(2.55)	(2.49)
Male Partner				
Timer Mean	-3.4	1.2	0.0	-1.0
(.S.D)	(3.21)	(4.60)	(2.55)	(4.47)
Solver Mean	-1.4	-2.2	-1.8	-0.6
(.S.D)	(3.44)	(2.86)	(5.45)	(3.51)

N = 5

N = number of subjects in each cell

S.D. = standard deviation

Change score = pretreatment arithmetic score minus posttreatment arithmetic score

were used to compare "managers" increments (posttreatment minus pretreatment arithmetic scores) to the scores obtained on the pre and posttreatment administrations of the RSE. Non-significant positive correlations were found between "managers" arithmetic increments and their pretreatment RSE scores ($r = .149$) and between their arithmetic increments and their posttreatment RSE scores ($r = .157$). Thus, the findings did not support the prediction of a negative correlation between pre to posttreatment arithmetic increments and low self-esteem as measured by the RSE for subjects in the manager condition.

The eighth hypothesis tested was: The magnitude of decrements in pre to posttreatment arithmetic scores of "assistants" will correlate negatively with PAQ masculinity (M scale) scores. A Pearson Product Moment Correlation was used to assess the relationship between arithmetic change scores (pretreatment minus posttreatment arithmetic scores) and PAQ M scores for "assistants." A non-significant positive correlation ($r = .112$) was found between arithmetic change scores and PAQ M scores. Thus, the findings did not support the prediction that masculinity as measured by the PAQ M scale would correlate negatively with pre to posttreatment arithmetic decrements for subjects in the assistant condition.

Finally, the ninth hypothesis to be tested was: The magnitude of decrements in pre to posttreatment arithmetic scores of female "assistants" will correlate negatively with AWS scores. A Pearson Product Moment Correlation was used to assess the relationship between these two variables for female "assistants." A non-significant positive correlation ($r = .334$) was found between arithmetic change scores and AWS scores for female "assistants." Additionally, when female "assistants'"

scores were combined with the scores for male "assistants" for these variables, this positive correlation reached the .014 level of significance ($r = .385$). Thus, the prediction that female "assistants'" pre to posttreatment arithmetic decrements would correlate negatively with a non-traditional attitude toward the female sex-role as measured by the AWS failed to be supported by these findings.

The findings of a significant positive correlation ($r = .385$, $p < .014$) between arithmetic change scores and AWS scores for subjects in the assistant condition, and negative correlation of $r = -.288$ although not significant ($p < .072$) between arithmetic change scores and AWS scores for subjects in the manager condition, lead to a decision to analyze this relationship further in a post hoc 2 x 2 analysis of variance. One factor was a stratification of subjects into those with AWS scores above the median and those with AWS scores below the median. Status condition was the other factor. The dependent variable was arithmetic change score (pretreatment minus posttreatment arithmetic score). A significant interaction effect ($p < .01$) was found between these two factors. (Refer to Table IX for a summary of these results.) A calculation of the means of these four groups reveals that "managers" with low AWS scores obtained the only decrease in average arithmetic change scores. The "assistants" with low AWS scores manifested the highest increase in arithmetic scores, followed by "managers" with low AWS scores and "assistants" with high AWS scores. A Tukey's HSD Test was used to make pairwise comparisons among the means of the four groups in this design. The difference between the mean of the low AWS "managers" and the mean of the low AWS "assistants" was significant, $p < .05$. None of the other pairs of means were found to differ significantly.

TABLE IX

ANALYSIS OF VARIANCE - WITH STATUS AND AWS SCORE STRATIFICATION AS THE FACTORS AND ARITHMETIC CHANGE SCORES AS THE DEPENDENT VARIABLE

Source	Degrees of Freedom	Mean Square	F Ratio
Status	1	20.00	1.457
AWS Level	1	2.45	.178
Interaction	1	96.80	7.050*
Error	76	13.73	

*$p < .01$

(Refer to Table X for the means and standard deviations of these four groups.)

