

DEFENSIVE EXTERNALITY AND ITS RELATION TO ACADEMIC PERFORMANCE

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A thesis submitted to the Faculty of Graduate Studies  
in partial fulfillment of the requirements for  
the degree of

MASTER OF ARTS

Graduate Programme in Psychology  
University of Manitoba  
Winnipeg, Manitoba

April, 1973



## ACKNOWLEDGEMENTS

The two persons who deserve my major gratitude are my wife Shirley, and daughter Laura Lee, for their support, encouragement and understanding.

I would also like to express my appreciation to the members of my thesis committee, Dr. Rita Bienvenue, Dr. Ross Hartsough and Dr. Michel Pierre Janisse for their many suggestions and comments.

Finally, I am deeply indebted to my thesis supervisor, Dr. Lawrence Breen, for his invaluable assistance with all stages of this research. Such assistance has been greatly appreciated.

## ABSTRACT

The present study investigated the relationship between internal-external control and academic achievement by employing a reconceptualization of the locus of control construct. Subjects were identified as internals, defensive externals or congruent externals on the basis of their responses to the Levenson (1972) Internal, Powerful Others and Chance scales. This classification procedure thus permitted an assessment of the academic performance by defensive externals which was suggested (Hjelle, 1970) as being a confounding factor in previous investigations. A further objective of this research was an examination of the effect of two mediating variables, fear of negative evaluation and achievement via independence versus conformance, in their relation to both locus of control and academic performance.

Sixty-six male and 94 female psychology students were administered the Levenson (1972) scales, the Fear of Negative Evaluation scale (Watson & Friend, 1969) and; the Achievement via Independence and Achievement via Conformance scales (Gough, 1957). The dependent variable was grade-point average.

Obtained results supported the predicted relationship between internal-external control and academic performance. Such results indicated that internals were superior academically to both defensive externals and congruent externals. Defensive externals were shown to have higher grade-point averages than congruent externals and female

defensive externals were found to demonstrate greater academic success than their male counterparts.

An examination of the effect of mediating variables indicated that fear of negative evaluation may be an important factor in accounting for the academic success of male internals, and that achievement via independence might be a significant variable for interpreting the relatively low level of academic achievement of both male and female congruent externals. Such results suggest that the relation between locus of control and academic performance may not necessarily be a direct one, but may be modified by specific mediating variables.

## TABLE OF CONTENTS

Chapter	Page
I INTRODUCTION.....	1
Internal-External Control.....	2
Social Learning Theory: Basic Concepts.....	3
Internal-External Control as a Personality Variable.....	8
Measures of internal-external control.....	9
Internals versus externals: personality differences.....	11
Internal-External Control: A Determinant of Academic Achievement.....	14
I-E scale: noted limitations.....	19
Defensive externality.....	22
Rationale and Statement of the Problem.....	25
Hypotheses.....	32
II METHOD.....	34
Subjects.....	34
Measuring Instruments.....	34
Internal, Powerful Others and Chance scales.....	34
Achievement via Conformance scale.....	35
Achievement via Independence scale.....	36
Fear of Negative Evaluation scale.....	36
Procedure.....	37
Experimental Design and Data Analysis.....	37

Chapter	Page
III RESULTS.....	39
Multiple Linear Regression Analyses of Grade-Point Averages.....	39
Internals.....	39
Defensive externals.....	42
Congruent externals.....	46
Pairwise Comparisons of Mean Grade-Point Averages.....	46
IV DISCUSSION.....	53
Internal-External Control as a Determinant of Academic Performance.....	53
Effect of Mediating Variables.....	55
Fear of negative evaluation.....	55
Achievement via independence versus conformance.....	58
Theoretical Implications.....	62
Implications for Future Research.....	64
V SUMMARY.....	66
BIBLIOGRAPHY.....	69
APPENDIX A: Internal, Powerful Others and Chance Scales.....	78
APPENDIX B: Achievement via Conformance Scale.....	82
APPENDIX C: Achievement via Independence Scale.....	85
APPENDIX D: Fear of Negative Evaluation Scale.....	88

## CHAPTER I

### INTRODUCTION

Since the introduction of the internal-external control construct (Rotter, 1966), several studies (e.g. Gold, 1968; Hjelle, 1970; Prociuk & Breen, 1973a) have examined the relationship between this personality variable and academic performance. While such research has generally failed to demonstrate a significant association between these two variables, it appears a logical extension of the perceived locus of control dimension that internals would be more academically successful than externals, who feel that they have little control over their sources of reinforcement. Researchers (e.g. Hjelle, 1970; Prociuk & Breen, 1973a) have commonly cited at least one possibility which may account for this lack of relationship i.e. defensive externality. Therefore, the primary purpose of the present study is to investigate internal-external control as a determinant of academic performance by more adequately specifying the meaning of external control and by identifying those individuals defined as defensive externals. Also, this study examines the effect of two mediating variables namely, achievement via independence versus conformance and fear of negative evaluation as they relate to both locus of control and academic achievement. Since internal-external control is the variable of central interest in this research, this personality construct will be described and related to social learning theory (Rotter, 1954; Rotter, Chance & Phares, 1972) which provides the theoretical basis for its conceptualization.

### Internal-External Control

Developed from social learning theory (Rotter, 1954), the internal-external control construct specifies the location of those causal forces which a person believes as being responsible for his reinforcements. Such causal forces can be derived either from one's own personality i.e. the potential to respond to a particular social environment in a given manner (Rotter, 1967), or from the situation in which one finds himself. As stated by Rotter (1954), the means by which an individual's personality influences an expectancy for success or reinforcement is dependent upon the degree to which the individual believes that reinforcements are within or beyond his own control. A person who has a generalized expectancy that reinforcements are contingent upon his own behaviour, capacities or attributes is described as an internal. A person described as an external, perceives reinforcements as not under his own control but rather under the control of powerful others, luck, chance, fate, etc. The locus of control construct is thus regarded as a generalized expectancy for reinforcement which is operative across a wide variety of situations and represents the individual's expectation of having control over reinforcement consequences (Rotter, 1954).

In addition to this generalized expectancy for reinforcement, a person may find himself in a situation where his control over reinforcements is defined by the particular task structure (Lefcourt, 1966). Specifically, the task may be experimentally varied to induce an expect-

tancy of either high or low control. In the former case, the task structure is viewed as requiring one's own abilities and capacities to achieve success and is therefore defined as a skill situation. In the latter case, success is regarded as dependent upon luck, chance or the decision of others and is thus defined as a chance situation.

Research involving internal-external control has typically followed one of two approaches - the first has involved task structure variation (e.g. James & Rotter, 1958; Nickels & Breen, 1972; Phares, 1962) while the second has considered perceived locus of control as a personality variable (e.g. Prociuk & Breen, 1973b; Watson, 1967). Since the present research follows the latter approach, subsequent discussion will focus on the internal-external control dimension as a generalized expectancy or personality variable.

#### Social Learning Theory: Basic Concepts

Social learning theory (Rotter, 1954; Rotter, Chance & Phares, 1972) provides the theoretical basis underlying the locus of control construct. This theory was introduced in an attempt to account for human behaviour in relatively complex social situations and thus represents a molar approach to the study of personality. Since it utilizes both an expectancy construct and an empirical law of effect, it has been regarded (Rotter, Chance & Phares, 1972) as one attempt to integrate two diverse but significant trends in psychology - the S-R or reinforcement theories on one hand, and the cognitive or field theories on the other. This "dual nature" of social learning theory is

reflected by its basic postulates.

Rotter, Chance & Phares (1972) state that the basic unit for investigating personality is the interaction of the individual and his meaningful environment. Consequently, the situational variable is considered to be of particular importance in predicting human behaviour. From the social learning theory view, each situation is composed of cues which serve to arouse in the individual certain expectancies for reinforcement. For example, in a highly competitive situation such as college academics the actions of others have great relevance for one's own success (Hjelle, 1970). Therefore, a belief in powerful others control is seen as particularly significant in comparison to a situation e.g. gambling, where luck or chance more adequately define external control. The meanings that such situational cues acquire for an individual are based on prior learning history (Rotter, Chance & Phares, 1972). Consequently, the social learning approach to personality places specific emphasis on learned behaviour i.e. human social behaviour.

Rotter (1954) states that goals learned by individuals appear as a result of satisfactions and frustrations that are for the most part controlled by others. Initially, these others are parents who satisfy inborn psychological needs but later become people with whom the individual associates. This recognition of the importance of others in the determination of goal acquisition, specifies the basic conception of "social" learning theory of personality.

Learned behaviour, as described by most personality constructs,

has a directional aspect and may thus be described as being goal-directed. This directional aspect is inferred from the effect of reinforcing conditions. As in Tolman's (1932) sign-gestalt theory it is this directional nature of behaviour, accounting for selective responses to cues and for choice behaviours, which is the motivational focus of social learning theory. For example, a college student's motivation for academic success might account for certain goal-directed behaviours e.g. achievement via conformance, if such behaviours had previously been associated with positive reinforcement i.e. high grades. Since an individual seeks to maximize his positive reinforcements in any given situation (Rotter, Chance & Phares, 1972), his behaviour will tend to be such as to increase his probability of being rewarded.

One aspect of the preceding postulate which must be emphasized, is that it is based on Thorndike's (1935) empirical law of effect. Although it is relatively easy to define reinforcement as anything which reduces a need when dealing with relatively simple organisms or behaviours, when considering human social behaviour the problem becomes more difficult. For instance, college grades derive their reinforcement value since they are a way of obtaining social recognition as well as representing actual achievement. Therefore, in order to operationalize complex interpersonal behaviour Rotter, Chance & Phares (1972) define the reinforcement value of any one of a group of potential external reinforcements in terms of the degree of the individual's preference for that particular reinforcement to occur if the possibilities of occurrence of all

other alternatives are equivalent.

Another postulate of central importance in social learning theory is that of expectancy. According to Rotter (1954) the occurrence of a specific behaviour is determined not only by the nature or importance of goals or reinforcements, but also by the individual's anticipation or expectancy that such goals will occur. Such expectations, are said to be determined by previous learning experience. This postulate thus attempts to explain how the person, in a given situation, behaves in terms of potential reinforcers. For example, an individual though desirous of an available goal, may believe that there is no behaviour in his repertoire that will allow him to be successful in securing the goal. Within this set of circumstances, the person may be described as anticipating no contingency between any effort on his part and the end result. This description of an external-control expectancy may be seen as applicable to many situations including college academics. For instance, research (Prociuk & Breen, 1973b) has demonstrated that an individual who believes that academic success is not contingent upon his own behaviour, will be least motivated to engage in study or study-related activities. Therefore, the concept of expectancy dealing with the anticipation of reinforcement is necessary in accounting for behaviour directed at specific goals.

