CANADIAN THESES

THÈSES CANADIENNES

NOTICE

The quality of this microfiche is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy

Previously copyrighted materials (journal articles, published tests, etc) are not filmed.

Reproduction in full or in part of this film is governed by the Canadian Copyright Act, R.S.C 1970, c C-30. Please read the authorization forms which accompany this thesis

AVIS

La qualité de cette microfiche dépend grandement de la qualité de la thèse soumise au microfilmage Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure

Les documents qui font déjà l'objet d'un droit d'auteur (articles de revue, examens publiés, etc) ne sont pas microfilmés.

La reproduction, même partielle, de ce microfilm est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c C-30 Veuillez prendre connaissance des formules d'autorisation qui accompagnent cette thèse

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED

LA THÈSE A ÉTÉ MICROFILMÉE TELLE QUE NOUS L'AVONS REÇUE

The Motive to Avoid Success and Attributions to Self and Other's Performance in Expected and Unexpected Conditions

Miranda D'Amico

A Thesis

in

The Department

of

Education

Presented in Partial Fulfillment of the Requirements
for the Degree of Master of Arts at
Concordia University
Montréal, Québec, Canada

July 1985

ABSTRACT

The Motive to Avoid Success and Attributions to Self and Other's Performance in Expected and Unexpected Conditions

Miranda D'Amico

This study examined the extent to which the motive to avoid success or fear of success (FOS) moderates the effects of expected and unexpected performance of self and other's on subsequent causal attributions. Male and female undergraduate and graduate university students (N = 555) completed the Fear of Success Scale (FOSS), and then reported attributions to a hypothetical exam outcome. The hypothetical exam outcome was either expected or unexpected, a success or failure, and participants attributed from the perspective of self, male other or female other. Subjects were randomly assigned to the conditions.

Results showed that both male and female subjects high in fear of success made greater external attributions than subjects low in FOS ($p < .05$), however subjects low in FOS did not make greater internal attributions than subjects high in FOS. Subjects in the success condition made greater internal attributions than subjects in the failure condition ($p < .05$), who made greater external attributions ($p < .05$). Perspective did not affect the attributions subjects made. There were no significant differences between high and low fear of success subjects on outcome. These results were obtained for both males and

females and could not be accounted for by the fear of success construct. Implications of both the construct and the measure of fear of success are discussed.

Dedicato con affetto

ai miei genitori,

e soprattutto a mia mamma,

che devo gratitudine per la sua

comprensione e incoraggiamento

ACKNOWLEDGEMENTS

I want to express special appreciation to my thesis advisor, Philip Abrami, whose own deep interest in research encouraged mine, and who expended considerable time and energy in teaching me research skills and concepts.

I would also like to thank my other professors, for the quality of their teaching and courses, and especially Professors Joti Bhatnager, Arpi Hamalian, Geoffrey Fidler, and, Mona Farrell

A special thank you, to my colleagues, Gretchen Lowerison and Paul Leroux, not only for their help in the preparation of this thesis, but most of all for their friendship which has helped me make it through the difficult moments.

I would also like to thank Masaaki Sawada and Helen Kandarakis for their spontaneous help with the final stages of this thesis.

And most of all Joe, whose support, love and encouragement felt awfully good.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

PRELUDE

It is really mortifying, sir, when a woman possessed of a common share of understanding considers the difference of education between male and female sex, even in those families where education is attended to ...
Nay why should your sex wish such a disparity in those whom one day intend for companions and associates. Pardon me, sir, if I cannot help sometimes suspecting that this neglect arises in some measure from an ungenerous jealosy of rivals near the throne.

Letter to John Thaxter
(February 15, 1778)

Introduction

Recent research on sex differences has been especially concerned with the issue of self-defeating attitudes that seem to prevail among women. One of the more popular notions is that women are anxious about striving for success because of the expected negative consequences if they succeed (Horner, 1972). Matina Horner who initiated the research on the concept labelled this inconsistency between the sexes as a motive to avoid success or "fear of success" (FOS)

Horner (1968) states that fear of success is a "latent stable personality disposition acquired early in life in conjunction with standards of sex role identity, along with a disposition to anxiety towards achieving success because of the expected negative consequences". These negative consequences are usually socially and culturally defined (i.e. loss of femininity, unpopularity, etc...). Horner proposed the FOS hypothesis in an attempt to understand why research results on achievement motivation cannot successfully be obtained with women.

Horner's theory is an extension of McClelland and Atkinson's (1953) expectancy-value theory of achievement motivation It states that a person's achievement motivation is the result of his/her expectations or anticipations about the probability of success and the incentive value of success, or the degree to which success is attractive or repulsive to the person. In order to test her ideas, Horner developed a projective test similar in

some respects to the TAT measure of need achievement FOS theory and research, however, has not consistently shown the same sex differences as Horner's earlier findings. This thesis will probe and examine the nature of two popular explanations for such sex differences in achievement motivation, mainly fear of success and attributional differences.

This chapter reviews achievement motivation theory, Horner's FOS theory, criticism and research related to the FOS theory, and the application of attribution theory to the understanding of sex differences in the FOS literature.

The Achievement Motive

McClelland, Atkinson, Clark and Lowell (1953) defined a motive as a "learned result of pairing cues with affect or the conditions which produce affect." Thus, one motive is distinguishable from another by the type of cues which give rise to the affect. It is accepted, for example, that a condition like hunger is a motive, therefore the sight of food will give rise to the hunger motive. However, McClelland et al. further state that the conditions for affective arousal involve not actions so much as expectations and the results of action in terms of how far they confirm expectations. Here in order to be consistent, "motives should be distinguishable primarily in terms of the types of action, in so far as they exist, which confirm those expectations in varying degrees and thus yield

positive or negative affect" (pg.77). Within this framework, the achievement motive is defined as a latent disposition learned early in life as a result of socialization patterns (Atkinson & Feather, 1966). These socialization patterns involve "standards of excellence" imposed on the child by his/her specific family and social environment. McClelland et al (1953, 1976) state that the behavior of the child will involve either "competition" with the "standards of excellence" or an attempt to meet them. If successful, in accordance with these specific standards, this will produce positive affect for the child, while if unsuccessful, negative affect. It follows that there are limits placed on the development of need achievement (n Ach) where a large disparity results between expectations and events. Thus, opportunities given to a child which are beyond a child's capacity, result in negative affect. Cues associated with these activities may be expected to evoke avoidance motives. If one is to develop an achievement approach motive, situations must stress independence and provide an opportunity for mastery (McClelland et al., 1953). In general, people with a high achievement imagery index score have been found to complete more tasks under achievement orientation, solve more simple arithmetic problems in a timed test, improve faster in their ability to do anagrams, tend to get better grades, use more future tenses and abstract nouns in talking about themselves, set a higher level of aspiration if reality factors are ruled out, tend to recall more

incompleted tasks, and show a slight tendency to recognize achievement-related words faster (Atkinson, 1964).

McClelland et al., (1953, 1976) employed many procedures in their research to manipulate the intensity of achievement motivation in subjects. They attempted to control arousal of achievement motivation by manipulating: 1) cues in achievement-related instructions; 2) cues in achievement-related tasks; and 3) the experience of success and/or failure in these achievement related tasks. Different arousal conditions were established combining these three factors in various ways (ranging from relaxed to aroused). Achievement related responses measured in the stories written to story leads were found to increase as a function of the strength of instructions given. "Generally speaking, we are justified in saying that as achievement motivation is experimentally increased, the imaginative stories that subjects write become increasingly more concerned with achievement, anticipations of success and failure, acts instrumental to success and the avoidance of failure, affective states associated with succeeding and failing, blocks in the way of achieving, and help from other persons in the direction of achievement." (McClelland et al., 1976, pg. 146.)

Atkinson (1958), Atkinson and Raynor (1974, 1978) state that individuals have a tendency to approach as well as to avoid achievement situations. "It is presumed in the theory of achievement motivation that some persons are

chronologically more strongly motivated to avoid failure than to achieve success" (Atkinson & Feather, 1974, pg 28) A person inhibits all achievement strivings unless the presence of extrinsic sources or rewards are strong enough to compensate for the strength of the tendency to inhibit, thus overcoming the unwillingness to act.

Atkinson & Raynor (1978) assumed that the strength of a person's tendency to achieve success (Ts) by the performante of certain actions is determined by a relatively general and stable characteristic of the person compared on three factors

1) The motive to achieve success (Ms), is a relatively stable disposition of the person acquired early in life.

2) The strength of the person's expectancy or subjective probability of success (Ps);

3) The positive incentive value of success (Is), is the attractiveness of success for a person in a particular situation (which is inversely related to Ps, i.e. Is =1 - Ps)

Factors 2 & 3 represent the effect of the immediate environment. The three factors are multiplicative and combine to determine the tendency to approach the task:

$$Ts = Ms \times Ps \times Is$$

The concept of motive in this equation represents individual differences in liking for success in general.

One can influence motivation by manipulating cues which define an individual's expectations of the probability of success, or by manipulating the incentive value of the consequences produced by the actions (Atkinson & Raynor, 1978). The tendency to achieve (Ts) is more strongly aroused at tasks of intermediate probability of success than at very easy or difficult tasks. Researchers have found that when the difficulty of a task is held constant for a group of individuals, Ts is more strongly aroused when the motive is strong than when it is weak (Atkinson & Raynor, 1978). The incentive value or attractiveness of success increases with task difficulty: Is = 1-Ps (here, success at a task which is regarded as easy, is not valued).

As stated above, the Ts is more strongly aroused when the task is of intermediate difficulty (Ps = .50). Therefore, when the probability of success is high (Ps = .90), the incentive value associated with the success is low, which in turn, decreases the strength of the tendency to achieve. In situations where the probability of success is low (Ps=.10), the individual's hope for success is also low, therefore decreasing the strength of the tendency to act. (Atkinson & Feather, 1966; Atkinson & Raynor, 1978).

Research by Atkinson and Raynor (1978) has clearly shown that whenever performance is evaluated in relation to some "standard of excellence", that which motivates and challenges one person can pose as a threat of failure for

another. The tendency to avoid failure is conceived as an inhibitory tendency which functions to oppose the tendency to undertake achievement-oriented activities. In other words, the tendency to achieve success (Ts), also depends on the strength of the tendency to avoid failure (Taf). The motive to avoid failure (Maf) is conceived of as a capacity for reacting with disappointment and shame when one fails, and as a source of individual differences in the initial emotional reaction to anxiety or fear of failure (Atkinson & Raynor, 1978). The tendency to avoid failure (Taf) is also determined by three factors:

1) Motive to avoid failure (Maf);
2) The expectancy or probability that an act might lead to failure (Pf); and
3) The incentive value of failure at that particular activity (If), where:

Taf= Maf x Pf x If

"The tendency to avoid failure, which produces inhibition and decrement in performance, is most strongly aroused when the probability of success (and so, therefore, also failure) is intermediate" (Atkinson & Raynor, pg. 16, 1974) Here, as Ms produces Ts, so Maf produces Taf (tendency to avoid failure), Ts being the motivation toward achievement situations, is always negative; Taf being the motivation away from achievement is always positive. Taf inhibits Ts that is, it inhibits a person's entrance into an achievement situation and also acts to inhibit performance once a person has entered an achievement

situation (Atkinson, 1964, p. 246)

As with the achievement motive, it has been shown that the effect of differences in disposition to anxiety is more apparent in tasks of intermediate difficulty than in very easy or very difficult tasks (McClelland et. al. 1976)

In studying achievement-oriented behavior then, it's assumed that all individuals have acquired a motive to achieve (Ms) and a motive to avoid failure (Maf). All persons have some capacity for interest in achievement and some capacity for anxiety about failure. Both these motives are expressed in any situation where it is apparent to the individual that his/her performance will be evaluated in reference to some standard (Atkinson & Raynor, 1978). It is assumed that the two opposed tendencies when combined together yield a resultant achievement motivation. The resultant tendency to approach or avoid an achievement-oriented activity (Ta) is postulated to be a function of the strength of the tendency to approach the task minus the strength of the tendency to avoid the task:

$$Ta = (Ms \times Ps \times Is) - (Maf \times Pf \times If)$$

or

$$Ta = Ts - Taf$$

Individuals with a positive Ta are labelled high in resultant achievement motivation, therefore should approach achievement related activities when given the opportunity. On the other hand when the Ta of an individual has a

negative value, resultant achievement motivation is low, therefore one would not approach achievement related activities When Ms is greater than Maf, individuals tend to approach tasks of moderate difficulty, because these tasks have some element of challenge to them and one can expect to complete them When Maf is greater then Ms, individuals tend to choose difficult tasks, because failure at tasks which are judged to be difficult aren't punishable and the degree of shame associated with this type of a task is minimized, since it isn't considered shameful to fail at the "impossible".

Researchers typically assess the tendency to achieve success by having subjects write stories in response to the projective Thematic Apperception Test (TAT) which is a series of ambiguous pictures, or in response to verbal leads such as "John (Anne) is sitting in a chair with a smile on his/her face." The TAT was first used by Murray (1938, 1943), who found that motives could be measured by the content of imaginative stories which reflect specific recollections of past events as well as dynamic strivings. Murray did not manipulate or arouse motives rather, in the TAT, a person is shown an ambiguous picture usually related to the motive being tested and asked to make up a story about the picture. In the TAT a person has the freedom to imagine and answer freely Murray stated that the person will project into the story the most important ideas and feelings After the TAT is administered, the tendency to avoid failure is assessed by the Mandler-Sarason measure of

Test Anxiety (McClelland, 1976)

The surprising results throughout some 20-30 years of research was that women did not show an increase in n Achievement imagery as did men as a function of achievement oriented instructions (Horner, 1968). Women's n achievement scores tended to be as high in the relaxed condition as in the aroused condition (McClelland et al.,1976). However, under neutral conditions the scores of the female subjects were as high and sometimes higher than those of the male subjects under the arousal conditions McClelland et al., (1953, 1976) gave two possible explanations for the failure in females to show an increased n Achievement imagery: "1) invalidity of the scoring for women, and 2) scores too high to go higher - have been eliminated... the usual arousal instructions simply do not increase achievement strivings in women . " (pg. 178). Veroff and Feld (1975) argued that women's achievement needs are satisfied by child bearing and child rearing along with other activities leading to "social acceptability". Atkinson (1964), stated that since the TAT was not found to be valid when testing for women's n Achievement, and since most research had established that women satisfied their n Achievement by getting married and having a family "most systematic studies of the effect of individual differences in strength of inferred achievement motive on performance... have employed male subjects" (pg. 22).

Horner's Fear of Success Construct

The fear of success concept (FOS) was originally formulated in 1968 by Matina Horner to account for the inconsistent findings of achievement motivation in women. Fear of success is not a biologically sex-linked trait but is believed to be a learned sex-role

Horner's theory is conceptualized as an extension of Atkinson's expectancy-value theory of motivation. It states that an individual's achievement motivation is the result of his/her: a) expectations or beliefs about the nature and likelihood of the consequences of his/her action, and b) the value of these consequences to the individual in light oh his/her partitular motives (Horner, 1972).

Horner hypothesized that the motive to avoid success or fear of success is a latent, stable personality disposition acquired early in life in accordance with standards of sex-role identity Furthermore, it was argued that most women have a motive to avoid success because they expect negative consequences such as fear of social rejection (i.e being labeled a homosexual, weird, fustrated, unhappy, etc.) and feelings of unfemininity.

Horner (1972) stated that this is not to say that most women "want to fail" or that they have a "motive to approach failure", but simply that the expression of the achievement directed tendencies of most otherwise positively motivated young women is repressed by the arousal of a disposition to be anxious about the negative

consequences they expect will follow the desired success. In addition, the motive to avoid success is most likely to occur in competitive achievement situations where the competitor is a male.

In accordance with achievement motivation theory, Horner stated that, anyone's achievement strivings will be inhibited if negative consequences are expected as a result of success. "it will exert an adverse or inhibitory effect on the strength of achievement motivation and performance comparable to that exerted by the motivation to avoid failure" (1973, pg. 14). However, because of socialization patterns, FOS is most prevalent in women because unusual excellence in competitive activity usually takes a certain amount of aggressiveness and assertiveness, which has been socially (consciously or unconsciously) repressed. "For most men on the other hand, this is not a problem; active striving for success is not accompanied by the anticipation that their masculinity will be questioned or threatened if success should be attained. In fact the reverse is probably true. Mead, said men were unsexed by failure" (Horner, 1973, pg. 5) If this is the case for most women, there is an expectancy that they will be "unsexed" by successful events, which in turn this expectancy has an adverse effect on performance in achievement directed activities (Horner, 1973). The anxiety caused by achievement oriented situations in women is what Horner referred to as a motive to avoid success (Mas).

Horner (1968) hypothesized that the motive to avoid success (Mas) is aroused by the aggressive overtones in a competitive situation. (If the aggressive overtones are minimized, Mas will not be strongly aroused). Furthermore, a competitive achievement situation was defined as one in which performance reflecting intellectual and leadership ability was evaluated against a standard and also against the competitor's performance (Horner, 1972). The tendency to avoid success (Tas) functions as either a) negative inhibitory tendency acting against the expression of the positive tendency to achieve success which is also aroused in achievement oriented situations, or b) as a motivator of defensive responses to relieve anxiety (Horner, 1968, pg. 23).

Horner's FOS hypothesis is expressed in the following equation: $Tas = Mas \times Ps \times -Is$

The tendency to avoid success equals the mptive to avoid success times the negative incentive value times the probability of success. The negative incentive value (-Is) is strongest when the task is difficult, and as long as the motive to succeed (Ms) is greater than the motive to avoid success (Mas), the strength of the tendency to perform should be greatest when Ps = .5. If Mas is greater than Ms, the tendency to perform should be weakest when the probability of success equals .5.

Summary of Horner's Assumptions Regarding the Motive to Avoid Success (from Horner, 1978)

1) The motive to avoid success is a stable personality characteristic acquired early in life along with sex-role standards. It can also be seen as a disposition to feel uncomfortable when in competitive achievement situations and to become concerned about negative consequences such as social rejection following success. The motive to avoid success is much more common in women than men and not equally important to all women. FOS should be more strongly aroused in high achievement, high ability women who aspire to and/or are capable of achieving success since for these women success might actually be within grasp.

2) Once aroused the tendency to avoid success (Tas) will function a) as a negative inhibitory tendency acting against the expression of the positive tendency to achieve success which is also aroused in achievement-oriented situations b) Tas may lead to defensive responses which serve to relieve anxiety.

3) The strength of the tendency to avoid success is a multiplicative function of motive strength, incentive value, and probability of success.

$$Tas = M as \times Ps \times -Ias$$

it is further assumed that the strength of the negative incentive value of success (-Ias) will be greater for women in competitive than non-competitive achievement situations, when their competitors are males rather than females (Horner, 1978, pg. 50).

Horner's Experimental Findings

In order to test her hypothesis about the presence and impact of the motive to avoid success, Horner used a modified TAT and neutral instructions such as those used by McClelland et al , (1953)

The story leads used by Horner (1968) differed from the story leads used in the achievement motivation research, verbal leads were used to elicit imaginative stories for the measurement of the achievement motive. Subjects taking part in the study were 178 (90 females and 88 males) undergraduate students enrolled in introductory psychology at the University of Michigan. The ninety females in the initial study responded to:"After first term finals, Anne finds herself at the top of her medical class." The eighty-eight males in the study responded to the story lead. "After first term finals, John finds himself at the top of his medical school class." An anxiety questionnaire and three, timed problem solving tests were also administered; these were introduced to the subjects as ability measures.

In a second testing period, subjects were randomly assigned to three condition: 1) non-competitive (NC) 2) mixed-sex competitive (Female-Male; Male-Female)3) same sex competitive (Female-Female; Male-Male). In each condition, during the second testing session, a Level of

Aspiration or Risk Preference task, three performance questionnaire measures, and a personal questionnaire were administered

Risk preference task In the non-competitive condition, the subjects task was to choose one of seven tasks on which he/she would most like to work for the rest of the experiment In the interpersonal competitive condition, subjects were asked to indicate which one of seven possible competitors they would most like to compete against for the rest of the experiment Each of the possible choices was placed along a scale of difficulty, where subjects were made to believe that the level of each difficulty of each choice to be individually defined according to previous performance in the first session, and from academic records (Horner, 1968). In reality, the choices were distributed equally among a scale for all subjects in all conditions.

In the non-competitive achievement orientation condition subjects were tested individually in a small experimental room under achievement orientation conditions used by McClelland and Atkinson (1953) The subjects were given a booklet with their name and asked to read the instructions for the Level of Aspiration task to themselves The female experimenter was in the room until she was sure that subjects understood the instructions and to emphasize "that the difficulty of each task on the scale was subjectively defined for that particular subject " The subjects were then left alone to make their choices

In the competitive condition, a general sequence of instructions as the ones used for the non-competitive condition was used, but now subjects were led to believe that a competitor rather than a specific task offered a certain level of risk with regard to success (Horner, 1968) The Risk Preference task for the competitive conditions was given to subjects in small groups of six to eight in which there were at least two subjects of the opposite sex present, sitting around a large table. Each subject was given the appropriate form with his/her name written on it and the sex of his/her potential partner was clearly indicated. It was stressed that the subject's potential competitor may or may not have been one of the other subjects in the room at that time

The three performance measures were. verbal, arithmetic and a generation anagram.

Verbal and arithmetic tasks For this part of the experiment the instructions for all of the subjects in all conditions were given by a male voice on a tape recorder, with a female experimenter being present in the room long enough to start the recorder For subjects in the non-competitive condition, his/her name was written on the questionnaire, for the competitive condition the name of the competitor was also written in

Generation anagram Similar instructions as in the above task were used Ten minutes were allowed for the test, where the task was to make as many words as possible using

the letters given

A present/absent system was adopted for scoring fear of success imagery The motive to avoid success was scored as present if the subjects in responding to a lead of their own sex, made statements in their stories showing "conflict about the success, the presence or anticipation of negative consequences because of the success, denial of the cue itself, or some other bizarre or inappropriate response to the cue" (Horner, 1972, pg 162). Fewer than ten percent (10%) of the males responded at all negatively or as exhibiting FOS, while in response to the successful cue sixty-five percent (65%) of females exhibited FOS. The females high in FOS characterized "Anne " as an unhappy, unattractive, aggressive person. "Unusual excellence in women was clearly associated for them with the loss of femininity, social rejection, personal or societal destruction, or a combination of the above" (Horner, 1972, pg. 162)

In the above experiments, FOS did not seem to be related to need-achievement, and the hypothesis that high FOS women would correctly solve fewer problems and anagrams in the competitive condition as compared to the non-competitive condition was not supported

However, when comparing the performance on a problem solving task of subjects in the non-competitive condition to the subjects initial performance (in the large group "competitive" setting), Horner did find significant differences between females high in FOS, and females low in

FOS. Seventy-seven percent (77%) of women scoring high in FOS performed better in the non-competitive condition, while ninety-three percent (93%) of women low in FOS, performed better in the initial competitive assessment period (where they were tested along with the male subjects). Here, Horner (1968) reported that since two-thirds of the males performed at a higher level in the competitive than in the non-competitive situation, the results for women low in fear of success resemble those for men while the results for women high in fear of success did not.

In addition, a pattern was found where the female subjects who performed at a higher level in the non-competitive situation and who wrote stories characterized by high FOS imagery and who had low n Achievement imagery, showed a preference for easy tasks in the non competitive condition. Those who performed at a higher level in the competitive situation and wrote stories characterized by low FOS imagery, showed a preference at tasks of intermediate difficulty in the non competitive condition.

The studies conducted by Horner gained wide-spread interest since, they showed not only the existence of a motive to avoid success in women, but more specifically suggested the missing link in the model of achievement motivation, sex differences in prior data on achievement motivation occurred because of the operation of fear of success in women.

Horner's original study has been widely cited. However, a great controversy has developed because successive research has been unable to clarify and explain the specific nature of fear of success and its behavioral consequences

Criticism of Horners' 1968 Study

Horner's study has been criticized on several points (Tresemer, 1977, Zuckerman & Wheeler, 1975). Including, sample size, bias of coding personnel, story themes, measuring FOS objectively, manipulation of the motive to avoid success, and competitive versus cooperative situations. Each point will be discussed separately.

1) Small sample size

Only 30 female subjects either high or low in FOS in the noncompetitive condition were compared with subject's own score in the assessment period This sample size is too small to support the generalizations Horner made. In addition, examining the motive to avoid success in University of Michigan students only, may have given a distorted picture of the nature of the motive in individuals in general and of the overall rules of how motivation regulates behavior (McClelland, 1976).

2) The possible bias of the coding personnel

Coders knew the sex of the subjects because the Anne and John cues were sex-assigned. Possibly, coders were more likely to rate female responses as revealing a higher

FOS than male responses (Hoffman, 1977, Peplau, 1976; Zuckerman & Wheeler, 1975).

Hoffman (1977) conducted a study in order to determine whether the new findings of increased FOS for men could have been attributed to differences in coding; the first step was to recode the original stories of Horner's subjects

In Horner's 1968 study only eight male stories out of seventy-one were coded for expressing FOS. When Hoffman recoded the stories, an additional thirty-one of the original male stories showed FOS imagery Hoffman's study brought the percentage of FOS scores much closer to the results of later (after 1968) research. It showed the differences in the data to be attributable to more liberal coding procedures, rather than an actual increase in FOS for men Hoffman concluded that there were no sex differences in total FOS scores, but that it depended on the nature of the response.

3)Sex differences in FOS story themes:

FOS does not necessarily mean the same for males as for females. In Horners' (1968) study, stories written by high FOS males contained themes different by those found in stories written by high FOS females; while FOS females dealt with themes expressing fear of rejection, FOS males wrote stories which questionned the value of success itself, rather than considering the negative outcomes of success Zuckerman and Wheeler (1975), Hoffman (1977); Peplau (1976) indicated the possibility that female's

responses reflect anxiety in competitive achievement situations, while this might not necessarily be true for males who score high on the FOS measure.

Tresemer (1977) argued that the medical cue elicits more of a reaction because of the superficial content of the verbal cue rather than tapping a direct expression of motive strength.

It has been suggested that the differences in percentage of fear of success stories between males and females reflects the difference between success that is "out of place" and success that is "in place" (Zuckerman & Wheeler, 1975, Shaver, 1976, Tresemer, 1977). Non ambiguous cues may elit cultural stereotyped responses and not projected personal responses Zuckerman and Wheeler (1975) found that when male subjects were given the Anne cue to respond to they wrote negative stories similar to the ones written by females, indicating that female success is seen as being out of place in such a setting by both sexes.

It has been suggested that women do not fear success in itself but in what is considered a traditional male activity (Shapiro, 1979, Alper, 1974). Makosky (1976) found that women who are high in FOS perform best on a task described as feminine and when competing against another woman Females low in the measure of FOS performed best on tasks described as masculine and under competitive situations against men.

Most of the research cited above (Peplau, 1976;

Shapiro, 1979, Zuckerman & Wheeler, 1975; Makosky, 1976; & Hoffman, 1974) concluded that the cues used to measure FOS was too situation specific, and is not always predictive of FOS overt behavior Horner's original cues elicit a response pattern which reflects to a large degree society's values about gender "appropriate " occupations.

4)Reliability of projective measure: Measuring FOS objectively

A subjective measure is frequently more susceptible to errors with regard to scoring and coding procedures than an objective measurement Moore (1974) suggests that the homogeneity of the FOS measure is in the 30 -.40 range, with 80-90% intertester reliability on subjects' responses With regard to test-retest reliability, 73% of female subjects obtained the same score when tested a year later (this point will be discussed in greter detail later on).