Additional t-tests for correlated measures were used to determine if there was a significant difference between scores obtained on the pre to posttreatment administrations of the RSE. T scores were calculated for male "managers," male "assistants," female "managers," and female "assistants." No significant differences were found between pre and posttreatment RSE scores for any of these groups. (Refer to Table XI for a summary of the means and standard deviations.) An analysis of variance was used to compare the average change score of these four groups. (Refer to Table XII for a summary of these results.) No significant effects was found in this analysis. This is congruent with significant positive correlations found between these two variables for male and female "managers" and "assistants." Refer to Table IV for a summary of these data. Thus, self-esteem (as it is measured by the RSE) did not appear to be significantly affected by the treatment phase of the experiment, and male and female subjects appeared to be about equal in terms of this characteristic.

An additional post hoc analysis was completed to determine if vulnerability to self-induced helplessness might be related to the pattern of the subject's masculinity and femininity scores. The method of analysis used to investigate this relationship was a modification of that used by Baucom and Danker-Brown (1979). The median scores for the PAQ M and F scales were calculated for all 80 subjects (M scale median = 22.333; F scale median = 24.625). The 40 subjects assigned to the assistant condition were then parcelled into four groups: subjects with M scale scores above the median and F scale scores below the median

TABLE X

MEANS AND STANDARD DEVIATIONS OF ARITHMETIC CHANGE SCORES WITH SUBJECTS SORTED BY STATUS AND AWS SCORE STRATIFICATION

	AWS			
	Low		High	
	Mean	S.D.	Mean	S.D.
Managers	.40	3.283	-2.15	2.898
Assistants	-2.80	3.764	-.95	3.776

N = 20

N = number of subjects in each group

S.D. = standard deviation

arithmetic change score = pretreatment minus posttreatment arithmetic scores

TABLE XI

MEANS AND STANDARD DEVIATIONS FOR THE PRE AND POSTTREATMENT RSE CHANGE SCORES FOR MALE "MANAGERS," MALE "ASSISTANTS," FEMALE "MANAGERS," AND FEMALE "ASSISTANTS"

	Mean	S.D.	Mean	S.D.	Mean	S.D.	t
Male Managers	18.30	3.25	18.20	3.21	2.0	5.79	.35
Male Assistants	18.25	3.08	18.40	3.99	-3.0	7.00	4.29
Female Managers	17.50	4.11	17.30	4.19	4.0	5.15	.78
Female Assistants	18.70	3.61	18.80	3.65	2.0	5.96	.34

N = 20

N = number of subjects in the samples

RSE1 = scores obtained on the pretreatment administration of the RSE

RSE2 = scores obtained on the posttreatment administration of the RSE

DRSE = RSE change scores (RSE1 minus RSE2)

S.D. = standard deviation

TABLE XII

ANALYSIS OF VARIANCE - WITH SEX AND STATUS AS THE FACTORS AND RSE CHANGE SCORES AS THE DEPENDENT MEASURE

Source	Degrees of Freedom	Mean Square	F Ratio
SEX	1	.612	.338
STATUS	1	.612	.338
INTERACTION	1	.116	.064
ERROR	76	1.81	

(high masculinity); subjects with F scale scores above the median and M scale scores below the median (high femininity); subjects with both M scale and F scale scores above the median (androgenous); and subjects with both M scale and F scale scores below the median (undifferentiated). An unweighted means analysis was then used to determine if significant differences existed between the average change scores (pre minus posttreatment arithmetic scores) of these groups. (Refer to Table XIII for a summary of these results.) No significant effects were found. Thus, the pattern of results obtained by Baucom and Danker-Brown (1979), that of greater vulnerability to learned-helplessness-induced cognitive deficits in high masculinity and high femininity individuals, was not found to occur in this study.

TABLE XIII

UNWEIGHTED MEANS ANALYSIS - WITH PAQ M SCALE AND PAQ F SCALE SCORE PLACEMENTS AS THE FACTORS AND ARITHMETIC INCREMENTS AS THE DEPENDENT MEASURE

Source	Degrees of Freedom	Mean Square	F Ratio
M scale	1	.606	.036
F scale	1	.413	.025
Interaction	1	2.413	.144
Error	36	16.815	

CHAPTER V

DISCUSSION

The results obtained for hypotheses one and two in the present study are inconsistent with those reported in Langer and Benevento's (1978) self-induced helplessness study. Although "managers" performed better following the treatment phase of the present study, as was predicted in the first hypothesis, "assistants'" performances improved slightly more than the "managers'" performances. Thus, the effect of assistant status was to improve rather than to decrease performance, an opposite effect to that predicted in hypothesis two, as well as to that found by Langer and Benevento.