In addition to the basic postulates previously discussed, Rotter, Chance & Phares (1972) hypothesize a specific relationship among the four principal variables of social learning theory; behaviour potential,

expectancy, reinforcement value, and the psychological situation.

This relationship may be illustrated by the following formula used for predicting human social behaviour.

$$BP_{(x-n),s(1-n),R(a-n)} = f \left[ E_{(x-n),s(1-n),R(a-n)} \ \& \ RV_{(a-n),s(1-n)} \right]$$

This formula indicates that the behaviour potentiality of related behaviours x to n to occur in specified situations 1 to n in relation to potential reinforcements a to n, is a function of the expectancies of these behaviours leading to these reinforcements in these situations and the values of these reinforcements in these situations (Rotter, 1967). Otherwise stated, the potential for any behaviour to occur in a given situation is a function of the person's expectancy that the given behaviour will secure the available reinforcement and the value of the available reinforcement for that individual.

An application of the above-noted formula in predicting human behaviour, is given by Prociuk & Breen (1973b) who investigated the tripartite relationship among locus of control, study habits and level of academic performance. The hypothesis that internals would report more effective study habits and would have higher grade-point averages when compared to externals, was based directly on the following social learning theory paradigm. The potential for any behaviours (study or study-related activity) to occur in a given situation (academic-achievement environment) is a function of the person's expectancy (internal or

external locus of control) that these behaviours will secure the available reinforcement (high grades) and the value of the available reinforcement for the individual (internals placing a higher value on grades than externals). The results of this research confirmed the hypothesis.

In summary, the locus of control construct appears to be one of the more significant variables derived from Rotter's social learning theory (1954). Essentially, this construct refers to one's perceived control over his reinforcement events. If an individual sees a reinforcement as due to his own behaviour, then the occurrence of either a success or failure will strengthen (or weaken) the potential for that particular behaviour to occur in the same or in similar situations. If, however, one sees reinforcement as being unavailable for control, then the behaviour is less likely to be strengthened or weakened. Therefore, the effects of reinforcement on preceding behaviour depend in part on whether the individual perceives the reinforcement as contingent on his own behaviour or independent of it. The locus of control construct, being an expectancy variable, has greatly facilitated the investigation of this question of contingency between act and effect (Lefcourt, 1966).

#### Internal-External Control as a Personality Variable

The first attempt at measuring the internal-external control dimension as a personality variable, was reported by Phares (1955). Phares developed a 13-item Likert-type scale to assess the personality characteristic of attributing the occurrence of reinforcements to

chance rather than to oneself. He found that individuals with external attitudes behaved in a manner similar to those individuals who were placed in a chance (versus skill) situation. Since the introduction of the Phares scale numerous other measures of internal-external control have been developed, some designed for testing special age groups. Some of these scales will be identified and briefly described.

Measures of internal-external control. Initial measures of the locus of control construct resulted from the revision of the Phares (1955) scale. This version was first revised and lengthened to 26 items by James (1957) to become the James-Phares scale. While this measure had been used in some research involving correlates of individual differences in a generalized expectancy for internal-external control, Rotter, Seeman & Liverant (1962) revised the James-Phares scale developing subscales for different areas including achievement, affection and general social and political attitudes. This revision resulted in a 60-item measure which was subsequently to form the basis for the present I-E scale (Rotter, 1966). Rotter (1966) eliminated those items which had a high correlation with the Social Desirability Scale (Crowne & Marlowe, 1964) thus reducing the 60-item scale to 23 items. The final version (I-E scale) consists of 29 forced-choice items (an internal paired with an external statement) including six buffer items to make the purpose of this scale ambiguous.

A number of scales have also been developed for testing children (Battle & Rotter, 1963; Bialer, 1961; Crandall, Katkovsky & Crandall,

1965; Gozali & Bialer, 1968; Nowicki & Strickland, 1970) and high school students (Graves, 1961). The Locus of Control Scale for Children (Bialer, 1961) is an orally administered true-false scale while the Children's Picture Test of Internal-External Control (Battle & Rotter, 1963) presents a series of cartoons requiring the child to describe a lifelike situation involving attribution of responsibility. The Intellectual Achievement Responsibility Questionnaire (Crandall et al., 1965) contains forced-choice items for children, pairing an internal and external interpretation of achievement outcomes. These three scales are generally the preferred measures for use with elementary school children (Throop & MacDonald, 1971).

Although other scales have been developed for use with adults (Cromwell, 1963; Dean, 1961; Dies, 1968; Harrison, 1968; Levenson, 1972; Schneider, 1968) the Rotter I-E scale has for a long time, been considered as the most effective instrument for use with this particular population. Consequently, the majority of reported research investigating this construct has been based on this measure (Joe, 1971; Throop & MacDonald, 1971).

Typical research employing the Rotter I-E scale has proceeded by classifying subjects as being internally or externally oriented on the basis of their responses to this scale. The scores have usually been divided at the median with the lower half indicating internality and the upper half, externality (e.g. Julian, Lichtman & Ryckman, 1968; Lefcourt, 1967; Lefcourt, Lewis & Silverman, 1968). Other investigators

have studied the behaviour of subjects defined as internals, middle, and externals (e.g. Brandt, 1967; Hountras & Scharf, 1970; Lipp, Kolstoe, James & Randall, 1968) while other research has excluded the middle group and investigated the behaviour of extreme internal and extreme external subjects (e.g. Davis & Phares, 1967; Phares, 1965; Ritchie & Phares, 1969). Generally, no differences have been attributed to the specific method of classification.

Research methodology has usually involved a correlation of I-E scale scores with scores on other personality measures or, such classifications as indicated previously, have been employed as a selection variable allowing internals and externals to be placed in different experimental conditions depending on the variable of interest. Previously reported data have suggested numerous differences between internals and externals on certain personality dimensions. A brief review of some of the representative literature will be presented.

Internals versus externals: personality differences. On measures of the California Psychological Inventory (CPI) and the Adjective Check List (ACL), Hersch & Scheibe (1967) found that internals scored higher on several socially oriented variables. For example, on the ACL internals were more likely to describe themselves as assertive, achieving, powerful, independent, effective and industrious, while externals described themselves as inactive, non-achieving, powerless and dependent. Hersch & Scheibe (1967) also found that internally oriented individuals scored higher on the dominance, tolerance, good impression, so-

ciability, intellectual efficiency and well being scales of the CPI compared to externals.

Feather (1967) obtained results indicating a significant tendency for externally-oriented subjects, of both sexes, to report more debilitating anxiety and more neurotic symptoms. Similarly, Butterfield (1964), Hountras & Scharf (1970), Platt & Eisenman (1968) and Watson (1967) found significant positive correlations between internal-external control and various anxiety measures thus demonstrating that the more external the individual's appraisal of control, the more anxiety he is likely to report. Tolor & Reznikoff (1967) and Altrocchi, Palmer, Hellmann & Davis (1968) reported that external scores were significantly related to sensitization while internal scores were related to repression. Additionally, Tolor & Reznikoff (1967) noted that internal scores were significantly correlated with scores on a scale measuring insight and that external scores were significantly related to overt death anxiety. Results of these studies are consistent with the Mandler-Watson interruption theory (1966) which suggests that perceived lack of control is anxiety arousing and individuals who appraise the world as one in which they cannot complete organized response sequences, are more anxious than persons who perceive themselves as in control over what happens to them.

Williams & Vantress (1969) found a significant relationship between internal-external control and hostility - externals scoring significantly higher than internals on five of the eight subscales of the Buss-

Durkee Hostility Inventory (Buss & Durkee, 1957). Such findings suggest that externals, having experienced more feelings of powerlessness and more frustration due to external forces, are more prone to manifest aggression and hostility. These results are further supported by Abramowitz (1969) who noted that externals tended to report more feelings of anger and depression than internals, and by Williams & Nickels (1969) who found that externality was directly related to suicide proneness.

Baron (1968) reported a non-significant relationship between locus of control and authoritarianism. However, a study by Rotter, Seeman & Liverant (1962) demonstrated a significant relationship between these two variables, with externals being more authoritarian. Also, Clouser & Hjelle (1970) noted that external control varied positively with dogmatism.

Hamsher, Geller & Rotter (1968) obtained a significant correlation between internal-external control and interpersonal trust. In a further investigation of these variables, Miller & Minton (1969) found that when internals and externals were placed in either equal or subordinate roles, externals violated experimental instructions significantly more often than did internals, indicating the external's attitude of interpersonal suspiciousness or mistrust.

Several research studies have demonstrated that internals exhibited more initiative in their efforts to attain goals and to control their environment (Phares, 1965; Seeman, 1963; Seeman & Evans, 1962). In ad-

dition, Straits & Sechrest (1963) and James, Woodruff & Werner (1965) reported evidence that internals can control not only their environment but also their own behaviours (smoking) better than externals.

Additional research has suggested several other differences between internals and externals. For example, internals tend more often to forget previous failure experiences (Efran, 1964), resist subtle influence of their behaviour (Getter, 1966; Gore, 1962; Strickland, 1970) avoid cheating (Johnson, 1970), avoid risk-taking behaviour (Julian, Lichtman & Ryckman, 1968; Liverant & Scodel, 1960) prefer skill rather than chance activities (Julian & Katz, 1968; Lefcourt, 1965; Schneider, 1968) and persist longer at a given task (Shepel & Weiss, 1970) than externals.

In summary, these findings tend to form an orderly description of personality differences, which is logically and theoretically consistent with the internal-external control construct. These findings describe externals compared to internals, as being relatively more anxious (Watson, 1967), dogmatic (Clouser & Hjelle, 1970), aggressive (Williams & Vantress, 1969), less trustful and more suspicious of others (Miller & Minton, 1969), lacking in self-confidence and insight (Tolor & Reznikoff, 1967), having low needs for social approval (Hersch & Scheibe, 1967) and having more of a tendency to use sensitizing modes of defense (Altrocchi, Palmer, Hellman & Davis, 1968).

#### Internal-External Control: A Determinant of Academic Achievement

As a logical extension of internal-external control, Rotter (1966)

hypothesized that internals would show more overt striving for achievement than externals who feel that they have little control over their sources of reinforcement. Hence in the academic situation, internals would tend to believe that the level of their academic performance was a direct result of their own ability and effort. Externals however, would have the belief that their level of academic performance was dependent upon powerful others (e.g. professors or teachers), luck, chance (e.g. whether they happened to study relevant course work), etc. As a consequence of these differences in perceived locus of control, internals would be expected to exhibit more interest in academic pursuits, would be more effective and efficient in such endeavours and would thus achieve a higher degree of academic success when compared to externals.

Earlier research (Chance, 1965; Crandall, Katkovsky & Crandall, 1965; Crandall, Katkovsky & Preston, 1962; McGhee & Crandall, 1968) has generally confirmed these hypotheses. Results demonstrated that internals spent more time in intellectual activities, exhibited more interest in academics, and obtained higher achievement test scores and course grade averages. In these studies, the Intellectual Achievement Responsibility Questionnaire (IAR) (Crandall et al., 1965) was used as the measure of internal-external control. This scale, developed for use with elementary and high school students, was designed specifically to measure perceived source of reinforcement in intellectual-academic situations.