5)Manipulation of the motive to avoid success

The "motive to avoid success is based on the premise that an expectancy is aroused in competitive achievement situations that success will lead to negative consequences for women" (Horner, 1968, 1972) In her experiments, Horner was criticized for not manipulating the achievement situation or the strength of the expectancy of being socially rejected. "No attempt was made to create either an aroused or relaxed experimental atmosphere" (Horner, 1968, pg 40). Her study used neutral instructions as the ones used by McClelland et al. (1953, 1964) in their study on

achievement motivation No manipulations were attempted to differentially arouse and measure the motive in a relaxed or aroused condition (Tresemer, 1977) To determine when a subject's behavior is a direct function of the aroused motive in question, the motive has to be aroused in various arousal conditions, and ideally any manipulation will arouse only the motive in question "The ideal situation for showing the relationship between the strength of a particular motive and behavior is one in which the only reason for acting is to satisfy that motive" (Atkinson & Feather, 1966, pg. 14)

6)<u>The motive to avoid success in competitive versus cooperative situations</u>

Models of achievement motivation and Horner's FOS construct are based on competitive achievement situations, and seem to imply that achievement is of high value only in competition against another person; for example in Zuckerman and Allison's (1976) objective FOS-measure, "I am only happy when I am doing better than others", indicates success Sassen (1980) criticizes the narrow meaning of success, as defined in achievement motivation and FOS literature

Horner defined FOS-anxiety as a response which is aroused in the anticipation of negative consequences with regards to one's actions According to Sassen, women "are unable to take success and construct around it a vision, a new way of making sense, to which they can feel personally

committed" because, from the early stages of gender identity females rely on relationships, while men do not Women are concerned with preserving and fostering relationships rather than ignoring and outdoing others in competition, therefore, a competitive achievement situation does not give meaning to women

Horner's 1973 Study

In 1973 Horner, developed a new scoring method for fear of success, "free of conscious control on the part of subjects" and using less specific and sex typed cues (e.g. Jane is going back to the office at the end of the day" "John is sitting with a smile on his face") Subjects in this study were asked to complete the "neutral" set of verbal leads plus a word task (Lowell Scrambled Words Task) These subjects were subsequently divided into three groups aroused, non-aroused and cooperative (Horner did not report results for the cooperative group).

The second session of the experiment involved assigning subjects in the aroused group, seating subjects in mixed-sex pairs, competing with each other on completing arithmetic problems. Once the task was completed subjects were told that the female had outperformed the male partner (in this session an anagram test was also administered to allow for within-subject comparison between the two sessions)

The non-arousal group in the second session completed

tasks identical to subjects in the aroused group but in a relaxed and non-competitive atmosphere. It was found that there was a greater decrease in performance for aroused subjects as compared to the non-aroused subjects; however, these two groups were initially different (mean performance on the Scrambled Words Task in the first session: aroused=48.97, non-aroused=42.75). This initial difference may have lead to the significant difference between aroused versus non-aroused in the second session. It is not known if the aroused subjects performed poorer in the arithmetic test than the non-aroused subjects or if it is the mixed-group pair that arouses FOS, or the success announcement which arouses the motive to avoid success.

In Horner's (1973) new scoring criteria, the scoring categories that differentiated the stories written in this condition had to do with the problematic expression of instrumental performance activity, with problems being solved without effort (called "relief"), and with approach to other people introduced into the story. These new indicators of fear of success are less obvious than the old ones (Horner, 1968) and therefore, are harder for individuals to change consciously in line with their values (McClelland, 1985) "Most of the men Horner tested, were able to fit the John cue and the competitive definition of success comfortably into their structures. The female respondents, however, failed to make sense of the cue as a happy event because their meaning-making orientations were contextual, relational, and oriented toward the personal.

The difficulty of assimilating the event of these structures created anxiety" (Sassen, 1980). FOS was measured in the arousal condition after success had already occurred. In this case, FOS must be seen as a motive which is aroused after success has already taken place, rather as a motive which is aroused when a subject "anticipates" that success might lead to negative consequences, resulting in consciously reduced task performance.

Follow-up Research

Experiments replicating and /or modifying Horner's study have not found the same degree of sex differences. Many reported sex differences on the verbal TAT, with women scoring higher than men, but the percentage of reported FOS for males was higher than Horner's findings (e.g. Hoffman, 1977), and in some cases even exceeded FOS reported for women as in Hoffman (1974) and Peplau (1976).

Tresemer (1977), compared data from 56 studies that had assessed FOS imagery for both females and males and found that although women told a somewhat larger proportion of FOS stories than men, the variability among the studies was high. In addition, a review of the literature by both Tresemer (1977), and Zuckerman and Wheeler (1975) revealed that when given the Anne cue to respond to, males wrote similar negative stories compared with that of females, indicating that female success is seen as being out of place in such an academic environment by both males and females.

Paludi (1979) gave the Anne-John cue to subjects and ranked the cue either at the upper 5%, 15%, 25% or 50% females, or that Anne was the only female student in her class. Results showed that more negative stories dealing with of how other's felt were written when Anne was pictured in the deviant position

Zuckerman and Wheeler (1975) found that of 16 studies, nine reported higher scores in the measure to avoid success, while the remaining seven reported that males scored higher than females. Fear of success imagery ranged from 20% to 88% for females, and 9% to 76% for males. Zuckerman and Wheeler, have further argued that the reliability of most projective measures used to identify persons who fear success is quite low. They state that the results of most studies of FOS have raised problems on various issues e g. age and sex differences, relationship to sex role attitudes, "cultural" interpretations of FOS, relationship to achievement motivation, measure of reliability, and predictive ability. Each of these issues will be briefly reviewed (from Zuckerman and Wheeler, 1973).

1) Age and sex differences- Horner stated that fear of success is a learned disposition thus, it may be hypothesized that it increases with age. Indeed, Horner has found that among females FOS imagery ranged from 47% in the first year of high school to 88% among undergraduate students. However, since subjects in Horner's (1968) study

were asked to respond to different verbal cues, the obtained differences were not clear. Most of the research related to the question of age has found that FOS either declined with age, or found inconclusive results (i.e. Moore, 1972; Monahan, Kuhn, and Shaver, 1974; Zuckerman and Allison, 1976).

2) Relationship between FOS and sex role orientation- Condry and Dyer (1976) suggested that FOS may be seen as a fear of deviance from sex role standards; such fear should be more common among women with traditional sex role ideas. Tresemer (1977) reported that high FOS females perceived more differences between the sexes in terms of stereotypical traits than did low FOS females. Makosky (1976) found that high FOS females considered home and children more important than professional careers than did low FOS females. Various studies of the relationship between FOS and various measures of sex role orientation have not produced consistent results (e.g., Peplau, 1973; Moore, 1975; Zanna, 1973); others have reported that among female graduate students, a high level of FOS was related to masculine sex role orientation coupled with extreme contemporary attitudes toward women's roles (Heilbrun, Kleemeier, & Piccola, 1974). Studies by Tangri et al., (1976) found a negative relationship between FOS and traditional sex role orientation, in the first part of the study, no relationship was found between FOS and the choice of non-sex-typical occupations (role innovation); and in a follow-up study three years later a positive relationship

was reported between FOS and role innovation.

3) Cultural explanation of FOS- As previously mentioned, the "Anne" cue represents success that is out of place and that negative responses to this cue may reflect cultural stereotypes about women's achievement. In order to test the "culture" explanation, different types of cues on the incidence of FOS imagery have been employed Making Anne's success less "deviant" has generally shown that high FOS subjects will respond with less negative imagery Cultural differences of FOS is supported by findings of differences in the content of FOS stories between males and females (Hoffman, 1974; Zuckerman and Allison, 1976) High FOS males who responded to the John cue tended to question the value of achievement and to reject the goals and life-style of the successful protagonist In addition, a relatively large proportion of high FOS males wrote hostile or bizarre stories to the Anne cue In contrast, female responses to the Anne cue dealt mainly with a loss of femininity or social rejection, suggesting, at least in part, like Horner's (1968) early studies, subjects respond to beliefs about "appropriate" male and female achievements

3) Relationship between FOS and achievement motivation- If the motive to avoid success explains why achievement motivation is not related to other behavioral measures among women, then achievement motivation and FOS should be positively related A person who is highly

motivated to achieve, according to Horner (1968, 1973), may be successful and anxious about success, or passive and nonachieving, because of anxiety over success. Several researchers have examined the relationship between FOS and achievement-related variables such as academic performance, career choice, and the socioeconomic status of subjects or their parents. Other studies examined the correlations between FOS and measures of achievement motivation. Overall, the results of these studies do not present any clear pattern (Peplau, 1976; Hoffman, 1976; Zuckerman and Allison, 1976).

5) Measure reliability- Most tests of reliability of fantasy-based measures concern three very important points: variation of scores over different cues (homogeneity reliability), variation of scores over judges (intertester reliability), and variation of scores across time (test-retest reliability). Most of the studies on the motive to avoid success have used Horner's single cue and, therefore, could not measure the homogeneity reliability of the test. Researchers who did administer several cues to the same subjects typically did not report the correspondence in FOS across cues, one exception being the studies by Tresemer (1973), in which the FOS scores were reported to be low, but where the exact figures were not given. The homogeneity of most fantasy-based measures of achievement motivation is in the .30-.40 range, and there is no reason to suggest that the homogeneity of the fear of success measure is higher. Without taking into account the wide fluctuation in

frequencies of fear of success stories across different studies, with regard to the question of intertester reliability, most studies reported that judges agreed on the scoring of 80-90% of subjects' responses. Regarding the test-retest reliability, 73% of female subjects have obtained the same FOS scores in two separate testing periods, separated by an interval of one year (Moore, 1974).

5) Predictive validity- One of the most serious problems of the fear of success measure concerns its predictive validity. If one takes into account what the research says with regards to the measure of low reliability, one can conclude that in turn this implies a lack of predictive validity. Studies by various researchers (e.g., Zanna, 1973, Crandall, 1969, Zuckerman and Allison, 1976), and using various manipulations such as masculine and feminine tasks (Feather and Simon, 1973), male versus female competitor (Makosky, 1972), and feedback of success versus feedback of failure (Zaro, 1972) have not shown consistent interactions with FOS.

On the basis of the above evidence, and as previously stated in this text, the studies that took place following Horner's work made several attempts to construct new tests of the motive to avoid success. The new tests are classifiable as either "fantasy-based" or "objective" measures. In an attempt to eliminate coder biases, and to overcome the problem of cue specificity, several objective

measures were developed, on the basis of Horner's FOS construct (Pappo, 1972; Good & Good, 1973; Cohen, 1974; Spence, 1974; Zuckerman & Allison, 1976; and Ho & Zemaitis, 1981). Not all the objective measures did meet the same unidimensional construct as Horner's FOS construct.

Ho and Zemaitis (1981) using Sadd et al.'s (1978) findings developed the Concern Over Negative Consequence Scale (CONCOS), which incorporated a general definition of Horner's FOS construct, which is "that an expectancy is aroused in competitive achievement situations that success will lead to negative consequences." (Horner, 1968, p.16). In the CONCOS scale the concept of loss of femininity was excluded - this concept is considered very important in Horner's FOS - in an attempt to make the measure also valid for males.

Pappo (1972) developed a measure of fear of success which measures the following five aspects of FOS: self-doubt, preoccupation with competition, preoccupation with evaluation, repudation of competence, and self-sabotage behavior. Pappo reported that both male and female subjects with high scores on her questionnaire significantly lowered their performance on a digit-symbol task after being told they had been successful on a previous task. In contrast, subjects with low FOS scores significantly improved their performance after being told they had been successful on a previous task.

Correlations performed between the different scales

show no consistent pattern of FOS arousal. A factor analysis of each measure, and of two anxiety scales, yielded 37 new variables, a factor analysis of these variables in turn resulted in five orthogonal factors Further analysis showed only one factor was directly related to Horner's concept of FOS (Sadd, Lenaur, Shaver & Dunivant, 1978) This factor deals with the concern about facing negative consequences for success. Items which loaded highly on this factor usually expressed "concern about jealousy, exploitation, criticism, feelings of responsibility, and pressure following success" (Sadd et al , 1978, p 412) The other factors were concerned with self-deprecation and insecurity, test anxiety, attitudes toward medical school, and extrinsic motivation to excel; these factors are not related to Horner's concept of FOS, where the motive is aroused in competitive achievement situations that may lead to negative consequences.

Ho and Zemaitis found no significant sex differences in their study, where both male and female subjects high in CONCOS (indicating fear of success) performed less well on an Anagram task, in accordance with Horner's assumption that individuals scoring high in FOS do less well on competitive achievement oriented tasks. Contrary to Horner's findings, however, it was found that the higher the CONCOS score for males and females the lower a subject's achievement motivation

One study which attempted to differentially arouse

FOS, by means of a neutral and an aroused condition, was conducted by Jackaway and Teevan (1976). A neutral condition was set up by assessing the motive to avoid success by using the TAT, prior to a non-competitive task performance in a neutral setting. Subjects in the aroused condition competed against either a male or a female on a symbol coding task. Winners were publicly announced, which was assumed to arouse the FOS motive. Following the announcement, subjects where then asked to complete the TAT. Males' FOS scores were consistent in both conditions, while females scored higher in FOS after the arousal. This study supported Horner's assumption that FOS is aroused in competitive achievement situations. One of the criticisms of the study is that the observed scores between non-aroused and aroused subjects could have been due to the fact that winners were publicly announced or simply due to the fact that the subjects in the aroused condition completed a symbol coding task before taking the TAT.

Like the CONCOS and Pappo scale, Zuckerman and Allison (1976) developed the Fear of Success Scale (FOSS), which was designed for both males and females. In their study, Zuckerman and Allison found that females scored significantly higher in fear of success than did males, and there were low but significant correlations between the FOSS and Horner's measure of fear of success among both males and females. In addition, the subjects of Zuckerman and Allison's study who were high in FOS attributed success more to external factors, and failure more to internal

factors (This study, along with other studies incorporating FOS and attribution theory will be discussed in the next section of this thesis. In addition, the present study will use Zuckerman and Allison's FOSS as a measure of fear of success)

More recently, research on FOS has focussed on the differences in occupational needs, and in addition, the different levels of FOS related with certain occupations One such study has been conducted by Goh and Mealiea (1984) These researchers related the Zuckerman and Allison (1976) Fear of Succeess Scale to an individual's need for occupational achievemnt, self-esteem and locus of control The need for occupational achievement was utilized because it serves as a measure of an individual's achievement and striving within an organizational context Goh and Mealiea stated that such a relationship to fear of success if significant, would add to the further understanding of whether fear of success is related to other achievement type measures. In additon, an individual's self-concept may influence behavior and usually refers to a person's attitudes, feelings, perceptions and evaluations of himself or herself. Using this definition of self-concept Goh and Mealiea, stated that a person with a positive self-concept will have high self-esteem, while a person with a negative self-concept would have low self-esteem The research relating sex differences to an individual's concept has shown that self-

confidence is one achievement-related characteristic that consistently differentiates the sexes. Goh and Mealiea argued that esteem may be directly related to fear of success in women, that is, women with a negative self concept, or low selfesteem, would express more fear of success than women with a positive self-concept or self-esteem The findings of the study, indicate fear of success as being negatively related to self-esteem and need for occupational achievement, and positively related to locus of control As predicted, fear of success was also negatively related to self-evaluation of job performance The results also indicate that women with low fear of success have a significantly higher desire for intrinsic job outcomes than women with a high fear of success Goh and Mealiea (1984) related the Zuckerman and Allison (1976) Fear of Succeess Scale to an individual's need for occupational achievemnt, self-esteem and locus of control The need for occupational achievement was utilized because it serves as a measure of an individual's achievement and striving within an organizational context Goh and Mealiea stated that such a relationship to fear of success if significant, would add to the further understanding of whether fear of success is related to other achievement type measures . In additon, an individual's self-concept may influence behavior and usually refers to a person's attitudes, feelings, perceptions and evaluations of himself or herself Using this definition of self-concept Goh and Mealiea, stated that a person with a positive self-concept

will have high self-esteem, while a person with a negative self-concept would have low self-esteem. The research relating sex differences to an individual's concept has shown that self-confidence is one achievement-related characteristic that consistently differentiates the sexes Goh and Mealiea argued that esteem may be directly related to fear of success in women; that is, women with a negative self concept, or low selfesteem, would express more fear of success than women with a positive self-concept or self-esteem. The findings of the study, indicate fear of success as being negatively related to self-esteem and need for occupational achievement, and positively related to locus of control. As predicted, fear of success was also negatively related to self-evaluation of job performance. The results also indicate that women with low fear of success have a significantly higher desire for intrinsic job outcomes than women with a high fear of success

In conclusion, Horner's FOS construct has caused much interest, and has provided an appealing and intuitively reasonable explanation in explaining a vexing difference between females and males However, as this chapter has shown, it has been criticized on several points Currently, another major criticism has been the narrow competitive definition of success, whose implications are negative toward women (i e that there is something wrong with women who are not able to accomodate this definition) (Sassen, 1980)

Implications for Future Research

More recently, as an extension of attributional research, Weiner et al., (1971) stated that students have beliefs about the causes of achievement outcomes Such expectations influence people's choices of future activities and the level of their subsequent performance (Frieze, Fisher, Hanusa & Valle, 1975). Within the achievement domain, the causal attributions one makes not only have implications for one's expectations, but also for the degree of pride or shame experienced and future behavior undertaken According to this approach, the motive to succeed is no longer defined as a disposition to experience pride when succeeding at a task: "instead, that motive is related to a pattern of attribution that involves attributing success to internal causes (i e , own ability and effort), and failure to internal and variable causes (i e effort)" (Feather 1982, pg 135) Weiner et al., (1971) conceived of achievement motivation as a personality variable associated with specific patterns of attribution rather than as a variable that affects the degree to which a person seeks pride in accomplishment " This reformulation of the original theory reduces achievement related incentives to attributional activity rather than regarding attribution as one among several moderators of incentive value" (Feather, 1982, pg 135)

In view of the conclusions and assumptions that have

arisen from work done by Horner mainly that success has negative implications for females, several researchers have examined the relationship of causal attributions with the motive to avoid success. Fear of success was measured by Horner's (1972) projective measure (Feather & Simon, 1973; Krussell, 1973), or by an objective scale (Zuckerman & Allison, 1976). Krussell (1973) and Zuckerman (1976) found that, for both males and females, high fear of success was not related to typical attribution patterns of success and failure, whereas Feather and Simon (1973) found the reverse. (These studies will be reviewed in greater detail in the section on Attribution Research).

One of the questions that still remain to be answered concerns the relationship between achievement motivation and causal attributions. This is especially significant in the case of females, because so few studies deal with female achievement motivation and causal attributions. Evidently, while the utility of fear of success in explaining sex differences in attribution is still being tested, there is nevertheless a need for future research in the area by using "objective" measures which may help resolve some of the inconsistencies reported by past studies on the motive to avoid success. The present study will incorporate the two theories of fear of success and attributional patterns, by assessing a subject's level of FOS compared with the attributions made by these subjects, and will endeavor to resolve some of the inconsistencies reported by past research.

I will now discuss in more detail Weiner's attribution theory and attributional research.

The Theoretical Attribution Process

In 1971, Weiner, Freize, Kukla, Reed, Rest, and Rosenbaum proposed a theory of motivation based on the attribution process, taking into account how one makes a causal attribution about a particular event and then having this attribution mediate the emotional and cognitive reactions to the situation. The research has generally assumed that the attribution process operates in most (if not all) real-life situations involving achievement activities and proposes a framework for looking at one's affective responses and cognitive reactions to a success or failure on an achievement task as a function of the causal attributions used to explain why the particular outcome has occurred (Freize, 1980).

One of the guiding principles of attribution theory is that individuals search to discover why an event has occurred and to understand its cause (Weiner, 1984). This type of presumption sets it apart from the psychoanalytic theory where individuals strive to reduce sexual and aggressive urges.

A causal search is not indiscriminately displayed in all situations nor do causal attributions answer all why questions, rather, this search is most often evident or more likely given when there has been an unexpected outcome (e.g., failure when success was expected), and when a desire has not been fulfilled - (e.g., when there is interpersonal rejection) (Weiner, 1984). Furthermore, it has been demonstrated that this search is more likely given

failure (rejection) than success (acceptance), this is similar to Atkinson's (1964) achievement motivation theory which suggests that approach or avoidance behavior is in part dependent on the affective anticipation of pride and shame (Weiner, 1984)

The instigation of a causal search given an unexpected outcome and most likely aversive outcome, is to provide an explanation which in turn reduces surprise and uncertainty More importantly, the function of causal search is to aid in subsequent goal attainment. "Knowing why one has failed might increase later chances for success because pertinent instrumental actions can now be undertaken Attributional analyses therefore are functional, and attribution theory falls within the broader study of cognitive functionalism" (Weiner, 1984, pg 19).

Weiner et al , (1971) postulated that individuals use four causal elements of ascription both to interpret and to predict the outcome of an achievement-related event. The initial causal elements are ability, effort, task difficulty, and luck That is, when one attempts to explain the prior success or failure of an achievement-related event, the individual assesses his/her own or another performer's ability level, the amount of effort that is usually expended, the difficulty of the task, and the magnitude and direction if luck is experienced (Weiner, 1974) Here, it is further assumed by most attributional theorists that rather general values are

assigned to these factors and that the task outcome is differentially ascribed to the causal sources (Weiner, 1979) Similarly, future expectations of success and failure would then be based upon the perceived level of ability one has in relation to the perceived difficulty of the task, together with an estimation of the intended effort and anticipated luck (Weiner, 1979)

The four aforementioned causes (ability, effort, task difficulty and luck) are not the only perceived determinants of success or failure, nor are they the most salient ones in all achievement situations (Weiner, 1971; Weiner et al , 1972) Factors such as mood, fatigue, illness and teacher bias could also serve as necessary and/or sufficient reasons for achievement performance However, Weiner in 1974, stated that research in general has repeatedly found that ability, effort, luck, and task difficulty are the most general and salient of the causes of achievement outcomes

Causal Dimensions

The causes of success and failure were comprised by Weiner and his colleagues (1971, 1972) as a two-dimensional taxonomy, the dimensions being locus of control and stability These dimensions are assumed to be independent and although they are often conceptualized as dichotomies, each can be more accurately seen as a continuum (Freize, 1980) Locus of control refers to whether the cause of an event exists within the person (internal) or, whether the

cause exists outside of the person (external) Stability refers to whether a cause remains invariant (stable) or variant (unstable) across time Weiner et al , (1971) hypothesized that people use the four causal factors of ability, effort, task-difficulty and luck in achievement situations and place them within the 2 X 2 classification scheme, where ability is internal and stable, effort is internal and unstable, task is external and stable, and luck is external and unstable

It is important to note that although the difficulty of an achievement task has typically been classified as stable, consideration would have to be made to determine whether the individual task would be repeated or if a future task would be dissimilar Likewise, although effort has been classified as unstable, there could be circumstances where subjects understand effort as stable, meaning that their behavior was due to a form of effort that is consistent across time More recently, research on the perceived determinants of achievement behavior has suggested additional dimensions such as controllability or generalizability (Weiner, 1974) These additional dimensions are not discussed in the present section

Attributing the Causes of Success and Failure

Weiner's theoretical predictions concerning the relation between outcomes and causal attributions were supported by a number of studies (Feather, 1969, Freize & Weiner, 1971)

There are individual differences in causal preferences, and everyday observations suggest that some individuals readily use luck explanations while others perceive innate ability as the determinant of achievement-related success (Weiner, 1974). That is, the motive to strive for success, or the need for achievement, noticeably influences causal ascriptions (Weiner et al., 1971).

Both correlational and experimental studies have established that individuals classified as high or low in need for achievement have disparate attributional biases. Given success, persons high in achievement motivation see ability and effort as the responsible factors, whereas persons low in achievement needs show no clear attributional preferences for success (Weiner et al., 1971, Weiner, 1972, Weiner, 1974). Given failure, individuals high in achievement needs usually attribute the outcome to a lack of ability, while given success individuals high in achievement needs usually attribute the outcome to effort (Weiner, 1974).

Inasmuch as these attributional patterns emerge, research by Weiner et al., (1971), Rosenbaum, (1972), Fontaine, (1974) has shown that causal attributions for success and failure in part determine the direction and the magnitude of expectancy. Expectancy is usually manipulated by merely telling subjects their chances of success. Here, following success, expectancy generally rises while after failure it usually drops ("typical" shifts). The general

findings indicate that failure which is attributed to low ability should decrease the expectancy of future goal attainment more than failure that is attributed to bad luck, or mood (Weiner, 1974) Conversely, success attributed to good luck should result in a lesser increase by the subject in expectancy of future success at that particular task than success attributed to high ability or the ease of the task (Weiner, 1974)

Weiner, Nierenberg, and Goldstein (1976) gave subjects either 0, 1, 2, 3, 4, or 5 success experiences at a block-design task Different subjects were placed in various experimental conditions and, following the success trial(s), expectancy of success and causal attributions were obtained. Expectancy of future success was determined by having subjects predict "how many of the next ten similar designs he/she believed he/she would successfully complete" Subjects were then asked to complete an attributional questionnaire in order to assess their perceptions Weiner et al., (1976) found 1) the mean expectancy of success for subjects to be a function of the number of success experiences; and 2) that the expectancy of future success is directly related to the stability of the perceived cause of positive outcomes

Cognitive theories of motivation generally maintain that the greater the perceived likelihood of attaining a desired goal, and the greater the incentive value of the goal; the more one is presumed to have a high degree of positive motivation Conversely, it has been shown that

goal expectations are markedly influenced by the stability of the perceived causes of success and failure (Weiner & Kukla, 1970. Weiner at al , 1971). Here, it is hypothesized that there is a link between causal attribution and the emotions associated with success and failure

Weiner at al , (1971) hypothesized that pride and shame are maximized when success and failure are attributed to external causes thus, success attributed to high ability and/or hard work is expected to produce more pride than success that is attributed to the ease of the task or good luck Weiner, Russell, and Lerman (1978) carried out a number of studies to show the specific affective reactions that are associated with various causal attributions Happiness and pride are seen as common affective reactions to any type of success (although there is much less pride if the outcome is believed to be caused by other people or by luck) In addition, attributing an event to one's abilities leads to feelings of competence and confidence, whereas attributions to effort produce feelings of relief and satisfaction Inclusively, feelings of gratefulness are especially strong when a good event is attributed to other people , and luck produces feelings of surprise, relief, and guilt

Attributions of failure are also associated with specific emotional reactions, these are in conjunction with the overriding negative feelings, lack of ability

attributions leading to feelings of incompetence and resignation, lack of effort being associated with guilt, bad luck again leading to surprise (Weiner, 1979)

In summarizing these findings, Weiner (1979) suggests that there are three sources of affect about success or failure Initially, there is the basic good or bad feeling depending upon whether the outcome was a success or failure Weiner, then further suggests that these basic emotions are the strongest ones and are directly related to the outcome experienced and are not mediated by the causal attribution made In addition, there are the specific reactions discussed earlier (such as surprise) being generated by luck and confidence from ability attributions associated with the causal attribution. Finally, there is the mediation of the internality dimension upon feelings associated with self-esteem, and feelings of competence and pride and shame are greater when an internal attribution is made.

Weiner and Kukla (1970) in an experiment to demonstrate the effects of attributions on affective responses, asked subjects to pretend that they were teachers and that they were evaluating students. The subjects received information concerning the hypothetical pupils' level of ability (high or low), effort expenditure (high or low), and their outcome on an exam (excellent, good, borderline, moderate failure, or clear failure). The study yielded a main effect for outcome where good exam performance was rewarded and poor performance punished.