The failure to replicate Langer and Benevento's study (and thus to support hypothesis two) might be explained by a difference in masculinity-femininity orientation between the subjects used by Langer and Benevento and those used in this study. The prediction that the subject's masculinity-femininity orientation would effect his/her vulnerability to self-induced helplessness was the basis for the eighth hypothesis of the present study. However, the prediction that "assistants" with low masculinity (as measured by the PAQ M scale) would exhibit greater arithmetic performance decrements was not supported by the results. In fact, no significant correlation was found between the PAQ M and arithmetic change scores, nor between the PAQ F and arithmetic change scores.

The findings of Baucom and Danker-Brown (1979) suggested that it might be a particular pattern of masculinity and femininity scale scores that was affecting the subjects' vulnerability to self-induced helplessness and thus obscuring the effects of the experimental manipulation. However, a post hoc unweighted means analysis, in which subjects in the assistant condition were stratified in terms of their scores on the PAQ M and PAQ F scales, into four groups--"highly masculine," "highly feminine," "androgenous," "undifferentiated"--revealed no significant differences in vulnerability to self-induced helplessness in these four groups. Therefore, masculinity-femininity orientation does not appear to be a factor in the failure to replicate Langer and Benevento's (1978) study.

Another possible explanation for the contradictory results obtained in the present study and that of Langer and Benevento (1978) lay in the possibility that a difference on the conservative-liberal continuum existed between the populations sampled for these two studies. Correlational findings between arithmetic change scores and scores on the AWS (a measure of conservative-liberal attitudes toward women) seemed to suggest that the possession of a liberal or conservative attitude affected one's arithmetic performance following the acquisition of a label connoting interpersonal status. The direction of this correlation between AWS score and arithmetic change score varied according to the status condition of the subject. In the assistant condition, the more conservative subjects obtained the greatest increases in pre to post-arithmetic scores. This finding, which encompassed females and males, was consistent with rejection of hypothesis nine, which predicted that conservative females "assistants" would manifest greater performance

decrements than would liberal female "assistants." Thus, conservative females were less likely to manifest the behavioral correlates which would be expected from someone in subordinate or dependent status than were their less conservative counterparts. In the manager condition, those subjects with liberal attitudes toward women tended to obtain the greatest pre to posttreatment arithmetic score increases. The results of the post hoc analyses indicate that the conservative "assistants" manifested an improvement in pre to posttreatment scores that was significantly greater than that of the conservative "managers," who actually obtained a slight decrement in average arithmetic change score. The difference between these two groups lies in the direction opposite to that found by Langer and Benevento. Even the more liberal half of the "assistants" in the present study did not reflect the cognitive deficits found in those assigned to the dependent condition in the Langer and Benevento study, although their increase in pre to posttreatment arithmetic scores was slightly (but non-significantly) less than that of the liberal "managers." The vast difference in geographic location of these two studies may be a factor in lack of replication. The subjects used by Langer and Benevento may have been even more liberal than those found in the "liberal" half of the sample of the present study. The two studies could then be viewed as one larger study composed of three groups of subjects stratified according to their liberal-conservative attitudes. Langer and Benevento's subjects (likely the most liberal group) would appear to readily accept the social implications of their status labels, and act accordingly, with "assistants" showing performance decrements on a task requiring independent actions unbefitting their dependent status as assistants, and "managers" showing facilitition effects

from their label connoting interpersonal superiority. The most likely conservative subjects (the conservative half of the sample used in the present study), on the other hand, seem to not only refuse to accept the implications of their labels, but actually behave in ways that contradict these implications, with "assistants" showing performances increments, and the "managers" slight decrements in their performances. The subjects falling between the two extremes of conservatism and liberalism (the liberal half of the present study) also seem to fall between the other two groups in their degree of acceptance of their status labels. The "assistants" in this group exhibit no performance decrements, but their performance increments are slightly less than those in the manager condition. The implication of this finding is that the effect of a label connoting superordinate or subordinate status depends at least partially on the individual's position on a conservative-liberal continuum as measured by the Attitudes toward Women Scale.