McGhee & Crandall (1968) reported that internals on the IAR scale consistently attained higher course grades and achievement test scores

than externals. The results demonstrated however that the I- subscores (indicating internal responsibility for failure) better predicted grades and achievement test scores for boys than the I+ subscores (indicating internal responsibility for successes). It was thus suggested that a boy's belief that he is responsible for his own academic-intellectual failures, may be a greater motivation for academic effort than the positive anticipation of doing well since more attention is given to his performance when he does poorly than when he does well. Conversely, girls scored higher than boys on the I+ and I total scale of the IAR (Solomon, Houlihan & Parelius, 1969) indicating a greater optimism for success based on one's own ability.

Gurin, Gurin, Lao & Beattie (1969) and Lao (1970) also found that students who had a high sense of personal control had higher achievement test scores and grades, higher academic confidence, and higher educational expectations and aspirations than those who had a low sense of control. Correspondingly, Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld & York (1966) reported that children of minority groups who showed a sense of control over their environment had higher achievement scores. Furthermore, internal control was reported to be related to achievement for all minority groups.

As stated earlier, the IAR scale, designed specifically to measure internal-external control in intellectual achievement situations, was used in the majority of these studies. While results of such research have been encouraging, it is important to note some specific features

of this measure. As indicated by Crandall, Katkovsky & Crandall (1965, p. 93), "...while previous scales include a variety of sources and agents such as luck, fate, impersonal forces, more-personal 'significant-others' etc., the IAR limits the source of external control to those persons who most often come in face-to-face contact with a child; his parents, teachers, and peers". The uniqueness of this scale is that it narrows external control only to the powerful others factor. Since this factor is of significant importance to the elementary and high school student who is dependent on parents, teachers and peers (powerful others) for his personal and social needs, it is not surprising that this aspect of the external dimension should be particularly useful in predicting one's locus of control orientation. Consequently, it is reasonable to assume that this particular feature of the IAR scale might account for the positive results obtained in the research previously cited. This interpretation is consistent with results reported by Crandall et al. (1965) which demonstrate that for both sexes, from grades three to 12, there is a gradual increase from an external to an internal locus of control - possibly explained by the fact that the individual becomes more independent with age. This interpretation is also consistent with findings reported by Powell (1971) indicating a lack of relationship between IAR scores and various measures of intellectual academic achievement given that in this research, grade nine subjects were tested. At this stage of psychological and physical development the powerful others aspect of external control might not

adequately nor comprehensively differentiate externals from internals in determining levels of academic achievement.

In summary, research in which the IAR scale was used as a measure of internal-external control, has generally demonstrated this construct to be a determinant of academic achievement. However, this scale has some inherent limitations when one considers the powerful others factor as the sole measure of external control. Also, the IAR cannot be used with college subject samples due to its item composition, hence, generalizability of results is limited.

In research attempting to relate the internal-external control construct to college academic achievement, the I-E scale (Rotter, 1966) has been used as the measure of this construct. Results of such research have generally failed to provide evidence consistent with theoretical prediction. Eisenman & Platt (1968) reported no significant relationship between I-E scale scores and college grades but noted that females generally had higher course grades - the latter finding suggesting that sex differences may be of importance when investigating academic performance. Likewise, Gold (1968) failed to find a significant correlation between I-E scores and grade-point averages, with academic aptitude held constant. This research also suggests that generalized expectancy for control of reinforcement is not related to academic success.

More recent research (Hjelle, 1970; Prociuk & Breen, 1973a; Warehime, 1972) has also failed to support the hypothesis that internally con-

trolled college students would obtain significantly higher grade-point averages than their externally controlled counterparts. As a consequence, a number of possible explanations have been suggested to account for these consistent nonsignificant results. Such discussion has focused on two general issues - the possible limitations of the I-E scale in research investigating achievement and achievement-related behaviours and the concept of defensive externality.

I-E scale: noted limitations. Although the historical significance of the I-E scale cannot be denied, it has recently received significant criticism. For instance, Coan (cf. Dies, 1968), Gurin, Gurin, Lao & Beattie (1969) and Thomas (1970) have suggested that the item content of this measure may be insufficient to assess one's reinforcement beliefs across all areas of experience e.g. academic achievement. Specifically, this scale tends to favor items concerning social and political events as opposed to items regarding personal habits, traits, goals or other interpersonal and intrapersonal concerns. Such observations are supported by Mirels (1970) who reported that a factor analysis of the I-E scale indicated the presence of a "political factor" described as the acceptance or rejection of the idea that a citizen can exert some control over political and world affairs.

Of particular significance to this research, is the view expressed by Hersch & Scheibe (1967) suggesting that the theoretical formulation of the internal-external control construct may be too simplistic. Individuals scoring low on the I-E scale (internals) tend to be more

homogeneous in their self description than externals. This finding thus suggests a diversity in the psychological meaning of externality. As an example, an externally-oriented individual may possess this world view due to the fact that he is physically and intellectually weak in relation to those around him. Or, a person may consider himself external because he is in a highly competitive social situation, where the actions of others have great relevance for the success of his own efforts. Although both of these orientations may be described as simultaneously realistic and pessimistic, there may be a number of other conditions that could be antecedents to an external orientation. If one believes in luck or fate and if these external forces are considered as being on his side, he may accurately describe himself as an external. Also, a person may develop feelings of persecution either with or without reason, accounting for an external orientation. These various possibilities are consistent with the findings of diffuseness in the self-description of externals. Hersch & Scheibe (1967) thus conclude that the utility of the locus of control construct in behavioural prediction, might be increased if externality were to be further differentiated in a manner consistent with these observations.

Levenson (1972) attempted to achieve a greater specificity in the meaning of external control by reconceptualizing the traditional internal-external control dimension. She hypothesized that the I-E scale does not meaningfully differentiate between internals and externals on certain behavioural measures, because the definition of external control

as an expectancy that fate, chance, or powerful others control reinforcement events, is too broad. Three new scales, Internal (I), Powerful Others (P) and Chance (C) were thus constructed in order to measure belief in chance expectancies separately from a powerful others belief. The rationale behind this tripartite differentiation stemmed from the reasoning that individuals who believe the world is unordered (Chance), think and behave in a manner different from individuals who believe the world is ordered but controlled by powerful others. In the second case, a potential for control exists. Research by Levenson (1972) investigating social action involvement and information seeking has supported this view. The results demonstrated significant differences between persons who believe in chance versus powerful others control. Levenson (1972) thus concludes that the powerful others and chance orientations represent quite different beliefs and, therefore, should not be grouped together under the general heading of external control.

The specification of external control into powerful others and chance factors appears particularly relevant for interpreting college academic performance. In the clearly structured and competitive college setting, an individual may be externally oriented because he accurately perceives himself as being less able to compete academically. He might thus conclude that his level of achievement would be determined to a greater extent upon whether he happened to concentrate on and study the specific course material necessary for obtaining an acceptable course grade. In other words, this individual would believe that chance factors determined

his reinforcements. On the other hand, a person might possess a belief in external control not because he doubted his own ability or capacity for work but rather, because he felt that the actions of others, for example, professors or teachers (powerful others) would ultimately determine the level of his performance. Any differences in academic performance might be explained on the basis of specific external belief hence requiring an assessment of defensive externality.

Defensive externality. The concept of defensive externality, initially discussed by Rotter (1966), refers to the notion that an external locus of control may be adopted as an ego-defensive, anxiety-reducing measure. The rationale for this concept is that in attributing reinforcements and punishments to forces outside himself or powerful others, the individual is freed from responsibility for the outcomes of his behaviour and is thus relieved of the personal threat that those outcomes may incur. Defensive externality can thus be considered a means of evading the responsibility for anticipated negative reinforcement (Phares, Ritchie & Davis, 1968).

Several studies have demonstrated differences in the way that internals and externals cope with threatening situations. The results of this research lend support to the notion of defensive externality. For example, Davis & Phares (1967) found that internals were superior to externals in actively seeking information relevant to problem solution. Also, Phares (1968) demonstrated that internals utilized information more effectively in solving problems, and Gore & Rotter (1963)

found that internals were more likely to take overt action to effect social change than externals. Together, such research suggests that internals are more likely to engage in behaviours which will confront a problem directly than are externals. Research reported by Efran (1964) indicated that the tendency to forget failures was significantly related to internal scores suggesting that an external has less need to avoid the unpleasant thought of failure since his external orientation may already provide him with a less threatening explanation - forces outside himself are responsible. Internals, on the other hand, accepting responsibility for failure would tend to forget the situation as an avoidant technique.

Hjelle (1970), Horner (1970) and Thurber (1972) have suggested that successful academic attainment is a source of anxiety for many college students. This observation is tenable for a number of reasons. First, academic success presents a challenge to one's view of himself and is, therefore, ego-involving. Second, college grades are a way of obtaining social recognition as well as representing actual achievement (Eisenman, 1967). Finally, academic success frequently determines one's occupational choice and social status. Previously cited research indicates that internals respond to such anxiety by action-oriented solutions which result in greater success and ultimately less anxiety. Some individuals however, adopt an external world view as a defense against the anxiety associated with possible academic failure. These persons (defensive externals) who were ini-

tially highly competitive, would still maintain a comparatively strong achievement motivation in the clearly structured and competitive academic situation. They would however, account for failure by externally controlled attitudes (Hjelle, 1970). As a consequence, such individuals who are somewhat similar to internals, e.g. achieving, industrious would thus be more successful academically than congruent externals, whose behaviour is consistent with their external "world view". In comparison to internals, however, defensive externals would demonstrate a lower level of academic performance since such individuals adopt defensive externality as an anxiety-reducing technique while internals, respond to anxiety with task-oriented solutions (Phares, Ritchie & Davis, 1968) thus resulting in greater academic success. In addition, previous research (Prociuk & Breen, 1973b) suggests that defensive externals would show a level of academic achievement below that demonstrated by internals because of their external orientation i.e. reinforcement as not entirely a function of their own behaviours.

In previous research investigating locus of control as a determinant of college academic achievement, individuals have been classified as either internal or external on the basis of their responses to the I-E scale. In other words, defensive externals were not differentiated from congruent externals. Thus in terms of academic performance, any noted differences between internals and externals might have been attenuated as a result of the higher level of achievement by defensive externals, compared to congruent externals. Although this possibility

has been frequently noted (e.g. Hjelle, 1970; Prociuk & Breen, 1973a; Rotter, 1966) no systematic investigation of the problem has been conducted. Therefore, this question represents the major focus of the present study.

