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The Effect of Locus of Control Orientation on Faculty Evaluations

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Eastern Illinois University

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THE EFFECT OF LOCUS OF CONTROL ORIENTATION

ON FACULTY EVALUATIONS

(TITLE)

BY

KRISTIE L. KIRBY

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

Master of Arts in Clinical Psychology

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY
CHARLESTON, ILLINOIS

1977

YEAR

I HEREBY RECOMMEND THIS THESIS BE ACCEPTED AS FULFILLING
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THE EFFECT OF LOCUS OF CONTROL
ORIENTATION ON
FACULTY EVALUATIONS

BY

KRISTIE L. KIRBY

B. A. in Psychology, Eastern Illinois University, 1975

M. A. in Clinical Psychology, Eastern Illinois University, 1977

ABSTRACT OF A THESIS

Submitted in partial fulfillment of the requirements
for the degree of Master of Arts in Psychology at the Graduate School
of Eastern Illinois University

CHARLESTON, ILLINOIS
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ABSTRACT

The effect of a reward or reinforcement on behavior is contingent upon whether the person perceives the reward as dependent upon his own behavior or as independent from it. This perception has been termed locus of control orientation. The present study examined the relationship between the locus of control orientation of the student and the locus of control orientation of the instructor on a faculty evaluation form. An individual possessing an external locus of control orientation believes that reinforcement is the result of luck, chance, fate, or under the control of powerful others. An individual possessing an internal locus of control orientation believes that reinforcement is the result of his personal action or attributes.

Two descriptions of instructors were written so that each possessed either an internal or external locus of control orientation. The internal instructor used an instructional method called the Keller Personalized System for Instruction (PSI). This system permits the student to control his own reinforcement by allowing him to take a number of short quizzes which are immediately graded by tutors providing rapid feedback on performance. The student proceeds at his own rate in the course and is allowed to retake all tests until his desired level of competency is obtained. The external instructor used a traditional instructional method in which lectures were presented and the students were evaluated by a midterm and a final examination. In order to

determine whether the descriptions of the two instructors presented the locus of control orientation desired, they were rated by faculty members and graduate students on a continuum. A Mann Whitney-U test comparing the ratings received by the internal and external instructors showed a difference which was significant at the $\alpha = .05$ level ($U = 0$, $n_1 = 11$, $n_2 = 11$, two-tailed test).

Hypotheses tested were: (a) faculty ratings given by internal control students will be higher than those given by external control students, (b) the internal instructor will receive an overall rating higher than the external instructor, (c) there will be an interaction effect between the locus of control orientation of the instructor and the locus of control orientation of the student.

Rotter's Internal--External Scale was administered to 93 undergraduates enrolled in psychology courses at Eastern Illinois University. The students were presented the descriptions of the two instructors in a counterbalanced order. Thus, one half of the students read and rated the internal instructor followed by the external instructor. The other half read and rated the external instructor followed by the internal instructor. Both instructors were rated on 20 identical items chosen from the 200 item list of the Purdue Cafeteria System. In addition, each student predicted what grade he would expect to receive from each instructor.

A split-plot analysis of variance for unweighted means showed that the hypotheses were not supported. Locus of control

was not related to the ratings given by the students ($F = .16938$, $df = 1/91$), nor to the ratings received by the instructors ($F = 3.13627$, $df = 1/91$), nor did an interaction effect occur ($F = .4952$, $df = 1/91$). However, the results did indicate that students in general expect to receive higher grades from an internal instructor ($t = 4.24$, $df = 100$, $p = .05$ for externals; $t = 2.90$, $df = 82$, $p = .05$ for internals). In addition, internal students predicted that they would receive higher grades overall than did external students. The mean expected grade reported by internal students was 1.33, while the mean expected grade reported by external students was 1.73. These mean grades were computed from a scale on which a grade of A = 1, B = 2, C = 3, D = 4, F = 5. The results were concluded to be inconsistent with past research concerning the locus of control construct and rating systems.

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CHAPTER I

INTRODUCTION

Rationale

The accuracy of student evaluation of teachers is important to students, faculty, and administrators. Students are concerned with instructional quality and therefore are demanding a voice in hiring, promotion, or discharge decisions with reference to faculty (McGehee, 1969). Usually the input students offer is in the form of faculty evaluation scales. The basis for the use of faculty evaluation scales is the widespread belief that students ratings are determined by the teacher's effectiveness. However, the ratings assigned to teachers may be substantially influenced by characteristics of the raters as much as by the skill of the teacher (Follman, 1975). This study proposed that the student's personality construct called locus of control is one of the personality variables significantly affecting faculty evaluations.

Significance of the Study

Several personality traits have been found to significantly influence students' evaluations of faculty (Davison, 1973; Lewis, 1964; Rees, 1969; Yonge & Sassenrath, 1968). However, there has been no research conducted to determine whether the locus of control construct is among this list of

personality traits. The findings of the present study are expected to add to the body of knowledge regarding locus of control and faculty evaluations. If it were established whether students prefer an internal or external learning environment, the information would be valuable in planning instructional methods.

Definition of Terms

For the purpose of this study, the terms listed below are defined as follows:

Locus of control. A psychological trait based on the individual's belief concerning his ability to obtain reinforcement.

External control. The belief that reinforcement is the result of luck, chance, fate, or under the control of powerful others. Thus the individual perceives reinforcement as independent of his own behavior and under the control of outside forces. This belief is operationally defined as a score of ten or above on the Rotter Internal--External Scale.

Internal control. The belief that reinforcement occurs as a result of personal action or attributes. This individual perceives reinforcement as under his own control so that he can obtain it when he wants. This belief is operationally defined as a score of nine or below on the Rotter Internal--External Scale.