The third and fourth hypotheses predicted that female subjects would be more affected by their status labels than would male subjects, with female "assistants" exhibiting greater performance deficits and female "managers" exhibiting greater performance increments than the males in their respective status conditions. Neither of these predictions was supported by the results of this study. This finding is contrary to those reported by Lenney (1977), who noted that females tended to be more influenced by contextual cues than males. This contradiction may be due to the fact that the reaction to the experimental manipulation observed in the conservative subjects in the present study constitutes a rejection of the implications of the contextual cues (i.e., the status labels). Thus, the influence of contextual cues on which the

sexes differed in other studies may not have been a factor in the current study.

The prediction that "assistants" paired with female "managers" would not manifest performance decrements significantly greater than those of "assistants" paired with male "managers" was the basis of the fifth hypothesis. This hypothesis was supported. The analysis used to assess this hypothesis yielded a significant four-way interaction effect. Of the 16 groups compared, the group showing the greatest average performance decrement was that of male "managers" who served as timers for male "assistants." This support of hypothesis five implies that subordinates under female supervision do not suffer performance deficits as the result of a cultural bias against female supervisors. This finding also supports the conclusion of other researchers in this area, who found that sex of supervisor had no consistent influence on subordinate satisfaction. Thus, if a bias against hiring females for supervisory positions does exist, it should not be predicated on the assumption that female supervisors will necessarily have a deleterious effect on the performances of their subordinates.

The sixth and seventh hypotheses proposed a relationship between the effects of the subject's status on the arithmetic change score, and on the subject's level of self-esteem. These hypotheses predicted that lower self-esteem would lead to greater performance decrements for "assistants" and that higher self-esteem would lead to greater performance increments for "managers." No significant correlations were found between RSE1 scores and arithmetic change scores. Thus, prior level of self-esteem did not seem to affect vulnerability to self-induced helplessness or the tendency to manifest facilitation effects following the

acquisition of manager status. There were also no significant correlations between RSE2 scores and arithmetic change scores. This indicated that the effects of the experimental manipulation on arithmetic performance were not related to self-esteem measured after the experimental manipulation. The two measures of self-esteem were highly correlated, however. A possible implication of this finding is that learned helplessness derived from a label implying dependent status is of the variety which Abramson, Seligman, and Teasdale (1978) called "universal helplessness," a kind of helplessness which they theorized did not involve loss of self-esteem. However, another likely explanation is that the apparent rejection by the "assistants" in the present study of the implications of the dependent label, a rejection visible in the posttreatment arithmetic score increments, may have served to avoid loss of self-esteem. Certainty as to the relationships of self-esteem and self-induced helplessness must await further exploration of this area.

In summary, the present study failed to replicate the findings of Langer and Benevento's (1978) investigation of self-induced helplessness. There are many possible reasons for this failure. Failure of replication can be due to a sample that is too small. In the present study, however, although the sample size for the 2 x 2 x 2 x 2 analysis of variance was small (n = 5), the ability to collapse across several cells provided large enough samples to give a reasonably powerful test of the hypotheses. A lack of similarity between an original study and the study attempting to replicate it in terms of treatment manipulation and dependent measures can also be a cause for non-replication. But the present study was designed to closely match these aspects of the Langer and Benevento (1978) study. It can also be argued that the treatment

manipulation in a failure at replication has somehow not been powerful enough to produce the significant effects reported in the original study. However, the current study's manipulation did produce a significant effect when scores on the AWS were taken into account.

The failure of the present study to replicate that of Langer and Benevento (1978) is most likely due to a difference between the two populations sampled on a liberal-conservative continuum. The results of the present study indicate that subjects with very conservative attitudes toward women tend to respond to the experimental manipulation of the study in a manner that is diametrically opposed to that found by Langer and Benevento; that is, the conservative subjects in the self-induced helplessness condition manifested facilitation effects in their posttreatment arithmetic performances, while conservative subjects in the manager condition manifest a slight decrement in average performance score. Further investigation of the relationship noted in the present study might take the form of a comparison of the AWS to more general measures of authoritarianism and dogmatism. Further information about the phenomena observed in the present study could also be obtained in a replication of this study on an alternate population--but in the same geographic location.