High effort was positively valued and lack of effort was punished In addition, pupils low in ability but high in effort received the highest evaluations. From this experiment it appeared that hard work is most admired while failure due to lack of effort is the one most often disliked

As stated above, findings in general, indicate that individuals high and low in achievement needs have different attributions for success and failure and that these attributions mediate achievement strivings. It therefore follows, that if the attributions for success and failure made by an achievement motive group can be changed, then one can also alter their achievement-related behaviors

Weiner and Sierad (1975) experimentally manipulated attributions for failure among individuals differing in achievement needs. Their subjects were given four trials of repeated failure at a digit-symbol substitution task. Before this failure, half of the subjects were randomly assigned to a drug-attribution condition, and the remaining subjects were in the control condition In the drug-attribution condition, subjects were given a placebo pill that allegedly interfered with hand-eye coordination, a skill described as necessary for good performance at the task. Failure among these subjects was therefore more likely to be attributed to the drug Hence, subjects in the control condition were not given an external reason for

their failures Thus, if the experiment would follow the hypothesized typical low effort and low ability attributions for failure, it was then expected among subjects respectively high or low in achievement needs Results showed that compared with subjects in the control group condition, attribution of failure to the pill augmented the performance of subjects low in achievement needs and decreased the performance of subjects high in achievement needs

Sex Differences in Attribution Pattern

Along with differences in attributions as a function of various personality measures, one of the differences which has been more extensively reported has been the differing patterns of causal attributions for success and failure which has been found for males as compared to females (Freize, 1980) One of the differences which is most apparent between males and females in the literature on achievement-related attributions is the finding for females of all ages to have lower initial expectancies for success than males for a variety of tasks As a result, the lower generalized expectancy for success of females appears to influence their attributional analysis of achievement outcomes

Research on sex differences in attribution patterns to performance, sometimes requires subjects to explain the outcome of a performance which is an experimentally manipulated task or actual academic endeavor In most experimental cases, the outcome is clearly defined as

either success or failure (Deaux, 1976) Following the success or failure outcomes the subject attribution usage is then measured by percentage rating scales, bipolar scales, or by the Likert scales In the studies reviewed on attribution research, the subjects have ranged from elementary to university students, with the majority using the latter (Freize, 1980) The research has generally demonstrated some sex differences in the usage of the four causal attributions and their dimensions (ability, effort, luck, task, dimension here, refers to the stability of a cause) where beginning with findings at pre-school ages, when girls are asked to estimate how well they will do on an unfamiliar task, they tend to underestimate the performance level they will later achieve whereas boys on the other hand, are more likely to overestimate their performance (Freize, 1980) These findings have been replicated for intellectual tasks as well as for tasks involving artistic and physical skills and for subjects of all ages (Crandall, 1969, Freize, 1980)

Deaux (1976) gave subjects an anagram task to solve where success and failure and sex-linkage to the task were manipulated Of the four causal factors (luck, ability, effort, task difficulty), ability and luck yielded the main sex differences Men used ability more often to explain their success, and luck to explain their failures, whereas women used ability more often to explain their failure and luck to explain their success

In outlining the relationship between expectations and causal attributions for success and failure, Jackaway (1976) has suggested that females are prone to a low expectation cycle. Here, a successful outcome which is unexpected will tend to be attributed to unstable factors, such as effort and luck, whereas failure outcomes which are expected will tend to be attributed to stable factors such as lack of ability. A pattern then develops, whereby the females' attribution of failure to lack of ability reinforces their lower expectations for future success outcomes and thereby achievement behaviors.

In contrast to females, Jackaway (1976) suggested that males demonstrate a high expectation cycle where, males with higher generalized expectancy for success tend to attribute success outcomes to stable factors (i.e., ability) and unexpected failure outcomes to unstable factors (i.e. effort, luck). These sex differences in expectations suggest that attributions of males and females will also differ.

If one continually underestimates how well one will do, one is less likely to attempt difficult tasks in the future and these low initial expectancies become self-perpetuating because they lead to attributions that maintain low performance levels (Crandall, 1969). More directly relevant data indicate that females of all ages are more likely than males to attribute their success to unstable and external factors such as luck and task ease and less likely to see their success as a result to ability

and make more attributions to their lack of ability (e.g. Bar-Tal, 1977, Feather & Simon, 1975, Feather, 1969; Nicholls, 1975, Weigers & Freize, 1977, Freize, 1980)

Freize et al., (1978) suggests that this general pattern of sex differences in expectations of success and external attributions to success, seems to be the result of and serves to maintain a general avoidance of achievement situations by women who fit this attributional pattern. The outcome of achievement tasks, given these attributions, can at most be neutral (for success) and may be negative (for failure)

Other studies have suggested that although research findings report that females utilize luck attributions to a greater degree than males, a closer look indicates that the results have been inconsistent (Nicholls, 1975, Luginbuhl, Crowe, and Kahan 1975, Wiegers and Freize 1977). In addition to the discrepant data, there is evidence to suggest that luck, in general is not utilized by either females or males as a principal attribution, irregardless of the scales used (Bar-Tal & Freize, 1977, Wiegers & Freize, 1977)

McHugh, (1975) suggested that the attributional pattern of general externality refers only to the females' greater use of external factors relative to male subjects but, not necessarily implying that females using relatively greater levels of external factors believe that these factors are usually responsible for the outcome In studies using free

response methods and percentage scales, success and failure outcomes were attributed only minimally to external factors by either sex. Ability and effort factors were seen as the major cause of achievement outcomes (Freize, 1976; Luginbhul, Crowe, and Kahan, 1975).

Fisher (1975) points out that women show a general pattern of externality for several different reasons; one of them being a sense of modesty where, women who actually feel pride in their success and raise their ability estimates after doing well but, those who report ability estimates or attribute success to luck, do so to avoid appearing boastful.

Along with individual differences in attributional patterns among women, a number of situational factors that affect attributions have been noted, and this is in spite of the fact that attribution patterns may vary for an individual across situations and is seldom taken into account (Freize, 1978). Mischel (1973) suggests that a relative lack of interest in situational determinants of attribution patterns may be partially responsible for the inconsistencies found in some of the research. That attribution patterns in achievement settings may have important situational determinants is supported by research which varies the type of task and degree of competitiveness (Deaux, 1976; Simon & Feather, 1973).

Fisher (1975) and Sassen (1980) suggest that one of the major situational variables that differentially affects men and women is the hidden or overt competition that exists in

many achievement situations This is as a result of finding a wide-spread belief that competitiveness and assertiveness are unfeminine Here, women might then reduce conflicts over their success in a competitive situation by denying responsibility for it, and in turn it might be expected that women would make more external attributions for success in a competitive rather than noncompetitive setting (here, competitive situation usually refers to mixed sex situations as is the case in most achievement situations) Several studies of mixed-groups settings have found that females use mpre external attributions for success than failure (Feather, 1969, Bar-Tal and Frelze, 1977). In Simon and Feather's (1973) study of attributions for actual performance on an examination, females were more external overall, suggesting that they deny responsibility for success in actual competitive situations

Luginbuhl et al (1975) tested subjects in an individual setting and did not find greater externality for females than for males, girls were in fact more internal for failure. In addition, girls felt better about a task when it was described as unimportant (noncompetitive) than when described as an important task (competitiveness is implied)

Using luck attributions implies that, at least within what is traditionally defined as masculine areas such as "academic" achievement, women take less responsibility for, and feel less pride in their successes and less shame about

their failures. Thus, women using this attributional pattern would experience relatively little affect in achievement situations (Frieze, 1978).

Travis (1980) in employing the "classical" method for manipulating success and failure by (using a series of anagrams), tested for sex differences in subjective evaluations of success, causal attributions, and subsequent expectancies. However, she failed to find any significant differences.

From the research discussed above, one can conclude that the literature on sex differences in self-attribution suggest that females tend to take less credit for their success and more blame for their failure (Feather & Simon, 1972, Jackaway, 1974). In addition, studies have shown greater external attribution (especially luck) for females after both success and failure (Bar-Tal & Frieze, 1977, Weigers & Frieze, 1977).

As previously stated the existing research on sex differences is based on the assumption that the attributions made by males and females in one situation are representative of an enduring disposition to make certain types of attributions. Yet, most of the existing research involves the measurement of participants' attributions in response to one or more outcomes on a single task in a particular achievement context (Frieze et al.,). Yet, other research has demonstrated that the achievement context or task exerts an important impact on causal attributions (Frieze et al.,). It is important then, that

research both consider and investigate the effects of attributions of participants, and to distinguish situations that elicit differential attributions from males and females from situations that result in sex differences.

McHugh, Frieze, and Hanusa (1982) state that situational variables may be viewed as falling into two broad categories: (1) the task itself and (2) the context in which the task is performed. Much of the recent literature addresses the relationship between the task and the attributional responses.

Moreover, what is ostensibly the same task for males and females may actually be subjectively two very different tasks in terms of cultural or individual beliefs about the sex-appropriateness of the task, gender or individual differences in attainment value or ego involvement, and novelty/familiarity of the task; these dimensions may not characterize tasks independently, they are very likely highly interrelated (McHugh, et al., 1982).

Fear of Success and Attributions

As an extension to research on fear of success, an attempt has been made to link the sex differences found in attributional pattern to the sex differences in fear of success. The earlier studies attempting this did not directly test FOS as Horner did, but usually assessed FOS by responses to success or failure subjects gave, and to the way they attributed sex-inappropriate success/failure. One of the first studies which attempted to do this was

conducted by Feather and Simon (1975). They asked 48 female subjects to use semantic scales to rate males and females who succeeded (or failed) at different occupations (medicine or nursing) on three matters of concern: personality (e.g., pleasant/unpleasant, logical/intuitive, tough/tender), causal attributions of the success or failure (e.g., ability, examiner's error, luck), and perceived likelihood of various consequences (e.g., Anne (John) feels thoroughly contented, wonders if it is all worthwhile, continues to top the class). Feather and Simon (1975) found that subjects generally upgraded successful males in relation to unsuccessful males and devalued successful females in relation to unsuctessful females. Sweeney, Moreland and Gruber (1982), in their research on attributional patterns for males and females found females using luck attributions to a greater degree than males. To test this, male and female college students were asked to make effort, ability, luck, and task difficulty attributions for their performance on a recent course examination. Measures of the stuoents' affective reactions toward their performance were also obtained. It was found that successful students, whether female or male, made more internal attributions and were pleased with their performance. Unsuccessful female students who made external attributions, were more displeased with their performance outcome, and felt better when they attributed their failures to unstable factors. Unsuccessful male students were also displeased with their performance, but tended to

make more internal attributions for their failure and as a result felt better

Sweeney et al. (1982) reviewed the findings of the above study to be suggestive of internality patterns for males (internality bias) rather than externality in females (this is contrary to the general predictions about affect made by the Weiner et al., model)

Travis (1980) using Winer's attributional model of achievement examined the possible sex differences at each stage of the model, including a subjective evaluation of success, causal attributions, expectations for future success, and subsequent achievement behavior. Travis (1982) in a summary of previous studies reported that studies conducted in a variety of formats and design paradigms have reported sex differences at almost every stage of the model, rather than presenting a complete set of comparisons. Eighty-two subjects (49 women, 33 men) solved a difficult or easy set of anagrams, after which they indicated their subjective level of performance, provided causal attributions, and stated expectations for future performance. Sex comparisons were conducted on each element in the attribution model. Results indicated no sex differences on subjective evaluation of success, on causal dimensions, on expectations for future performance, or on performance on a final set of anagrams.

While Horner's evidence for a dispositional fear of success in women is conflicting, Condrey and Dryer (1976)

suggest that certain situations do evoke realistic expectancies about negative consequences and that these women by attributing success to luck or task ease or difficulty are denying responsibility for their performance, thereby eleminating any grounds for social rejection if they perform well Here, even within ones' attributional pattern, different variables may be mediating causal attributions

Conversely, when various studies have looked for sex differences in attributional pattern as an extension to fear of success, they have failed to find any (Travis, 1980, Sweeney et al , 1982) One such study was conducted by Zuckerman, Larrance, Porac and Blanck (1980) Using the FOSS measure of fear of success, Zuckerman et al., conducted an experiment to examine the extent to which this construct moderates the effects of tasks on the dependent variables - intrinsic motivation, causal attribution, and choice behavior (This study will be discussed in greater detail in the next section)

Summary

If an attributional analysis of Atkinson's conception is made, it suggests that individual differences in achievement motivation, as well as cues such as task difficulty, influence mediating cognitions concerning the causes of behavioral outcomes These causal inferences then influence subsequent achievement behavior (Weiner, 1980) If Atkinson's model is accepted then, conclusions can be made about high versus low achievement motivated

individuals In sum, (from Weiner, 1980)

A Individuals high in achievement motivation

1 Usually approach achievement related activities These are mediated by the attribution of success to high ability and effort

2 Persist in the face of failure These are mediated by attributions of failure to a lack of effort, which is presumed to be modifiable

3 Usually select tasks of intermediate difficulty, this being mediated by the perception that these type of tasks usually yield self-evaluative feedback

4 Perform with effort This is mediated by the belief that outcome is determined by effort

B Individuals low in achievement motivation:

1 Usually do not approach achievement related activities. This is mediated by the attributions of success to external rather than internal factors and the exclusion of effort as a causal factor

2 Quit when the probability of failure is high This is mediated by the belief that failure is caused by lack of ability, which is presumed to be uncontrollable and unchangeable

3 Usually select easy or difficult tasks since these tasks yield minimal self-evaluative feedback.

4 Perform with relatively little effort This is mediated by the belief that outcome is independent of effort.

Effects of Fear of Success on Intrinsic Motivation, Causal Attribution, and Choice Behavior

(In this section the fear of success measure will be referred to as FOSS in conjuction with the Fear of Success Scale as measured by Zuckerman's and Allison's 1976 objective measure)

To remedy one of the problems inherent in a projective measure, Zuckerman and Allison (1976) developed and tested a 27-item objective Fear of Success Scale. Construction of the Fear of success Scale consisted of administering 35, 7-point agree-disagree statements to a large sample of undergraduate students (N = 376). The statements were written by Zuckerman and Allison and several colleagues, and consisted of statements describing either the benefits of success, the respondent's attitude to success, or the respondent's attitudes toward success when compared to other alternatives. The individual items were scored in the direction of high fear of success, and for approximately half of the items, agreement was keyed as high fear of success, for the remainder, disagreement was keyed as high fear of success. The statements were then item analyzed to maximize the internal consistency of the scale and on the basis of correlations of each item with the total score excluding the item . eight statements were discarded.

Potential scores on the FOSS range from 27 to 189 with high scores indicating high fear of success. Zuckerman and Allison (1976) by using the FOSS found that females had

higher FOSS scores than did males and that both males and females with high FOSS scores performed worse on anagram tasks and attributed success more to external factors and failure more to internal factors than did subjects with low FOSS scores. The scale yielded good internal reliabilities of .79 for males and .73 for females.

Using the Fear of Success Scale (FOSS) as a measure of fear of success, Zuckerman, Larrance, Porac, and Blanck (1980) examined the extent to which this construct moderates the effects of task outcome on three dependent variables: intrinsic motivation, causal attribution, and choice behavior.

Intrinsic motivation was seen as the tendency to engage in some activity for no apparent reward expect the activity itself. Zuckerman et al. (1980), stated that first of all, for the high FOSS person success has aversive implications and therefore should not increase the attractiveness of a task. Secondly, since high FOSS subjects do not attribute success to themselves - their sense of competence, and consequently their intrinsic motivation should not increase under a success condition. Zuckerman et al. hypothesis was that success would increase intrinsic motivation among low but not among high FOSS subjects.

From prior studies (cited in the previous chapter) it has been shown that low FOSS subjects are internalizers while high FOSS subjects are externalizers

of success whereas low FOSS subjects are usually externalizers of failure and high FOSS subjects are internalizers of failure Zuckerman et al , experimentally manipulated task outcomes, providing a better test of their effects, and those of fear of success, on causal attribution Their arguement was that prior research employed success/failure outcomes which were self-determined Consequently, this obscured the exact cause and effect relationships among task outcomes, fear of success, and attributions

Choice behavior was seen as the extent to which subjects preferred to have a choice over the tasks that they were going to perform The assumption was that people are motivated to control their environment and that lack of choice is maladaptive for the individual Zuckerman et al , examined the hypothesis that success on a task increases the need to have choice over similar tasks, the rationale being that task outcome affect the person's perceived competence In sum, Zuckerman et al , (1980) predicted that under success, low FOSS subjects would show more intrinsic motivation, make more internal attributions, and prefer more choice than would high FOSS subjects

The study of Zuckerman et al , (1980) involved two sections, presented to subjects as two independent experiments In section one subjects worked on three puzzles (SOMA) that were either chosen by the subjects or were assigned (no choice/ yoked counterpart of choice subject) Under high performance (success) subjects were

told their performance was better than most subjects; under low performance (failure), subjects were told the opposite Subjects were then left alone for a five minute period to see if they worked alone on puzzles. this was used as an indication of the subjects' intrinsic interest The final phase of section one was a questionnaire that included attribution measures and manipulation checks In the second part of the experiment, subjects were led down a hall to the "second experiment" They were told to work on eight of twenty puzzles presented, and then asked how many puzzles they would like to choose and how many they would like assigned. this was used as a measure of subjects' choice behavior The subjects' were then administered the FOSS and Mehrabian's Scale of resultant achievement motivation (RAM), (although the scale is of questionable validity)

A median split was used to divide all subjects into high/low FOSS groups and high/low RAM There were no effects of choice and outcome on FOSS and RAM. There were no sex significant differences on FOSS or RAM, in addition, no significant relationship was found between fear of success and RAM (r= 04 divergent validity), therefore not being able to account for effects of fear of success on the dependent variables Subjects generally spent more time on puzzles in success conditions compared to failure, this is as predicted Additional analyses showed that the differences between success and failure were more

emphasized among low than high fear of success subjects, as predicted. With respect to causal attributions, low fear of success subjects made more internal attributions than high fear of success subjects (FOSS main effect). No significant differences was found between fear of success and outcome interactions contrary to what Zuckerman et al predicted. However, looking at the outcomes separately, a FOSS x outcome x choice interaction occurred, which partially supported their hypothesis. Here, in the success condition low fear of success subjects made more internal attributions than high fear of success subjects (as predicted), and in the failure condition, there were no differences between high and low fear of success subjects (not as predicted).

The study of Zuckerman et al., revealed that under success, all the dependent measures were affected by FOSS whereas under failure, the dependent measures were not affected by FOSS. FOSS was also found to be independent of resultant achievement motivation. However, overall, no sex differences were found in FOSS, this is contrary to the FOSS hypothesis.

The most surprising but to some extent consistent outcome with other studies was that no sex differences were found for FOSS. This is contrary to the FOSS hypothesis.

In addition, the study has several methodological and substantive shortcomings including: 1. The nature of their manipulated tasks. The study used FOSS scores to determine whether the construct moderates success and failure on

intrinsic motivation, and choice behavior. These tasks, outcomes can be misinterpreted with respect to their content meaning. Being intrinsically motivated, or being able to choose your own tasks may simply be a personality characteristic irregardless of whether one is high/low in FOSS. Furthermore intrinsic motivation and choice behavior can be misinterpreted by subjects due to their subjective and personal definition.

2. The homogeneity of their sample. Only psychology students were used. Therefore, the results are not generalizable to a wider population.

3. The narrow range of the level of FOSS in their subjects. (Subjects score ranged from 95-125, low-high FOSS)

4. The fact that FOSS was measured after all the tasks were completed. (FOSS is normally defined as a stable predisposition and therefore administered before manipulating)

The proposed study is a replication and extension of the research conducted by Zuckerman, Larrance, Porac, and Blanck (1980). The study will use task outcomes that cannot be misinterpreted by subjects and employ structured measures consisting of definite success or failure situations. Administer the Fear of Success Scale in a manner that is consistent with Horner's theory, that is before an outcome condition is defined. Expectancy and perspective is built into the outcome situation, where not

only a personal expected/unexpected success or failure is involved but the expected/unexpected success or failure of a male or female friend The study proposes to augment the Zuckerman et al investigation into the relationship of FOSS to causal attributions by studying not only the relationship of FOSS to one's dimension of locus, but also, in terms of perspective to male other and female other.

Moreover, the inconsistencies in the findings with regards to sex differences not only in achievement situations but in fear of success within a framework of attribution theory, is suggestive of some existing problem. The theory suggests that fear of success should predominate in females, but the data is not as significantly supportive as the earlier studies (Horner 1968, 1973). One of the common sense explanations being given is that in today's "modern" society, along with the aid of the Human Rights Commission and Charter of Equality, women no longer face negative consequences of success. A plausible suggestion is that the changing values concerning women's role in society have created more conflict between the sexes and increased the probability that women will express their fears when given an opportunity to do so, since success is now more a possibility than a plausibility Thus, some researchers have found, paradoxically, that women who favor the women's movement and are usually associated with more liberal or radical "political" views and are more likely to express fear of success than women who have more "traditional" views (Shaver, 1976) The variety of research findings

that have been indicated previously in this thesis, is an indication that although FOS findings are not consistent, they are more reliable and more inter-related with other variables than was previously thought In addition, sex differences in FOS may be qualitative, females may have different FOS than males and different ways not only of coping with it, but of expressing it Attribution theory may provide one of the outlets as a means to explicate and understand FOS and its effects on both males and females

Hypotheses

Hypothesis 1

There will be a main effect of FOS as measured by FOSS or the collapsed measures of internality and externality

1 Subjects high in FOSS will make greater external attributions than subjects low in FOSS

2 Subjects low in FOSS will make greater internal attributions than subjects high in FOSS

Explanation to Hypothesis 1

Zuckerman and Wheeler (1975) in their review of the literature on fear of success suggesting that the motive to avoid success may interfere with achievement-related performance and give rise to defensive responses (e g , denial of responsibility) to success was supported Zuckerman et al , (1980) In addition, found that subjects with high fear of success scores who failed at an anagram task attributed failure to internal factors more often than did subjects with a low fear of success score In contrast, subjects with high fear of success scores, when succeeding usually attributed their success more to external factors than did subjects with low fear of success scores

Hypothesis 2

There will be an interaction effect of FOSS by outcome on the measures of internality and externality

1 Subjects low in FOSS will make greater internal

attributions for success and greater external attributions for failure

2 Subjects high in FOSS will make greater external attributions for success and greater internal attributions for failure

Explanation to Hypothesis 2

Research dealing with the motive to avoid success has generally observed that this motive interferes with achievement-related performance and give rise to defensive responses (e g such as denial of responsibility) to success In accordance with the basic tenets of FOS theory, high FOSS subjects find success aversive and less likely to approach it and more likely to deny it (Zuckerman & Allison, 1976) In addition, findings suggest that high FOSS subjects tend to take more blame for their failures and make greater internal attributions to failure (Zuckerman et al 1980) In contrast, subjects low in FOSS will tend to make greater self-serving attributions More specifically they tend to take more responsibility for success, make more internal attributions, take less blame for their failures and make more external attributions (Zuckerman et al , 1980)

Hypothesis 3

There will be a FOSS by sex of subject interaction on the measure of internality and externality

1 Male subjects low in FOSS will tend to make greater internal attributions; male subjects high in FOSS

will tend to make more external attributions

2 Female subjects low in FOSS will make greater external attributions, female subjects high in FOSS will tend to make greater internal attributions

Explanation to Hypothesis 3

As discussed earlier, differing patterns of causal attributions for success and failure have been reported for females and males These findings suggest that women use external attributions to success and internal attributions to failure to a larger degree than men (Freize et al , 1978) As mentioned earlier, fear of success was originally conceptualized as disposition to fear success because of their negative consequences, particularly for women (Horner, 1968) Taken together these two theories imply that first of all women have a motive to avoid success, however if in turn this success does happen they will have a defensive and anxious response to the success One of the defensive responses is expressed by attributing the success to external causes, thus, not assuming the responsibility (Freize et al , 1978)

Hypothesis 4

There will be a main effect of expectancy on the measure of internality and externality

1 Subjects in the expected condition will make greater internal attributions than subjects in the unexpected condition

2. Subjects in the unexpected condition will make

greater external attributions than subjects in the expected condition

Explanation to Hypothesis 4

Zuckerman (1979) reviewed a series of studies investigating the effect of expectancy and found that unexpected outcomes tend to yield greater external attributions and less internal attributions than expected outcomes. More specifically, however, subjects in the unexpected outcome conditions tend to use more luck attributions than ability attributions that are generally used by subjects in expected conditions.

Hypothesis 5

There will be a main effect of perspective, and how subjects tend to make attributions to self versus others.

1. Subjects in the self and male other perspective condition will tend to make greater internal attributions than subjects in the female other perspective condition.

2. Subjects in the female other perspective condition will tend to make greater external attributions than subjects in the self or male other perspective condition.

Explanation to Hypothesis 5

Miller & Ross (1975), showed that subjects were more likely to attribute responsibility for success to themselves than to others. Snyder, Stephan, & Rosenfield (1976) found that most subjects attributed success more internally to themselves than to others, and also attributed their failure more externally than the failure

of others. If sex differences in attributions are salient, than subjects in the self and male other condition will make more similar attributions than will subjects in the female other condition.

Hypothesis 6

There will be a main effect of outcome (success vs failure) on the measures of internality and externality.

1. Subjects in a success outcome condition will make greater internal attributions than subjects in a failure outcome condition.

2. Subjects in a failure outcome condition will make greater external attributions than subjects in a success outcome condition.

Explanation to Hypothesis 6

Weiner et al's (1971) attribution model of achievement situations has shown that subjects tend to typically make greater internal attributions to success than failure, and that subjects also tend to make typical external attributions to failure than to success.

Method

Subjects

Subjects were male (n=226) and female (n=319) undergraduate and graduate students enrolled in different courses at Concordia University during the 1985 Winter Term. With the permission of course instructors, who were contacted by campus mail (see Appendix A), students were tested for approximately 30 minutes in their regularly scheduled classes. Students were randomly assigned to the hypothetical outcome, expectancy, and perspective situations.

Design

The design of the study involved five independent variables: fear of success score, sex of the subject, expectancy, outcome and perspective. The fear of success scores was divided into high FOS and low FOS. The third factor, expectancy, has two levels, expected and unexpected. The fourth factor, perspective, has three levels, self, female other and male other. The fifth factor, outcome, has two levels: success and failure. The experiment is a 2 x 2 x 2 x 2 x 3 between measures design. This results in 48 factorial cells. The dependent measures are subject's rating of causal attributions for ability, effort, task difficulty, luck, study of method, interest in the subject matter, knowledge of the material, these dependent variables were measured for subjects' beliefs about success and failure in an important exam situation.

under different expectancy conditions, and for different perspectives

Experimenters

Experimenters were two female research assistants, Gretchen Lowerison and myself, and one male, Paul Leroux. Large classes (N > 60) were attended by two or more experimenters, but most classes were sufficiently small to be attended by a single experimenter.

Procedure

An experimenter, with permission of the class instructor, approached students in their regularly scheduled classes, usually in the last half-hour of a class meeting. The experimenters first handed out questionnaires to all subjects and then read aloud the instructions found on the cover page of the questionnaire (see Appendix B). Subjects were then requested to fill out a questionnaire in the order given to them. The first section of the questionnaire consisted of a series of demographic questions, the second section consisted of the FOSS, and the third section consisted of attributional measures. Subjects had few problems in completing the questionnaire, and sessions were mainly quiet. Following completion of the questionnaire, subjects were thanked for their participation, interested students were presented with an oral or written explanation, and told additional information would be made available upon request.

Materials

Background Questionnaire

A brief questionnaire on subject's personal educational and ethnic background, was administered (see Appendix B)

Fear of Success Measure

The Fear of Success Scale (FOSS) was administered to the subjects as a measure of fear of success (Zuckerman and Allison, 1976). The scale consists of 27 items which was developed to assess individual differences in the motive to avoid success. Good internal reliabilities for both males and females resulted, where .69 was among males and .73 among females. The FOSS found females to score significantly higher than did males and, it was positively related to Horner's projective measure of fear of success (Zuckerman and Allison, 1976). Furthermore, Zuckerman and Allison (1976) found that high FOSS subjects performed worse on an anagram task than did low FOSS subjects, and that high FOSS scores attributed success externally and failure internally. See Appendix C for the 27-items presented to the subjects.

Manipulations of Expectancy, Perspective, and Outcome

The manipulations were done by means of written instructions to subjects. The expectancy manipulation was built as a structured measure which consisted of statements which were expected or unexpected situations, (see Appendix D).

Perspective

The perspective was built into the outcome situation by stating a personal success or failure, and the success or failure of a male or female friend (See Appendix D)

Outcome

The outcome was built as a structured measure which consisted of statements which were definite success or failure situations

Measure of Causal Attribution

The attribution questionnaires measured subjects' ratings on eight factors ability, effort, task difficulty, luck, study method, interest in subject matter, how the test was marked, and knowledge of the material In addition, the questionnaire provided subjects with an opportunity to name any other factors which they considered important but which were not listed The attribution items have been adapted from Weiner et al 's investigation of attributional patterns Weiner and his colleaques found these factors to be the most salient in subject's explanations of success and failure Each of the factors for attribution was measured on a seven-point scale in accordance with the measurement used by Zuckerman et al , and because it has been demonstrated by various researchers that this seven-point scale provides sufficient range and discriminability The measure of internality was calculated by adding ability, effort, study method, interest and knowledge The measure of externality was calculated by adding task, luck and marking.