Internal instructor. A description of an instructor who exhibits an internal locus of control orientation was written.

The instructor uses a method of teaching that allows the student to control his own reinforcement: The Keller Personalized System for Instruction (PSI). The internal orientation was established by faculty and graduate members who rated the description on a locus of control continuum.

External instructor. A description of an instructor who exhibits an external locus of control orientation was written. The instructor uses a lecture and essay test method of teaching that places the perceived control of reinforcement in chance occurrences, fate, and teacher controlled events. The external orientation was established by faculty and graduate members who rated the description on a locus of control continuum.

Faculty ratings. Students rated the internalizing or externalizing instructor on twenty items chosen (by the experimenter) from the Purdue Cafeteria System for Instructional Evaluation. The faculty rating is the mean rating given by each student.

Limitations of the Study

The limitations of this study are listed as follows:

1. There are limitations imposed by geographic and experimental considerations. This investigation was conducted using undergraduate students attending a small midwestern university. Therefore, the generalizations must be limited to similar situations.

2. There are limitations imposed by the nature of the instruments and techniques employed.

3. There are limitations imposed by the scope of the investigation. This study was limited to the investigation of the effects of locus of control orientation of students on the ratings they give two written descriptions of instructors. Thus other important variables such as age, class standing, race, and socioeconomic status, etc., were not studied.

Hypotheses

This study investigated the locus of control orientation as the independent variables and its effect on the dependent variable of faculty ratings. The following null hypotheses are offered:

H₁ There will be no significant difference in the faculty ratings given by internal control subjects when compared to those given by external control subjects.

H₂ There will be no significant difference in the ratings received by the internal instructor when compared to those received by the external instructor.

H₃ There will be no significant interaction between the locus of control orientation of the instructor and the locus of control orientation of the students.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This study investigated the effects of locus of control orientations of students and instructors on the classroom evaluations given the instructors. Chapter II begins with a broad overview concerning the effects of personality traits on ratings. Then the locus of control factor, including characteristics of external subjects and internal subjects is reviewed. The effect of the locus of control orientation of the instructor is examined. Finally, the Keller Personalized System of Instruction which enhances an internal attitude is described.

Overview of the Effects of Personality Traits on Ratings

There is substantial evidence in the person-perception literature to indicate that personality characteristics of the individual affect his perceptions. Chansky (1958) conducted a study to determine whether students with authoritarian outlooks (as measured by the Minnesota Teacher Attitude Inventory, MTAI) would attribute different attitudes to teachers than did students with democratic outlooks. During the first three weeks in a course on child psychology, the teacher avoided controversial issues and avoided indicating

his views on child rearing. At this time, the students completed the MTAI and listed on the back of their answer sheets the attitudes they thought their teachers held towards children. During the subsequent twelve weeks of the course, the teacher clearly indicated his attitudes toward child rearing. The students were once again given the MTAI and instructed to list the teacher's views about children on the back of the answer sheets. The results indicated that at the time of the first testing, the students were projecting their own attitudes onto the instructor. However, after the instructor had stated his attitudes this projection was significantly lowered. Students who projected onto the instructor a clinical attitude toward children (more authoritarian) received significantly lower MTAI scores than did students who projected an attitude of encouraging freedom (democratic). Once the instructor indicated his true viewpoint toward children, the ambiguity which led to projection was lessened but did not disappear. Thus democratic students are apt to give more democratic ratings while authoritarian students are apt to give more authoritarian ratings. Chansky concludes, "In addition, there is evidence that rating of attitudes in another person will be influenced to a great degree by the attitude the rater himself holds" (p. 16).

This concept that the perceived effectiveness of a teacher is in part a reflection of the personality attributes of the student is supported by Kerlinger (1963). He proposes that research about teacher effectiveness rely on the perceptual

cognitive theories. There are two such theories that Kerlinger suggests be applied. The first is the social perception theory which is based on the hypothesis that an individual's cultural background will influence how he perceives or infers the traits and intentions of another. For example, the impression of a Catholic as made by a Protestant, or of a Negro by a Caucasian is altered by social values of the origin group. The second perceptual cognitive theory is the directive state theory. This theory contends that an individual's perceptions are altered not only by the environment but also by the internal directive state of the individual, i.e. his values and attitudes. In other words, the person's motives affect how he sees things. These perceptual cognitive theories will allow teacher effectiveness to be examined at the point at which the student infers the traits of the teacher. Kerlinger's belief is that judgments of good and bad teachers are determined in part by attitudes of the judger.

Davison (1973) followed Kerlinger's proposals by conducting a study in which the students not only rated the instructor's skill, but also rated the instructor's similarity to the students. The hypothesis tested fit into the perceptual cognitive theories. However, instead of showing that teachers who are perceived as similar to the students receive the highest ratings, Davison showed that teachers who are most unlike the students receive the highest ratings. The explanation for this result was that the more superior (dissimilar) the teacher appears, the higher the student's expectations

and ratings. The teacher who was perceived to be similar to the students lost the halo effect of having favorable attributions projected onto him. This loss was reflected in the ratings. According to this explanation, the result of Davison's research supports the perceptual cognitive theory.