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APPENDIXES

APPENDIX A

ARITHMETIC TASKS

FORM A

622 +517	265 −146	84 x12	954 +353	167 x23	870 +539
73 x27	614 −205	449 +326	597 −368	63 x99	463 −233
269 +381	215 −178	765 +554	96 x53	156 +592	528 −444
36 x93	412 x63	651 −399	173 −154	818 +273	65 x90
854 −466	34 x72	578 +792	534 −240	696 +780	59 x75
961 +285	69 x73	82 x25	425 −317	257 −232	485 +968

FORM B

952 −75	103 +637	87 x47	798 −19	681 −121	747 +902
86 x65	700 −396	44 x29	95 x71	111 +509	396 −129
573 −531	777 +408	68 x63	21 x86	561 −508	168 +906
467 −330	185 +69	345 +657	65 x97	47 x28	553 +136
854 −241	86 x59	438 +409	683 −334	424 x40	905 +49
261 +583	28 x94	871 −565	382 −218	54 x27	825 +982

APPENDIX B

RESULTS OF PILOT STUDY

ARITHMETIC TASK PILOT STUDY

Subjects

Thirty-five students present at a summer, 1980, meeting of a southwestern university Introductory Psychology class were asked to participate in this study. Data from four male students were omitted from the study's analyses due to their failure to follow the experimenter's instructions to solve the arithmetic problems in the order of rows. These students skipped the multiplication problmes, solving only the addition and subtraction problems. Data from 9 females were omitted on a random basis to balance the number of male and female subjects, thus reducing the total number of subjects to 11 males and 11 females or 22 subjects.

Procedure

The arithmetic tasks were administered in the form of booklets composed of an instruction page, Form A of the arithmetic task, and Form B of the arithmetic task. Half of the booklets were in the order of: instruction page, Form A, and Form B (Order 1) and half were in the order of: instruction page, Form B, and Form A (Order 2). Half of each Order were coded "SEX: (M) F," while the other half of each order was coded "SEX: M (F)." The students were instructed to select a booklet coded "SEX: (M) F" if male and "SEX: M (F)" if female. They were told not to turn the first page until given the signal to do so. The booklets

were then randomly distributed among the students.

Following distribution of the booklets, the students were asked to read their instruction page silently as the experimenter read the instructions aloud. The instructions read as follows:

> Be sure your sex matches that circled above and indicate your age. This is a timed test. Do not turn this page until told to begin. You will be given two minutes to complete each of the two following pages of arithmetic problems. Stop working on the problems as soon as time is called and do not turn to the second page of problems until told to do so. Thank you for your cooperation.

After a student had asked in what order the problems should be answered, the experimenter informed all students that the problems should be solved by rows, answering the first row, then the second row, etc. At this point, the students were told to turn to their second page and to begin answering the problems. At the end of two minutes, they were told to stop working on the second page, to turn to the third page, and to begin solving these problems. At the end of another two minutes, the subjects were told to stop working on the problems and to pass their booklets to the experimenter.

Results

The independent variables were sex of the subject (SEX) and order of administration of the two forms of the arithmetic task (ORDER). The dependent measures were the number of problems solved correctly (performance scores) on Form A and Form B of the arithmetic task.

The first hypothesis tested was: No sex differences will be found in performance scores on Form A of the arithmetic task. A t-test for independent measures was used to assess sex differences. The difference between the mean performance scores for males and females failed to

reach the .05 level of significance. (Refer to Table XIV for a summary of the means and standard deviations.) Thus, the findings supported the prediction that the sexes do not differ significantly in their abilities to perform this task.

The second hypothesis tested was: The subjects' performances on Form A will not differ from their performances on Form B. A t-test for correlated measures was used to assess the mean difference between the scores on Form A and the scores on Form B. This difference failed to reach the .05 level of significance. (Refer to Table XV for a summary of the means and standard deviations.) Thus, the findings supported the prediction of a lack of significant difference between the subjects' performances on the two arithmetic task forms.

The third hypothesis tested was: The performance scores on the first form of the task to be administered will not differ from the performance scores on the second form of the task to be administered. The effect of the order of the task was assessed by using a t-test for correlated measures. The mean difference between the subjects' performances on the first form to be administered and his/her performance on the second form to be administered failed to reach the .05 level of significance. Thus, the findings supported the prediction of no significant order effect.