#### Rationale and Statement of the Problem

Previous research suggests that an adequate investigation of the relationship between internal-external control and academic achievement requires a greater specificity in the meaning of external control, to permit an assessment of defensive externality. With the introduction of the Internal, Powerful Others and Chance scales (Levenson, 1972) such an investigation now appears possible. Previous research (Prociuk & Breen, 1973b) has demonstrated the utility of these measures in predicting academic performance. The present investigation is thus chiefly concerned with extending the analysis of previous research on locus of control and academic achievement by an evaluation of defensive externality.

Thurber (1972) states that in the academic situation, the tendency toward defensive externality is related to the presence of a professor who is a powerful extrinsic source of reinforcement and to whom the responsibility for rewards and punishments can be readily surrendered. A similar view is expressed by Hersch & Scheibe (1967) who state that in a highly competitive social situation (e.g. college academics), a person may describe himself as an external since the actions of others may have great relevance for the success of his own efforts. These points

thus argue that in the academic-achievement situation, the specific external forces to which responsibility for reinforcement is attributed, are powerful others. As a logical extension, defensive externals may be identified as those individuals who believe that powerful others are responsible for their reinforcements but who tend to behave somewhat similar to internals, who regard reinforcement as primarily obtained through one's own efforts (Ritchie, 1970). This apparent inconsistency may be understood by the fact that an external belief in powerful others implies that a potential for personal control does exist (Levenson, 1972). With increasing student participation in academic course planning, administrative policy decisions, grade appeals, etc., this belief in potential personal control may be regarded as tenable (Prociuk & Breen, 1973b). A congruent or consistent external on the other hand, may be identified as an individual who possesses the belief that his level of academic performance is determined solely by luck or chance factors. As a consequence, such persons would be expected to be least interested, least effective and efficient in academic endeavors thus achieving a lower degree of academic success when compared to either defensive externals or internals.

As previously indicated, defensive externality refers to the attribution of responsibility for reinforcements to external forces as a defense against the anxiety associated with anticipated negative evaluation. With respect to academic performance, possible negative evaluation presents a dual threat to the individual since it relates to

one's self concept and also, to one's social prestige (Eisenman, 1967; Watson & Friend, 1969). Defensive externality thus represents an effective adjustment mechanism for coping with the concomitant anxiety experienced by the individual (Ritchie, 1970).

On this basis, it is reasonable to assume that fear of negative evaluation may be an important mediating variable in the college academic situation. Specifically, the threat of negative evaluation might increase one's predisposition toward defensive externality if the individual is in a state of anxiety and believes that he can reduce the anxiety by adopting the defense mechanism. Consequently, a further objective of this research is concerned with examining the social-evaluative anxiety experienced by individuals in the academic achievement environment.

The Fear of Negative Evaluation scale (FNE) developed by Watson & Friend (1969), provides a measure of the anxiety associated with threat of negative evaluation. As defined by these researchers, fear of negative evaluation refers to an individual's apprehension about others' evaluations, distress over their negative evaluations and avoidance of evaluative situations. Watson & Friend (1969) state that the fear of receiving negative evaluation from others differs from test anxiety in that it is not specific to testing conditions but may operate in a variety of social-evaluative instances e.g. talking to one's professor or classmates. This factor is regarded as particularly important considering the social significance of academic performance noted by

Eisenman (1967). In their assessment, Watson & Friend (1969) conclude that the FNE measure may be considered relevant in any potential evaluative situation where social anxiety may act as a moderator or mediating variable.

Research employing the FNE (Watson & Friend, 1969) has indicated that individuals scoring high on this scale tended to become nervous in evaluative situations, and attempted to either avoid disapproval or gain approval. Results also demonstrated that high scorers as compared to low scorers were defensive, self-effacing and were less autonomous and less dominant. Such findings thus suggest a direct relationship between high fear of negative evaluation and external control. However, if defensive externality serves as an effective mechanism for coping with the social anxiety related to college academics, then defensive externals should report less fear of negative evaluation and should be more academically successful than congruent externals.

In addition to fear of negative evaluation, research (Thurber, 1972) suggests that conformance versus independence may also be an important mediating variable in an investigation of defensive externality. This view is consistent with several research studies which have demonstrated that an external orientation predisposes one to be more sensitive to the reaction or demands of outside agents - especially those in status positions (Biondo & MacDonald, 1971; MacDonald & Hall, 1969, 1971; Ritchie & Phares, 1969). This kind of a relation-

ship would thus suggest that externals are more conforming or "other-directed" than internals. Studies which have investigated conformity in relation to the locus of control construct have confirmed this hypothesis. For example, Odell (1959) reported a significant relationship between the I-E scale and the Barron Independence of Judgement scale (Barron, 1953), with a belief in external control relating to the tendency to conform. Likewise, studies by Crowne & Liverant (1963) and Ritchie & Phares (1969) indicated that externals were more conforming than internals. Such results are also directly related to the self-description of internals and externals. Hersch & Scheibe (1967) have noted that internals tend to describe themselves as assertive, powerful and independent while externals regard themselves as powerless and dependent.

Consistent with these results, defensive externals who attribute responsibility for rewards and punishments to powerful others or those in status positions, would tend to become more sensitive to the demands of such others. Consequently, the defensive external's level of academic performance might thus reflect a type of conforming dependency in which the rules of the academic game are followed in exchange for reinforcement (grades) from powerful others (professors). Therefore, while defensive externals would achieve by conforming to the implicit and explicit demands of professors, internals who are more inner-directed and autonomous would tend to achieve independently.

The Achievement via Independence (Ai) and Achievement via Confor-

mance (Ac) scales of the California Psychological Inventory (CPI) (Gough, 1957) provide separate measures of individuals' method of achievement thus permitting an evaluation of the relationships between this variable, internal-external control and academic performance. Specifically, the Ai scale identifies those factors which facilitate achievement in a setting where autonomy and independence are emphasized. High scorers on this scale are regarded as dominant, independent, self-reliant and demanding - personality characteristics found to be associated with internal control (Hersch & Scheibe, 1967). Conversely, persons scoring low have been described in a manner similar to congruent externals i.e. inhibited, anxious, submissive and compliant.

The purpose of the Ac scale, is to isolate those aspects facilitating achievement in a situation where conformance is regarded as a positive behaviour. Individuals scoring high on this scale have been described as capable, cooperative, persistent and industrious - personality characteristics expected to be associated with defensive externals. In contrast, descriptions of low scorers are consistent with those of congruent externals i.e. aloof, pessimistic and insecure.

Although high scores on both scales are regarded as indicative of effective achievement-directed behaviour, research (Gough, 1964; Rosenberg, McHenry, Rosenberg & Nichols, 1962) has indicated that of the two, the Ai scale is more strongly related to a high level of academic performance. In both studies, the Ai accounted for the greatest proportion of variance in academic grades when used in step-

wise multiple linear regression analyses with related CPI measures. However, both measures are preferred in complex achievement situations (college academics) where certain tasks e.g. term papers, demand independent effort while others e.g. group projects, require a degree of conformance. Consequently, the present research employs both the Ai and Ac scales in an attempt to specify the association between the internal-external control and independence/conformance variables.

It should be noted that an investigation of independence versus conformance is also seen as particularly relevant for interpreting the differences in academic performance between males and females. Externality represents a conforming, dependent state - traits which are traditionally associated with the female role (Kagan & Moss, 1962). Therefore, females may be more motivated to adopt defensive externality because it simultaneously leads to an affirmation of expected feminine attitudes (Crutchfield, 1955; Thurber, 1972). If such an external orientation effectively deals with achievement related anxiety in women, it follows that females should show academic performance superior to males - a finding reported by Eisenman & Platt (1968).

In summary, the following relationships are expected on the basis of previous discussion. Internals, who possess a belief that the level of their academic achievement is a direct result of their own ability and effort, would report less anxiety regarding academic failure and would tend to be more independent and self directed in their mode of achievement. Defensive externals, who believe that powerful others

control their sources of reinforcements, would report a moderate amount of anxiety regarding academic failure and would tend to be more conforming and other-directed in their academic-achievement orientation. Finally, congruent externals who believe that their academic success is primarily determined by chance or luck factors, would tend to be most anxious regarding academic failure. Although their achievement orientation might only be described as ineffective and inefficient, previous research suggests that such individuals would tend to be more conforming than independent. On the basis of such description, the following hypotheses relating academic achievement levels to internal-external control, will be considered in the present study.

### Hypotheses

Hypothesis 1: Male and female internals, experiencing a low degree of anxiety regarding negative evaluation and employing an independent achievement method, are more successful academically than corresponding congruent externals, who experience a high degree of anxiety regarding negative evaluation and who employ a conforming achievement method.

Hypothesis 2: Male and female internals, experiencing a low degree of anxiety regarding negative evaluation and employing an independent achievement method, are more successful academically than corresponding defensive externals, who experience a moderate degree of anxiety regarding negative evaluation and who employ a conforming achievement method.

Hypothesis 3: Male and female defensive externals, experiencing a moderate degree of anxiety regarding negative evaluation and employing a conforming achievement method, are more successful academically than corresponding congruent externals, who experience a high degree of anxiety regarding negative evaluation and who employ a conforming achievement method.

Hypothesis 4: Female defensive externals who adopt defensive externality, which simultaneously affirms traditional feminine versus masculine characteristics, are more successful academically than male defensive externals.

## METHOD

Subjects

The subjects were 66 male and 94 female college students enrolled in second or third year psychology courses at the University of Manitoba. All subjects participated voluntarily in this study, as part of a classroom exercise. Upper year students were selected since measures of the dependent variable, grade-point average, were available for these subjects.

Measuring Instruments

The measures used in this study and described below are: the Internal, Powerful Others and Chance scales, the Achievement via Conformance scale, the Achievement via Independence scale, and the Fear of Negative Evaluation scale.

Internal, Powerful Others and Chance scales. Each of the I, P and C scales (Appendix A) developed by Levenson (1972) consists of eight items in a six-point format. These items are administered to the subject as a unified attitude scale of 24 items. The scales consist of several items adapted from the I-E scale and a set of statements written specifically for these new scales. The possible range of scores on each of these scales is 0-48. Although these measures are relatively new, data supporting their reliability is encouraging. Levenson (1972) reports Kuder-Richardson reliability coefficients of 0.64, 0.77 and 0.78 for the I, P and C scales respectively, while test-retest reliability coefficients for a one-week interval, are: 0.64 (I scale), 0.74 (P scale)

and 0.78 (C scale).

The items of the I, P and C scales differ from those of the I-E scale in four distinct ways. First, a six-point scale is used as opposed to a forced-choice format in an attempt to make the three scales statistically independent of one another. Second, in the I, P and C scales a personal-ideological distinction is made i.e. the statements are phrased in such a manner as to pertain only to the person himself. Therefore, the individual responds in terms of his own perceptions and not what he considers to be true for "people in general". Third, no reference is made in the items which would assume the modifiability of specific issues i.e. the degree to which an individual believes racial discrimination, war, and world affairs can be modified. Gurin et al. (1969) reported personal versus ideological control and system modifiability to be contaminating factors in the I-E scale. Finally, in content the I, P and C scales have a high degree of parallelism among each triad i.e. the items are concerned with similar issues.