Rezler (1965) also hypothesized that the needs of the student will affect the perception of the instructor. In this research, the "perception of the instructor" is practically equivalent to evaluation of the instructor since perception was measured by the Purdue Rating Scale for Instruction. The measure of student needs was accomplished by using the Edwards Personal Preference Schedule (PPS). The PPS delineated fifteen needs: achievement, deference, order, exhibition, autonomy, affiliation, introception, succorance, dominance, abasement, nurturance, change, endurance, heterosexuality, aggression. The students, college freshmen and sophomores under nine different instructors, completed the PPS and rated their teachers on the Purdue Rating Scale. The results showed that some of the students' psychological needs affected the perception of the instructor. For example, male students who possessed high needs for nurturance, exhibition, heterosexuality and dominance rated their instructors more positively. Female students who possessed high needs for succorance (dependency), heterosexuality, and exhibition rated their instructors negatively. The significant aspect of this study is the conclusion that students' ratings of

the perceptual objects (teachers) interact according to the personality variables (needs) of the students.

Follman (1975) conducted a literature search to support the premise that ratings substantially reflect personality characteristics of the raters. He cited nine reports conducted between 1954 and 1971 to conclude that the personality characteristics of students materially affect their ratings of teachers. In the second section of the report, Follman (1975) summarizes the empirical evidence indication that the most important student characteristics affecting ratings are: need for achievement, need for social approval, authoritarianism, child-centeredness, aesthetic interests, and artistic interests. Follman concludes that one of the areas needing further research is in the area of feelings of control.

Locus of Control

Although locus of control may be a factor affecting teacher evaluations, no investigation of this problem has been previously conducted. However, in over 300 studies (Throop & MacDonald, 1971) locus of control has proven to be an important variable. Rotter (1966, p. 1) defines this construct in the following manner:

When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then, in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great

complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control.

If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control.

Thus, if a person believes that powerful others control his destiny, specifically that the teacher controls his grade, this belief may affect his evaluation of the powerful other. If a person believes that his own actions determine the course of his grades, he may be more lenient in evaluating the teacher whose duty it is to assign him the grade he earned. Since a student's perceptions determine to some degree his evaluation of faculty, it can be reasonably hypothesized that a student's perceptions about control will also affect his evaluation of faculty.

Personality Characteristics of External Subjects

Support for the idea that locus of control orientation will affect faculty evaluations can be found by looking at some of the personality characteristics of externals. Joe (1971) studied the literature concerning the locus of control construct. His bibliography cites a number of studies that depict externals as suspicious of others, anxious, lacking in self-confidence, and lacking in insight. According to the perceptual cognitive theory previously examined, the

externals may attribute these personal faults to others. Thus, the student might project these traits onto the instructor via evaluation.

External locus of control students may rate faculty lower for two other reasons. One reason is that external students are not as achievement oriented as internal students (Ramanaiah & Ribich & Schmeck, 1975). Two hundred and fifty undergraduate students were administered Rotter's Internal--External Scale (IE Scale) and the Survey of Study Habits and Attitudes (SSHA). The SSHA is a direct measure of achievement striving because it focuses on behaviors that lead to successful academic work such as promptness in assignments and use of effective study habits. A low score on the SSHA scale corresponds to and correlates with poor grades. The authors found that external students scored lower on the SSHA than did the internal students. Therefore, the hypothesis that externals show less achievement striving behavior than internals was supported. In another experiment by Organ (1975), students were given bonus points for quizzes testing daily preparation. The external locus of control students earned significantly fewer bonus points than did the internal students. However, this result could not be explained on the basis of aptitude differences. These two studies indicate that the external student may find it difficult to maintain high grades, and therefore be more critical of the grader.

A second reason for the external student to rate faculty critically is that the externalizer wants to be free from

responsibility for his own behavior. Rotter (1966) suggests that an external locus of control may be adopted by an individual who is anxious about the outcome of his behavior. The individual is freed from responsibility for his behavior when he attributes control of reinforcement to forces outside himself. This orientation may be a means of evading responsibility for possible negative feedback. Academic achievement is a potential source of anxiety for many college students (Hjelle, 1970; Thurber, 1972). College grades represent success, and can therefore present a challenge to one's view of oneself. College grades are a way to obtain social recognition and therefore are ego-involving. Individuals may adopt an external orientation to defend against the anxiety associated with possible academic failure (Hjelle, 1970). If the blame for failure can be placed on the instructor, the externalizer will prevent self-embarrassment.

Personality Characteristics of Internal Subjects

Further evidence supporting the proposal that ratings given by internal students will be higher than ratings given by external students can be found in a study conducted by Phares (1975). The IE Scale was given to 146 undergraduates. From this group, 66 external subjects and 69 internal subjects read brief descriptions of people such as an ex-con, a welfare recipient, and a war veteran. Then the subjects rated the descriptions on how much the person described deserved help. Internals showed a significantly lower willingness to offer help to a case study. Since the internalizer believes

that people are responsible for themselves, he is less likely to offer help. All of the case studies used by Phares (1975) were indigent in some way. However a college teacher may be perceived by the internal student as self-sufficient. Therefore the internal student will rate the college teacher positively.

A similar rating method was used in a study by Gialdini and Mirels (1976). Volunteers from an introductory psychology class were given Rotter's IE Scale to determine their personal control orientations. Then the subjects were asked to fill out an attitude questionnaire. Later a discussion was held in which a confederate experimenter expressed opinions opposite to those the subjects advocated on the attitude questionnaire. After the discussion, the subjects rated the persuasiveness and attractiveness of the confederate. Internal locus of control subjects rated the confederate as more attractive and intelligent than did external locus of control subjects. This result may indicate that an internal student will rate even an antagonistic teacher higher than will an external student.