Analyses

A 2 (FOS High vs Low) x 2 (Sex of Subject Male vs Female) x 2 (Expectancy Expected vs Unexpected) x 3 (Perspective Self vs Male Other vs Female Other) x 2 (Outcome Success vs Failure) analysis of variance (ANOVA) was performed on each of ten dependent measures internality externality, ability, effort, task, luck, method, interest, marking, and knowledge The measure of internality was derived by adding ability, effort, study method, interest and knowledge, that of externality by adding task, luck and marking ANOVAs were performed using the Statistical Packages for the Social Sciences, (SPSS) (Nie, Hull Jenkins, Steinbrenner, & Bent (2nd Ed) 1982) In addition, to probe for significance levels in any of the interactions, Tukey's HSD (honestly significant difference) test of paired means was performed, with the calculated value reported in the text (see Kirk, 1982)

Results

Results are presented beginning with main effect hypotheses, in the following order FOS, expectancy, perspective, outcome, sex of subject, and interactions qualifying main effects Within each hypothesized effect the dependent measures of internality and externality are presented first and the measures of ability, effort, task, luck, marking and knowledge last Following this, unpredicted main effects and interactions are reported in the same manner as the hypothesized effects. FOS is used

when referring to the construct of fear of success, and FOSS when referring to the fear of success score, such as the measure used in the tables. Means and standard deviations for all hypothesized effects on the attribution measures are presented in the text. The ANOVA summary tables for all measures are presented in Tables 3-12. Individual cell means and cell sizes are presented in Tables 13-20. Figures 1-8 represent the significant interactions. Summaries of significant results are presented in Table 1-2. The tables present an overall representation of the study's findings.

General Findings

In general, the hypotheses relating to main effect of fear of success, expectancy, and outcome in relation to the measures of internality and externality was confirmed. Subjects high in FOS made greater external attributions than subjects low in FOS. Subjects in expected conditions made greater internal attributions than subjects in the unexpected conditions, whereas subjects in unexpected conditions made greater external attributions than subjects in the expected conditions. There was no main effect of perspective on either internality and externality, self, male other, or female other did not affect attributions. There was no FOS by sex of subject interaction on the measures of internality and externality, and no interaction effect of FOS by outcome on the measures of internality and externality.

Overall, expectancy and outcome yielded significant

results on all the internal measures (see Table 1), and luck yielded significant results on all the independent variables of FOS, sex of subject, expectancy, perspective and outcome (see Table 2)

Although there were no significant sex differences between male and female subjects with regards to fear of success, female subjects didshow overall higher FOS than males, 53 7% of females were high in FOS, compared to 48 7% of males and 46 3% of females were low in FOS, compared to 50 4% of males Overall, 45 6% of the total number of subjects were high in FOS while 53 2% were low in FOS.

Table 1 Summary Table of Significant Findings: Measures of Internality

Measures	Internal	Ability	Effort	Study Method	Interest	Know
FOS (F)						
Sex of Ss (S)				.042		
Expect (E)	.001	.001	.007	.011	.001	.001
Perspec (P)						
Outcome (O)	.001	.001	.001	.001	.001	.001
F x S						
F x E						
F x P						
F x O						
S x E	.048				.022	
S x P						
S x O						
E x P						
E x O						
P x O		.040				
F x S x E						
F x S x P						
F x S x O						
F x E x O						
F x E x O						
F x P x O						
S x E x P						
S x P x O						
E x P x O						.046
F x S x E x P						
F x S x E x O						
F x S x P x O						
F x E x P x O						
S x E x P x O						
F x S x E x P x O						

$p < .05$

Table 2. Summary of Significant Findings: Measures of Externality

Measures	External	Task	Luck	Marking
FOS (F)	.001	.014	.001	
Sex of Ss (S)			.037	
Expect (E)	.001		.001	.001
Perspec (P)				
Outcome (O)	.004		.001	.001
F x S				
F x E				
F x P				
F x O		.039		
S x E				
S x P				
S x O				
E x P	.018			.003
E x O	.005	.001		
P x O				
F x S x E				
F x S x P				
F x S x O				
F x E x O				
F x E x O				
F x P x O				
S x E x P				
S x P x O				
E x P x O				
F x S x E x P				
F x S x E x O			.033	
F x S x P x O				
F x E x P x O				
S x E x P x O				
F x S x E x P x O				

$p < .05$

Hypothesized Main Effects

Effects of FOS

Hypothesis 1 was partially confirmed; there was a main effect of FOS on the measure of externality, but not on the measure of internality. Subjects high in FOS made greater external attributions than subjects low in FOS, F (1, 498) = 12.88, p = .001 (see Table 3). The overall means in external attributions were 4.31 (SD = 1.27, N = 283) for subjects high in FOS and 3.91 (SD = 1.26, N = 263) for subjects low in FOS.

FOS by Outcome Interactions

Hypothesis 2 failed to be confirmed; subjects low in FOS in general did not make greater internal attributions for success and greater external attributions for failure. There was, however, an interaction effect of FOS by outcome on the measure of task. Here, the effect of FOS on the measure of task was qualified by an interaction with outcome, F (1, 497) = 4.27, p = .039. Subjects high in FOS made greater task attributions under failure outcomes but not under success, (HSD = .63, $p < .05$), (see Figure 1). The overall means in task attributions were 4.65 (SD = 1.79, N = 130) for subjects low in FOS under success outcome, 4.55 (SD = 1.70, N = 132) for subjects low in FOS under failure outcome, 4.78 (SD = 1.62, N = 140) for subjects high in FOS under success outcome, 5.15 (SD = 1.46, N = 143) for subjects high in FOS under failure outcome.

FOS by Sex of Subject Interactions

Hypothesis 3 failed to be confirmed. There was no FOS by sex of subject interactions on any of the measures of internality or externality.

Effects of Expectancy

Hypothesis 4 was confirmed. There was a main effect of expectancy on the measures of externality and internality. Subjects in the expected condition made greater internal attributions than subjects in the unexpected condition, F (1, 498) = 43.22, p = .001 (see Table 3). The overall means were 5.50 (SD = 1.09, N = 281) for subjects in the expected condition and 4.89 (SD = 1.20, N = 268) for subjects in the unexpected condition.

Subjects in the unexpected condition made greater external attributions than subjects in the expected condition, F (1, 498) = 21.64, p = .001 (see Table 4). The overall means were 4.38 (SD = 1.31, N = 268) for subjects in the unexpected condition and 3.87 (SD = 1.20, N = 281) for subjects in the expected condition.

Effects of Perspective

Hypothesis 5 failed to be confirmed. There were no main effects of perspective on any of the measures. Subjects in the self or male other perspective did not make greater internal attributions than subjects in the female perspective, nor did subjects in the female other perspective, make greater external attributions than subjects in the self or male other perspective. There was

however, an interaction effect of expectancy by perspective on the measure of externality and a perspective by outcome interaction on the measure of ability. (These are dicussed in the section on unpredicted results)

Effects of Outcome

Hypothesis 6 was confirmed. Success subjects made greater internal attributions than failure subjects. Subjects in the success condition made greater internal attributions than subjects in the failure condition, F (1, 498) = 72.06, p = .001 (see Table 3). The overall means in internal attributions were 5.59 (SD = 1.18, N = 272) for subjects in the success condition and 4.82 (SD = 1.06, N = 277) for subjects in the failure condition.

Unpredicted Main Effects

Effects of FOS

There was also a main effect of FOS on the measures of task and luck. Subjects high in FOS made greater task attributions than subjects low in FOS, F (1, 497) = 6.07, p = .014 (see Table 7). The overall means in task attributions were 4.96 (SD = 1.55, N = 283) for subjects high in FOS and 4.60 (SD = 1.74, N = 262) for subjects low in FOS. Subjects high in FOS made greater luck attributions than subjects low in FOS, F (1, 498) = 12.79, p = .001 (see Table 8). The overall means in luck attributions were 3.36 (SD = 1.95, N = 283) for subjects high in FOS and 2.73 (SD = 1.84, N = 263) for subjects low

in FOS

Effects of Expectancy

There was a main effect of expectancy on the measures of ability, effort, luck, study method, interest and marking. Subjects in the expected condition made greater ability attributions than subjects in the unexpected condition, F (1, 496) = 44.77, p = .001 (see Table 5). The overall means were 4.95 (SD = 1.80, N = 280) for subjects in the expected condition and 3.98 (SD = 1.82, N = 267) for subjects in the unexpected condition. Subjects in the expected condition made greater effort attributions than subjects in the unexpected condition, F (1, 497) = 7.41, p = .007 (see Table 8). The overall means were 5.59 (SD = 1.60, N = 281) for subjects in the expected condition and 5.20 (SD = 1.72, N = 267) for subjects in the unexpected condition.

Subjects in the unexpected condition made greater luck attributions than subjects in expected condition, F (1, 498) = 24.49, p = .001 (see Table 8). The overall means were 3.47 (SD = 1.97, N = 268) for subjects in the unexpected condition and 2.65 (SD = 1.78, N = 281) for subjects in the expected condition

Subjects in the expected condition made greater study method attributions than subjects in the unexpected condition, F (1, 496) = 6.57, p = .011 (see Table 9). The overall means were 5.64 (SD = 1.52, N = 280) for subjects in the expected condition and 5.31 (SD = 1.54, N

= 267) for subjects in the unexpected outcome condition. Subjects in the expected outcome condition made greater interest attributions than subjects in the unexpected outcome condition, F (1, 498) = 15.17, p = .001 (see Table 10). The overall means were 5.41 (SD = 1.59, N = 281) for subjects in the expected outcome condition and 4.86 (SD = 1.79, N = 268) for subjects in the unexpected outcome condition.

Subjects in the unexpected condition made greater test marking attributions than subjects in the expected outcome condition, F (1, 494) = 11.17, p = .001 (see Table 11). The overall means were 4.76 (SD = 1.68, N = 267) for subjects in the unexpected outcome condition and 4.26 (SD = 1.75, N = 278) for subjects in expected outcome condition.

Subjects in the expected outcome condition made greater knowledge attributions than subjects in the unexpected outcome condition, F (1, 490) = 37.51, p = .001 (see Table 12). The overall means were 5.92 (SD = 1.34, N = 271) for subjects in the expected outcome condition and 5.13 (SD = 1.71, N = 260) for subjects in the unexpected outcome conditon.

Expectancy by Perspective Interactions

The main effect of expectancy on the measures externality and marking was qualified by an expectancy by perspective interaction. Subjects in the expected male other perspective condition made greater externality attributions than subjects in the unexpected condition, F(2,498) = 4.06, p = .018 (see Figure 2). Subjects in the

expected male other condition made greater external attributions than subjects in the unexpected male other condition (HSD = -91, $p < .05$). Subjects in the expected male other condition made greater external attributions than subjects in the self perspective condition (HSD = .61, $p < .05$), subjects in the expected male other condition made greater externality attributions than subjects in the unexpected female other condition (HSD = .-62, $p < .05$), subjects in the expected self condition made greater externality attributions than subjects in the unexpected male other condition (HSD = -73, $p < .05$). The overall means were 3.84 (SD = 1.13, $N = 93$) for subjects in the expected self condition, 3.66 (SD = 1.14, $N = 92$) for subjects in the expected male other condition, 4.09 (SD = 1.28, $N = 96$) for subjects in the expected female other condition, 4.27 for (SD = 1.33, $N = 82$) subjects in the unexpected self condition, 4.57 (SD = 1.31, $N = 93$) for subjects in the male other condition, and 4.28 (SD = 1.30, $N = 93$) for subjects in the female other condition. Subjects in the expected male other perspective also made greater marking attributions than subjects in the unexpected condition $F(2, 494) = 5.89$, $p = .003$ (see Figure 3). Subjects in the expected male other perspective condition made greater marking attributions than subjects in the unexpected male other condition (HSD = -1.05, $p < .05$), subjects in the expected male other condition made greater marking attributions than subjects

in the unexpected self condition (HSD = -1.13, $p < .05$). The overall means were 4.47 (SD = 1.77, N = 91) for subjects in the expected self condition, 3.79 (SD = 1.67, N = 91) for subjects in the expected male other condition, 4.53 (SD = 1.72, N = 96) for subjects in the female other perspective, 4.87 (SD = 1.74, N = 82) for subjects in the unexpected self condition, 4.95 (SD = 1.57, N = 92) for subjects in the unexpected male other condition, and 4.47 (SD = 1.72, N = 93) for subjects in the unexpected female other condition

Expectancy by Outcome Interactions

The main effects of expectancy and outcome on the measure of externality was qualified by an expectancy by outcome interaction. There was also an expectancy by outcome interaction on the measure of task. Subjects in the expected outcome condition made greater externality attributions than subjects in the unexpected outcome condition, $F(1, 498) = 7.92$, $p = .005$ (see Figure 4). Subjects in expected success condition made greater externality attributions than subjects in the unexpected success condition (HSD = .79, $p < .05$), subjects in the expected failure condition made greater externality attributions than subjects in the unexpected success condition (HSD = -1.18, $p < .05$) The overall means were 3.89 (SD = 1.30, N = 140) for subjects in the expected success condition, 3.85 (SD = 1.09, N = 141) for subjects in the expected failure condition, 4.68 (SD = 1.30, N = 132) for subjects in the unexpected success condition,

4.09 (SD = 1.27, N = 136) for subjects in the unexpected failure condition.

In the expectancy by outcome interaction on the measure of task, subjects in the expected success condition made greater task attributions than subjects in the unexpected success condition, F (1, 497) = 12.63, p = .001, (HSD = .71, p < .05), (see Table 5). The overall means were 4.37 (SD = 1.69, N = 140) for subjects in the expected success outcome conditon, 4.95 (SD = 1.57, N = 141) for subjects in the expected failure condition, 5.08 (SD = 1.63, N = 131) for subjects in the unexpected success condition, and 4.75 (SD = 1.67, N = 136) for subjects in the unexpected failure condition.

Sex of subject by expectancy interactions

There was a sex of subject by expectancy interaction on the measures of internality and interest, F (1,498) = 3.92, p = .048 (see Figure 6). Male subjects in the expected condition made greater internality attributions than male subjects in the unexpected condition (HSD = .43, p < .05), male subjects in the expected condition made greater internality attributions than female subjects in the unexpected condition (HSD = .48, p < .05), male subjects in the unexpected condition made greater internality attributions than female subjects in the expected condition (HSD = .70, p < .05), and female subjects in the expected condition made greater internality attributions than female subjects in the unexpected

condition (HSD = .75, $p < .05$). The overall means were 5.34 (SD = 1.09, N = 121) for male subjects in the expected condition, 4.92 (SD = 1.00, N = 105) for male subjects in the unexpected condition, 5.62 (SD = 1.08, N = 158) for female subjects in the expected condition, and 4.87 (SD = 1.32, N = 163) for female subjects in the unexpected condition.

In the sex of subject by expectancy interaction on the measure of interest, female subjects in the expected condition made greater interest attributions than female subjects in the unexpected condition, F (1, 498) = 5.29, p = .022, (HSD = .83, $p < .05$) (see Figure 7). The overall means were 5.59 (SD = 1.56, N = 158) for female subjects in the expected condition, 4.76 (SD = 1.87, N = 163) for female subjects in the unexpected condition, 5.16 (SD = 1.60, N = 121) for male subjects in the expected condition, and 5.02 (SD = 1.65, N = 105) for male subjects in the unexpected condition.

Effects of Perspective

Expectancy by Perspective Interactions

Subjects in the expected male other perspective condition made greater externality attributions than subjects in the unexpected condition, F (2, 498) = 4.06, p = .018 (see Figure 2). Subjects in the expected male other condition made greater external attributions than subjects in the self perspective condition (HSD = .61, $p <$ .05), subjects in the expected male other condition made greater externality attributions than subjects in the

unexpected female other condition (HSD = .62, $p < .05$), subjects in the expected self condition made greater externality attributions than subjects in the unexpected male other condition (HSD = .73, $p < .05$) (Overall means and standard deviations are reported in Effects of Expectancy)

Perspective by Outcome

Overall, subjects in self success condition made greater ability attributions than subjects in male other or female other condition, $F(2, 496) = 3.24$, $p = .040$ (see Figure 8). Subjects in the self success condition made greater ability attributions than subjects in the male other success condition (HSD = .76, $p < .05$), subjects in the self success condition made greater ability attributions than subjects in the male other failure condition (HSD = 1.75, $p < .05$), subjects in the self success condition made greater ability attributions than subjects in the female other failure condition (HSD = 1.87, $p < .05$), subjects in the self failure condition made greater ability attributions than subjects in the male other failure condition (HSD = -1.16, $p < .05$), subjects in the self failure outcome condition made greater ability attributions than subjects in the female other success condition (HSD = -1.34, $p < .05$), subjects in the male other success condition made greater ability attributions than subjects in the female other failure condition (HSD = 1.11, $p < .05$), and subjects in the female other success condition made greater ability attributions than subjects

in the male other success condition (HSD = 1 17, $p < .05$) (The overall means and standard deviations are reported in Effects of Outcome)

Effects of Outcome

There were unpredicted main effects of outcome on the measures of externality, ability, effort, luck, study method, interest, marking, and knowledge. Subjects in the success condition made greater external attributions than subjects in the failure condition, $F(1, 498) = 8.29$, $p = .004$ (see Table 4) The overall means were 4.27 (SD = 1 36, $N = 272$) for subjects in the success condition and 3 97 (SD = 1.18, $N = 277$) for subjects in the failure condition Subjects in the success condition made greater ablility attributions than subjects in the failure condition, $F(1, 496) = 92.70$, $p = .001$ (see Table 5). The overall means were 5 17 (SD = 1.66, $N = 272$) for subjects in the success condition and 3.78 (SD = 1.81, $N = 275$) for subjects in the failure condition. Subjects in the success condition made greater effort attributions than subjects in the failure condition, $F(1, 497) = 28.14$, $p = .001$ (see Table 6) The overall means were 5.77 (SD = 1.53, $N = 272$) for subjects in the success condition and 5 03 (SD = 1.72, $N = 276$) for subjects in the failure condition.

Subjects in success condition made greater luck attributions than subjects in the failure condition, $F(1, 498) = 13.48$, $p = .001$ (see Table 8) The overall means

were 3 35 (SD = 1.99, N = 272) for subjects in the success condition and 2 77 (SD = 1.80, N = 277) for subjects in the failure condition. Subjects in the success condition made greater study method attributions than subjects in the failure condition, F (1, 496) = 15 32, p = .001 (see Table 9) The overall means were 5.73 (SD = 1.55, N = 272) for subjects in the success condition and 5.23 (SD = 1.49, N = 275) for subjects in the failure condition. Subjects in success condition made greater interest attributions than subjects in the failure condition, F (1, 498) = 16.42, p = .001 (see Table 10) The overall means were 5.44 (SD = 1 67, N = 272) for subjects in the success conditon and 4 86 (SD = 1.70, N = 277) for subjects in the failure condition.

Subjects in the success condition made greater test marking attributions than subjects in the failure condition, F (1, 494) = 10.83, p = .001 (see Table 11). The overall means were 4.72 (SD = 1.72, N = 268) for subjects in the success condition and 4.28 (SD = 1.72, N = 277) for subjects in the failure condition. Subjects in the success condition made greater knowledge attributions than subjects in the failure condition, F (1, 480) = 26.62, p = .001 (see Table 12). The overall means were 5.86 (SD = 1 48, N = 261) for subjects in the success condition and 5 22 (SD = 1 62, N = 270) for subjects in the failure condition

Expectancy by outcome interactions

Subjects in the expected outcome condition made

greater externality attributions than subjects in the unexpected outcome condition, F (1, 498) = 7.92, p = .005 (see Figure 4). Subjects in the unexpected success condition made greater externality attributions than subjects in the unexpected failure condition, (HSD = .59, p < .05), subjects in the expected failure condition made greater externality attributions than subjects in the unexpected success condition (HSD = 1.18, p < .05). (The overall means and standard deviations are reported in Effects of Expectancy).

There was also an expectancy by outcome interaction on the measure of task. Subjects in the expected success condition made greater task attributions than subjects in the expected failure condition, F (1, 497) = 12.63, p = .001 (see Figure 5). Subjects in the expected success condition made greater task attributions than subjects in the expected failure condition (HSD = .60, p < .05). (The overall means and standard deviations are reported in Effects Expectancy)

Perspective by Outcome Interactions

The main effect of outcome on the measure of ability was qualified by a perspective by outcome interaction, F (2, 496) = 3.24, p = .040 (see Figure 8). Subjects in the self success condition made greater ability attributions than subjects in the self failure condition (HSD = 1.92, p < .05), subjects in the self success condition made greater ability attributions than subjects in the male

other failure condition (HSD = 1 75, $p < .05$), subjects in the self success condition made greater ability attributions than subjects in the female other failure condition (HSD = 1.87, $p < .05$), subjects in the self failure condition made greater ability attributions than subjects in the male other failure condition (HSD = −1.16, $p < .05$), subjects in the self failure condition made greater ability attributions than subjects in the female other success condition (HSD = −1 34, $p < .05$), subjects in the male other success condition made greater ability attributions than subjects in the male other failure condition (HSD = .99, $p < .05$), subjects in the male other success condition made greater ability attributions than subjects in the female other failure condition (HSD = 1.11, $p < .05$), subjects in the female other success condition made greater ability attributions than subjects in the male other success condition (HSD = 1 17, $p < .05$), subjects in the male other success condition made greater ability attributions than female subjects in the failure condition (HSD = 1 29, $p < .05$) The overall means were 5.63 (SD = 1.51, $N = 83$) for subjects in the self success condition, 3 71 (SD = 1.93, $N = 91$) for subjects in the self failure condition, 4.89 (SD = 1 80, $N = 95$) for subjects in the male other success condition, 3.88 (SD = 1.86, $N = 89$) for subjects in the male other failure condition, 5.05 (SD = 1 58, $N = 94$) for subjects in the female other success condition, 3 78 (SD = 1.66, $N = 95$) for subjects in the female other failure condition

Effects of Sex of Subject

There was a main effect of sex of subject on the measures of luck and study method. Female subjects made greater luck attributions than male subjects, F (1, 498) = 4 36, p = 037 (see Table 8) The overall means in luck attributions were 2: 93 (SD = 1 95, N = 321) for females and 3 23 (SD = 1.87, N = 226) for males. Female subjects also made greater study method attributions than male subjects, F (1, 496) = 4 15, p = 042 (see Table 12). The overall means in study method attributions were 5.57 (SD = 1.51, N = 320) for females and 5.33 (SD = 1.57, N = 225) for males.

Sex of subject by Expectancy Interactions

There was also a sex of subject by expectancy interaction on the measures of internality and interest, F (1, 498) = 3 92, p = 048 (see Figure 6). Male subjects in the expected condition made greater internality attributions than female subjects in the unexpected condition (HSD = 48, $p < .05$), male subjects in the unexpected condition made greater internality attributions than female subjects in the expected condition (HSD = .70, $p < .05$) (The overall means and standard deviations are reported in Effects of Expectancy)

Summary of results relating to the six hypotheses

Hypothesis 1 was partially confirmed. Subjects high in FOS made greater external attributions than subjects low in FOS. Subjects low in FOS however, did not make greater internal attributions than subjects high in FOS as

predicted

Hypothesis 2 was not confirmed There wasn't an interaction effect of FOS by outcome on the measures of internality and externality. Subjects low in FOS did not make greater internal attributions for success and greater external attributions for failure Subjects high in FOS did not make greater external attributions for success and greater internal attributions for failure.

Hypothesis 3 was not confirmed There was not a FOS by sex of subject interaction on the measures of internality and externality Male subjects low in FOS did not make greater internal attributions, male subjects high in FOS did not make greater external attributions. Female subjects low in FOS did not make greater external attributions, female subjects high in FOS did not make greater internal attributions

Hypothesis 4 was confirmed There was a main effect of expectancy on the measures of internality and externality Subjects in expected conditions made greater internal attributions than subjects in the unexpected condition, while subjects in the unexpected condition made greater external attributions than subjects in the expected condition.

Hypothesis 5 was not confirmed. There was no main effect of perspective on either internality and externality Subjects in the self or male other perspective, did not make greater internal attributions than subjects in the female other perspective. Subjects in

the female other perspective, did not make greater external attributions than subjects in the self or male other perspective

Hypothesis 6 was confirmed. There was a main effect of outcome on the measures of internality and externality. Subjects in the success condition made greater internal attributions than subjects in a failure condition. Subjects in the failure condition made greater external attributions than subjects in a success condition.