Achievement via Conformance scale. The Ac scale is one of the 18 scales of the California Psychological Inventory (Gough, 1957). It was developed to identify those interest and motivational factors which facilitate achievement in any situation where conformance is regarded as a positive behaviour. The scale consists of 38 items in a true-false format. For several groups of college students, Gough (1957) reports means of 27.4 and 28.8 for males and females respectively. Re-test reliability is reported to be 0.73 for a twelve-month interval and

0.79 for a two to three week interval. This scale is presented in Appendix B.

Achievement via Independence scale. The Ai scale is also one of the 18 scales of the California Psychological Inventory (Gough, 1957). The purpose of this measure is to identify those motivational and interest factors which facilitate achievement in a setting where autonomy and independence are considered as desirable behaviours. This scale consists of 30 statements which are answered either true or false. The means for male and female college students respectively, are 20.9 and 21.9. Test-retest reliabilities for this scale are 0.63 for a 12-month interval and 0.71 for a two to three week interval. This scale appears in Appendix C.

Fear of Negative Evaluation scale. The FNE scale is one of two scales developed by Watson & Friend (1969) to measure the anxiety of being evaluated and the seeking of social approval. This scale consists of 30 true-false items which were selected by rational analysis from a larger pool of items.

The FNE is rectangularly distributed with a mean of 15.47, median of 16 and S.D. of 8.62. Watson & Friend (1969) conclude that this rectangularity indicates that the entire range of the scale is well used. The internal consistency for the FNE is 0.96 and test-retest reliabilities of 0.78 and 0.94 are reported for a one month interval. The FNE correlated 0.18 with the I-E scale and 0.60 with the Manifest Anxiety scale (Taylor, 1953). This scale is presented in Appendix D.

### Procedure

The battery of questionnaires used in this study was administered to four undergraduate psychology classes during regular class time and with the instructor's consent. The subjects were told that the scales they were completing were designed to measure certain psychological constructs, the results of which were to be used for research purposes only. Additionally, they were informed that participation was on a voluntary basis. Following the completion of the questionnaires, which took approximately twenty minutes, the subjects were briefed with a general explanation of the study. Any specific questions were answered. Finally, the subjects were thanked for their participation in the experiment and the instructor was acknowledged for having devoted his class time for this purpose. The dependent variable, grade-point average, was obtained from the University Registrar's Office for each subject.

### Experimental Design and Data Analysis

The subjects were subdivided initially according to gender since subsequent analysis dealt with males and females separately. Each individual's scores on the I, P and C scales were converted to z-scores and on the basis of the highest z-score, the subject was identified as either an internal, defensive external or congruent external - internals were identified by the I scale, defensive externals by the P scale and congruent externals by the C scale. As a result, each subject was placed into one of six groups according to gender (2 levels) and locus-of-control orientation (3 levels).

A step-wise multiple linear regression analysis (Nunnally, 1967) was computed for each of the six groups of data, employing grade-point average (GPA) as the dependent variable and scores on the Ac, Ai, FNE scales and the particular Levenson scale i.e. I, P or C as independent variables. The purpose of computing step-wise multiple linear regression analyses for these subject groups, was to reduce the variability in their respective GPA measures. These analyses did not alter the mean grade-point averages but did reduce the variance in GPA, with the degree of reduction depending upon the effect and importance of the mediating variables. Such analyses thus permitted an evaluation of the relationship among the mediating variables, i.e. fear of negative evaluation and achievement via independence versus conformance, locus of control, and academic performance. The mean grade-point averages were compared according to stated hypotheses, by employing a planned nonorthogonal comparison procedure. These comparisons thus specified the relationship between the internal-external control construct and academic achievement.

## RESULTS

As an initial procedure, the means and standard deviations of all variables were calculated separately for males and females. Also as summarized in Table 1, orthogonal t tests were computed to determine whether any mean differences might be attributed to gender. The results indicated that there were no significant sex differences on any of the measures except GPA, where females were superior.

Each subject was identified as an internal, defensive external or congruent external on the basis of a z-score comparison. As a result of this classification procedure, of the 66 male subjects in this research 24 were classified as internals, 23 as defensive externals and 19 as congruent externals. Of the 94 female subjects 41 were classified as internals, 27 as defensive externals and 26 as congruent externals.

A step-wise multiple linear regression was the primary method of data analysis. Such an analysis was calculated for each of the six groups of subjects according to gender (two levels) and internal-external control (three levels). In each case academic performance, as measured by GPA, was the criterion variable while scores on the Ac, Ai, FNE and the specific Levenson scale e.g. I scale for internals, were the predictor variables.

Multiple Linear Regression Analyses of Grade-Point Averages

Internals. For male internals, as shown in Table 2, the I scores

TABLE 2

Matrix of Intercorrelations of Variables  
for Male Internals (N=24)

Variable	GPA	I	Ac	Ai	FNE
GPA	1.00	0.18	0.15	0.03	0.35
I		1.00	0.51**	-0.23	-0.45*
Ac			1.00	0.18	-0.39*
Ai				1.00	-0.15
FNE					1.00

\*\*  $p < .01$   $df=22$   
\*  $p < .05$

TABLE 3

Step-wise Multiple Linear Regression Analysis of GPA for  
Male Internals: I, Ac, Ai and FNE as Predictor Variables

Variable	t-value	Standardized $\beta$	$r^2_{\text{semi-partial}}$	$R^2$
FNE	2.87**	0.05	0.121	0.332
I	1.77*	0.06	0.145	
Ai	1.01	0.04	0.055	
Ac	0.55	0.02	0.011	

\*\*  $p < .01$   $df=19$   
\*  $p < .05$

TABLE 1

Means and Standard Deviations of all Variables  
for Males and Females and Tests of Mean Differences

Variable	Males (N=66)		Females (N=94)		t-values
	Mean	S.D.	Mean	S.D.	
GPA	2.45	0.60	2.69	0.59	2.50*
I	33.98	5.98	34.37	6.36	0.39
P	19.06	9.76	19.56	8.66	0.33
C	17.20	8.53	17.91	8.37	0.52
Ac	25.60	5.04	25.72	4.62	0.15
Ai	20.83	4.16	21.31	3.56	0.75
FNE	12.85	8.57	15.03	8.18	1.60

\*  $p < .05$   $df=158$

correlated significantly with the Ac scores ( $r=0.51$ ,  $p<.01$ ), and with the FNE scores ( $r=0.45$ ,  $p<.05$ ). The Ac and FNE correlation was also significant ( $r=0.39$ ,  $p<.05$ ). As is evident from Table 3, the FNE accounted for 12.1 percent of the variance in GPA ( $t=2.87$ ,  $p<.01$ ,  $df=19$ ) while the I scale accounted for 14.5 percent ( $t=1.77$ ,  $p<.05$ ,  $df=19$ ).

Results for females, summarized in Table 4, indicated significant zero-order correlations between GPA and Ai scores ( $r=0.37$ ,  $p<.01$ ) and between GPA and Ac scores ( $r=0.28$ ,  $p<.05$ ). The step-wise multiple linear regression analysis (Table 5) indicated that the Ai scores accounted for a significant proportion i.e. 14.0 percent, of the variance in GPA ( $t=1.95$ ,  $p<.05$ ,  $df=36$ ).

Defensive externals. For male defensive externals (Table 6), the only significant correlation was between the Ai and P scores ( $r=-0.38$ ,  $p<.05$ ). Although none of the four predictor variables accounted for a significant proportion of the variance in GPA (Table 7), it should be noted that the P scale accounted for the largest percentage i.e. 9.4 percent.

Results summarized in Table 8 indicated that for female defensive externals, the correlations between P and FNE scores ( $r=0.38$ ); between P and Ai scores ( $r=-0.32$ ) and between P and GPA measures ( $r=0.33$ ) were significant ( $p<.05$ ). The relationship between the Ai and Ac scales was also significant ( $r=0.46$ ,  $p<.01$ ). As shown in Table 9, the P scale accounted for 10.7 percent of the variance in GPA ( $t=2.12$ ,  $p<.05$ ,  $df=22$ ).

TABLE 4

Matrix of Intercorrelations of Variables  
for Female Internals (N=41)

Variable	GPA	I	Ac	Ai	FNE
GPA	1.00	0.06	0.28*	0.37**	0.22
I		1.00	0.24	-0.02	-0.08
Ac			1.00	0.24	0.13
Ai				1.00	0.19
FNE					1.00

\*\*  $p < .01$   $df=39$

\*  $p < .05$

TABLE 5

Step-wise Multiple Linear Regression Analysis of GPA for  
Female Internals: I, Ac, Ai and FNE as Predictor Variables

Variable	t-value	Standardized $\beta$	$r^2_{\text{semi-partial}}$	$R^2$
Ai	1.95*	0.03	0.140	0.200
Ac	1.15	0.02	0.039	
FNE	0.95	0.01	0.019	
I	0.20	0.02	0.001	

\*  $p < .05$   $df=36$

TABLE 6

Matrix of Intercorrelations of Variables  
for Male Defensive Externals (N=23)

Variable	GPA	P	Ac	Ai	FNE
GPA	1.00	-0.31	-0.03	0.29	0.04
P		1.00	-0.30	-0.38*	0.13
Ac			1.00	0.24	-0.18
Ai				1.00	0.05
FNE					1.00

\*  $p < .05$   $df=21$

TABLE 7

Step-wise Multiple Linear Regression Analysis of GPA for  
Male Defensive Externals: P, Ac, Ai and FNE as Predictor Variables

Variable	t-value	Standardized $\beta$	$r^2_{\text{semi-partial}}$	$R^2$
P	-1.13	-0.02	0.094	0.151
Ai	0.89	0.03	0.033	
Ac	-0.66	-0.02	0.023	
FNE	0.17	0.002	0.011	

TABLE 8

Matrix of Intercorrelations of Variables  
for Female Defensive Externals (N=27)

Variable	GPA	P	Ac	Ai	FNE
GPA	1.00	0.33*	0.13	0.24	0.16
P		1.00	-0.31	-0.32*	0.38*
Ac			1.00	0.46**	-0.11
Ai				1.00	-0.17
FNE					1.00

\*\*  $p < .01$   $df=25$

\*  $p < .05$

TABLE 9

Step-wise Multiple Linear Regression Analysis of GPA for  
Female Defensive Externals: P, Ac, Ai and FNE as Predictor Variables

Variable	t-value	Standardized $\beta$	$r^2_{\text{semi-partial}}$	$R^2$
P	2.12*	0.04	0.107	0.250
Ai	1.57	0.06	0.129	
Ac	0.58	0.02	0.012	
FNE	0.32	0.004	0.003	

\*  $p < .05$   $df=22$

Congruent externals. For male subjects, the zero-order correlations (Table 10) between the FNE and C scales ( $r=0.62$ ) and between the FNE and Ai scales ( $r=0.67$ ) were significant ( $p<.01$ ). Also, the Ai scores correlated significantly with GPA ( $r=0.60$ ,  $p<.01$ ), and with C scores ( $r=0.72$ ,  $p<.01$ ). As indicated in Table 11, the Ai scale accounted for 36.2 percent of the variance in GPA ( $t=2.21$ ,  $p<.05$ ,  $df=14$ ).