Characteristics of Instructors

Internalizers not only rate persuaders more positively, but also tend to be more persuasive themselves. Phares (1975) concluded that internals are more influential in changing attitudes of others than are externals. He selected two groups matched for attitudes toward maintaining fraternities and sororities on campus. However, one group

was external and the other internal on the IE Scale. The task of both groups was to change the attitudes of other students. The internal group was significantly more successful in changing the attitudes of others than was the external group. This conclusion supports the idea that an internal teacher may be more influential in changing the attitudes of his students than is an external teacher. Therefore, the internal teacher who can change the attitudes of his students may be rated more positively than the external teacher. This last research suggests that an internal instructor will be rated higher by all students.

Further support for this last assertion was produced by Nowicki and Blumberg (1975). They hypothesized that internally oriented subjects would express greater initial attraction to another internal individual, and that externally oriented subjects would be attracted to external individuals. Subjects were first tested for locus of control orientation with the IE Scale. Then each subject listened to a tape of a stranger allegedly of the same sex and age as the subject. The tapes had been previously prepared to be either internal or external in emphasis. After listening to the assigned tape, the subject rated the stranger on a number of items. Among these ratings was the degree of attraction felt toward the individual on the tape. The authors found that both internal and external subjects were significantly more attracted to an

internal stranger than to an external stranger. Thus both the internal and external students may rate the internal instructor more positively.

The Internal Instructor and the Keller System

For the present study, an instructor who possesses an internal locus of control orientation should exhibit an internal attitude in his method of instruction. This goal was met by employing the Keller Personalized System for Instruction (PSI) as the course method for the internal instructor (Tillman, 1975). Keller utilized the theory from the psychology of learning to develop a system of education based on reinforcement. Reinforcements are defined as, "Events that increase the behaviors they follow" (p. 67). Thus when a reinforcement immediately follows a response, the chance that the response or similar responses will occur again is increased. Under Keller's system, the student is immediately reinforced for responding. Two requisites of the PSI are that responses must be evoked and must be immediately reinforced.

This system of education should appeal to the internal locus of control student for a number of reasons. The internal student believes that the reinforcement he receives is contingent upon his own actions. Therefore, he is likely to act and to receive as much reinforcement as he wants. There are some major features of the PSI that allow the student to control his own reinforcement. First, the course work is divided up into a large number of small units with a quiz on each unit. This not only evokes frequent responding, but also

allows the student to pace his own work so that he can finish the course in five weeks or in fifteen weeks. An important characteristic is that when a student fails to pass a test, he can retake it as many times as he needs to pass. Under this system, proctors are provided to interact with the students during class time. The proctors supply the students with the needed materials, administer quizzes, and grade quizzes. Finally, lectures are optional events delivered by the instructor at established times. The lectures serve as rewards for the completion of course work. The effect of these features is that the student is in control of how rapidly he completes the course, as well as how successful he is in the course. Such self-control is utilized most effectively by the internal locus of control student.

An instructor who presents his students with the Keller PSI is exhibiting an internal locus of control attitude. He would receive an internal score on the Rotter IE Scale because there are internal statements on the IE Scale that support the Keller system. For example, statement number 10a on the IE Scale, "In the case of the well prepared student there is rarely if ever such a thing as an unfair test" is supported by the Keller system in that students can retake quizzes. An issue circumvented by the Keller plan is found in statement number 5a, "The idea that teachers are unfair to students is nonsense." The same amount of work and the same standards for success are applied to all students. Statement number 13a, "When I make plans, I am almost certain that I

can make them work," is implied by the Keller system since the teacher has planned the units in detail in advance. Furthermore, the students are required to plan their time so that they can complete the course of study effectively. Finally, statement number 23b, "There is a direct connection between how hard I study and the grades I get," is one of the bases for the Keller system. A student can continue to work on a unit until he has obtained the level of competency he desires. The overall attitude demonstrated through the Keller PSI is one that denies chance occurrences, luck, and external (teacher) control. Therefore, in this study, a teacher who possesses an internal locus of control orientation will be defined as one who utilizes the Keller PSI.

Summary

University students are periodically asked to evaluate the effectiveness of faculty instruction. These evaluations are occasionally used in administrative decisions such as hiring, firing, and promotion. Therefore, the value of these student ratings is frequently examined. As a result, the accuracy of student ratings has been shown to be affected by certain personality traits that the students possess. Some of the student traits that have been found to significantly interact or correlate with faculty evaluations are: authoritarianism, nurturance, exhibitionism, heterosexuality, dominance, need for achievement, and need for social approval. That these traits do affect evaluation is substantiated by the social perception theory. This theory asserts that a student's social background will influence his perceptions

of others. Thus, the impression of a Catholic as made by a Protestant is altered by the social values of the Protestant group. In addition, the directive state theory asserts that the internal motives and attitudes of a rater affect how he views others. These two theories support a need for further delineating those variables that affect faculty evaluations. One of these variables is a personality construct called a locus of control.

The locus of control construct is a psychological trait based on an individual's belief concerning his ability to obtain reinforcement. Some individuals, called internalizers, believe that they can control events in order to obtain reinforcement. Other individuals, called externalizers, believe that chance, luck, fate, or powerful others control events so that obtained reinforcement is unpredictable. The present study examined the locus of control orientation of both students and instructors to determine its effect on faculty evaluations.

A survey of the literature resulted in some personality characteristics that have been associated with either internal or external locus of control orientations. External subjects have been depicted as more suspicious, anxious, lacking in self-confidence, lacking in insight, and less achievement oriented than internal subjects. On the other hand, internal subjects are less likely to offer help, are more likely to rate a persuader positively, are better persuaders themselves, and tend to be rated higher in attractiveness than are external subjects. The combination of these attributes

supports the assertions that internal students rate faculty members more positively than do external students; and that internal instructors receive higher ratings than do external instructors.