TABLE 3 ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE. INTERNALITY

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS	.038	1	.038	.033	.856
SEX	2.543	1	2.543	2.198	.139
EXPECT	50.177	1	50.177	43.224	.001
PERSPEC	4.236	2	2.118	1.825	.162
OUTCOME	83.656	1	83.656	72.044	.001
FOS SEX	.072	1	.072	.062	.804
FOS EXPECT	1.467	1	1.467	1.264	.261
FOS PERSPEC	3.256	2	1.628	1.403	.247
FOS OUTCOME	.550	1	.550	.473	.492
SEX EXPECT	4.553	1	4.553	3.922	.048
SEX PERSPEC	.177	2	.089	.076	.927
SEX OUTCOME	3.362	1	3.362	2.896	.089
EXPECT PERSPEC	4.108	2	2.054	1.769	.171
EXPECT OUTCOME	1.587	1	1.587	1.367	.243
PERSPEC OUTCOME	2.768	2	1.384	1.192	.304
FOS SEX EXPECT	2.037	1	2.037	1.754	.186
FOS SEX PERSPEC	.771	2	.385	.332	.718
FOS SEX OUTCOME	.354	1	.354	.305	.581
FOS EXPECT PERSPEC	4.488	2	2.244	1.933	.146
FOS EXPECT OUTCOME	.451	1	.451	.389	.533
FOS PERSPEC OUTCOME	1.597	2	.798	.688	.503
SEX EXPECT PERSPEC	4.557	2	2.278	1.963	.142
SEX EXPECT OUTCOME	2.110	1	2.110	1.818	.178
SEX PERSPEC OUTCOME	2.470	2	1.235	1.064	.346
EXPECT PERSPEC OUTCOME	3.972	2	1.986	1.711	.182
FOS SEX PERSPEC EXPECT	1.051	2	.525	.453	.636
FOS SEX OUTCOME EXPECT	.754	1	.754	.649	.421
FOS SEX OUTCOME PERSPEC	2.228	2	1.114	.960	.384
FOS EXPECT OUTCOME PERSPEC	5.510	2	2.755	2.373	.094
SEX EXPECT OUTCOME PERSPEC	1.825	2	.912	.786	.456
FOS SEX PERSPEC EXPECT OUTCOME	.358	2	.179	.154	.857
ERROR	578.109	498	1.161		

TABLE 4 ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE EXTERNALITY)

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			19.748	1	19.748	12.881	.001
SEX			.390	1	.390	.255	.614
EXPECT			33.186	1	33.186	21.645	.001
PERSPEC			1.013	2	.506	.330	.719
OUTCOME			12.711	1	12.711	8.291	.004
FOS	SEX		1.850	1	1.850	1.207	.273
FOS	EXPECT		1.323	1	1.323	.863	.353
FOS	PERSPEC		.563	2	.282	.184	.832
FOS	OUTCOME		2.416	1	2.416	1.576	.210
SEX	EXPECT		1.431	1	1.431	.933	.335
SEX	PERSPEC		3.378	2	1.689	1.102	.333
SEX	OUTCOME		.048	1	.048	.031	.860
EXPECT	PERSPEC		12.460	2	6.230	4.064	.018
EXPECT	OUTCOME		12.146	1	12.146	7.922	.005
PERSPEC	OUTCOME		3.723	2	1.861	1.214	.298
FOS	SEX	EXPECT	.293	1	.293	.191	.662
FOS	SEX	PERSPEC	3.975	2	1.987	1.296	.274
FOS	SEX	OUTCOME	4.618	1	4.618	3.012	.083
FOS	EXPECT	PERSPEC	1.153	2	.577	.376	.687
FOS	EXPECT	OUTCOME	1.043	1	1.043	.680	.410
FOS	PERSPEC	OUTCOME	3.552	2	1.776	1.158	.315
SEX	EXPECT	PERSPEC	.720	2	.360	.235	.791
SEX	EXPECT	OUTCOME	.168	1	.168	.110	.741
SEX	PERSPEC	OUTCOME	4.339	2	2.169	1.415	.244
EXPECT	PERSPEC	OUTCOME	1.930	2	.965	.629	.533
FOS	SEX PERSPEC	EXPECT	1.889	2	.945	.616	.540
FOS	SEX OUTCOME	EXPECT	.587	1	.587	.383	.536
FOS	SEX OUTCOME	PERSPEC	1.837	2	.918	.599	.550
FOS	EXPECT OUTCOME	PERSPEC	.103	2	.051	.033	.967
SEX	EXPECT OUTCOME	PERSPEC	1.145	2	.572	.373	.689
FOS	SEX PERSPEC	EXPECT OUTCOME	2.914	2	1.457	.950	.387
ERROR			763.517	498	1.533		

TABLE 5. ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE OF ABILITY)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS	.405	1	.405	.144	.704
SEX	2.607	1	2.607	.928	.336
EXPECT	125.718	1	125.718	44.771	.001
PERSPEC	7.180	2	3.590	1.279	.279
OUTCOME	260.306	1	260.306	92.701	.001
FOS SEX	4.781	1	4.781	1.703	.193
FOS EXPECT	1.946	1	1.946	.693	.406
FOS PERSPEC	.084	2	.042	.015	.985
FOS OUTCOME	.421	1	.421	.150	.699
SEX EXPECT	6.225	1	6.225	2.217	.137
SEX PERSPEC	.720	2	.360	.128	.880
SEX OUTCOME	8.618	1	8.618	3.069	.080
EXPECT PERSPEC	6.335	2	3.167	1.128	.325
EXPECT OUTCOME	2.091	1	2.091	.745	.389
PERSPEC OUTCOME	18.248	2	9.124	3.249	.040
FOS SEX EXPECT	4.054	1	4.054	1.444	.230
FOS SEX PERSPEC	6.956	2	3.478	1.239	.291
FOS SEX OUTCOME	.046	1	.046	.016	.898
FOS EXPECT PERSPEC	2.819	2	1.409	.502	.606
FOS EXPECT OUTCOME	1.779	1	1.779	.634	.426
FOS PERSPEC OUTCOME	1.514	2	.757	.270	.764
SEX EXPECT PERSPEC	.970	2	.485	.173	.841
SEX EXPECT OUTCOME	.025	1	.025	.009	.925
SEX PERSPEC OUTCOME	16.010	2	8.005	2.851	.059
EXPECT PERSPEC OUTCOME	12.809	2	6.405	2.281	.103
FOS SEX EXPECT PERSPEC	1.379	2	.690	.246	.782
FOS SEX EXPECT OUTCOME	4.046	1	4.046	1.441	.231
FOS SEX PERSPEC OUTCOME	2.232	2	1.116	.397	.672
FOS EXPECT PERSPEC OUTCOME	5.237	2	2.619	.933	.394
SEX EXPECT PERSPEC OUTCOME	10.283	2	5.142	1.831	.161
FOS SEX EXPECT PERSPEC OUTCOME	12.859	2	6.429	2.290	.102
ERROR	1392.775	496	2.808		

TABLE 6. ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE OF EFFORT)

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			.068	1	.068	.025	.874
SEX			.055	1	.055	.020	.887
EXPECT			20.120	1	20.120	7.411	.007
PERSPEC			4.703	2	2.351	.866	.421
OUTCOME			76.399	1	76.399	28.142	.001
FOS	SEX		1.627	1	1.627	.599	.439
FOS	EXPECT		1.700	1	1.700	.626	.429
FOS	PERSPEC		7.229	2	3.614	1.331	.265
FOS	OUTCOME		.085	1	.085	.031	.860
SEX	EXPECT		3.603	1	3.603	1.327	.250
SEX	PERSPEC		8.358	2	4.179	1.539	.216
SEX	OUTCOME		.349	1	.349	.128	.720
EXPECT	PERSPEC		.556	2	.278	.102	.903
EXPECT	OUTCOME		.001	1	.001	.000	.988
PERSPEC	OUTCOME		1.184	2	.592	.218	.804
FOS	SEX	EXPECT	.099	1	.099	.036	.849
FOS	SEX	PERSPEC	5.471	2	2.736	1.008	.366
FOS	SEX	OUTCOME	1.065	1	1.065	.392	.531
FOS	EXPECT	PERSPEC	14.756	2	7.378	2.718	.067
FOS	EXPECT	OUTCOME	.819	1	.819	.302	.583
FOS	PERSPEC	OUTCOME	.389	2	.195	.072	.931
SEX	EXPECT	PERSPEC	2.095	2	1.048	.386	.680
SEX	EXPECT	OUTCOME	.250	1	.250	.092	.762
SEX	PERSPEC	OUTCOME	.537	2	.269	.099	.906
EXPECT	PERSPEC	OUTCOME	1.752	2	.876	.323	.724
FOS	SEX PERSPEC	EXPECT	1.662	2	.831	.306	.736
FOS	SEX OUTCOME	EXPECT	3.661	1	3.661	1.349	.246
FOS	SEX OUTCOME	PERSPEC	5.893	2	2.946	1.085	.339
FOS	EXPECT OUTCOME	PERSPEC	4.633	2	2.316	.853	.427
SEX	EXPECT OUTCOME	PERSPEC	14.031	2	7.016	2.584	.076
FOS	SEX PERSPEC	EXPECT OUTCOME	4.203	2	2.101	.774	.462
ERROR			1349.220	497	2.715		

TABLE 7. ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE OF TASK EASE OR DIFFICULTY)

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			16.287	1	16.287	6.076	.014
SEX			3.037	1	3.037	1.133	.288
EXPECT			5.848	1	5.848	2.182	.140
PERSPEC			3.714	2	1.857	.693	.501
OUTCOME			2.771	1	2.771	1.034	.310
FOS	SEX		.022	1	.022	.008	.928
FOS	EXPECT		.046	1	.046	.017	.896
FOS	PERSPEC		1.183	2	.592	.221	.802
FOS	OUTCOME		11.458	1	11.458	4.275	.039
SEX	EXPECT		.131	1	.131	.049	.825
SEX	PERSPEC		.548	2	.274	.102	.903
SEX	OUTCOME		.390	1	.390	.145	.703
EXPECT	PERSPEC		13.807	2	6.904	2.576	.077
EXPECT	OUTCOME		33.874	1	33.874	12.638	.001
PERSPEC	OUTCOME		12.145	2	6.073	2.266	.105
FOS	SEX	EXPECT	.232	1	.232	.086	.769
FOS	SEX	PERSPEC	3.420	2	1.710	.638	.529
FOS	SEX	OUTCOME	6.972	1	6.972	2.601	.107
FOS	EXPECT	PERSPEC	1.137	2	.569	.212	.809
FOS	EXPECT	OUTCOME	2.191	1	2.191	.817	.366
FOS	PERSPEC	OUTCOME	3.945	2	1.973	.736	.480
SEX	EXPECT	PERSPEC	1.368	2	.684	.255	.775
SEX	EXPECT	OUTCOME	.092	1	.092	.034	.853
SEX	PERSPEC	OUTCOME	9.064	2	4.532	1.691	.185
EXPECT	PERSPEC	OUTCOME	6.108	2	3.054	1.139	.321
FOS	SEX PERSPEC	EXPECT	2.752	2	1.376	.513	.599
FOS	SEX OUTCOME	EXPECT	.014	1	.014	.005	.942
FOS	SEX OUTCOME	PERSPEC	2.633	2	1.317	.491	.612
FOS	EXPECT OUTCOME	PERSPEC	1.790	2	.895	.334	.716
SEX	EXPECT OUTCOME	PERSPEC	7.493	2	3.747	1.398	.248
FOS	SEX PERSPEC	EXPECT OUTCOME	6.126	2	3.063	1.143	.320
ERROR			1332.112	497	2.680		

TABLE 8 ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE: LUCK)

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			42.982	1	42.982	12.790	.001
SEX			14.662	1	14.662	4.363	.037
EXPECT			82.305	1	82.305	24.499	.001
PERSPEC			13.723	2	6.861	2.042	.131
OUTCOME			45.163	1	45.163	13.438	.001
FOS	SEX		6.049	1	6.049	1.800	.180
FOS	EXPECT		6.575	1	6.575	1.956	.163
FOS	PERSPEC		.896	2	.448	.133	.875
FOS	OUTCOME		.359	1	.359	.107	.744
SEX	EXPECT		11.136	1	11.136	3.313	.069
SEX	PERSPEC		2.701	2	1.351	.402	.669
SEX	OUTCOME		.089	1	.089	.026	.871
EXPECT	PERSPEC		2.732	2	1.366	.406	.666
EXPECT	OUTCOME		3.838	1	3.838	1.142	.286
PERSPEC	OUTCOME		6.887	2	3.443	1.025	.360
FOS	SEX	EXPECT	2.760	1	2.760	.821	.365
FOS	SEX	PERSPEC	4.036	2	2.018	.600	.549
FOS	SEX	OUTCOME	1.253	1	1.253	.373	.542
FOS	EXPECT	PERSPEC	5.418	2	2.709	.806	.447
FOS	EXPECT	OUTCOME	3.428	1	3.428	1.020	.313
FOS	PERSPEC	OUTCOME	13.505	2	6.752	2.009	.135
SEX	EXPECT	PERSPEC	6.934	2	3.467	1.032	.357
SEX	EXPECT	OUTCOME	6.480	1	6.480	1.928	.166
SEX	PERSPEC	OUTCOME	11.712	2	5.856	1.742	.176
EXPECT	PERSPEC	OUTCOME	.088	2	.044	.013	.987
FOS	SEX PERSPEC	EXPECT	4.750	2	2.375	.707	.494
FOS	SEX OUTCOME	EXPECT	15.366	1	15.366	4.572	.033
FOS	SEX OUTCOME	PERSPEC	14.780	2	7.390	2.199	.112
FOS	EXPECT OUTCOME	PERSPEC	6.037	2	3.018	.898	.408
SEX	EXPECT OUTCOME	PERSPEC	3.253	2	1.626	.484	.617
FOS	SEX PERSPEC	EXPECT OUTCOME	4.794	2	2.397	.713	.491
ERROR			1673.648	498	3.361		

TABLE 9 ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE STUDY METHOD)

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			1 079	1	1.079	.466	49
SEX			9.623	1	9.623	4 158	.042
EXPECT			15.206	1	15.206	6.571	011
PERSPEC			7.129	2	3.565	1.540	.215
OUTCOME			35.472	1	35 472	15.328	.001
FOS	SEX		1.161	1	1.161	.502	.479
FOS	EXPECT		.026	1	026	.011	.916
FOS	PERSPEC		1.419	2	.709	.306	.736
FOS	OUTCOME		908	1	.908	.392	.531
SEX	EXPECT		.625	1	.625	.270	.603
SEX	PERSPEC		1.487	2	.743	.321	.725
SEX	OUTCOME		7.739	1	7.739	3.344	.068
EXPECT	PERSPEC		3 418	2	1.709	.738	.478
EXPECT	OUTCOME		.283	1	.283	.122	.727
PERSPEC	OUTCOME		.692	2	.346	.150	.861
FOS	SEX	EXPECT	046	1	.046	.020	.888
FOS	SEX	PERSPEC	5.457	2	2.728	1.179	308
FOS	SEX	OUTCOME	.030	1	.030	.013	.910
FOS	EXPECT	PERSPEC	2.738	2	1.369	.592	.554
FOS	EXPECT	OUTCOME	1.327	1	1.327	573	.449
FOS	PERSPEC	OUTCOME	6.697	2	3.349	1.447	.236
SEX	EXPECT	PERSPEC	13.182	2	6.591	2.848	.059
SEX	EXPECT	OUTCOME	7.997	1	7.997	3 456	.064
SEX	PERSPEC	OUTCOME	6 512	2	3.256	1.407	.246
EXPECT	PERSPEC	OUTCOME	5.517	2	2.759	1.192	.304
FOS	SEX PERSPEC	EXPECT	2.188	2	1.094	.473	.624
FOS	SEX OUTCOME	EXPECT	.289	1	.289	125	.724
FOS	SEX OUTCOME	PERSPEC	.574	2	.287	.124	.883
FOS	EXPECT OUTCOME	PERSPEC	6.974	2	3.487	1.507	.223
SEX	EXPECT OUTCOME	PERSPEC	149	2	.075	032	.968
FOS	SEX PERSPEC	EXPECT OUTCOME	.243	2	.122	.053	.949
ERROR			1147.854	496	2.314		

TABLE 10. ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE: INTEREST)

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			2.246	1	2.246	.808	.369
SEX			.708	1	.708	.255	.614
EXPECT			42.180	1	42.180	15.171	.001
PERSPEC			3.781	2	1.891	.680	.507
OUTCOME			45.656	1	45.656	16.421	.001
FOS	SEX		.190	1	.190	.068	.794
FOS	EXPECT		5.361	1	5.361	1.928	.166
FOS	PERSPEC		9.984	2	4.992	1.795	.167
FOS	OUTCOME		.310	1	.310	.112	.738
SEX	EXPECT		14.714	1	14.714	5.292	.022
SEX	PERSPEC		1.682	2	.841	.303	.739
SEX	OUTCOME		1.573	1	1.573	.566	.452
EXPECT	PERSPEC		4.301	2	2.151	.773	.462
EXPECT	OUTCOME		6.054	1	6.054	2.177	.141
PERSPEC	OUTCOME		.820	2	.410	.147	.863
FOS	SEX	EXPECT	6.452	1	6.452	2.321	.128
FOS	SEX	PERSPEC	.516	2	.258	.093	.911
FOS	SEX	OUTCOME	.085	1	.085	.031	.861
FOS	EXPECT	PERSPEC	11.941	2	5.970	2.147	.118
FOS	EXPECT	OUTCOME	1.264	1	1.264	.455	.500
FOS	PERSPEC	OUTCOME	552	2	.276	.099	.905
SEX	EXPECT	PERSPEC	14.983	2	7.492	2.694	.069
SEX	EXPECT	OUTCOME	5.677	1	5.677	2.042	.154
SEX	PERSPEC	OUTCOME	817	2	.408	.147	.863
EXPECT	PERSPEC	OUTCOME	2.185	2	1.093	.393	.675
FOS	SEX PERSPEC	EXPECT	10.123	2	5.061	1.820	.163
FOS	SEX OUTCOME	EXPECT	.481	1	.481	.173	.678
FOS	SEX OUTCOME	PERSPEC	15.731	2	7.866	2.829	.060
FOS	EXPECT OUTCOME	PERSPEC	7.159	2	3.580	1.288	.277
SEX	EXPECT OUTCOME	PERSPEC	.005	2	.002	.001	.999
FOS	SEX PERSPEC	EXPECT OUTCOME	.467	2	.233	.084	.920
ERROR			1384.590	498	2.780		

ANALYSIS OF VARIANCE FOR FOS SEX OF SUBJECT EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE: TEST MARKING

SOURCE OF VARIATION			SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS			7.909	1	7.909	2.763	.097
SEX			.048	1	.048	.017	.897
EXPECT			31.991	1	31.991	11.177	.001
PERSPEC			10.051	2	5.026	1.756	.174
OUTCOME			31.025	1	31.025	10.839	.001
FOS	SEX		2.942	1	2.942	1.028	.311
FOS	EXPECT		1.148	1	1.148	.401	.527
FOS	PERSPEC		2.845	2	1.423	.497	.609
FOS	OUTCOME		.426	1	.426	.149	.700
SEX	EXPECT		.018	1	.018	.006	.938
SEX	PERSPEC		12.529	2	6.264	2.189	.113
SEX	OUTCOME		.983	1	.983	.343	.558
EXPECT	PERSPEC		33.717	2	16.859	5.890	.003
EXPECT	OUTCOME		6.888	1	6.888	2.407	.121
PERSPEC	OUTCOME		3.535	2	1.767	.617	.540
FOS	SEX	EXPECT	.172	1	.172	.060	.806
FOS	SEX	PERSPEC	11.872	2	5.936	2.074	.127
FOS	SEX	OUTCOME	7.643	1	7.643	2.670	.103
FOS	EXPECT	PERSPEC	4.220	2	2.110	.737	.479
FOS	EXPECT	OUTCOME	.071	1	.071	.025	.875
FOS	PERSPEC	OUTCOME	1.605	2	.803	.280	.756
SEX	EXPECT	PERSPEC	.093	2	.047	.016	.984
SEX	EXPECT	OUTCOME	2.714	1	2.714	.948	.331
SEX	PERSPEC	OUTCOME	2.839	2	1.420	.496	.609
EXPECT	PERSPEC	OUTCOME	3.424	2	1.712	.598	.550
FOS	SEX PERSPEC	EXPECT	1.740	2	.870	.304	.738
FOS	SEX OUTCOME	EXPECT	2.323	1	2.323	.812	.368
FOS	SEX OUTCOME	PERSPEC	3.127	2	1.564	546	.579
FOS	EXPECT OUTCOME	PERSPEC	6.845	2	3.423	1.196	.303
SEX	EXPECT OUTCOME	PERSPEC	7.439	2	3.719	1.299	.274
FOS	SEX PERSPEC	EXPECT OUTCOME	5.317	2	2.658	.929	.396
ERROR			1413.986	494	2.862		

TABLE 12. ANALYSIS OF VARIANCE FOR FOS, SEX OF SUBJECT, EXPECTANCY, PERSPECTIVE AND OUTCOME (DEPENDENT MEASURE: KNOWLEDGE)

SOURCE OF VARIATION	SUM OF SQUARES	DF	MEAN SQUARE	F	SIGNIF OF F
FOS	4.815	1	4.815	2.194	.139
SEX	3.897	1	3.897	1.776	.183
EXPECT	82.320	1	82.320	37.510	.001
PERSPEC	11.138	2	5.569	2.538	.080
OUTCOME	58.438	1	58.438	26.628	.001
FOS SEX	.011	1	.011	.005	.945
FOS EXPECT	.731	1	.731	.333	.564
FOS PERSPEC	7.388	2	3.694	1.683	.187
FOS OUTCOME	1.926	1	1.926	.878	.349
SEX EXPECT	1.815	1	1.815	.827	.364
SEX PERSPEC	3.009	2	1.504	.685	.504
SEX OUTCOME	2.942	1	2.942	1.341	.248
EXPECT PERSPEC	8.410	2	4.205	1.916	.148
EXPECT OUTCOME	2.901	1	2.901	1.322	.251
PERSPEC OUTCOME	6.586	2	3.293	1.501	.224
FOS SEX EXPECT	4.164	1	4.164	1.897	.169
FOS SEX PERSPEC	2.348	2	1.174	.535	.586
FOS SEX OUTCOME	4.059	1	4.059	1.849	.175
FOS EXPECT PERSPEC	4.430	2	2.215	1.009	.365
FOS EXPECT OUTCOME	.311	1	.311	.142	.707
FOS PERSPEC OUTCOME	2.129	2	1.065	.485	.616
SEX EXPECT PERSPEC	7.565	2	3.782	1.723	.180
SEX EXPECT OUTCOME	2.598	1	2.598	1.184	.277
SEX PERSPEC OUTCOME	8.686	2	4.343	1.979	.139
EXPECT PERSPEC OUTCOME	13.610	2	6.805	3.101	.046
FOS SEX EXPECT PERSPEC	4.759	2	2.380	1.084	.339
FOS SEX EXPECT OUTCOME	.000	1	.000	.000	.991
FOS SEX PERSPEC OUTCOME	6.227	2	3.113	1.419	.243
FOS EXPECT PERSPEC OUTCOME	7.292	2	3.646	1.661	.191
SEX EXPECT PERSPEC OUTCOME	.489	2	.244	.111	.895
FOS SEX EXPECT PERSPEC OUTCOME	.763	2	.381	.174	.840
ERROR	1053.431	480	2.195		

Table 13 Means and Cell Sizes for Attribution Measures (Low FOS Males who Succeed)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=13)	M (n=4)	M (n=12)	M (n=8)	M (n=11)	M (n=6)
Intern	5 54	4 20	5 68	5.57	5.20	5.23
Extern	3 97	4 33	3 50	4.58	4.97	3.94
Ability	5.38	3.25	5 33	5.63	4.27	4.00
Effort	5.92	5.00	6.17	5 13	5.82	6.00
Task	4 85	3 75	4.00	4.88	5.73	4.67
Luck	2 92	4.75	2 42	2.88	4.00	2.83
Method	5 08	4.50	5.67	5.50	5.09	5.50
Interest	5 15	4.50	5 08	5.88	5.27	5.50
Marking	4.15	4 50	4.08	6.00	5.18	4.33
Knowledge	6 15	3.75	6.17	5.75	5.55	5.17

Table 14 Means and Cell Sizes for Attribution Measures (Low FOSS Males who Fail)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=11)	M (n=7)	M (n=14)	M (n=9)	M (n=9)	M (n=10)
Intern	5.02	5 57	5 15	4.29	4 62	4.58
Extern	3 76	3' 14	3.71	3.67	3.44	3.70
Ability	4 00	4 86	3.86	3.22	2.89	3.50
Effort	4 73	5 43	5 86	4.89	4.89	5.20
Task	4 18	3 57	5 50	4 00	3 89	4.10
Luck	2 09	2.29	2 14	3.00	2.33	3.20
Method	5.40*	5.57	5.71	4.44	5.00	4.90
Interest	5.36	5 86	4.79	4.11	4.67	4.60
Marking	5 00	3.57	3 50	4.00	4 11	3.80
Knowledge	6 00*	6 14	5.54*	4.78	5.67	4.70

* n-1

Table 15 Means and Cell Sizes for Attribution Measures
(High FOSS Male who Succeed)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=10)	M (n=7)	M (n=16)	M (n=8)	M (n=12)	M (n=7)
Intern	6 23	4 91	5 66	5 21	5 18	5 71
Extern	4 20	4 05	4 17	5 29	4 46	4 24
Ability	6 30	4 57	5 38	4 50	4.42	5.00
Effort	6 20	5 29	5 88	5 63	5 17	6 29
Task	4 10	5 00	4 25	5 00	4 92	4.57
Luck	3 60	3 29	3 75	5 25	3 75	3 14
Method	6 30	4 29	5.88	5 13	5 58	6.00
Interest	6 00	5 00	5.19	5.25	5.67	5 29
Marking	4 90	3 86	4 50	5 63	4.64*	5 00
Knowledge	6 44*	5 43	6 07*	5.57*	5.08	6.00

* n=1

Table 16 Means and Cell Sizes for Attribution Measures (High FOSS Male who Fail)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=5)	M (n=10)	M (n=11)	M (n=5)	M (n=7)	M (n=13)
Intern	5 20	5 00	5 02	5 20	4.29	4 40
Extern	4 13	3 77	5 09	4.20	4.95	4.31
Ability	2 80	5 20	4.27	3.80	4 29	3.31
Effort	5 40	4 80	4 73	6.00	4.00	4.92
Task	5.20	4 60	6 00	5 00	5.29	5.00
Luck	2 40	3 20	4 00	2.40	4.00	4.00
Method	6 00	5 10	5 45	5.80	5.00	4.85
Interest	6 00	4 30	5 36	5 00	4 14	4 85
Marking	4 80	3 50	5 27	5 20	5 57	3.92
Knowledge	5 80	5 60	5 20*	5.40	4 17*	4.08

* n-1

Table 17 Means and Cell Sizes For Attribution Measures (Low FOSS Female who Succeed)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=12)	M (n=20)	M (n=5)	M (n=10)	M (n=11)	M (n=19)
Intern	6 02	6 06	6 76	5.93	5.46	4.72
Extern	3 33	3 45	3.67	4.57	4.64	4.75
Ability	6.08	5.65	6.40	5.50	4.82	4.16
Effort	6 00	6 15	7 00	5 80	5.64	5.00
Task	3 50	4 40	4 60	5.00	5.00*	5.00
Luck	1 92	2 15	1 40	3.60	4.00	4.32
Method	6 08	6 05	6 40	6.30	5.64	5.37
Interest	5 33	6 10	7.00	5.70	5.36	4.05
Marking	4 58	3 80	5 00	5.10	4.82	4.95
Knowledge	6 73*	6 35	7 00	6.33*	5.90*	5.06*

* n-1

Table 18 Means and Cell Sizes for Attribution Measures (Low FOSS Female who Fail)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=19)	M (n=11)	M (n=14)	M (n=13)	M (n=5)	M (n=10)
Intern	5 14	5 15	5 59	4.46	4.31	4.23
Extern	3.49	3 36	4 19	3.59	4 27	4.07
Ability	4 33*	4.55	4 93	3.00	3.50*	3.10
Effort	5 53	4 55	5 21	4 69	6.25*	4.10
Task	4 95	4 18	5 50	4.31	4.60	4.50
Luck	1 89	2.09	2 36	2.31	3.40	2 60
Method	5.00	5 27	5 86	5.15	4.80	5.50
Interest	5 11	5 36	5.79	4.38	4.00	3.70
Marking	3 63	3.82	4 71	4.15	4 80	5.10
Knowledge	5 68	6 00	6 14	5.08	4.00	4.78*

* n-1

Table 19 Means and Cell Sizes for Attribution Measures (High Foss Female who Succeed)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=12)	M (n=12)	M (n=16)	M (n=10)	M (n=17)	M (n=13)
Intern	6 20	5 73	6 13	5 60	5 19	5 65
Extern	4 29	3 69	4 31	4 80	4.84	4 56
Ability	5.75	5 42	5 94	5 60	4 82	4 62
Effort	6 33	5.92	5.69	6.00	5.18	6.00
Task	4 67	4 25	4 88	5 80	5 06	5.00
Luck	3 25.	2 75	3 25	3 20	4.06	3.85
Method	6 17	6 25	6 38	5 40	5.65	6 00
Interest	6 25	5 50	5.94	5 40	5 00	5.77
Marking	5 10*	4 00*	4 81	5.40	5.41	4.85
Knowledge	6 55*	5.45*	6 73*	5 56*	5 29	5.85

* n-1

Table 20 Means and Cell Sizes for Attribution Measures (High Ross Female who Fail)

	Expected			Unexpected		
Perspect	Self	Male Other	Female Other	Self	Male Other	Female Other
Measure	M (n=11)	M (n=20)	M (n=6)	M (n=19)	M (n=21)	M (n=15)
Intern	4.85	5 20	4 97	4 82	4 16	4 48
Extern	4 00	3 85	3 67	4 05	4.60	4.11
Ability	4 55	4 10	3.67	3.42	2.71	3 27
Effort	5 09	5 35	5 50,	5.05	4 76	4 67
Task	5 45	4 95	4 83	5 00	5 24	5.20
Luck	2 00	2 75	2 00	2.68	3 71	3 27
Method	4.82	5 65	5 17	5.42	4.65*	5 20
Interest	4 91	5.35	4.67	4.89	4.57	4 40
Marking	4 55	3 85	4 17	4 47	4.86	3.87
Knowledge	4.91	5.63*	5 83	5.32	4.14	4 86*

* n-1

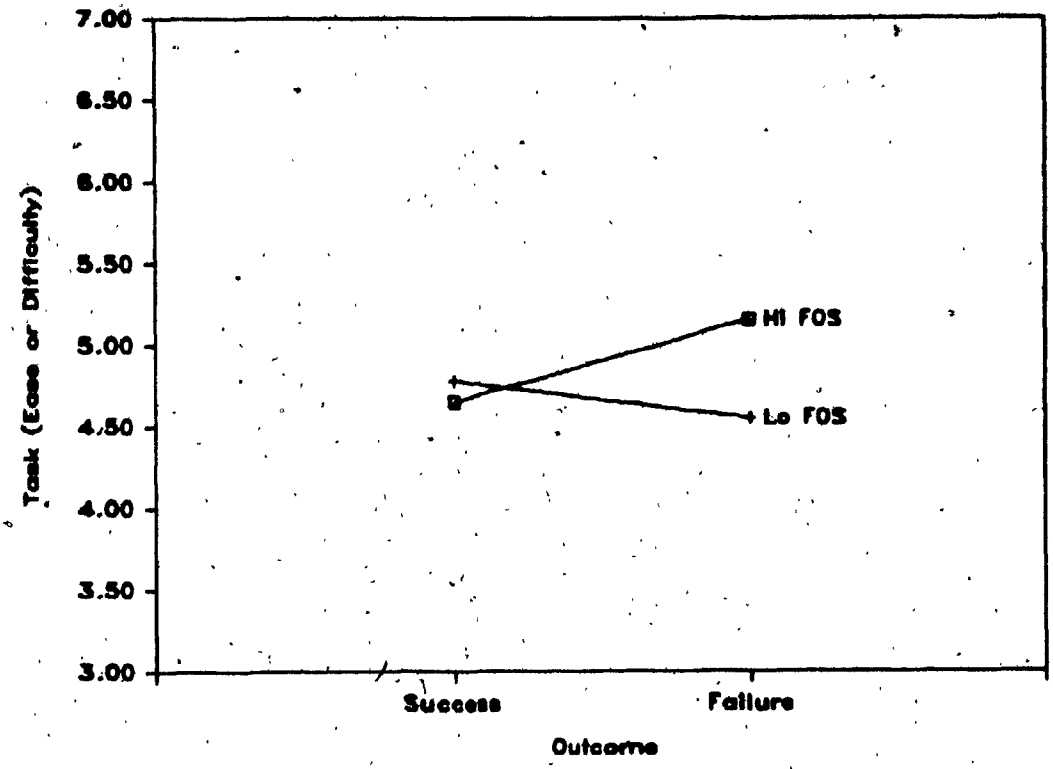

Figure 1. Outcome by FOS Interaction on the Measure of Task.