As is evident from Table 12, for female congruent externals the zero-order correlations between the Ai and GPA measures ( $r=0.35$ ) and between the Ai and C scales ( $r=0.38$ ) were significant ( $p<.05$ ). Results of the step-wise multiple linear regression analysis (Table 13) indicated that the Ai scale accounted for 12.6 percent of the variance in GPA ( $t=2.09$ ,  $p<.05$ ,  $df=21$ ) while the C scale accounted for 14.7 percent ( $t=2.12$ ,  $p<.05$ ,  $df=21$ ).

As previously indicated, the purpose of computing step-wise multiple linear regression analyses, for these various subject groups, was to reduce the variability in their respective GPA measures. Table 14 provides a summary of the mean GPA for each subject group as well as the standard deviations before and after a multiple linear regression analysis was computed.

#### Pairwise Comparisons of Mean Grade-Point Averages

The Bonferroni  $t$  statistic was used to make planned nonorthogonal comparisons among those mean grade-point averages as specified by the hypotheses of this study. This particular procedure was employed in

TABLE 10

Matrix of Intercorrelations of Variables  
for Male Congruent Externals (N=19)

Variable	GPA	C	Ac	Ai	FNE
GPA	1.00	-0.35	0.29	0.60**	-0.31
C		1.00	-0.18	-0.72**	0.62**
Ac			1.00	0.30	-0.34
Ai				1.00	-0.67**
FNE					1.00

\*\*  $p < .01$   $df=17$

TABLE 11

Step-wise Multiple Linear Regression Analysis of GPA for  
Male Congruent Externals: C, Ac, Ai, FNE as Predictor Variables

Variable	t-value	Standardized $\beta$	$r^2$ semi-partial	$R^2$
Ai	2.21*	0.10	0.362	0.382
C	0.42	0.01	0.016	
FNE	0.45	0.006	0.008	
Ac	0.23	0.005	0.002	

\*  $p < .05$   $df=14$

TABLE 12

Matrix of Intercorrelations of Variables  
for Female Congruent Externals (N=26)

Variable	GPA	C	Ac	Ai	FNE
GPA	1.00	0.22	0.26	0.35*	-0.20
C		1.00	-0.15	-0.38*	0.01
Ac			1.00	0.26	-0.07
Ai				1.00	-0.28
FNE					1.00

\*  $p < .05$   $df=25$

TABLE 13

Step-wise Multiple Linear Regression Analysis of GPA for  
Female Congruent Externals: C, Ac, Ai and FNE as Predictor Variables

Variable	t-value	Standardized $\beta$	$r^2$ semi-partial	$R^2$
Ai	2.09*	0.06	0.126	0.309
C	2.12*	0.03	0.147	
Ac	1.05	0.02	0.036	
FNE	-0.36	-0.003	0.004	

\*  $p < .05$   $df=21$

TABLE 14

Mean and Standard Deviations of GPA for each  
Subject Group before and after Multiple  
Linear Regression Analysis

	Internals (I)	Defensive Externals (DE)	Congruent Externals (CE)
Males (M)	$\bar{X}=2.81$ S.D.=0.54 S.D.'=0.31	$\bar{X}=2.37$ S.D.=0.53 S.D.'=0.21	$\bar{X}=2.08$ S.D.=0.52 S.D.'=0.32
Females (F)	$\bar{X}=2.93$ S.D.=0.44 S.D.'=0.20	$\bar{X}=2.72$ S.D.=0.67 S.D.'=0.34	$\bar{X}=2.29$ S.D.=0.50 S.D.'=0.28

S.D. - standard deviation before multiple linear regression

S.D.' - standard deviation after multiple linear regression

order to set the probability of Type I error at  $\alpha = .05$  for the entire collection of comparisons and thus control the experimentwise error rate. The results of calculated pairwise comparisons are summarized in Table 15.

The comparisons of the mean grade-point averages of male and female internals and corresponding congruent externals indicated that internals were more academically successful than their congruent external counterparts. The obtained Bonferroni t-value for males was  $t=7.34$  and for females,  $t=9.95$ . These t-values were both significant ( $p < .001$ ).

Results of Bonferroni t tests demonstrated that male and female internals achieve a higher level of academic success than corresponding defensive externals. The calculated Bonferroni t-value for males was  $t=5.59$  and for females,  $t=2.81$ . Both t-values were significant ( $p < .0096$ ).

Pairwise comparisons of the mean grade-point averages of male and female defensive externals and corresponding congruent externals showed defensive externals, of either gender, to be more academically successful. The obtained Bonferroni t-values were  $t=3.31$  ( $p < .0096$ ) and  $t=4.95$  ( $p < .0096$ ) for males and females, respectively.

Finally, a comparison of the mean GPA of female defensive externals with that obtained by male defensive externals, showed that females achieved a higher level of academic success. The computed Bonferroni t-value ( $t=4.38$ ) was significant ( $p < .0096$ ).

As a supplementary analysis, two additional pairwise comparisons

TABLE 15

Pairwise Nonorthogonal Comparisons of Mean GPA

Comparison		t-value
Males	Internals vs Congruent Externals	t=7.34**
	Internals vs Defensive Externals	t=5.59*
	Defensive Externals vs Congruent Externals	t=3.31*
Females	Internals vs Congruent Externals	t=9.95**
	Internals vs Defensive Externals	t=2.81*
	Defensive Externals vs Congruent Externals	t=4.95*
Defensive Externals	Females vs Males	t=4.38*

\*  $p < .0096$ \*\*  $p < .0010$

were calculated to evaluate the difference in mean grade-point averages between male and female internals, and between male and female congruent externals. The results of these comparisons ( $t=1.66$ ;  $t=2.23$ ) were not significant ( $p>.0096$ ).

## DISCUSSION

Internal-External Control as a Determinant of Academic Performance

The results of the Bonferroni *t* tests supported the predicted relationship between internal-external control and academic performance. First, the findings indicated that internals are more academically successful than either defensive externals or congruent externals. Such results are consistent with the theoretical relationship between locus of control and academic performance suggested by Rotter (1966). He hypothesized that internals who believe that reinforcements (high grades) are a direct result of their own ability and effort, would manifest more achievement-directed behaviour compared to externals, and would consequently achieve a higher degree of academic success. The data of the present study supported this prediction showing that the mean grade-point averages for internals, male and female, were significantly greater than those for defensive externals or congruent externals.

The prediction that defensive externals are more academically successful than congruent externals was also supported. As stated by Hjelle (1970) and Thurber (1972), defensive externals are individuals who ascribe reinforcement responsibility to powerful others (professors) primarily as a defense against failure. Despite this external orientation, these persons continue to maintain a comparatively strong achievement motive and tend to behave in a manner somewhat similar to internals e.g. achieving, industrious (Ritchie, 1970). Consequently, it was expected that defensive externals would achieve a higher degree

of academic success than congruent externals, whose behaviour e.g. non-achieving, inactive, powerless, is consistent with their external belief that luck, chance or fate control their sources of reinforcement. Results indicated that defensive externals, male and female, had a higher mean grade-point average than congruent externals thus confirming this prediction.

This specific finding is considered particularly important for clarifying the results of previous research e.g. Eisenman & Platt (1968); Hjelle (1970). In these studies, no attempt was made to differentiate between defensive externals and congruent externals. Rather, the latter two groups were classified together simply as externals. Thus in terms of academic performance, any noted differences between internals and externals may have been attenuated as a result of the relatively high level of achievement by defensive externals and because such previous research did not consider the effect of mediating variables. In the present study such variables, i.e. fear of negative evaluation and achievement via independence versus conformance, were introduced in an attempt to account for variability in academic achievement. As a consequence, the relationship between locus of control and academic performance appears to have been more adequately specified.

Finally, the results supported the prediction that female defensive externals would have a higher mean grade-point average than male defensive externals. Thurber (1972) has stated that females may be more predisposed to adopting defensive externality because it simul-

taneously leads to an affirmation of expected feminine attitudes e.g. conformity, dependency. Since this external orientation was shown (Ritchie, 1970) to be a relatively effective defense mechanism for alleviating achievement-related anxiety, it was thus predicted that female defensive externals would show academic performance superior to that of male defensive externals. The obtained Bonferroni t-value confirmed this prediction.

It should be noted that females, as a group, had a significantly higher mean grade-point average than males - a finding also reported by Eisenman & Platt (1968). The results of this research enable a clarification of this particular finding. Specifically, this study demonstrated that female defensive externals were academically superior to male defensive externals. Differences in the academic achievement of male and female internals, and of male and female congruent externals were not significant. Therefore, the noted difference in academic performance between males and females may thus be explained on the basis of the differential levels of achievement by male and female defensive externals.

#### Effect of Mediating Variables

Fear of negative evaluation. Consistent with previous research findings (Hersch & Scheibe, 1967; Watson, 1967) which described internals as intellectually efficient, self-confident and low in anxiety, the present research indicated that internals express little concern regarding social evaluation. Interestingly, however, fear of negative

evaluation was found to be a significant variable in accounting for the academic performance of male internals. It thus appears that although male internals may generally feel confident in social-evaluative situations, they nevertheless express some concern regarding possible negative evaluation as it relates to a specific situation i.e. college academics. This concern might very likely result from a realistic appraisal of the consequences associated with academic failure. Research (Efran, 1964) which indicated that internals showed a high degree of concern regarding possible failure is consistent with this interpretation. The obtained results are also consistent with social learning theory (Rotter, Chance & Phares, 1972), which emphasizes the importance of the psychological situation in accounting for specific human behaviour. The fact that these findings are particular only to male internals might be explained in terms of social expectation. Notwithstanding the women's liberation movement, academic success is considered more important for males than for females.

The results also indicated that for male internals, fear of negative evaluation was negatively related to achievement via conformance. Given the fact that fear of negative evaluation was shown to be an important factor in determining the academic success of male internals, it thus appears that such individuals may adopt an other-directed achievement method in an attempt to simultaneously, gain approval (high grades) from professors and reduce the threat of being negatively evaluated. This interpretation is supported by further results in-

dicating a positive relationship between achievement via conformance and internal control for male internals.