An internal instructor has been defined as one whose method of teaching is modeled after the Keller Personalized System of Instruction (PSI). This system is structured so that students can control their own reinforcement. Thus an instructor using the PSI exhibits an attitude congruent with an internal locus of control orientation.

CHAPTER III

METHOD

Subjects

The subjects were 93 undergraduate students enrolled in freshman, sophomore, and junior level psychology classes at Eastern Illinois University in 1977. The number of male subjects was 36 and the number of female subjects was 57. The Rotter Locus of Control Scale (IE Scale) was administered engroup to the students during class time. Those students scoring ten or above on the IE Scale were categorized as External students; and those scoring nine or below were categorized as Internal students. The subjects were randomly assigned to instructional environments (treatment groups) regardless of their locus of control orientation.

The examiner was a 23 year old female graduate student who had only minimal contact with the subjects. Her function was to administer the examination and collect the scoring sheets.

Instruments

Rotter Locus of Control Scale

Purpose. The IE Scale is a 29 item, forced choice test which determines the locus of control orientation of each subject. The test includes six filler items that are intended to disguise the purpose of the test. The IE Scale is a paper and pencil inventory which is scored by compiling the total number of external choices the subject makes (Rotter, 1966).

Development. An early version of the IE Scale was a 100 item, forced choice questionnaire designed by S. Liverant,

J.B. Rotter, and M. Seeman (Rotter 1966). This early scale attempted to obtain a generalized expectancy for internal--external control by selecting items from a variety of areas; social recognition, affection, academic events, social events, political events, and life philosophy. In each pair of items, one dealt with an external belief and the other dealt with an internal belief. On the basis of an item analysis and a factor analysis, this early scale was reduced to a 60 item version. An attempt was made to establish subscales within the 60 item test based on the idea that an individual's behavior is situation specific. Thus a person may behave internally in academic settings but behave externally in social settings (Phares, 1976). Unfortunately, an item analysis of the 60 item test showed that the subscales were too highly intercorrelated. In other words, the subscales did not allow for independent predictions because some subscales correlated with other subscales about as high as their internal consistency. Therefore, the measurement of specific sub-areas of locus of control orientation was abandoned.

Finally, the 60 item scale was reduced and refined by D. Crowne, S. Liverant, and J.B. Rotter. This process utilized validity and internal consistency data from two studies (Rotter, Liverant, & Crowne, 1961; Seeman & Evans, 1962). Some items were reworded so that they could be understood by noncollege adults. Other items were eliminated on the basis of: (a) their high correlation with the Marlowe-Crowne Social Desirability Scale; (b) the selection of one of the pair of alternatives more than 85% of the time; (c) their

correlation with the other items was nonsignificant; or (d) their correlation with validity criteria was close to zero (Rotter, 1966). The resulting scale is the 29 item IE Scale presently used to obtain a generalized expectancy of control over reinforcement.

This scale measures a generalized expectancy for two reasons. First, it is an additive scale. The items sample internal and external beliefs across a range of situations: work, school, politics, friendships. The additive nature allows the scale to predict moderately well over a variety of situations (Phares, 1976). And second, the wording of the items enhances the scale's ability to measure a generalized expectancy. The items are written so that they deal totally with the subject's belief about the world. None of the items seeks to determine the subject's preference for internal or external control. Rather, they deal with the subject's expectation about how reinforcement is obtained (Rotter, 1966).

Reliability. The internal consistency estimates reported by Rotter (1966) are uniform. These estimates are only moderately high ranging from .65 ($N = 50$ male Ohio State University students) when using the Split-half formula to .79 ($N = 50$ female Introductory Psychology students) when using the Spearman-Brown formula. Rotter (1966) notes that since the test is an additive one, the items are not comparable. As a result, the split-half or Spearman-Brown reliabilities underestimate the internal consistency. The Kuder-Richardson reliabilities range from .69 ($N = 1000$ male and female adults) to .73 ($N = 100$ male and female Ohio State University students)

for various samples. This measure of reliability is also limited. Since the IE Scale has a forced choice format, the items were controlled during the test's construction so that neither alternative was chosen too frequently. Consequently, the more extreme splits are not included (Phares, 1976).

The test-retest reliability reported by Rotter (1966) varied from .49 (two month interval) to .83 (one month interval). The two month interval score was obtained from 63 male Ohio State students. The one month interval score was obtained from 30 female Ohio students. A stability figure of .75 was reported by Harrow and Ferrante (1969) for a population of 86 psychiatric patients over a six-week interval. Finally, Kiehlbauch (cited in Rotter, 1966) found reliability coefficients of .75 (three month interval), .39 (six month interval), and .26 (nine month interval) in a reformatory sample. In general, the short term test-retest reliability of the IE Scale appears adequate.

Validity. Discriminant validity was established by determining that the IE Scale can distinguish levels of individual adjustment. According to theory, a well-adjusted individual would be expected to obtain a high internal score on the IE Scale. Similarly, high scores towards the external end of the distribution would theoretically indicate a maladjusted individual who has established defenses against failure. Nonetheless, extremes in scores, whether internal or external, might indicate maladjustment. Therefore, the relationship between IE Scores and adjustment would not be

linear. Generally, the seriously maladjusted groups would be expected to have greater variability of IE scores, and to frequently score in the direction of externality (Rotter, 1966).