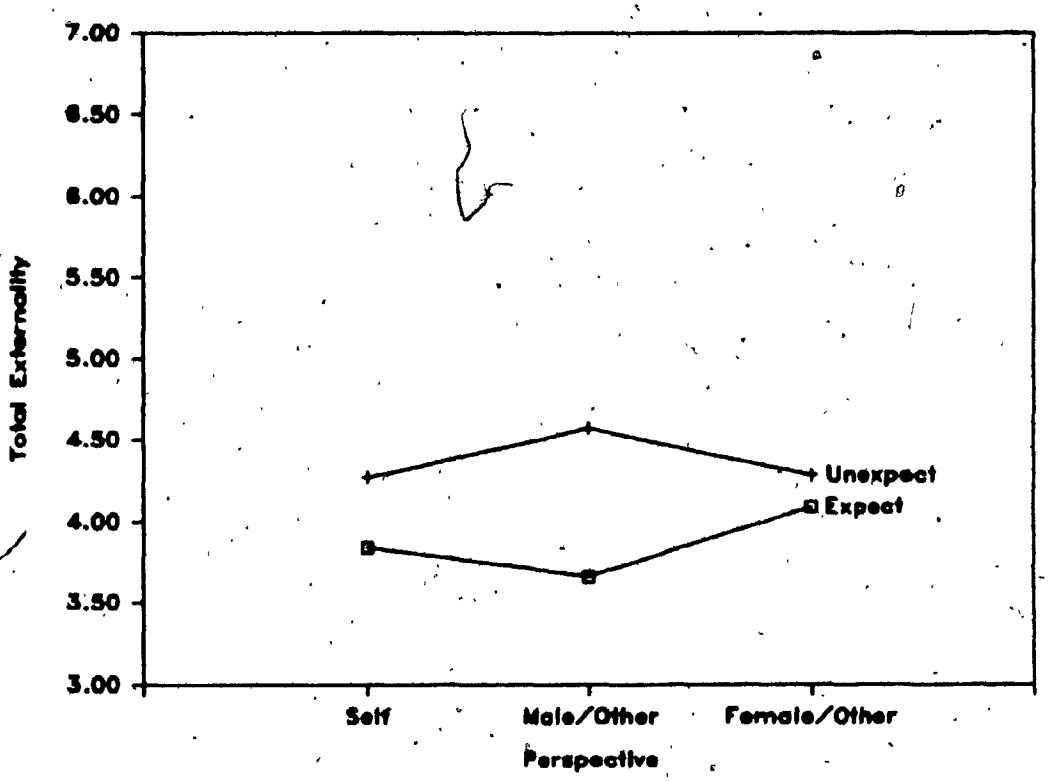

Figure 2. Expectancy by Perspective Interaction on the Measure of Externality.

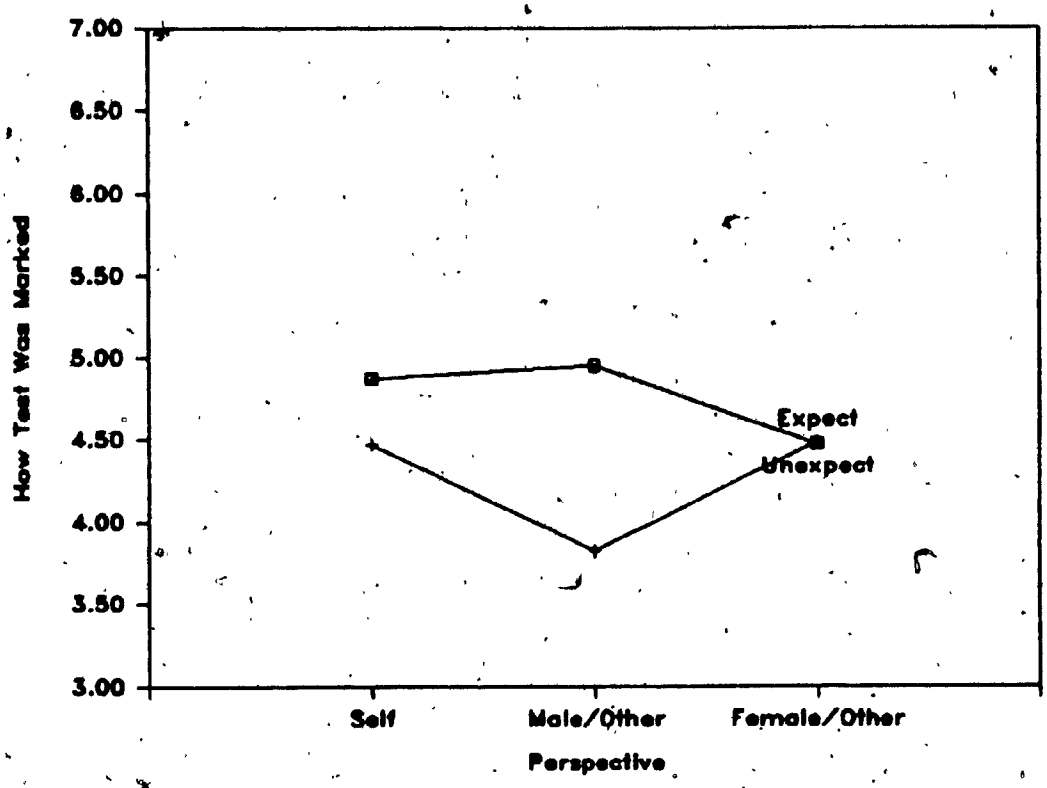

Figure 3. Expectancy by Perspective Interaction on the Measure of Marking.

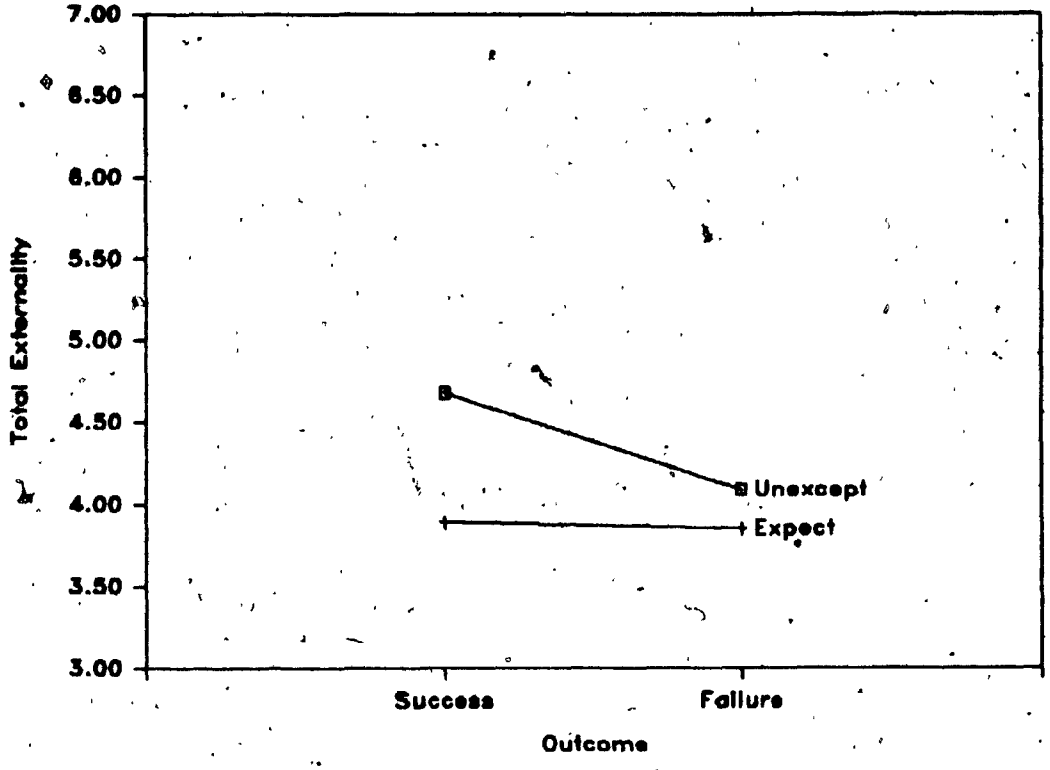

Figure 4. Expectancy by Outcome Interaction on the Measure of Externality.

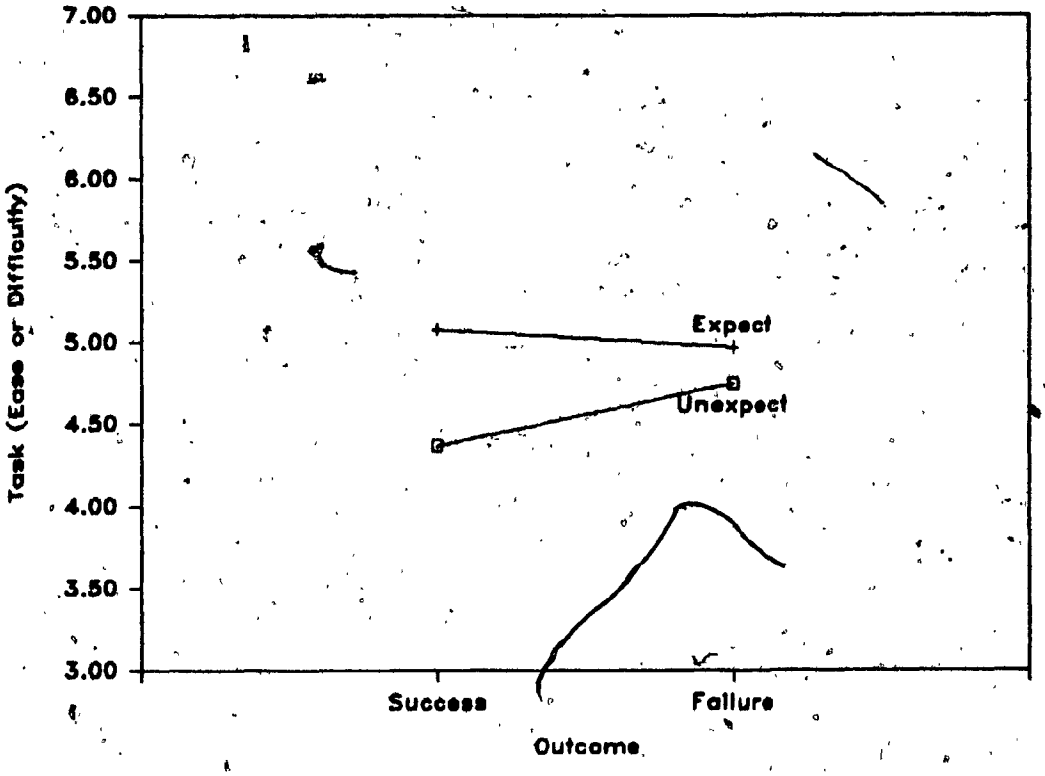

Figure 5 Expectancy by Outcome Interaction on the Measure of Task

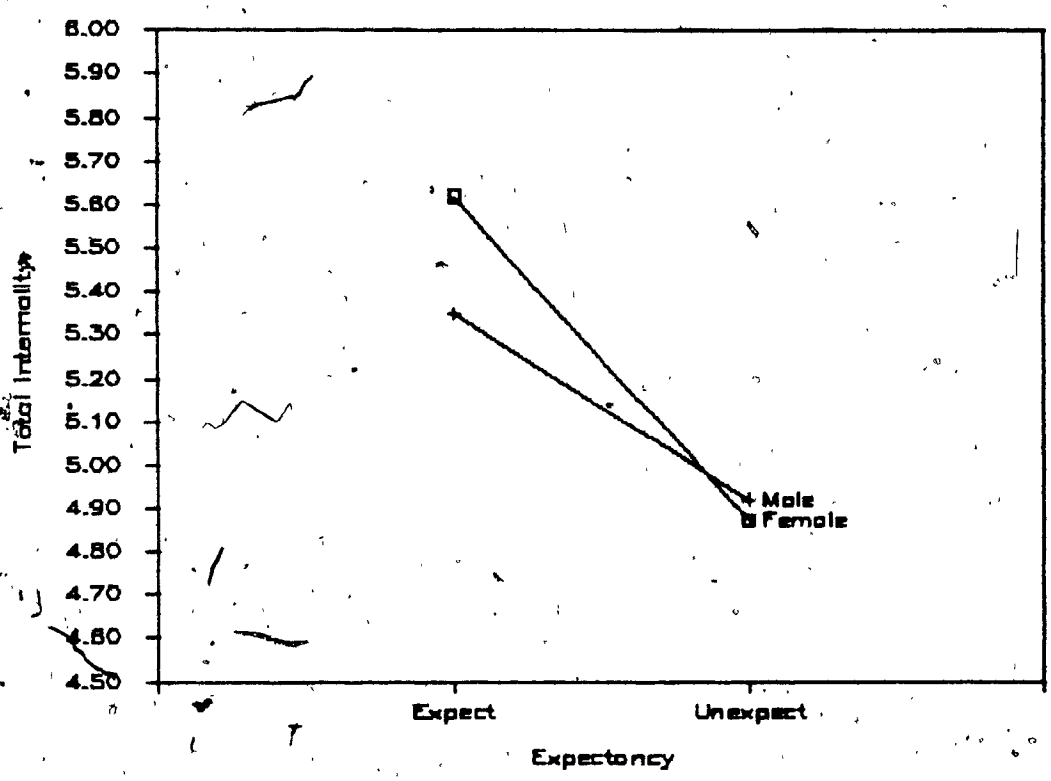

Figure 6 Sex of Subject by Expectancy Interaction on the Measure of Internality.

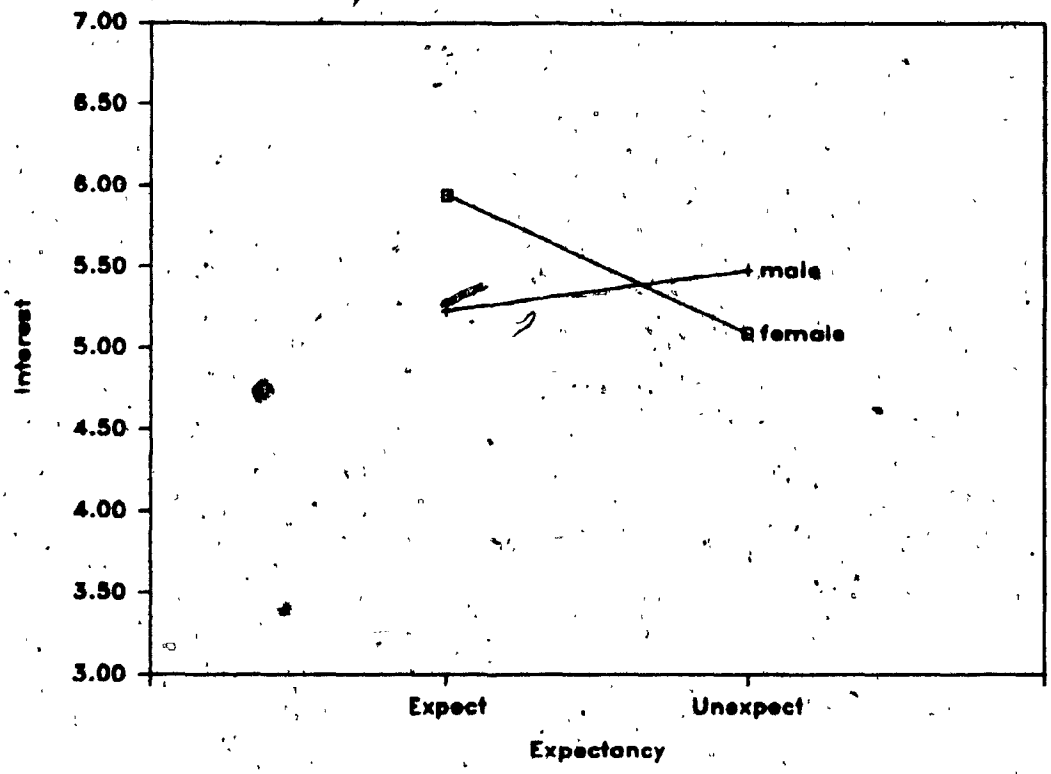

Figure 7. Sex of Subject by Expectancy Interaction on the Measure of Interest

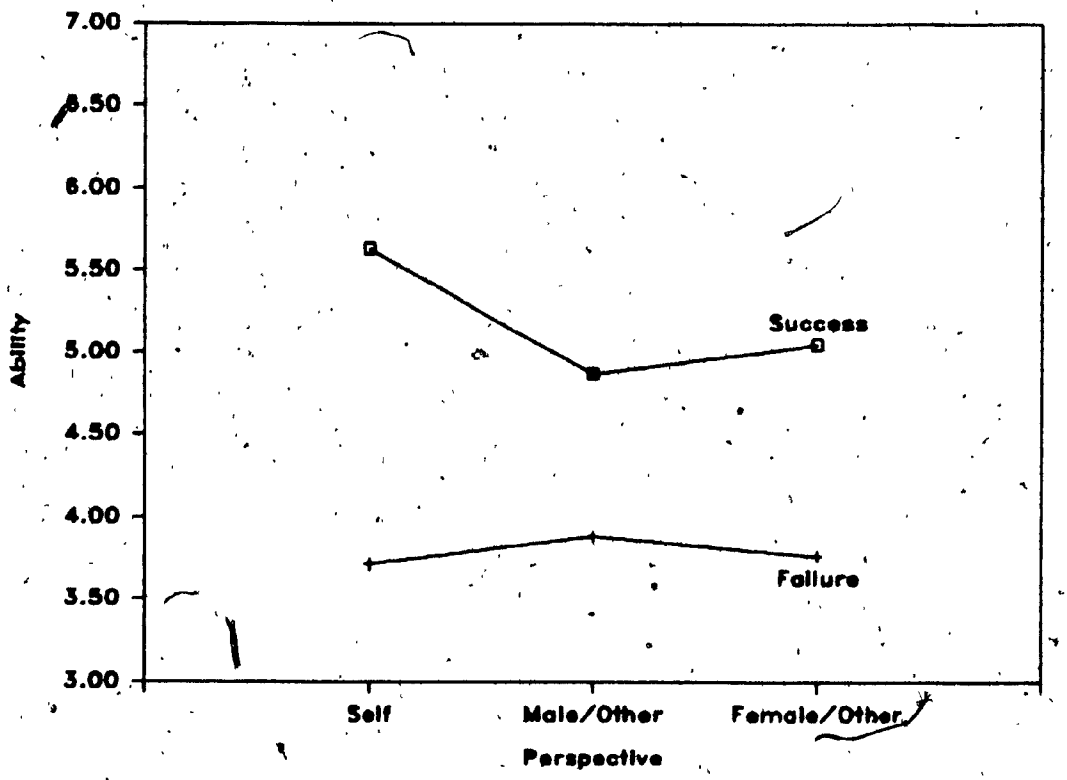

Figure 8 Outcome by Perspective Interaction on the Measure of Ability

Discussion

The discussion deals with the following issues: how the present study qualifies the findings of Zuckerman et al (1980), the relationship between the construct of FOS and the measure of FOSS, and the implications of the present study for future research and for educational practice

The findings of the present study agree closely with those of Zuckerman et al 's (1980). Hypothesis 1, which postulated that male and female subjects high in FOS would make greater external attributions than subjects low in FOS, was partially confirmed The finding is not only similar to Zuckerman et al 's, findings and therefore offers some additional support to already documented findings that people with high fear of success attribute externally but is also similar to findings of earlier studies by Weiner and Kukla, (1970), Feather and Simon (1971), and Bar-Tal and Frieze (1977), which found that subjects low in achievement motivation and subjects high in achievement motivation attribute differently.

There was no interaction effect of FOS by outcome on the measures of internality and externality. Subjects low in FOS did not make greater internal attributions for success and greater external attributions for failure than subjects high in FOS Subjects high in FOS did not make greater external attributions for success and greater internal attributions for failure These results do not agree with Zuckerman et al 's findings, which showed

differences between subjects low in FOS and those high in FOS in terms of the attributions they make in success situations. This difference in results between studies could have been due to the varying nature of the tasks used. There was possibly greater ego-involvement in the tasks Zuckerman et al. administered, because of the comparisons of one's performance to another subject and, as a result, they may have been able to arouse greater FOS.

There was no FOS by sex interaction on the measures of internality and externality. Male subjects low in FOS did not make greater internal attributions, than male subjects high in FOS. Male subjects high in FOS did not make greater external attributions than male subjects low in FOS. Female subjects low in FOS did not make greater external attributions than female subjects high in FOS. The findings are are similar to Zuckerman et al. (1980) and offer additional support to the findings that the effects of FOS are not sex-linked. In addition, the following study, by using hypothetical academic outcomes and a wider population than those used by Zuckerman et al., makes the results more generalizable and lends predictive validity to the prior conclusions made by Zuckerman et al. The fact that the results were replicated by using the FOSS measure before any of the tasks were completed, reinforces the validity of the scale, and gives some evidence of the utility of the FOSS in predicting certain achievement-related behaviors.

The hypothesis which stated that subjects in the

expected condition would make greater internal attributions than subjects in the unexpected condition, while subjects in the unexpected condition would make greater external attributions than subjects in the expected condition, was also confirmed. This offers some additional support for earlier studies on performance expectancies which showed that irregardless of success or failure, unexpected performance yielded greater external attributions than expected performance (e.g., Wong & Weiner, 1981). Subjects in the self or male other perspective did not make greater internal attributions than subjects in the female other perspective, nor did subjects in the female other perspective make greater external attributions than subjects in the self or male other perspective. As predicted, there were however, significant interactions in perspective by outcome. Subjects in the self condition made greater ability attributions than subjects in the male other or female other condition, irregardless of whether the outcome was a success or failure. From these findings one may conclude that perspective is only of importance to subjects in self situations, where attributing outcome to personal causes not only implies that one has informational knowledge about oneself, but is also is self-enhancing (Jones & Nisbett, 1971).

Hypothesis 6, which stated that subjects in a success condition would make greater internal attributions than subjects in a failure condition, and that subjects in the failure condition would make greater external attributions

than subjects in a success condition, was also confirmed. The finding is not only similar to the earlier model of attribution patterns suggested by Weiner et al (1971), but also offers some additional support for the effects of performance outcomes on locus as those found by Zuckerman et al. (1980)

The relationship between the construct of FOS and the measure of FOSS Does the FOSS and the items it contains reflect dimensions of the FOS motive?, Zuckerman et al. (1980) state that because females scored consistently higher on the FOSS than did males, it supports Horner's suggestion that the motive to avoid success is more prevalent amongst females than males Possibly some of the items do reflect the same dimensions of FOS.

At the same time, items of Horner's definition of FOS, do not accurately assess the same thing Just as FOS as it was originally measured, probably tapped attitudes toward medical school more than a personality trait, FOSS probably taps a person's arrogance or competitive nature rather than their fear of success (e g , In competition I try to win no matter what, I am happy only when I am doing better than others, When you're on top everyone looks up to you) In addition, if fear of success is concerned with discriminating between people who may be unable to tolerate high levels of achievement motivation it is still questionnable whether this automatically give rise to defensive responses and classifiable as fear of success? In defence of Horner's hypothesis, one can say that 17

years ago the construct as defined might not have been so far-fetched as today The percentage of women not only in academia, but in professional employment as well, was far smaller than today The women's movement was just beginning and stricter sex-role stereotyping applied than in the 1980's When Zuckerman and Allison conducted their study almost a decade later, the percentage of women in academic and professional employment had slightly increased, not enough to cancel out FOS, because it is defined as a stable predisposition learned early in life, but maybe enough for both men and women to acquire an understanding and tolerance level for changes in societal structure.

More research is needed to determine whether females actually fear success, and under what circumstances fear of success occurs Furthermore, success as a concept underlying the FOS construct should be more carefully defined and reassessed Most of the studies dealing with the FOS see this construct as a negative personality characteristic which impinges on achievement-related performance, implying that a lack of fear of success is a constructive and positive personality characteristic to possess Constructive for whom, and at what cost? (I am happy only when I am doing better than others; When you're on top everyone looks up to you) Why is it more desirable to be happy only when one does better than someone else, or to achieve respect because of an "arbitrary" position in society? Why isn't it more desirable to play in a game, enjoy yourself, than to win? (Zuckerman & Allisson, 1976)

We should look at the narrow way success is defined in our society. Instead of trying to change women and men who don't fit this limited definition of success, we should start bringing values of respect and cooperation not only among the existing academic institutions but also into the existing competitive value system.

The majority of studies conducted on FOS and causal attributions, including the present one, have been carried out in a controlled academic environment, or in a laboratory setting. These settings are unlike a real life situation where human interaction is of a more cooperative nature than a competitive one (Johnson & Johnson, 1974). Perhaps fear of success and attributional patterns have behavioral and motivational consequences only in laboratory settings and thus are limited to the experimental procedures that are used. Evidence concerning the utility of the FOSS as a predictor of achievement-related behavior in real life is still needed (Zuckerman et al., 1980).

The implications of responsibility in attributions. Ross, Bierbrauer, and Polly (1974) and Ross (1977), have suggested that people have different cognitive rationales for differential attributions of success and failure. According to these researchers, success is more internally attributed than failure because success is intended while failure is not. This explanation may account for success/failure effects on internal attributions such as effort, it cannot however, account for differential ability attributions. Ability, unlike effort, is not under

intentional control and therefore cannot be considered a more potent cause for intended relative to unintended outcomes (Zuckerman, 1979)

Weiner and Kukla (1970) found that males high in achievement motivation were more likely to attribute their failure to lack of effort than males low in achievement motivation They suggested that attribution of failure to effort leads to more persistence on future attempts because effort expenditure can be controlled and augmented

Zuckerman (1979) reported that research findings suggest that while achievement motivation is related to internal attributions for success, belief in external control when it comes to failure is self-protective. "Perhaps achievement motivation focuses more on the need to take pride in success whereas internal-external control focus more on the need to avoid the threat of failure" (Zuckerman, 1979, pg.26)

Research has indicated that the tendency to accept responsibility for success and failure is related to personality and situational factors (Zuckerman, 1979). This relationship is seen as motivational in nature. Zuckerman (1979) summarizes the research as indicating externals on the internal/external Scale deny responsibility for failure in order to defend themselves and project blame onto others, high achievers take more responsibility for success so as to experience a greater reward for goal attainment, and females show less self-serving attributions because they may be less involved with

the tasks that they are presented with and thus less concerned with the achievement of success and avoidance of failure

Implications for Educational Research

Different levels of achievement motivation, and more specifically a motive to avoid success, has been found to be associated with causal attributions students make toward success and failure Generally, high FOS students make external attributions to failure while low FOS students make internal attributions to failure, as well as, to a lesser extent, external attributions to failure (Zuckerman, 1979) Because performance is ultimately seen as a function of expectancy of success multiplied by the incentive to succeed, it follows that whether expectancy or value of success increases or decreases depends on a student's attribution for past success or failure (Williams, 1982) Given this evidence, further attributional analyses of achievement motivation have shown that the tendency to attribute failure to external causes such as lack of ability is associated with high levels of achievement motivation It follows then, that students who make internal attributions of failure have low need to achieve In an educational context our concern would be to try and change the attributional pattern of low achievers so that one's expectancy of success doesn't decrease everytime one fail's at a task

Although the present study failed to find sex

differences in fear of success and any relationship between FOS and attributions to success and failure, there is a large amount of previous evidence to support this notion (e g , Dweck et al , 1978). Given this evidence of the differences in attainment between males and females from early adolescence onwards, where the performance of girls does not keep ahead of males, it cannot be readily accounted for by research that tries to show a difference in terms of levels of ability (Maccoby & Jacklin, 1974). Within attribution theory this has meant a search for sex-related differences in attributions for success and failure A number of studies have shown that girls are more likely than boys to neglect a lack of effort as a possible cause for their failures (Nicholls, 1975), while others have also shown that girls are more likely than boys to show decrement in performance following an instance of failure (e g , Dweck & Gillard, 1975; Dweck et al , 1978) In addition, Dweck et al (1978) found that the sex differences in attribution made by pupils and in turn, their level of achievement motivation, is related to the feedback that they receive from teachers Their results showed that criticism from teachers directed at girls was nearly always concerned with actual academic aspects of the pupil's work, whereas for boys the teacher's criticism was more diffuse Half of the criticism directed at boys concerned things other than the academic content of their work (e g , classroom misbehavior) Dweck et al. (1978) suggests that this leads boys and girls to make different

attributions for their failures where, for boys, criticism of a particular school task is seen against a background of other behaviors; and so for girls, a single piece of work-related criticism is seen against a background of an absence of other forms of criticism, and is therefore relatively more likely to be interpreted as an indication of a lack of ability (Rogers, 1982) Dweck et al.'s (1978) results and suggestions may help explain sex differences in FOS and attributions in college and university women who have had years of academic training where these types of reinforcements or criticism have taken place.