As anticipated, fear of negative evaluation was positively related to a belief in powerful others control for defensive externals. This relationship however, reached significance only for female subjects. Such results support previous research (Thurber, 1972) which suggests that individuals experiencing anxiety related to potential negative evaluation, would adopt defensive externality as a defense mechanism. Specifically, by attributing reinforcement control to powerful others, defensive externals are freed from the responsibility for possible negative outcomes of their own behaviour (Rotter, 1966). The difference in results between males and females, might be explained by the fact that females may be more likely to employ defensive externality since it also affirms traditional feminine characteristics.

For male congruent externals, fear of negative evaluation was positively related to their belief that luck, chance or fate control their sources of reinforcement. These results are consistent with previous research (e.g. Prociuk & Breen, 1973a; Watson, 1967) which demonstrated a direct association between external control and various measures of anxiety i.e. manifest anxiety, test anxiety. Also, in terms of the Mandler-Watson interruption theory (1966) congruent externals would be expected to express a high degree of anxiety associated with negative evaluation because of their belief that luck or chance control reinforcement (academic grades). It should be

noted that this particular finding was specific to male subjects. In contrast for defensive externals, the relationship between locus of control and fear of negative evaluation was significant only for females. Such results lend some support to the notion that females may be more likely to employ defensive externality as an anxiety reducing measure, since it simultaneously leads to an affirmation of the traditional feminine characteristics of conformity and dependence. Conversely, male congruent externals appear less motivated to adopt a conforming attitude attempting rather, to alleviate achievement-related anxiety by assertive and independent behaviour - characteristics traditionally associated with the masculine role. This interpretation is supported by the negative relationship between achievement via independence and fear of negative evaluation obtained for male congruent externals.

Achievement via independence versus conformance. As anticipated, achievement via independence was positively related to academic performance for female internals, and was also a significant factor in accounting for their level of achievement. Such results support previous research (Odell, 1959) which described internals as independent and self-directed. In addition, however, results for female internals also indicated a positive relationship between achievement via conformance and academic performance. Although these two findings may appear to be contradictory, they are in fact consistent if one considers the diversity of academic programs followed by the female subjects of this

study. Previous research (Sistrunk, 1972; Sistrunk & McDavid, 1971) examining the sex variable in conforming behaviour, demonstrated that female conformity was related to task characteristics i.e. greater conformity in females was found if the task situation was defined as being masculine related. It is therefore suggested that females enrolled in college programs and/or courses which are regarded as primarily male-oriented e.g. mathematics and science, may employ an other-directed or conforming method of achievement. Conversely, in programs or courses more specific to females e.g. home economics, nursing or social work, female internals would be more likely to achieve via independence which is consistent with their internal orientation. Post-hoc analyses, employing chi-square tests, provided some support for this interpretation. Although the results of such analyses were not significant, the observed differences were in the expected direction.

For male internals, achievement via conformance was positively related to internal control thus indicating that these individuals employ an other-directed achievement method. It will be recalled from previous discussion, that fear of negative evaluation was a significant factor accounting for the academic performance of such individuals. These findings thus suggest that male internals, who are able to realistically appraise their environment (Davis & Phares, 1967; Phares, 1968), may adopt a conforming, other-directed method of achievement if they believe that this approach will enhance their opportunity for positive reinforcement (high grades). This interpretation is consistent

with research (Ryckman & Rodda, 1972) which demonstrated that internal males conformed more than external males since they were primarily concerned with meeting task requirements. In addition, by achieving via conformance male internals may be able to somewhat reduce the threat of possible failure as is suggested by the negative relationship between fear of negative evaluation and achievement via conformance.

For both male and female defensive externals, achievement via independence was negatively related to their belief in powerful others control. Such results were anticipated since a belief in powerful others control would necessarily imply that the individual is less self-directed. For female defensive externals, the positive correlation between achievement via conformance and achievement via independence was similar to that reported by Gough (1957). As suggested by Gough (1957), in complex achievement situations such as college academics, the two measures may often be found to correlate since certain academic tasks may demand independent effort e.g. examinations, while others e.g. group projects, may require some degree of cooperation and conformance.

The negative relationship between achievement via independence and chance locus of control was significant for both male and female congruent externals. As suggested earlier, such results are consistent with previous research (Crowne & Liverant, 1963) since a chance external orientation would necessarily imply less independent behaviour. It should be noted however, that achievement via independence was a

major factor in accounting for the academic performance of congruent externals. Such results suggest that while congruent externals are characteristically less independent than internals, they nevertheless attempt to achieve academic success by self-directed methods. If such is the case, congruent externals would concentrate on and study such topics as they considered to be important and not necessarily those relating to course material. As a consequence, it would be expected that such individuals would demonstrate a relatively low level of academic achievement. Obtained results support this interpretation indicating that the mean grade-point average for both male and female congruent externals was the lowest of all subject groups.

In summary, the fear of negative evaluation and achievement via independence versus conformance constructs appear to have provided some information on the relationship between locus of control and academic performance. Two specific results are considered of particular interest. First, it was demonstrated that threat of failure may be an important factor in determining the academic success of male internals. Such results were consistent with previous research (Efran, 1964) which indicated that internals are concerned with and threatened by failure. Also, the data suggested that congruent externals may be employing inappropriate self-directed achievement methods in their attempt to complete college academic requirements. This finding thus provides additional information which may account for the differential level of academic performance shown by such individuals.

### Theoretical Implications

This research has provided some information clarifying results of previous investigations e.g. Eisenman & Platt, 1968; Hjelle, 1970, which examined the relationship between internal-external control and academic performance. While such research generally failed to demonstrate a significant association between these two variables, it appears a logical extension of the perceived locus of control dimension that internals would be more academically successful than externals, who feel that they have little control over their sources of reinforcement (Rotter, 1966). Although several researchers (e.g. Hjelle, 1970; Thurber, 1972) noted that defensive externality may be a factor confounding the relationship between academic performance and internal-external control, no systematic investigation of this problem had been conducted. The present study which considered this factor demonstrated that defensive externals were academically superior to congruent externals thus providing a possible explanation for the results of previous research. More importantly, this research unlike previous investigations, considered the effect of mediating variables in their relation to locus of control and academic achievement. The obtained results indicated, for example, that achievement via independence may be an important factor in accounting for the academic performance of both male and female congruent externals. Such findings appear to indicate that the relation between locus of control and academic achievement is not necessarily a direct one. Rather, this relationship may be modified

by specific mediating variables. It is thus suggested that subsequent research investigating internal-external control as a determinant of academic performance, attempt to identify and employ other mediating variables to more adequately specify the locus of control-academic performance relationship.

A further conclusion derived from the present research is that the Rotter I-E scale may be inadequate for investigating the relationship between locus of control and other behavioural measures and/or personality constructs. Consistent with views expressed by Hersch & Scheibe (1967) and Levenson (1972) there appears to be a great diversity in the meaning of external control as defined by the I-E scale. Specifically, this scale does not appear to meaningfully differentiate between internals and externals because the definition of external control as an expectancy that powerful others, chance, luck or fate control reinforcements, is too broad. As suggested in the present study, a belief in powerful others (defensive externality) may be quite different from a belief in chance or luck control (congruent externality).

The results of the current research suggest that the Levenson (1972) Internal, Powerful Others and Chance scales are a viable alternative to the Rotter (1966) I-E scale for assessing internal-external control. Specifically, results demonstrated that the I, P and C scales were effective in accounting for the academic performance of male internals, male and female defensive externals, and male and female congruent externals respectively. Such findings thus attest the

utility and superiority of these measures in comparison to the I-E scale which was found to be virtually ineffective in predicting academic achievement (Prociuk & Breen, 1973b). Although it is recognized that this comparison relates only to research involving academic performance, Levenson (1972) has provided additional evidence supporting the effectiveness of the I, P and C scales in research investigating social action involvement and information seeking. In conclusion, it is thus suggested that the Levenson (1972) scales are to be preferred over the I-E scale in future research involving the internal-external control construct.

#### Implications for Future Research

One possible line of inquiry suggested by the present research might involve an investigation of activity preference. Schneider (1968) noted that internals showed a preference for skilled activities since these confirm expectancies of internal control while externals, preferred chance activities because these are unrelated to individual performance. Future research classifying individuals as internal, defensive external or congruent external, might consider the hypothesis that defensive externals who tend to behave like internals (Ritchie, 1970), would show a greater preference for skill activity despite their externally-oriented attitudes.

Another investigation might be directed at interpreting results reported by Hersch & Scheibe (1968) who found that internals were more homogeneous in their self-description than externals. The pres-

ent research suggests that such results may be attributed to the fact that defensive externals were considered together with congruent externals. In this investigation, the two groups would be considered separately to determine whether any qualitative differences in their self-description were found to exist.

## SUMMARY

The aim of the present study was to investigate the relationship between internal-external control and academic achievement by employing a reconceptualization of the locus of control construct. Previous research (e.g. Eisenman & Platt, 1968) examining this relationship, generally failed to support Rotter's (1966) hypothesis that internals would be more academically successful than externals. To account for such results, investigators (e.g. Hjelle, 1970; Thurber, 1972) suggested that any noted differences between internals and externals may have been attenuated as a result of the relatively high level of achievement by individuals defined as defensive externals. Therefore, the primary objective of the present study was to evaluate the academic performance of defensive externals by employing measures which dichotomize external control into powerful others and chance dimensions. A matter of further interest in this research was to examine the effect of two mediating variables i.e. fear of negative evaluation and achievement via independence versus conformance, in their relation to both locus of control and academic achievement.

Subjects in this research were 66 male and 94 female psychology students who participated in the study voluntarily. The subjects were administered the Levenson (1972) Internal, Powerful Others and Chance scales; the Fear of Negative Evaluation scale (Watson & Friend, 1969); and the Achievement via Conformance and Achievement via Independence scales (Gough, 1957). On the basis of their scores on the

I, P and C scales, these individuals were classified as either internal, defensive external or congruent external. Grade-point average was used as the measure of academic achievement.

The data were initially analyzed employing step-wise multiple linear regression analyses. Subsequently, the mean grade-point averages of the six subject groups - locus of control (3 levels) and gender (2 levels) were compared using a nonorthogonal planned comparison procedure. Results of these comparisons supported the predicted relationship between locus of control and academic performance. Consistent with Rotter's (1966) hypothesis, internals were shown to be more academically successful than either defensive externals or congruent externals. Defensive externals had higher grade-point averages than congruent externals and female defensive externals were found to achieve a higher level of academic success than male defensive externals.

Results regarding the superior performance of defensive externals compared to congruent externals, suggested a possible explanation for previous research findings which failed to demonstrate locus of control as a determinant of academic performance. Also, the higher academic achievement level of female compared to male defensive externals, provided a possible explanation for previous results which indicated females to be academically superior to males.