Three measures of adjustment were correlated with IE scores in order to determine whether a linear relationship exists between the IE score and other measures of adjustment. First, the IE scores were correlated with the Rotter Incomplete Sentence Blank and a linear relationship was nonsignificant (Rotter, 1966). Second, the Taylor Manifest Anxiety Scale was found to have a .24 correlation with the IE Scale in a study using 111 subjects. This correlation was significant at the 5% level (Ware, cited in Rotter, 1966). Third, a short form of the Taylor Manifest Anxiety Scale was examined in relationship to the IE scores of 114 male and female subjects who were tenth through twelfth grade high school students. A correlation of .00 was found between the two measures. As a result of these studies, Rotter (1966) concludes that although the scale's ability to discriminate individuals in homogeneous samples is limited, the general discriminant validity is good.

The concurrent validity of the IE Scale has been determined by comparing IE scores with other questionnaire and nonquestionnaire measures of locus of control. One questionnaire approach involved comparing the earlier 60 item IE Scale to a Likert-type scale produced by

James and Phares (1957, cited in Rotter, 1966). Two separate studies providing correlations between these two scales produced relatively good coefficients. Using 151 elementary psychology students, Blackman (1962) obtained a correlation of .56 between the 60 item IE Scale and the earlier Likert-type scale. Florence Johnson (cited in Rotter, 1966) compared the two questionnaires and found a .58 correlation on a sample of 120 subjects.

One nonquestionnaire approach to the measurement of locus of control was conducted by Adams-Webber (1963). He administered the 23 item IE Scale to 103 subjects and then had them respond to a story-completion task. The stories began with the description of a central character who was involved in an immoral course of action. The story endings, supplied by the subjects, were rated on the basis of whether the character's actions caused the outcome (internal) or whether external agents caused the outcome. An analysis of variance based on the number of external endings indicated that IE scores were significantly related ($p < .001$) to external and internal outcomes.

A second nonquestionnaire approach to determine concurrent validity of the IE Scale involved an interview structure (Cardi, cited in Rotter, 1966). Prior to, and independent from an interview, 25 subjects were administered the IE Scale. Thirty-five minute interviews, which dealt with academic failure, were rated by judges

as exhibiting internal or external locus of control. A biserial correlation of .61 ($p < .002$) was found between the interview data and the IE scores. Therefore, the trait measured by the Rotter IE Scale can be validly measured by both questionnaire and nonquestionnaire test procedures.

Attempts to establish the predictive validity of the IE Scale have been only partially successful. For example, Liverant and Scodel (1960) used the 60 item version of the IE Scale to predict the betting sequences of individuals on a dice-throwing task. Their subjects were 85 male introductory psychology students. The bets were grouped into three categories: high probability, intermediate probability, and low probability. The results showed that subjects who scored high on internality ($N = 28$) placed money on safe bets more frequently than did the subjects who scored high on externality ($N = 26$). In other words, the difference in selection of high probability bets was not significant. However, the internal subjects chose significantly more intermediate probability ($z = 2.89$, $p < .002$) and significantly fewer low probability bets than did the external subjects ($z = 1.68$, $p < .05$). Furthermore, 10 of the 28 internal subjects never selected an extremely high or low probability bet, while only 3 of the 26 external subjects never selected such a bet ($\chi^2 = 4.31$, $p < .05$). Thus, the internal subjects preferred making extremely safe bets on the long shots.

These results lend support to the predictive validity of the IE Scale.

Rotter (1966) reports that consistent prediction has been shown in several studies involving reinforcement controlled by the experimenter. In one such study, the subject shifted his expectancy to receive reinforcement based on his reported success or failure on a prior task (Phares, 1957). Thus, individuals who received high internal scores on the IE Scale stated that they would be successful on subsequent tasks when told that they had been successful on a preceding task. When told that they had failed the preceding task, the internal subjects stated that they would probably fail later tasks. This sequence in prediction was termed a "usual shift". Conversely, the external scorers on the IE Scale tended to report "unusual shifts" in expectancy termed the gambler's fallacy. These subjects raised their expectancy of success after a report of success. In the Phares study, 77 female students from introductory psychology courses were used as subjects. The subjects were asked to predict their success in tasks involving chance and in tasks involving skill. In the skill situations, the mean number of "unusual shifts" was 1.8, while the corresponding mean in the chance situations was 1.5. A one-tailed t -test showed that the difference was highly significant ($t = 2.6$, $p = .004$). However, the mean proportion of "unusual shifts" was .16 in the skill

situation and .25 in the chance situation. A t-test approached significance in the expected direction (t = 1.5, p = .07). Though the gambler's fallacy shift failed to produce significance, the findings support the view that in skill situations, internal subjects tend to use the results of past performance in predicting future outcomes. A tendency for external scorers to produce "unusual shifts" (gambler's fallacy) has been found to be significant or to approach significance by other investigators (James, cited in Rotter, 1966).

The construct validity of the IE Scale has been assessed in a variety of studies. All of these studies have tested the hypothesis that the construct validity of locus of control involves the individual's attempts to control his environment or to better his life condition.

Seeman and Evans (1962) were the first to study the relationship between an IE score (using another revision of the 60 item IE Scale) and an individual's knowledge about his own condition. The subjects were 43 matched pairs of white, male patients in a tuberculosis hospital. The measures utilized were the number of questions the patients asked doctors and nurses, the amount they knew about their own condition, and their level of satisfaction with the feedback they received concerning their medical status. As hypothesized, the internal subjects questioned more, knew more about their condition,

and were less satisfied at the amount of feedback they were getting than were the external subjects. For the internal subjects, the amount of satisfying information obtained on the wards designed to facilitate feedback in comparison to the wards designed to impede feedback was significantly different at the $p = .05$ level (two-tailed test, difference = 5.7). Whereas the external subjects did not obtain any more information on the ward designed for feedback than they did on the ward designed to block feedback ($p = .05$, difference = -.05, nonsignificant). These results support the theory that an internal individual will attempt to control his environment in order to better his life condition.