Discussion

The lack of a significant difference between the performance scores of males and females suggests that the arithmetic task is a non-sex-biased task. The lack of a significant difference between performance scores obtained on Form A and Form B indicates that the two forms of the

TABLE XIV

MEANS AND STANDARD DEVIATIONS FOR MALE AND FEMALE FORM A PERFORMANCE SCORES

	Mean	Standard Deviation
Males	10.45	4.34
Females	12.09	3.78

N = 22

N = number of subjects in the sample

TABLE XV

MEANS AND STANDARD DEVIATIONS FOR PERFORMANCE SCORES ON FORM A AND FORM B

Form	Mean	Standard Deviation
A	12.32	10.51
B	11.27	16.78

N = 22

N = number of subjects in the sample

TABLE XVI

MEANS AND STANDARD DEVIATIONS FOR PERFORMANCE SCORES OBTAINED ON THE FIRST FORM ADMINISTERED AND THOSE OBTAINED ON THE SECOND FORM ADMINISTERED

Order	Mean	Standard Deviation
First	11.27	16.49
Second	12.32	10.79

N = 22

N = number of subjects in the sample

First = scores obtained on first form administered

Second = scores obtained on second form administered

task are approximately equal measures of the same ability. Finally, the lack of a significant difference between the performance scores obtained on the first and second forms of the task to be administered indicate that the two forms of the task can be administered consecutively within a brief time period without confounding order effects. Thus, the arithmetic task has been found to be non-sex-biased, and to be available in two equivalent forms which can be administered proximately without confounding effects. These characteristics qualify the task as an appropriate measure to be used in a comparison of the sexes in terms of the effects of a treatment phase through pre to posttreatment performance changes.

APPENDIX C

ROSENBERG SELF ESTEEM SCALE

DESCRIBE YOURSELF

Circle the number that best describes your agreement with the statement. Also, indicate your response on the answer sheet.

1. I feel that I'm a person of worth, at least on an equal plane with others.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

2. I feel that I have a number of good qualities.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

3. All in all, I am inclined to feel that I am a failure.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

4. I am able to do things as well as most other people.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

5. I feel I do not have much to be proud of.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

6. I take a positive attitude toward myself.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

7. On the whole, I am satisfied with myself.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

8. I wish I could have more respect for myself.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

9. I certainly feel useless at times.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

10. At times I think I am no good at all.
   1 = Strongly Agree
   2 = Agree
   3 = Disagree
   4 = Strongly Disagree

APPENDIX D

PERSONAL ATTRIBUTES QUESTIONNAIRE

PERSONAL ATTRIBUTES QUESTIONNAIRE

The items below inquire about what kind of a person you think you are. Each item consists of a pair of characteristics, with the letters A-E in between. For example:

Not at all Artistic A...B...C...D...E Very Artistic

Each pair describes contradictory characteristics--that is, you cannot be both at the same time, such as very artistic and not at all artistic.

The letters form a scale between the two extremes. You are to choose a letter which describes where you fall on the scale. For example, if you think you have no artistic ability, you would choose A. If you think you are pretty good, you might choose D. If you are only medium, you might choose C, and so forth.

1.	Not at all aggressive	A...B...C...D...E	Very aggressive
2.	Not all all independent	A...B...C...D...E	Very independent
3.	Not at all emotional	A...B...C...D...E	Very emotional
4.	Very submissive	A...B...C...D...E	Very dominant
5.	Not at all excitable in a major crisis	A...B...C...D...E	Very excitable in a major crisis
6.	Very passive	A...B...C...D...E	Very active
7.	Not at all able to devote self completely to others	A...B...C...D...E	Able to devote self completely to others
8.	Very rough	A...B...C...D...E	Very gentle
9.	Not al all helpful to others	A...B...C...D...E	Very helpful to others
10.	Not at all competitive	A...B...C...D...E	Very competitive
11.	Very home oriented	A...B...C...D...E	Very worldly
12.	Not at all kind	A...B...C...D...E	Very kind
13.	Indifferent to others' approval	A...B...C...D...E	Highly needful of others' approval
14.	Feelings not easily hurt	A...B...C...D...E	Feelings easily hurt