Conclusion

Although the present study failed to find sex differences in FOS and sex differences in outcome patterns, fear of success as a construct cannot be totally refuted. The results are probably more suggestive of the limitations of the measure of fear of success, and more specifically, of the FOSS, than of the FOS construct

More studies are needed in order to determine practical classroom applications of attributions and how the attributional patterns arouse a motive to avoid success, and how these attributional patterns can be reversed Rogers (1982) suggests that it is important to have available information regarding, the style and frequencies of actual teacher-pupil interactions, for example, than information on hypothetical or laboratory conducted studies

This brings up the need, invariably, to investigate

more closely the effects that a situation has upon the nature of the interpersonal judgements which might be made within the classroom (Rogers, 1982). On a final note, the theories fear of success and causal attributions have been developed primarily under laboratory conditions and assume that the context in which subject's FOS is aroused and in which subjects make their attributions will be the same for all subjects, at least within one particular treatment group (Rogers, 1982). Within achievement situations, and for classrooms in particular, this is not necessarily so. If one can identify the motivational and behavioral components contained in the effects of fear of success on women and men, and if we further attempt to determine the meaning of particular attributions for the specific person who has made them, we can probably determine the effects that these attributions have upon educational practice and look for ways to remedy it.

REFERENCES

REFERENCES

Alper, G (1974) Achievemnt motivation in college women A now you see it now you don't phenomenon America Psychologist, 29, 194-204

Atkinson, J W (Ed) (1958) Motives in fantasy action, and society Princeton, N J Van Nostrand.

Atkinson, J W (1964) An introduction to motivation New York D Van Nostrand Company, Inc.

Atkinson, J W & Feather, N (Eds) (1966). Theory of achievement motivation New York John Wiley & Sons, Inc

Atkinson, J W., & Raynor, J O (1978). Personality, motivation, and achievement. New York Halstead Press.

Atkinson, J W., & Feather, N T (Eds.) (1974) A theory of achievement motivation New York Robert E. Krieger Publishing Company. (Original work published 1966)

Bar-Tal, D , & Darom, E (1977). Causal perceptions of pupils' success or failure by teachers and pupils A comparison. Unpublished manuscript, University of Tel-Aviv, Israel

Bar-Tal, D , & Frelze, H I (1977) Achievement motivation for males and females as a determinant of attributions for success and failure Sex Roles, 3, 301-313

Bartlett, J (1980) Bartlett's Familiar Quotations E M Beck (Ed) Boston Little, Brown and Company.

Brockner, J (1979) The effects of self-esteem, success-failure, and self-consciousness on task performance Journal of Personality and Social Psychology, 37

Canavan-Gumpert, D., & Garner, K., & Gumpert, P. (1978) The success-fearing personality Toronto Lexington Books

Cherry, F., & Deaux, K. (1978) Fear of success versus fear of gender inappropriate behavior Sex Roles, 4, 97-101

Cohen, N E Explorations in the fear of success. Doctoral Dissertation, University, 1974. (University Micro-Films no 75-78, 368) In D Canavan-Gumpter, K. Garner, & P Gumpter, (1978) The success - fearing personality. Toronto Lexington Books

Condrey, J., & Dyer, S (1976) Fear of success Attributions of causes to the victim In D. N Ruble, I H Freize, and J E. Parsons, (Eds.), Sex roles Persistance and change.

Crandall, V C (1969) Sex differences in expectancy of intellectual and academic reinforcement In C. P Smith (Ed), Achievement-Related Motives in Children. New York Russell Sage

Deaux, K (1976) A perspective on the attribution process In H Harvey, W J Ickes, & R F Kidd (Eds.), New Directions in Attribution Research 1 Hillsdale, N J Lawrence Erlbaum Associates

Depner, C. E., & O'Leary, V E (1976). Understanding female careerism Fear of success and new directions Sex Roles, 2, 259-271

Eccles, J., & Adler, T., & Meece, J L. (1984). Sex differences in achievement a test of alternate theories Journal of Personality and Social Psychology, 46, 26-43.

Elig, T W , & Frieze, I H (1979) Measuring causal attributions for fear of success and failure Journal of Personality and Social Psychology, 37, 621-634

Feather, N T (1969) Attribution of responsibility and valence of success and failure in relation to initial confidence and perceived locus of control Journal of Personality and Social Psychology, 13, 129-144

Feather, N T , & Simon, J G (1973) Fear of success and causal attribution for outcome Journal of Personality, 41, 525-542

Feather, N T , & Simon, J G (1976) Stereotypes about male and female success and failure at sex-linked occupations Journal of Personality, 44, 16-37

Feather, N T (Ed) (1982) Expectations and actions Expectancy-value models in psychology Hillsdale, New Jersey Lawrence Erlbaum Associates

Fisher, J E (1975) Effects of a competitive atmosphere on causal attributions Theoretical implications Paper presented at Eastern Psychological Association, New York

Fontaine, G (1974) Social comparison and some determinants of expected personal control and expected performance in a novel task situation Journal of Personality and Social Psychology, 29, 487-496

Frieze, I H (1975) Women's expectations for causal attributions of success and failure In M T S Mednick, S S Tangri, & L W Hoffman (Eds), Women and achievement social motivational analysis Washington,

John Wiley & Sons

Freize, I H (1976) Causal attributions for success and failure In J S. Carroll and J W Payne (Eds.), Cognition and social behavior New Jersey, Laurence Erlbaum

Freize, I H , & Weiner, B (1971) Cue utilization and attributional judgements for success and failure. Journal of Personality, 39, 591-606

Freize, I H , Fisher, J , Hanusa, B., McHugh, M.C., & Valee, V A (1978) Attributions of the causes of success and failure as internal and external barriers to achievement in women. In J. A Sherman and F L Denmark (Eds), The psychology of women: Future directions in research. New York Psychological Dimensions, Inc

Freize, I H. (1980) Beliefs about success and failure in the classroom In J H. McMillan (Ed.), The social psychology of school learning (pp 39-78). New York Academic Press

Good, L R , & Good, K C (1973) An objective measure of the motive to avoid success Psychological Reports, 33, 1009-1010.

Goh, S C , & Meliea, L W (1984) Fear of success and its relationship to the job performance, tenure, and desired job outcomes of women Canadian Journal of Behavioral Science, 16, 65 - 75

Heilbrun, A. B , Jr , Kleemeier, C , & Piccola, G. (1974).

achievement behavior in college females. Journal of Personality, 42, 420-436

Ho, R., & Zemaitis, R (1981) Concern over the negative consequences of success Australian Jounal of Psychology, 33 19-38

Hoffman, L (1974) FOS in males and females. 1965 and 1971 Journal of Consulting and Clinical Psychology, 42, 353-358

Hoffman, L W (1977) Fear of success in 1965 and 1974: A follow-up study Journal of Consulting and Clinicial Psychology, 45, 310-321

Horner, M (1968) Sex differences in achievemnt motivation and performance in competitive and non-competitive situations, Dissertation Abstracts International, 30, 407 University Micro-Films n 69-R, 135

Horner, M S (1972) Toward an understanding of achievement-related-related conflicts in women Journal of Social Issues, 28, 157-175

Horner, M S., Tresemer, D W., Berens, A E., & Watson, R I., Jr (1973) Scoring manual for an empirically derived scoring system Scoring manual for an emperically derived scoring system for motive to avoid success. Paper presented at the annual meeting of the American Psychological Association, Montreal

Horner, M S (1978) The measurement and behavioral implications fear of success in women In J.W. Atkinson and J O RAynor (Eds), Motivation and achievment.

New York Robert E. Kreiger

Ingram, B L , & Berger, S E (1977) Sex-role orientation, defensiveness, and competitiveness in women Journal of Conflict Resolution, 21, 501-518

Jackaway, R (1974). Sex differences in achievement motivation, behavior, and attributions about success and failure Unpublished doctoral dissertation, State University of New York at Albany

Jackaway, R , & Teevan, R (1976) Fear of failure and fear of success Two dimensions of the same motive Sex Roles, 2, 283-293

Janda, L H , O'Grady, K E , & Capps, C F (1978) Fear of success in males and females in sex-linked occupations. Sex Roles, 4, 43-50.

Juran, S (1979) A measure of stereotyping in fear of success cues Sex Roles, 5, 287-297.

Kirk, R E (1982) Belmont, California Brooks/Cole.

Krusell, J L (1973). Attribution of responsibility for performance outcomes of males and females. Unpublished doctoral dissertation, University of Rochester, 1973

Lentz, M E (1982) Fear of success as a situational phenomenon Sex Roles, 8, 987-997

Luginbuhl, J E , Crowe, D H , & Kahan, J P (1975) Causal attributions for success and failure. Journal of Personality and Social Psychology, 31, 86-93

McClleland, D C (1985) Human Motivation New York Scott, Foresman & Company

McClelland, D C , Atkinson, J W , Clark, R A , & Lowell,

E L (1953) The achievement motive. New York Appleton-Century-Crofts

McClelland, D C , Atkinson, J W , Clark, R.A. , & Lowell, E L (1976) The achievement motive New York Irvington Publishers, Inc

McHugh, M (1975) Sex differences in causal attributions. A critical review Paper presented at Eastern Psychological Association, New York

McHugh, M , Freize, I , & Hanusa, B. (1982). Attributions and sex dfferences in achievement problems and new perspective Sex Roles, 8, 467-478.

Major, B (1979) Sex-role orientation and fear of success claryifying an unclear relationship. Sex Roles, 5, 63-70

Mackosky, V P (1976). Sex-role compatibility of task and of competitor and fear of success as variables affecting women's performance Sex Roles, 2, 237-248.

Mallinger, A E (1978). Fear of success and Oedipal experience The Journal of Psychology, 100, 91-106.

Mischel, W (1973) Continuity and change in personality. In H N Mischel and W Mischel (Eds), Readings in personality New York Holt, Rinehart and Winston.

Monahan, L , Kuhn, M , & Shaver, P. (1974). Intrapsychic versus cultural explanations of the "fear of success" motive Journal of Personality and Social Psychology, 1974, 29, 60-64

Moore, L L (1972) The relationship of academic group membership to the motive to avoid success in women.

(Doctoral dissertation, University of Michigan, 1972) Dissertation Abstracts International, 32, 4355

Moore, K A (1974). Fear of success: The distribution, correlates, reliability and consequences for fertility of fear of success among respondents in a metropolitan survey population. Paper presented at the meeting of the American Psychological Association, New Orleans

Murray, H A (1938) Explorations in personality New York Oxford University Press

Nicholls, J. (1975) Causal attributions and other achievement-related cognitions: Effects of task outcome, attainment value and sex. Journal of Personality and Social Psychology, 31, 379-389.

Nielsen, J.M (1978) Sex in society: perspectives on stratification California. Wadsworth Publishing Company, Inc

Page, M M (1973) On detecting demand awareness by post-experimental questinnaire. The Journal of Social Psychology, 91, 305-323.

Paludi, M A (1979) Horner revisited: How successful must Anne and John be before fear of success sets in? Psychological Reports, 44, 1319-1322.

Pappo, M. (1972) Fear of succes of theoretical analusis and the construction and validation of a measuring instruments Doctoral Dissertation, Columbia University (University Microfilms no 281-261)

Peplau, L.A (1973) The impact of fear of success, sex-role attitudes and opposite-sex relationship on women's

intellectual performance An experimental study of competition in dating couples Unpublished doctoral dissertation, Harvard University

Peplau, L A (1976) Impact of fear of success and sex-role attitude on women's competitive achievement Journal of Personality and Social Psychology, 67, 307-316

Rogers, C G (1982) The contribution of attribution theory to educational research In Antaki, C & Brewin, C (Eds) Attributions and Psychological Change New York Academic Press

Rosenbaum, R M (1972) A unidimensional analysis of the perceived causes of success and failure Unpublished doctoral dissertation, University of California at Los Angeles

Ross, L D (1977). Problems in the interpretation of "self-serving" asymmetrics in causal attribution Comments on the Stephan et al paper Sociometry, 40, 112-114

Ross, L , Bierbrauer, G , & Polly, S (1974) Attribution of educational outcomes by professional and nonprofessional instructors Journal of Personality and Social Psychology, 29, 609-618

Rotter, J B (1975) Some problems and misconceptions related to the construct of internal versus external control of reinforcement Journal of Consulting and Clinical Psychology, 43, 56-67

Sadd, S , Lenauer, M , Shaver, P , & Dunivant, N (1978) Objective measurement of fear of success and fear of

failure A factor analytic approach Journal of Consulting and Clinical Psychology, 46, 405-416

Sassen, G (1980) Success anxiety in women. A constructivistic interpretation of its social significance Harvard Educational Review, 50, 13-24.

Shapiro, J (1979) "Fear of success" imagery as a reaction to sex-role inappropriate behavior Journal of Personality Assessment, 43, 33-39

Shaver, P (1976) Questions concerning fear of success and its conceptual relatives. Sex Roles, 2, 305-320

Simon, J G , & Feather, N. T (1973). Causal attributions for success and failure at university examinations Journal of Educational Psychology 64, 46-56

Spence, J T (1974) The thematic apperception test and attitudes toward achievement in women A new look at the motive to avoid success and a new method of measurement Journal of Consulting and Clinical Psychology, 42, 427-437

Sweeney, P D , Moreland, R H , and Gruber, K V (1982) Gender differences in performance attributions Students' explanations for personal success or failure Sex Roles, 8

Tangri, S S (1974) Effects of background, personality, college and postcollege experiences on women's postgraduate employment (Final Report) Washington, D C U S Commission on Civil Rights, Manpower Administration, U S Department of Labor

Travis, C B (1980) Sex comparisons on causal

attributions Another look at the null hypothesis. Sex Roles, 8, 375-380.

Tresemer, D (1973) Fear of success Popular but unproven In C Travis (Ed), The female experience. Delmar, California CRM, 1973.

Tresemer, D. W (1977) Fear of success , New York Plenum Press

Weiner, B (1972) Theories of motivation. Chicago Markham Press

Veroff, J , & Feld, S. (1975) In Mednick, M., Tangari, S., & Hoffman, L (Eds). Women and achievement, social and motivational analyses. London , Hemisphere Publishing Corporation

Weiner, B (1980). Human motivation. New York: Holt, Rinehart, & Winston.

Weiner, B (1974) (ed) An attributional interpretation of expectancy-value theory Cognitive views of human motivation (pp. 51-69) New York Academic Press

Weiner, B (1979) A theory of motivation for some classroom experiences . Journal of Educational Psychology, 71, 3-25

Weiner, B (1983). Speculations regarding the role of affect in achievemnt-change programs guided by attributional principles In J M Levine and M C. Wang (Eds). Teacher and student perceptions Implications for learning (pp 57-73). New Jersey Lawrence Erbaum Associates

Weiner, B (1984) Principles for a theory of student motivation and their application within an attributional framework. In R E. Ames and C. Ames (Eds), Research on motivation in education: vol 1 Student motivation (pp 15-38). Florida. Academic Press

Weiner, B , & Kukla, A (1970). An attributional analysis of achievement motivation. Journal of Personality and Social Psychology, 15, 1-20

Weiner, B , Freize, I. H , Kukla, A , Reed, L., Rest, S., & Rosenbaum, R.M (1971). Perceiving the causes of success and failure. New York General Learning Press Module

Weiner, B , Sierad, J (1975) Misattribution for failure and enhancement of achievement strivings. Journal of Personality and Social Psychology, 31, 415-421

Weiner, B , Nierenberg, R , & Goldstein, M. (1976) Social learning (locus of control) versus attribution (unusual stability) interpretations of expectancy of success. Jounal of Personality, 44, 52-68

Weiner, B , Russel, D , & Lerman, D. The cognition-emotion process in achievement-related contexts. Journal of Personality and Social Psychology, 37, 1211-1220.

Wiegers, R M , & Freize, I H (1977). Gender, female traditionality, achievement level and cognitions of success and failure Psychology of Women Quarterly.

Williams, J M (1982) Expectancy x value A model of how attributions affect educational attainment. In Antaki,

C & Brewin, C. (Eds.). Attributions and Psychological Change. New York: Academic Press.

Zanna, M P. (1973). Intellectual competition and the female student .(Report to the U. S. Department of Health, Education and Welfare). Princeton University.

Zaro, J. S. (1972). An experimental study of role conflict in women. (Doctoral dissertation, University of Connecticut, 1972.) Dissertation . Abstracts International, 33, 2828.

Zuckerman, M. (1979). Attribution of success and failure revisited, or. The motivational bias is alive and well in attribution theory. Journal of Personality, 47, 245-287.

Zuckerman, M., & Allison, S.N. (1976). An objective measure of fear of success: Construction and validation. Journal of Personality and Assessment, 40, 422-430

Zuckerman, M., & Wheeler, L. (1975). To dispel fantasies about the fantasy-based measure of fear of success. Psychological Bulletin, 82, 932-946.

Zuckerman, M., Larrance, D.T., Porac, J.F.A. & Blanck, P.D. (1980) Effects of fear of success on intrinsic motivation, causal attribution, and choice behavior. Journal of Personality and Social Psychology, 39, 503-513.

APPENDIX A

Letter to Professor
Desription of Study
Thank You Letter

Note: Some of the materials found in the Appendix sections have been reformatted to slightly conform with the margin size requirements of the Graduate Studies Office.

January 30, 1985

Dear Concordia Professor

I am a graduate student enrolled in the Educational Studies programme at Concordia. As part of my Master's thesis, which is being supervised by Dr. Philip Abrami, I am investigating A) personality factors which affect students' examination performance, and B) factors which students perceive to cause their own and others' success and failure in university courses. I am asking professors from a host of departments in the university to help me in this research by volunteering approximately one-half hour of classtime during a single class meeting sometime toward the middle of the winter semester. During this half-hour, students will be asked to complete a personality measure and a questionnaire which requires them to make causal statements concerning different hypothetical course examination outcomes. For your information a more complete description of the study is included with this letter.

This study requires a large and diverse number of subjects; I hope that you will support me by volunteering one or more of your classes following the mid-term break. To do so, please complete the form at the bottom of this page and return it to me via campus mail. Otherwise, I will be contacting you within the next short while to see if you are able to donate classtime for this project. If you have any questions or comments, you can reach me at the phone number listed below.

Thank you for your cooperation.

Sincerely,

Miranda D'Amico, M.A. student and
Research Assistant for Dr. P. Abrami
Education Department
Phone 879-4034 (Messages only 4535)

I am ____ willing to volunteer my class(es) to participate in the Student Motivation Project

Professor's Name_____ Phone(s)_____

_____

Course(s)_____ Class sizes _____

_____ _____

_____ _____

Preferred Dates and Times?_____

Please return to Miranda D'Amico, Education Department, Hall 549-2, SGW Campus

Student Motivation Project

Students' personal beliefs and causal perceptions concerning course performance are called causal attributions by educational psychologists. Attribution theory rests on the assumption that individuals search for causal understanding, where they seek answers to questions such as "Why did I fail?", "Why did I get a poor mark on my math exam?", and so on. The study of academic causal attributions is important because research has shown that attributions are related to the way students approach tasks which involve achievement, persist at academic tasks, seek help from professors, and develop expectations about future examination performance (Freize, 1980, Ames, 1981, Weiner, 1983).

Weiner, (1974) postulated that individuals commonly use four causal elements of ascription both to interpret and to predict the outcome of an achievement-related event. These causal elements are ability, effort, task difficulty, and luck. When one attempts to explain one's prior success or failure, the individual assesses his/her own ability level, the difficulty of the task, the magnitude of personal effort involved and whether luck was experienced. These four causal factors are not necessarily the only perceived determinants of success or failure nor are they necessarily the most salient ones every in achievement situation. However, investigators have related these causal perceptions to a variety of affective, cognitive and behavioral consequences such as mood, fatigue, subsequent effort, future expectations etc.

I am interested in further understanding the causal attributions which take place in achievement-related situations, by investigating whether attributions differ when students are asked to evaluate a success or failure situation of another student as opposed to their own, (i.e. perspective) and whether they are sex and personality differences in attributional patterns.

Research has found that females tend to attribute success to external factors such as task difficulty and luck, and failure to lack of ability or effort, the opposite has generally been found for males. One of the more popular explanations for this difference is that women are motivated to avoid success because they believe personal success holds negative social consequences for them. Nevertheless, this hypothesis has been challenged by more recent research that found both women and men possess the motive to avoid success. I hope my study will help clarify whether the motive to avoid success is specific to women or whether it generalizes across the sexes by measuring the motive to avoid success of individual subjects and by evaluating the causal attributions made in a hypothetical achievement situation.

Note to Instructors: It is important that no preconceived notion of this study exists when students complete the research materials. Please do not describe the study in detail to them. An oral and/or written debriefing will be provided by the research assistant in class, following the completion of the survey. Thank You.

23-04-85

Dear Professor

We recently distributed questionnaires in your class (es) as part of our study investigating students' personal beliefs and causal perceptions concerning course performance I would like to take this opportunity to thank you again for your gracious cooperation in volunteering your class time for the purpose of the study.

We have just finished data collection and are about to begin data coding and analysis Thus, by late spring, we should have available preliminary results of the study If you wish to recieve any information concerning these results, or concerning student achievement motivation and attribution research in general, please feel free to contact me at any time

Sincerely,

Miranda D'Amico, Master's Student
Educational Studies Programme

Telephone 879-4034
Room H549-2
cc Dr Philip Abrami
Education Department

APPENDIX B

Instructions to the study;
Background Questionnaire

Student Motivation Project

INSTRUCTIONS

The three questionnaires are intended to gather information about university students' attitudes towards factors which affect academic achievement. We would appreciate you completing all of the questionnaire items to the best of your ability. Mark your answers on the answer sheet. Please do not make any marks on the questionnaires. Try to work at a steady pace and answer the questions in the order that they are given. We welcome your comments on this study; place these on the reverse side of the answer sheet. If you have any questions or problems, please raise your hand and you will be helped individually. Interested students will be provided with a more complete description of the study's purpose once all questionnaires are complete. If you participated in this study previously in another class, please do not complete the questionnaires again.

Student Background Questionnaire

1) Your age

1) 18 or under
2) 19 to 20
3) 21 to 22
4) 23 to 24
5) 25 or over

2) Your sex

1) Male
2) Female

3) Your present level at university

1) U1(First Year University)
2) U2(Second Year University)
3) U3(Third Year University)
4) Certificate, Diploma, Graduate, or other

4) Your Academic Major

1) Fine Arts
2) Commerce and Administration
3) Engineering and Computer Science
4) Liberal Arts, Recreation and Education
5) Natural Sciences

5) Your pre-university grade average
(high school or CEGEP)

1) 60-69
2) 70-79
3) 80-89
4) 90-100
5) Other or don't know

If you have not yet completed any university courses for a grade, answer question 6 by estimating what you expect your university average will be.

6) Your university average so far

1) 49 or below(F)
2) 50-59(D)
3) 60-69(C)
4) 70-79(B)
5) 80 or higher(A)

7) What is your first language?

1) English
2) French
3) Other

8) What is your country of birth?

1) Canada
2) U.S.A., Britain, or France
3) Other

9) How many years have you been a resident of Canada?

1) 0-2 years
2) 3-5 years
3) 6-10 years
4) 11-15 years
5) 16 or more years

APPENDIX C

Fear of Success Scale -
(developed by Zuckerman and Allison 1976)

INSTRUCTIONS In this questionnaire you will find a number of statements For each statement a scale of 1 to 7 is provided, with 1 representing one extreme and 7 the other extreme In each case circle a number from 1 to 7 to indicate whether or not you agree with the statement There are no right or wrong answers Please anwer all items

		Strongly Disagree						Strongly Agree
10	I expect other people to fully appreciate my potential	1	2	3	4	5	6	7
11	Often the cost of success is greater than the reward,	1	2	3	4	5	6	7
12	For every winner there are several rejected and unhappy losers	1	2	3	4	5	6	7
13	The only way I can prove my worth is by winning a game or doing well on a task	1	2	3	4	5	6	7
14	I enjoy telling my friends that I have done something especially well	1	2	3	4	5	6	7
15	It is more important to play the game than to win it	1	2	3	4	5	6	7
16	In my attempt to do better than others, I realize I may lose many of my friends	1	2	3	4	5	6	7
17	In competition I try to win no matter what	1	2	3	4	5	6	7
18	A person who is at the top faces nothing but a constant struggle to stay there	1	2	3	4	5	6	7
19	I am happy only when I am doing better than others	1	2	3	4	5	6	7
20	I think "success" has been emphasized too much in our culture	1	2	3	4	5	6	7
21	In order to achieve one must give up the fun things in life	1	2	3	4	5	6	7
22	The cost of success is overwhelming responsibility	1	2	3	4	5	6	7
23	Achievement commands respect	1	2	3	4	5	6	7
24	I become embarrased when others compliment me on my work	1	2	3	4	5	6	7

25	A successful person is often considered by others to be both aloof and snobbish	1	2	3	4	5	6	7
26	When you're on top, everybody looks up to you	1	2	3	4	5	6	7
27	People's behavior change for the worst after they become successful	1	2	3	4	5	6	7
28	When competing against another person, I sometimes feel better if I lose than if I win.	1	2	3	4	5	6	7
29	Once you're on top, everyone is your buddy and no one is your friend.	1	2	3	4	5	6	7
30	When you're the best, all doors are open	1	2	3	4	5	6	7
31	Even when I do well on a task, I sometimes feel like a phony and fraud	1	2	3	4	5	6	7
32	I believe that successful people are often sad and lonely	1	2	3	4	5	6	7
33	The rewards of a successful competition are greater than those received from cooperation	1	2	3	4	5	6	7
34	When I am on top the responsibility makes me feel uneasy.	1	2	3	4	5	6	7
35	It is extremely important for me to do well in all things that I undertake	1	2	3	4	5	6	7
36	I believe I will be more successful than most of the people I know	1	2	3	4	5	6	7

APPENDIX D

Hypothetical Course Results

The numbers on the upper rigth margin
are numerical codes for:
Expectancy where 1=expected; 2=unexpected
Perspective where 1=self; 2=male other; 3=female other
Outcome where 1=success; 2=failure

11

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you know you are strong in a subject and you received an A on the first important course test, the mid-term exam. Performance on this test is a strong indicator of your success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining your success on this **important** test.