In another study which involved 170 reformatory inmates, Seeman (1963) investigated the inmates' memories for information that they had been incidentally exposed to. Information concerning parole and how the reformatory operated was found to be significantly related to an internal or external locus of control orientation independent of intelligence. The correlation between externality and parole learning was -.23, which is significant at the .05 level using a two-tailed test ($N = 85$). Again, the internal subject tends to learn more about his environment so that he can better his life condition.

The belief that one can control himself was compared to scores on the IE Scale to further substantiate construct

validity. James, Woodruff, and Werner (1965) found that nonsmokers were significantly more internal than smokers. The subjects were 272 female (123 smokers) and 185 male (102 smokers) undergraduate students at Northern Illinois University. As hypothesized, the male smokers made significantly higher external scores on the IE Scale ($t = 2.24$, $p < .05$), and the female smokers made significantly higher external scores ($t = 1.94$, $p < .05$) in comparison to the groups of male and female nonsmokers. Furthermore, male smokers who quit smoking after the Surgeon General's Report and did not begin again in a certain amount of time, were significantly more internal than were male smokers who believed the report but did not quit ($N = 102$, $t = 1.97$, $p < .05$). The authors conclude that their data adds to the construct validity of the IE Scale. The preceding studies lend consistent support to the hypothesis that a locus of control construct is present, can be reliably measured, and can predict behavior.

Additional test characteristics. The Marlowe-Crowne Social Desirability Scale (MC-SDS) was reported by Rotter (1966) to correlate with the IE Scale between $-.16$ to $-.32$ depending on the sample tested. The correlation of $-.16$ was computed from a group of 116 male Ohio State University students. The $-.32$ correlation was obtained from a group of 140 female elementary psychology students. The combined correlation for these two groups is $-.21$. In comparing the MC-SDS with the IE Scale, it should be noted that

that under some testing conditions the subjects may see an advantage in placing themselves in a favorable light. Later investigators have generally failed to report significant correlations between the IE Scale and the MC-SDS (Phares, 1976). In contrast, a significant correlation for females was reported by Feather (1967) with an absence of a significant correlation for males. The subjects in his study were 84 undergraduate students in introductory psychology at the University of New England. The significant correlation between the IE Scale and the MC-SDS of $-.43$ ($p < .01$) was reported for the women while the nonsignificant correlation of $-.10$ ($p < .05$) was reported for the men. However Altrocchi, Palmer, Hellman, and Davis (1968) reported a significant correlation of $-.34$ ($p < .05$) for 96 males but nonsignificance for females. These studies suggest that although the IE Scale is not entirely free from a socially desirable response set, the IE Scale is not seriously impaired.

Intelligence measures and IE scores have been found to have negligible or low correlations (Rotter, 1966). For example, the IE score was compared to scores on the Psychological Exam at Ohio State University. The subjects were 107 female students. An insignificant correlation of $-.09$ was found. For a group of 80 male Ohio Federal prisoners, an insignificant correlation of $.01$ was obtained when comparing the IE score to a Revised

Beta IQ score. It appears untenable to assert that an IE Scale score is a function of intelligence.

Sex differences on the IE Scale are difficult to summarize. A majority of the studies do not find significant differences between men and women (Phares, 1976). However occasional studies will report sex differences. For example, Feather (1968) reports that a sample of 134 undergraduates in introductory psychology at the University of New England showed sex differences in IE scores. The mean IE score for external males of 13.92 ($\underline{SD} = 1.26$) was significantly lower than the score for external females of 16.94 ($\underline{SD} = 1.62$, $\underline{t} = 5.28$, $\underline{p} < .01$). However the mean score for internal males of 5.75 ($\underline{SD} = 1.59$) was not statistically different ($\underline{t} = .30$, $\underline{p} < .05$) from the mean score for internal females of 5.94 ($\underline{SD} = 1.75$). To explain this, Phares (1976) suggests that in some samples the social pressure on men to succeed causes them to protect themselves from failure by attributing reinforcement to external attributions. Other reasons why sex differences may be obtained are due to the geographical region sampled, as well as to sex-role identification.

Mean scores on the IE Scale vary significantly from study to study. In Rotter's 1966 monograph, mean scores ranged from 5.48 (for 33 female Peace Corp trainees, $\underline{SD} = 2.78$) to 10.00 (for 32 male subjects from Boston, $\underline{SD} = 4.20$). The mean scores for University of Oklahoma students have become increasingly external since 1966 when the mean score

was 7.42 until 1970 when the mean score was 10.38 (Schneider, 1971). Phares (1976) reports that the mean scores for freshman students at Kansas State University have shifted from 6.8 in 1964 to 11.0 in 1973. Thus, a typical IE score does not exist and must be determined from the sample tested. For purposes of the present study, a cut off score of 10.00 has been determined by testing a sample of the local population.

Utility. The IE Scale generates a measure of locus of control that describes an individual's expectancy of reinforcement over a broad range of situations. The IE Scale has been used in determining which patients more actively seek information about their condition in a tuberculosis hospital (Seeman & Evans, 1962). Seeman (1963) also used the IE Scale to discover that internal inmates tend to retain facts that affect their ability to cope with the institutional world. Furthermore, Phares (1968) found that internal subjects not only acquired and recalled more information, but also were able to utilize the information more effectively. The next logical step in this sequence is to use the IE concept to change an individual's belief about reinforcement so that he becomes more internal. A study by Johnson and Croft (1975) found that student participation in a course based on the Keller Plan of Personalized System of Instruction significantly changed the students' expectancy toward an internal direction. In conclusion, the IE Scale has been useful in investigating

information seeking, retention, and use in individuals as well as ways to change expectancy toward an internal orientation.