15.	Not at all aware of feelings of others	A...B...C...D...E	Very aware of feelings of others
16.	Can make decisions easily	A...B...C...D...E	Has difficulty making decisions
17.	Gives up very easily	A...B...C...D...E	Never gives up easily
18.	Never cries	A...B...C...D...E	Cries very easily
19.	Not at all self-confident	A...B...C...D...E	Very self-confident
20.	Feels very inferior	A...B...C...D...E	Feels very superior
21.	Not at all understanding of others	A...B...C...D...E	Very understanding of others
22.	Very cold in relations with others	A...B...C...D...E	Very warm in relations with others
23.	Very little need for security	A...B...C...D...E	Very strong need for security
24.	Goes to pieces under pressure	A...B...C...D...E	Stands up well under pressure

APPENDIX E

ATTITUDES TOWARDS WOMEN SCALE

The statements listed below describe attitudes toward the role of women in society which different people have. There are no right or wrong answers, only opinions. You are asked to express your feelings about each statement by indicating whether you (1) Agree Strongly, (2) Agree Mildly, (3) Disagree Mildly, or (4) Disagree Strongly. Please indicate your opinion by marking 1, 2, 3, 4, whichever corresponds to the alternative which best describes your personal attitude on the blank line preceding each statement. Also, please indicate your response on the answer sheet. Please be sure to answer every item.

1. Agree Strongly
2. Agree Mildly
3. Disagree Mildly
4. Disagree Strongly

____1. Swearing and obsenity are more repulsive in the speech of a woman than a man.

____2. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.

____3. Both husband and wife should be allowed the same grounds for divorce.

____4. Telling dirty jokes should be mostly a masculine prerogative.

____5. Intoxication among women is worse than intoxication among men.

____6. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry.

____7. It is insulting to women to have the "obey" clause remain in the marriage service.

____8. There should be a strict merit system in job appointment and promotion without regard to sex.

____9. A woman should be as free as a man to propose marriage.

___10. Women should worry less about their rights and more about becoming good wives and mothers.

___11. Women should assume their rightful place in business and all the professions along with men.

___12. Women earning as much as their dates should bear equally the expense when they go out together.

___13. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.

___14. Sons in a family should be given more encouragement to go to college than daughters.

___15. It is ridiculous for a woman to run a locomotive and for a man to darn socks.

___16. In general, the father should have greater authority than the mother in the bringing up of children.

___17. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiances.

___18. The husband should not be favored by law over the wife in the disposal of family property or income.

___19. Women should be concerned with their duties of childrearing and housetending, rather than with desires for professional and business careers.

___20. The intellectual leadership of a community should be largely in the hands of men.

___21. Economic and social freedom are worth far more to women than acceptance of the ideal of femininity which has been set by men.

___22. On the average, women should be regarded as less capable of contribution to economic production than are men.

___23. There are many jobs in which men should be given preference over women in being hired or promoted.

___24. Women should be given equal opportunity with men for apprenticeship in the various trades.

___25. The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy.

APPENDIX F

ARITHMETIC INSTRUCTIONS

INSTRUCTIONS

I'd like to know how many of the problems on this page you can answer. Look at each problem carefully to see what you are supposed to do--add, subtract or mutliply--and then put your answer under the lines. Should you wish to figure on the paper, you may use the empty spaces. First do the top row, then the second row, then the third, and so on. Don't skip any problems. You will have 3 minutes. Now, go ahead and do as many as you can.

APPENDIX G

ANAGRAM INSTRUCTIONS

INSTRUCTIONS*

This task consists of a set of disarranged words (anagrams). Your task is to rearrange each group of letters so that they make a meaningful English word. You will have 30 seconds to work at each anagram. Start when you are instructed to do so. Stop at the stop signal. Do not turn over a page until you are told to do so.

*Revised from Feather, N. T. Effects of prior success and failure on expectations of success and subsequent performance. Journal of Personality and Social Psychology, 1971, 18, 173-188.

APPENDIX H

ANAGRAM BOOKLET

RFATHE

MIDDEL

VERBLA

INNERD

SECNOD

APPENDIX I

ANAGRAM ANSWER SHEET

ANAGRAMS

	WORDS	TIME
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

VITA

Patricia Ruth Gant Sohler

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE RELATIONSHIPS OF SEX, SELF-ESTEEM, MASCULINITY-FEMININITY ORIENTATION, AND ATTITUDES TOWARD WOMEN TO THE SELF-INDUCED HELPLESSNESS PHENOMENON

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