		Very Unimportant						Very Important
37	Ability	1	2	3	4	5	6	7
38	Effort	1	2	3	4	5	6	7
39	Ease of the Test	1	2	3	4	5	6	7
40	Good Luck	1	2	3	4	5	6	7
41	Good Method of Study	1	2	3	4	5	6	7
42	Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

111

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1) 1 2 3 4 5

2) 1 2

3) 1 2 3 4

4) 1 2 3 4 5

5) 1 2 3 4 5

6) 1 2 3 4 5

7) 1 2 3

8) 1 2 3

9) 1 2 3 4 5

10) 1 2 3 4 5 6 7

11) 1 2 3 4 5 6 7

12) 1 2 3 4 5 6 7

13) 1 2 3 4 5 6 7

14) 1 2 3 4 5 6 7

15) 1 2 3 4 5 6 7

16) 1 2 3 4 5 6 7

17) 1 2 3 4 5 6 7

18) 1 2 3 4 5 6 7

19) 1 2 3 4 5 6 7

20) 1 2 3 4 5 6 7

21) 1 2 3 4 5 6 7

22) 1 2 3 4 5 6 7

23) 1 2 3 4 5 6 7

24) 1 2 3 4 5 6 7

25) 1 2 3 4 5 6 7

26) 1 2 3 4 5 6 7

27) 1 2 3 4 5 6 7

28) 1 2 3 4 5 6 7

29) 1 2 3 4 5 6 7

30) 1 2 3 4 5 6 7

31) 1 2 3 4 5 6 7

32) 1 2 3 4 5 6 7

33) 1 2 3 4 5 6 7

34) 1 2 3 4 5 6 7

35) 1 2 3 4 5 6 7

36) 1 2 3 4 5 6 7

37) 1 2 3 4 5 6 7

38) 1 2 3 4 5 6 7

39) 1 2 3 4 5 6 7

40) 1 2 3 4 5 6 7

41) 1 2 3 4 5 6 7

42) 1 2 3 4 5 6 7

43) 1 2 3 4 5 6 7

44) 1 2 3 4 5 6 7

45) 1 2 3 4 5 6 7

46) 1 2 3 4 5 6 7

112

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you are weak in a subject and you failed on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of your success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining your failure on this **important** test.

		Very Unimportant						Very Important
37	Lack of Ability	1	2	3	4	5	6	7
38	Lack of Effort	1	2	3	4	5	6	7
39	Difficulty of the Test	1	2	3	4	5	6	7
40	Bad Luck	1	2	3	4	5	6	7
41	Poor Method of Study	1	2	3	4	5	6	7
42	Lack of Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Lack of Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

112

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1) 1 2 3 4 5

2) 1 2

3) 1 2 3 4

4) 1 2 3 4 5

5) 1 2 3 4 5

6) 1 2 3 4 5

7) 1 2 3

8) 1 2 3

9) 1 2 3 4 5

10) 1 2 3 4 5 6 7

11) 1 2 3 4 5 6 7

12) 1 2 3 4 5 6 7

13) 1 2 3 4 5 6 7

14) 1 2 3 4 5 6 7

15) 1 2 3 4 5 6 7

16) 1 2 3 4 5 6 7

17) 1 2 3 4 5 6 7

18) 1 2 3 4 5 6 7

19) 1 2 3 4 5 6 7

20) 1 2 3 4 5 6 7

21) 1 2 3 4 5 6 7

22) 1 2 3 4 5 6 7

23) 1 2 3 4 5 6 7

24) 1 2 3 4 5 6 7

25) 1 2 3 4 5 6 7

26) 1 2 3 4 5 6 7

27) 1 2 3 4 5 6 7

28) 1 2 3 4 5 6 7

29) 1 2 3 4 5 6 7

30) 1 2 3 4 5 6 7

31) 1 2 3 4 5 6 7

32) 1 2 3 4 5 6 7

33) 1 2 3 4 5 6 7

34) 1 2 3 4 5 6 7

35) 1 2 3 4 5 6 7

36) 1 2 3 4 5 6 7

37) 1 2 3 4 5 6 7

38) 1 2 3 4 5 6 7

39) 1 2 3 4 5 6 7

40) 1 2 3 4 5 6 7

41) 1 2 3 4 5 6 7

42) 1 2 3 4 5 6 7

43) 1 2 3 4 5 6 7

44) 1 2 3 4 5 6 7

45) 1 2 3 4 5 6 7

46) 1 2 3 4 5 6 7

121

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you know your friend is strong in a subject and he received an A on the first important course test, the mid-term exam. Performance on this test is strong indicator of his success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining his success on this **important** test.

		Very Unimportant						Very Important
37	Ability	1	2	3	4	5	6	7
38	Effort	1	2	3	4	5	6	7
39	Ease of the Test	1	2	3	4	5	6	7
40	Good Luck	1	2	3	4	5	6	7
41	Good Method of Study	1	2	3	4	5	6	7
42	Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

121

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question.

1) 1 2 3 4 5

2) 1 2

3) 1 2 3 4

4) 1 2 3 4 5

5) 1 2 3 4 5

6) 1 2 3 4 5

7) 1 2 3

8) 1 2 3

9) 1 2 3 4 5

10) 1 2 3 4 5 6 7

11) 1 2 3 4 5 6 7

12) 1 2 3 4 5 6 7

13) 1 2 3 4 5 6 7

14) 1 2 3 4 5 6 7

15) 1 2 3 4 5 6 7

16) 1 2 3 4 5 6 7

17) 1 2 3 4 5 6 7

18) 1 2 3 4 5 6 7

19) 1 2 3 4 5 6 7

20) 1 2 3 4 5 6 7

21) 1 2 3 4 5 6 7

22) 1 2 3 4 5 6 7

23) 1 2 3 4 5 6 7

24) 1 2 3 4 5 6 7

25) 1 2 3 4 5 6 7

26) 1 2 3 4 5 6 7

27) 1 2 3 4 5 6 7

28) 1 2 3 4 5 6 7

29) 1 2 3 4 5 6 7

30) 1 2 3 4 5 6 7

31) 1 2 3 4 5 6 7

32) 1 2 3 4 5 6 7

33) 1 2 3 4 5 6 7

34) 1 2 3 4 5 6 7

35) 1 2 3 4 5 6 7

36) 1 2 3 4 5 6 7

37) 1 2 3 4 5 6 7

38) 1 2 3 4 5 6 7

39) 1 2 3 4 5 6 7

40) 1 2 3 4 5 6 7

41) 1 2 3 4 5 6 7

42) 1 2 3 4 5 6 7

43) 1 2 3 4 5 6 7

44) 1 2 3 4 5 6 7

45) 1 2 3 4 5 6 7

46) 1 2 3 4 5 6 7

122

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you know your friend is weak in a subject and he failed on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of his success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining his failure on this **important** test.

		Very Unimportant						Very Important
37	Lack of Ability	1	2	3	4	5	6	7
38	Lack of Effort	1	2	3	4	5	6	7
39	Difficulty of the Test	1	2	3	4	5	6	7
40	Bad Luck	1	2	3	4	5	6	7
1	Poor Method of Study	1	2	3	4	5	6	7
42	Lack of Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Lack of Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1)	1	2	3	4	5		
2)	1	2					
3)	1	2	3	4			
4)	1	2	3	4	5		
5)	1	2	3	4	5		
6)	1	2	3	4	5		
7)	1	2	3				
8)	1	2	3				
9)	1	2	3	4	5		
10)	1	2	3	4	5	6	7
11)	1	2	3	4	5	6	7
12)	1	2	3	4	5	6	7
13)	1	2	3	4	5	6	7
14)	1	2	3	4	5	6	7
15)	1	2	3	4	5	6	7
16)	1	2	3	4	5	6	7
17)	1	2	3	4	5	6	7
18)	1	2	3	4	5	6	7
19)	1	2	3	4	5	6	7
20)	1	2	3	4	5	6	7
21)	1	2	3	4	5	6	7
22)	1	2	3	4	5	6	7
23)	1	2	3	4	5	6	7
24)	1	2	3	4	5	6	7
25)	1	2	3	4	5	6	7
26)	1	2	3	4	5	6	7
27)	1	2	3	4	5	6	7
28)	1	2	3	4	5	6	7
29)	1	2	3	4	5	6	7
30)	1	2	3	4	5	6	7
31)	1	2	3	4	5	6	7
32)	1	2	3	4	5	6	7
33)	1	2	3	4	5	6	7
34)	1	2	3	4	5	6	7
35)	1	2	3	4	5	6	7
36)	1	2	3	4	5	6	7
37)	1	2	3	4	5	6	7
38)	1	2	3	4	5	6	7
39)	1	2	3	4	5	6	7
40)	1	2	3	4	5	6	7
41)	1	2	3	4	5	6	7
42)	1	2	3	4	5	6	7
43)	1	2	3	4	5	6	7
44)	1	2	3	4	5	6	7
45)	1	2	3	4	5	6	7
46)	1	2	3	4	5	6	7

131

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you know your friend is strong in a subject, and she received an A on the first important course test, the mid-term exam. Performance on this test is a strong indicator of her success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining her success on this **important** exam.

		Very Unimportant						Very Important
37	Ability	1	2	3	4	5	6	7
38	Effort	1	2	3	4	5	6	7
39	Ease of the Test	1	2	3	4	5	6	7
40	Good Luck	1	2	3	4	5	6	7
41	Good Method of Study	1	2	3	4	5	6	7
42	Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Knowledge of the Material	1	2	3	4	5	6	7
Other Factors (Please list and then rate)								
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

131

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1)	1	2	3	4	5		
2)	1	2					
3)	1	2	3	4			
4)	1	2	3	4	5		
5)	1	2	3	4	5		
6)	1	2	3	4	5		
7)	1	2	3				
8)	1	2	3				
9)	1	2	3	4	5		
10)	1	2	3	4	5	6	7
11)	1	2	3	4	5	6	7
12)	1	2	3	4	5	6	7
13)	1	2	3	4	5	6	7
14)	1	2	3	4	5	6	7
15)	1	2	3	4	5	6	7
16)	1	2	3	4	5	6	7
17)	1	2	3	4	5	6	7
18)	1	2	3	4	5	6	7
19)	1	2	3	4	5	6	7
20)	1	2	3	4	5	6	7
21)	1	2	3	4	5	6	7
22)	1	2	3	4	5	6	7
23)	1	2	3	4	5	6	7
24)	1	2	3	4	5	6	7
25)	1	2	3	4	5	6	7
26)	1	2	3	4	5	6	7
27)	1	2	3	4	5	6	7
28)	1	2	3	4	5	6	7
29)	1	2	3	4	5	6	7
30)	1	2	3	4	5	6	7
31)	1	2	3	4	5	6	7
32)	1	2	3	4	5	6	7
33)	1	2	3	4	5	6	7
34)	1	2	3	4	5	6	7
35)	1	2	3	4	5	6	7
36)	1	2	3	4	5	6	7
37)	1	2	3	4	5	6	7
38)	1	2	3	4	5	6	7
39)	1	2	3	4	5	6	7
40)	1	2	3	4	5	6	7
41)	1	2	3	4	5	6	7
42)	1	2	3	4	5	6	7
43)	1	2	3	4	5	6	7
44)	1	2	3	4	5	6	7
45)	1	2	3	4	5	6	7
46)	1	2	3	4	5	6	7

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you know your friend is weak in a subject and she failed on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of her success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining her failure on this **important** test.

		Very Unimportant						Very Important
37	Lack of Ability	1	2	3	4	5	6	7
38	Lack of Effort	1	2	3	4	5	6	7
39	Difficulty of the Test	1	2	3	4	5	6	7
40	Bad Luck	1	2	3	4	5	6	7
41	Poor Method of Study	1	2	3	4	5	6	7
42	Lack of Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Lack of Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1) 1 2 3 4 5

2) 1 2

3) 1 2 3 4

4) 1 2 3 4 5

5) 1 2 3 4 5

6) 1 2 3 4 5

7) 1 2 3

8) 1 2 3

9) 1 2 3 4 5

10) 1 2 3 4 5 6 7

11) 1 2 3 4 5 6 7

12) 1 2 3 4 5 6 7

13) 1 2 3 4 5 6 7

14) 1 2 3 4 5 6 7

15) 1 2 3 4 5 6 7

16) 1 2 3 4 5 6 7

17) 1 2 3 4 5 6 7

18) 1 2 3 4 5 6 7

19) 1 2 3 4 5 6 7

20) 1 2 3 4 5 6 7

21) 1 2 3 4 5 6 7

22) 1 2 3 4 5 6 7

23) 1 2 3 4 5 6 7

24) 1 2 3 4 5 6 7

25) 1 2 3 4 5 6 7

26) 1 2 3 4 5 6 7

27) 1 2 3 4 5 6 7

28) 1 2 3 4 5 6 7

29) 1 2 3 4 5 6 7

30) 1 2 3 4 5 6 7

31) 1 2 3 4 5 6 7

32) 1 2 3 4 5 6 7

33) 1 2 3 4 5 6 7

34) 1 2 3 4 5 6 7

35) 1 2 3 4 5 6 7

36) 1 2 3 4 5 6 7

37) 1 2 3 4 5 6 7

38) 1 2 3 4 5 6 7

39) 1 2 3 4 5 6 7

40) 1 2 3 4 5 6 7

41) 1 2 3 4 5 6 7

42) 1 2 3 4 5 6 7

43) 1 2 3 4 5 6 7

44) 1 2 3 4 5 6 7

45) 1 2 3 4 5 6 7

46) 1 2 3 4 5 6 7

211

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation: Suppose you are weak in a subject, but you received an A on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of your success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicated how important each factor was in determining your **unexpected** success on this **important** test.

		Very Unimportant						Very Important
37	Ability	1	2	3	4	5	6	7
38	Effort	1	2	3	4	5	6	7
39	Ease of the Test	1	2	3	4	5	6	7
40	Good Luck	1	2	3	4	5	6	7
41	Good Method of Study	1	2	3	4	5	6	7
42	Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44	Khowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46	_____	1	2	3	4	5	6	7

211

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1)	1	2	3	4	5		
2)	1	2					
3)	1	2	3	4			
4)	1	2	3	4	5		
5)	1	2	3	4	5		
6)	1	2	3	4	5		
7)	1	2	3				
8)	1	2	3				
9)	1	2	3	4	5		
10)	1	2	3	4	5	6	7
11)	1	2	3	4	5	6	7
12)	1	2	3	4	5	6	7
13)	1	2	3	4	5	6	7
14)	1	2	3	4	5	6	7
15)	1	2	3	4	5	6	7
16)	1	2	3	4	5	6	7
17)	1	2	3	4	5	6	7
18)	1	2	3	4	5	6	7
19)	1	2	3	4	5	6	7
20)	1	2	3	4	5	6	7
21)	1	2	3	4	5	6	7
22)	1	2	3	4	5	6	7
23)	1	2	3	4	5	6	7
24)	1	2	3	4	5	6	7
25)	1	2	3	4	5	6	7
26)	1	2	3	4	5	6	7
27)	1	2	3	4	5	6	7
28)	1	2	3	4	5	6	7
29)	1	2	3	4	5	6	7
30)	1	2	3	4	5	6	7
31)	1	2	3	4	5	6	7
32)	1	2	3	4	5	6	7
33)	1	2	3	4	5	6	7
34)	1	2	3	4	5	6	7
35)	1	2	3	4	5	6	7
36)	1	2	3	4	5	6	7
37)	1	2	3	4	5	6	7
38)	1	2	3	4	5	6	7
39)	1	2	3	4	5	6	7
40)	1	2	3	4	5	6	7
41)	1	2	3	4	5	6	7
42)	1	2	3	4	5	6	7
43)	1	2	3	4	5	6	7
44)	1	2	3	4	5	6	7
45)	1	2	3	4	5	6	7
46)	1	2	3	4	5	6	7

212

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation: Suppose you are strong in a subject, but you failed on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of your success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining your **unexpected** failure on this **important** test.

		Very Unimportant						Very Important
37.	Lack of Ability	1	2	3	4	5	6	7
38	Lack of Effort	1	2	3	4	5	6	7
39.	Difficulty of the Test	1	2	3	4	5	6	7
40	Bad Luck	1	2	3	4	5	6	7
41.	Poor Method of Study	1	2	3	4	5	6	7
42	Lack of Interest in Subject Matter	1	2	3	4	5	6	7
43.	How the Test was Marked	1	2	3	4	5	6	7
44	Lack of Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45.	_____	1	2	3	4	5	6	7
46.	_____	1	2	3	4	5	6	7

212

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1)	1	2	3	4	5		
2)	1	2					
3)	1	2	3	4			
4)	1	2	3	4	5		
5)	1	2	3	4	5		
6)	1	2	3	4	5		
7)	1	2	3				
8)	1	2	3				
9)	1	2	3	4	5		
10)	1	2	3	4	5	6	7
11)	1	2	3	4	5	6	7
12)	1	2	3	4	5	6	7
13)	1	2	3	4	5	6	7
14)	1	2	3	4	5	6	7
15)	1	2	3	4	5	6	7
16)	1	2	3	4	5	6	7
17)	1	2	3	4	5	6	7
18)	1	2	3	4	5	6	7
19)	1	2	3	4	5	6	7
20)	1	2	3	4	5	6	7
21)	1	2	3	4	5	6	7
22)	1	2	3	4	5	6	7
23)	1	2	3	4	5	6	7
24)	1	2	3	4	5	6	7
25)	1	2	3	4	5	6	7
26)	1	2	3	4	5	6	7
27)	1	2	3	4	5	6	7
28)	1	2	3	4	5	6	7
29)	1	2	3	4	5	6	7
30)	1	2	3	4	5	6	7
31)	1	2	3	4	5	6	7
32)	1	2	3	4	5	6	7
33)	1	2	3	4	5	6	7
34)	1	2	3	4	5	6	7
35)	1	2	3	4	5	6	7
36)	1	2	3	4	5	6	7
37)	1	2	3	4	5	6	7
38)	1	2	3	4	5	6	7
39)	1	2	3	4	5	6	7
40)	1	2	3	4	5	6	7
41)	1	2	3	4	5	6	7
42)	1	2	3	4	5	6	7
43)	1	2	3	4	5	6	7
44)	1	2	3	4	5	6	7
45)	1	2	3	4	5	6	7
46)	1	2	3	4	5	6	7

221

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation: Suppose you know your friend is weak in a subject, but he received an A on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of his success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining his **unexpected** success on this **important** test

		Very Unimportant						Very Important
37.	Ability	1	2	3	4	5	6	7
38	Effort	1	2	3	4	5	6	7
39	Ease of the Test	1	2	3	4	5	6	7
40.	Good Luck	1	2	3	4	5	6	7
41	Good Method of Study	1	2	3	4	5	6	7
42.	Interest in Subject Matter	1	2	3	4	5	6	7
43	How the Test was Marked	1	2	3	4	5	6	7
44.	Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46.	_____	1	2	3	4	5	6	7

221

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question.

1)	1	2	3	4	5		
2)	1	2					
3)	1	2	3	4			
4)	1	2	3	4	5		
5)	1	2	3	4	5		
6)	1	2	3	4	5		
7)	1	2	3				
8)	1	2	3				
9)	1	2	3	4	5		
10)	1	2	3	4	5	6	7
11)	1	2	3	4	5	6	7
12)	1	2	3	4	5	6	7
13)	1	2	3	4	5	6	7
14)	1	2	3	4	5	6	7
15)	1	2	3	4	5	6	7
16)	1	2	3	4	5	6	7
17)	1	2	3	4	5	6	7
18)	1	2	3	4	5	6	7
19)	1	2	3	4	5	6	7
20)	1	2	3	4	5	6	7
21)	1	2	3	4	5	6	7
22)	1	2	3	4	5	6	7
23)	1	2	3	4	5	6	7
24)	1	2	3	4	5	6	7
25)	1	2	3	4	5	6	7
26)	1	2	3	4	5	6	7
27)	1	2	3	4	5	6	7
28)	1	2	3	4	5	6	7
29)	1	2	3	4	5	6	7
30)	1	2	3	4	5	6	7
31)	1	2	3	4	5	6	7
32)	1	2	3	4	5	6	7
33)	1	2	3	4	5	6	7
34)	1	2	3	4	5	6	7
35)	1	2	3	4	5	6	7
36)	1	2	3	4	5	6	7
37)	1	2	3	4	5	6	7
38)	1	2	3	4	5	6	7
39)	1	2	3	4	5	6	7
40)	1	2	3	4	5	6	7
41)	1	2	3	4	5	6	7
42)	1	2	3	4	5	6	7
43)	1	2	3	4	5	6	7
44)	1	2	3	4	5	6	7
45)	1	2	3	4	5	6	7
46)	1	2	3	4	5	6	7

222

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation Suppose you know your friend is strong in a subject, but he failed on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of his success in the course because a large portion of the final exam covers the same material as the mid-term.

Please, circle the number which best indicates how important each factor was in determining his **unexpected** failure on this **important** test.

		Very Unimportant						Very Important
37	Lack of Ability	1	2	3	4	5	6	7
38	Lack of Effort	1	2	3	4	5	6	7
39.	Difficulty of the Test	1	2	3	4	5	6	7
40	Bad Luck	1	2	3	4	5	6	7
41	Poor Method of Study	1	2	3	4	5	6	7
42	Lack of Interest in Subject Matter	1	2	3	4	5	6	7
43.	How the Test was Marked	1	2	3	4	5	6	7
44	Lack of Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45	_____	1	2	3	4	5	6	7
46.	_____	1	2	3	4	5	6	7

222

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question

1) 1 2 3 4 5

2) 1 2

3) 1 2 3 4

4) 1 2 3 4 5

5) 1 2 3 4 5

6) 1 2 3 4 5

7) 1 2 3

8) 1 2 3

9) 1 2 3 4 5

10) 1 2 3 4 5 6 7

11) 1 2 3 4 5 6 7

12) 1 2 3 4 5 6 7

13) 1 2 3 4 5 6 7

14) 1 2 3 4 5 6 7

15) 1 2 3 4 5 6 7

16) 1 2 3 4 5 6 7

17) 1 2 3 4 5 6 7

18) 1 2 3 4 5 6 7

19) 1 2 3 4 5 6 7

20) 1 2 3 4 5 6 7

21) 1 2 3 4 5 6 7

22) 1 2 3 4 5 6 7

23) 1 2 3 4 5 6 7

24) 1 2 3 4 5 6 7

25) 1 2 3 4 5 6 7

26) 1 2 3 4 5 6 7

27) 1 2 3 4 5 6 7

28) 1 2 3 4 5 6 7

29) 1 2 3 4 5 6 7

30) 1 2 3 4 5 6 7

31) 1 2 3 4 5 6 7

32) 1 2 3 4 5 6 7

33) 1 2 3 4 5 6 7

34) 1 2 3 4 5 6 7

35) 1 2 3 4 5 6 7

36) 1 2 3 4 5 6 7

37) 1 2 3 4 5 6 7

38) 1 2 3 4 5 6 7

39) 1 2 3 4 5 6 7

40) 1 2 3 4 5 6 7

41) 1 2 3 4 5 6 7

42) 1 2 3 4 5 6 7

43) 1 2 3 4 5 6 7

44) 1 2 3 4 5 6 7

45) 1 2 3 4 5 6 7

46) 1 2 3 4 5 6 7

231

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation: Suppose you know your friend is weak in a subject, but she received an A on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of her success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining her unexpected success on this important test.

		Very Unimportant						Very Important
37.	Ability	1	2	3	4	5	6	7
38.	Effort	1	2	3	4	5	6	7
39.	Ease of the Test	1	2	3	4	5	6	7
40.	Good Luck	1	2	3	4	5	6	7
41	Good Method of Study	1	2	3	4	5	6	7
42.	Interest in Subject Matter	1	2	3	4	5	6	7
43.	How the Test was Marked	1	2	3	4	5	6	7
44	Knowledge of the Material	1	2	3	4	5	6	7

Other Factors
(Please list and then rate)

45.	_____	1	2	3	4	5	6	7
46.	_____	1	2	3	4	5	6	7

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question.

1) 1 2 3 4 5

2) 1 2

3) 1 2 3 4

4) 1 2 3 4 5

5) 1 2 3 4 5

6) 1 2 3 4 5

7) 1 2 3

8) 1 2 3

9) 1 2 3 4 5

10) 1 2 3 4 5 6 7

11) 1 2 3 4 5 6 7

12) 1 2 3 4 5 6 7

13) 1 2 3 4 5 6 7

14) 1 2 3 4 5 6 7

15) 1 2 3 4 5 6 7

16) 1 2 3 4 5 6 7

17) 1 2 3 4 5 6 7

18) 1 2 3 4 5 6 7

19) 1 2 3 4 5 6 7

20) 1 2 3 4 5 6 7

21) 1 2 3 4 5 6 7

22) 1 2 3 4 5 6 7

23) 1 2 3 4 5 6 7

24) 1 2 3 4 5 6 7

25) 1 2 3 4 5 6 7

26) 1 2 3 4 5 6 7

27) 1 2 3 4 5 6 7

28) 1 2 3 4 5 6 7

29) 1 2 3 4 5 6 7

30) 1 2 3 4 5 6 7

31) 1 2 3 4 5 6 7

32) 1 2 3 4 5 6 7

33) 1 2 3 4 5 6 7

34) 1 2 3 4 5 6 7

35) 1 2 3 4 5 6 7

36) 1 2 3 4 5 6 7

37) 1 2 3 4 5 6 7

38) 1 2 3 4 5 6 7

39) 1 2 3 4 5 6 7

40) 1 2 3 4 5 6 7

41) 1 2 3 4 5 6 7

42) 1 2 3 4 5 6 7

43) 1 2 3 4 5 6 7

44) 1 2 3 4 5 6 7

45) 1 2 3 4 5 6 7

46) 1 2 3 4 5 6 7

232

Hypothetical Course Results

The following is a description of a course examination situation. Read the description carefully. Note the list of factors, with accompanying rating scale, below the description. Once you have finished reading the description, indicate, using the rating scales, how important each of the factors was in determining the described performance. Circle the number which best indicates the importance of each factor.

Situation. Suppose you know your friend is strong in a subject but she failed on the first important course test, the mid-term exam. Performance on this exam is a strong indicator of her success in the course because a large portion of the final exam covers the same material as the mid-term.

Please circle the number which best indicates how important each factor was in determining her unexpected failure on this important test.

		Very Unimportant						Very Important
37.	Lack of Ability	1	2	3	4	5	6	7
38.	Lack of Effort	1	2	3	4	5	6	7
39.	Difficulty of the Test	1	2	3	4	5	6	7
40.	Bad Luck	1	2	3	4	5	6	7
41	Poor Method of study	1	2	3	4	5	6	7
42	Lack of Interest in Subject Matter	1	2	3	4	5	6	7
43.	How the Test was Marked	1	2	3	4	5	6	7
44.	Lack of Knowledge of the Material	1	2	3	4	5	6	7
	Other Factors (Please list and then rate)							
45.	_____	1	2	3	4	5	6	7
46.	_____	1	2	3	4	5	6	

232

ANSWER SHEET

Please circle the number corresponding to your answer for the appropriate question.

1)	1	2	3	4	5			24)	1	2	3	4	5	6	7
2)	1	2						25)	1	2	3	4	5	6	7
3)	1	2	3	4				26)	1	2	3	4	5	6	7
4)	1	2	3	4	5			27)	1	2	3	4	5	6	7
5)	1	2	3	4	5			28)	1	2	3	4	5	6	7
6)	1	2	3	4	5			29)	1	2	3	4	5	6	7
7)	1	2	3					30)	1	2	3	4	5	6	7
8)	1	2	3					31)	1	2	3	4	5	6	7
9)	1	2	3	4	5			32)	1	2	3	4	5	6	7
								33)	1	2	3	4	5	6	7
10)	1	2	3	4	5	6	7	34)	1	2	3	4	5	6	7
11)	1	2	3	4	5	6	7	35)	1	2	3	4	5	6	7
12)	1	2	3	4	5	6	7	36)	1	2	3	4	5	6	7
13)	1	2	3	4	5	6	7								
14)	1	2	3	4	5	6	7	37)	1	2	3	4	5	6	7
15)	1	2	3	4	5	6	7	38)	1	2	3	4	5	6	7
16)	1	2	3	4	5	6	7	39)	1	2	3	4	5	6	7
17)	1	2	3	4	5	6	7	40)	1	2	3	4	5	6	7
18)	1	2	3	4	5	6	7	41)	1	2	3	4	5	6	7
19)	1	2	3	4	5	6	7	42)	1	2	3	4	5	6	7
20)	1	2	3	4	5	6	7	43)	1	2	3	4	5	6	7
21)	1	2	3	4	5	6	7	44)	1	2	3	4	5	6	7
22)	1	2	3	4	5	6	7	45)	1	2	3	4	5	6	7
23)	1	2	3	4	5	6	7	46)	1	2	3	4	5	6	7