An evaluation of the results of the multiple linear regression analyses indicated that certain mediating variables may be important

when examining the relationship between internal-external control and academic performance. Specifically, achievement via independence was found to be a significant factor in accounting for the level of academic achievement demonstrated by congruent externals. Also, fear of negative evaluation was shown to be an important variable for interpreting the academic success of male internals. Such results suggest that the relation between locus of control and academic performance may not necessarily be a direct one, but may be modified by specific mediating variables.

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APPENDIX A

INTERNAL, POWERFUL OTHERS AND CHANCE SCALES

This questionnaire is a series of attitude statements. Each re-  
presents a commonly held opinion and there are no right or wrong answers.  
You will probably disagree with some items and agree with others. We are  
interested in the extent to which you agree or disagree with such matters  
of opinion.

Read each statement carefully. Then indicate the extent to which  
you agree or disagree by circling the number in front of each statement.  
The numbers and their meaning are indicated below:

- If you agree strongly - circle +3
- If you agree somewhat - circle +2
- If you agree slightly - circle +1
- If you disagree slightly - circle -1
- If you disagree somewhat - circle -2
- If you disagree strongly - circle -3

First impressions are usually best in such matters. Read each  
statement, decide if you agree or disagree and the strength of your  
opinion and then circle the appropriate number in front of the state-  
ment. Give your opinion on every statement.

If you find that the numbers to be used in answering do not adequately  
indicate your own opinion use the one which is closest to the way you  
feel.

- |   |                   |                   |                   |                |                |                |
|---|-------------------|-------------------|-------------------|----------------|----------------|----------------|
|   | Strongly disagree | Disagree somewhat | Slightly disagree | Slightly agree | Agree somewhat | Strongly agree |
| 1. Whether or not I get to be a leader depends mostly on my ability.            | -3                | -2                | -1                | +1             | +2             | +3             |
| 2. To a great extent my life is controlled by accidental happenings.            | -3                | -2                | -1                | +1             | +2             | +3             |
| 3. I feel like what happens in my life is mostly determined by powerful people. | -3                | -2                | -1                | +1             | +2             | +3             |

	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
4. Whether or not I get into a car accident depends mostly on how good a driver I am.	-3	-2	-1	+1	+2	+3
5. When I make plans, I am almost certain to make them work.	-3	-2	-1	+1	+2	+3
6. Often there is no chance of protecting my personal interest from bad luck happenings.	-3	-2	-1	+1	+2	+3
7. When I get what I want, it's usually because I'm lucky.	-3	-2	-1	+1	+2	+3
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	-3	-2	-1	+1	+2	+3
9. How many friends I have depends on how nice a person I am.	-3	-2	-1	+1	+2	+3
10. I have often found that what is going to happen will happen.	-3	-2	-1	+1	+2	+3
11. My life is chiefly controlled by powerful others.	-3	-2	-1	+1	+2	+3
12. Whether or not I get into a car accident is mostly a matter of luck.	-3	-2	-1	+1	+2	+3
13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups.	-3	-2	-1	+1	+2	+3
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.	-3	-2	-1	+1	+2	+3
15. Getting what I want requires pleasing those people above me.	-3	-2	-1	+1	+2	+3
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.	-3	-2	-1	+1	+2	+3
17. If important people were to decide they didn't like me, I probably wouldn't make many friends.	-3	-2	-1	+1	+2	+3

	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
18. I can pretty much determine what will happen in my life.	-3	-2	-1	+1	+2	+3
19. I am usually able to protect my personal interests.	-3	-2	-1	+1	+2	+3
20. Whether or not I get into a car accident depends mostly on the other driver.	-3	-2	-1	+1	+2	+3
21. When I get what I want, it's usually because I worked hard for it.	-3	-2	-1	+1	+2	+3
22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.	-3	-2	-1	+1	+2	+3
23. My life is determined by my own actions.	-3	-2	-1	+1	+2	+3
24. It's chiefly a matter of fate whether or not I have a few friends or many friends.	-3	-2	-1	+1	+2	+3

APPENDIX B

ACHIEVEMENT VIA CONFORMANCE SCALE

## Student Questionnaire B

This inventory consists of numbered statements. Read each statement and decide whether it is TRUE as applied to you or FALSE as applied to you.

You are to circle your answers on the questionnaire you have. If a statement is TRUE or MOSTLY TRUE, as applied to you, circle T for True. If a statement is FALSE or NOT USUALLY TRUE, as applied to you, circle F for False.

Remember to give YOUR OWN opinion of yourself. Please answer every statement.

- T F 1. I have a very strong desire to be a success in the world.
- T F 2. I liked "Alice in Wonderland" by Lewis Carroll.
- T F 3. I usually go to the movies more than once a week.
- T F 4. I have had very peculiar and strange experiences.
- T F 5. I am often said to be hotheaded.
- T F 6. When I was going to school I played hooky quite often.
- T F 7. I think I would like the work of a school teacher.
- T F 8. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.
- T F 9. Planning one's activities in advance is very likely to take most of the fun out of life.
- T F 10. I was a slow learner in school.
- T F 11. There is something wrong with a person who can't take orders without getting angry or resentful.
- T F 12. I wake up fresh and rested most mornings.
- T F 13. I have a tendency to give up easily when I meet difficult problems.
- T F 14. I certainly feel useless at times.
- T F 15. I have the wanderlust and am never happy unless I am roaming or traveling about.

- T F 16. I am sometimes cross and grouchy without any good reason.
- T F 17. My parents have often disapproved of my friends.
- T F 18. My way of doing things is apt to be misunderstood by others.
- T F 19. I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
- T F 20. I like to keep people guessing what I'm going to do next.
- T F 21. If given the chance I would make a good leader of people.
- T F 22. In school I was sometimes sent to the principal for cutting up.
- T F 23. I like to read about history.
- T F 24. I am so touchy on some subjects that I can't talk about them.
- T F 25. I like to talk before groups of people.
- T F 26. I am often bothered by useless thoughts which keep running through my mind.
- T F 27. I like to plan out my activities in advance.
- T F 28. I must admit I find it very hard to work under strict rules and regulations.
- T F 29. I like large, noisy parties.
- T F 30. I always try to do at least a little better than what is expected of me.
- T F 31. I would be very unhappy if I was not successful at something I had seriously started to do.
- T F 32. I often lose my temper.
- T F 33. My parents were always very strict and stern with me.
- T F 34. I often get disgusted with myself.
- T F 35. Society owes a lot more to the businessman and the manufacturer than it does to the artist and the professor.
- T F 36. I think I would like to belong to a motorcycle club.
- T F 37. I used to like it very much when one of my papers was read to the class in school.
- T F 38. I don't seem to care what happens to me.

APPENDIX C

ACHIEVEMENT VIA INDEPENDENCE SCALE

## Student Questionnaire C

This inventory consists of numbered statements. Read each statement and decide whether it is TRUE as applied to you or FALSE as applied to you.

You are to circle your answers on the questionnaire you have. Remember to give YOUR OWN opinion of yourself. Please answer every statement.

- T F 1. I looked up to my father as an ideal man.
- T F 2. Our thinking would be a lot better off if we would just forget about words like "probably", "approximately" and "perhaps".
- T F 3. I liked "Alice in Wonderland" by Lewis Carroll.
- T F 4. I have had very peculiar and strange experiences.
- T F 5. I have very few fears compared to my friends.
- T F 6. For most questions there is just one right answer, once a person is able to get all the facts.
- T F 7. I seem to be about as capable and smart as most others around me.
- T F 8. I usually take an active part in the entertainment at parties.
- T F 9. The trouble with many people is that they don't take things seriously enough.
- T F 10. It is always a good thing to be frank.
- T F 11. It is annoying to listen to a lecturer who cannot seem to make up his mind as to what he really believes.
- T F 12. I don't blame anyone for trying to grab all he can get in this world.
- T F 13. I was a slow learner in school.
- T F 14. I like poetry.
- T F 15. Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world".

- T F 16. It is all right to get around the law if you don't actually break it.
- T F 17. Parents are much too easy on their children nowadays.
- T F 18. I have a tendency to give up easily when I meet difficult problems.
- T F 19. Teachers often expect too much work from the students.
- T F 20. I think I would like to fight in a boxing match sometime.
- T F 21. I like to plan a home study schedule and then follow it.
- T F 22. I have often found people jealous of my good ideas, just because they had not thought of them first.
- T F 23. People pretend to care more about one another than they really do.
- T F 24. The future is too uncertain for a person to make serious plans.
- T F 25. The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.
- T F 26. I sometimes feel that I am a burden to others.
- T F 27. Only a fool would try to change our American way of life.
- T F 28. Lawbreakers are almost always caught and punished.
- T F 29. I dread the thought of an earthquake.
- T F 30. I often lose my temper.
- T F 31. I am bothered by people outside, on streetcars, in stores, etc., watching me.
- T F 32. I feel that I have often been punished without cause.

APPENDIX D

FEAR OF NEGATIVE EVALUATION SCALE

## Student Questionnaire D

This inventory consists of numbered statements. Read each statement and decide whether it is TRUE as applied to you or FALSE as applied to you.

You are to circle your answers on the questionnaire you have. Remember to give YOUR OWN opinion of yourself. Please answer every statement.

- T F 1. I rarely worry about seeming foolish to others.
- T F 2. I worry about what people will think of me even when I know it doesn't make any difference.
- T F 3. I become tense and jittery if I know someone is sizing me up.
- T F 4. I am unconcerned even if I know people are forming an unfavorable impression of me.
- T F 5. I feel very upset when I commit some social error.
- T F 6. The opinions that important people have of me cause me little concern.
- T F 7. I am often afraid that I may look ridiculous or make a fool of myself.
- T F 8. I react very little when other people disapprove of me.
- T F 9. I am frequently afraid of other people noticing my shortcomings.
- T F 10. The disapproval of others would have little effect on me.
- T F 11. If someone is evaluating me I tend to expect the worst.
- T F 12. I rarely worry about what kind of impression I am making on someone.
- T F 13. I am afraid that others will not approve of me.
- T F 14. I am afraid that people will find fault with me.
- T F 15. Other people's opinions of me do not bother me.
- T F 16. I am not necessarily upset if I do not please someone.

- T F 17. When I am talking to someone, I worry about what they may be thinking about me.
- T F 18. I feel that you can't help making social errors sometimes, so why worry about it.
- T F 19. I am usually worried about what kind of impression I make.
- T F 20. I worry a lot about what my superiors think of me.
- T F 21. If I know someone is judging me, it has little effect on me.
- T F 22. I worry that others will think I am not worthwhile.
- T F 23. I worry very little about what others may think of me.
- T F 24. Sometimes I think I am too concerned with what other people think of me.
- T F 25. I often worry that I will say or do the wrong things.
- T F 26. I am often indifferent to the opinions others have of me.
- T F 27. I am usually confident that others will have a favorable impression of me.
- T F 28. I often worry that people who are important to me won't think very much of me.
- T F 29. I brood about the opinions my friends have about me.
- T F 30. I become tense and jittery if I know I am being judged by my superiors.