Purdue Cafeteria System

Purpose. The Purdue Cafeteria System (PCS) is an instrument administered to students so they can evaluate faculty (Derry, Seibert, Starry, Van Horn, & Wright, 1974). The PCS is composed of a catalogue of 200 items from which the instructor selects those items on which he wants to be rated. Thus, the rating system can be individualized to meet the specific requirements of a course or instructor. Generally, a teacher selects 20 items on which to be evaluated, and an additional set of five non-optional "core" items is automatically added to his list. One benefit of the PCS is that the instructor is encouraged to participate because he is involved in the process of selecting items. Furthermore, the fairness and applicability of the items to the specific course can be determined by the instructor.

The items of the PCS are short, positive statements written in the present tense. The student is given an opportunity to respond to each item on a five point likert-type scale ranging from Strongly Agree to Strongly Disagree. The items were written to emphasize specific instructor behaviors as well as over all course aspects.

Development. Realizing that the standardized methods of evaluating instructors were not broad enough to rate

adequately a variety of instructional strategies, the staff of the Measurement and Research Center of Purdue University decided to create a tailor-made rating instrument (Derry et al., 1974). The three requirements that they established for the catalogue of items were that it should: (a) be flexible enough to accomodate a range of teaching methods; (b) be able to diagnose strength and weaknesses; (c) be standardized to allow for comparisons between faculty members. Keeping these three requirements in mind, over 300 items were composed. The items were originally created to be norm-referenced measures. Therefore, no attempts were made to write items that produced normal distributions. However items that did not produce variance were either dropped from the catalogue or rewritten. Each item is somewhat unique and appears to discriminate levels of effectiveness. The items were also revised to enhance specificity and clarity. The result of these revisions is the 200 item catalogue presently used in twenty-one institutions.

Norm-referenced measures. The ratings produced by the PCS are called norm-referenced measures. This means that an instructor's rating on an item is compared to the position of other university faculty who chose the identical item. Norms are not published for any item chosen by less than fifty classrooms. However, the item selection is cumulative over time so that within several semesters use, most universities will have generated a fairly complete set of local norms.

A report of the ratings that an instructor receives is composed of a list of the items he chose, the responses he received, and the percentile ranks. When his reported score is compared to the distribution of scores published for the entire university, the instructor can see how he rates in relation to other local faculty. Thus the percentile rank is crucial to the interpretation of a score. For example, suppose an instructor receives a score of 2.1 (on a 5.0 scale in which Strongly Agree = 1; Agree = 2; Undecided = 3; Disagree = 4; and Strongly Disagree = 5) for the item, "My instructor demonstrated formal knowledge of the topic." The instructor may falsely assume that he has received a high rating. However a glance at the percentile score tells the instructor that he falls at the 47th percentile for this item in comparison to other faculty members. In other words, his performance was exceeded by 53% of the local faculty and his score of 2.1 is only an average rating.

Utility. The PCS has been used for four major purposes (Derry et al., 1974). First, when the results are published, individual faculty members use the norms to aid in improving the quality of their teaching. Second, administrators use the results to determine faculty rank, tenure, and salary. Third, the results have been used in research studies to develop new curricula or revise instructional methods. And fourth, in the past, students have used the norms to aid in the selection of their courses.

For purposes of the present study, twenty items have been chosen from the catalogue of 200 items (see Appendix A). These items were selected on the basis of: (a) their applicability to the course being evaluated; (b) the availability of norm tables for the item from both Purdue University and Eastern Illinois University; (c) the ability of the item to discriminate levels of teaching as exhibited by the frequency distributions of the norms. The mean rating given the instructors by each student was used as the dependent variable of instructor ratings.

Teaching Environments

The locus of control orientation exhibited by an instructor can be established both through the method he uses to teach his course and through the personal comments he makes. Descriptions of two instructors were written and designed to show either an internal locus of control attitude or an external locus of control attitude.

Instructor A (Dr. Jones) was designed to characterize an internal locus of control attitude. The method Instructor A uses to teach his course is the Keller Personalized System for Instruction (Tillman, 1975). This system allows the student to receive as much reinforcement as he wants and to control when he receives the reinforcement. Thus the attitude demonstrated by the Keller System (PSI) is one that enables the student to see that the reinforcement he receives is contingent upon his own behavior. Rotter (1966) termed this attitude a belief in internal

control. In addition, internal statements from the IE Scale were incorporated into the description of Instructor A to further enhance his internal orientation (see Appendix B).

Instructor B (Dr. Smith) was created to exhibit an external locus of control attitude. The method Instructor B uses to teach his course is the traditional lecture and essay test system. This person was designed to take the perceived control of reinforcement away from the student and to invest control in chance occurrences and external (teacher controlled) events. The external attitude is aided by having Instructor B administer unannounced quizzes and subjectively graded exams. In addition, external statements from the IE Scale were incorporated into the lecture given by Instructor B in order to enhance his external orientation (see Appendix B).

In order to determine whether the descriptions of Instructors A and B presented the IE orientation desired, eleven faculty members and graduate students rated the descriptions on a continuum. Point one on the continuum was designated as internal control and point four as external control (see Appendix C). Both Instructors A and B were rated on the degree of personal control they exhibited and on the method each used to structure his class. A Mann Whitney-U test comparing the ratings received by Instructor A (Dr. Jones) to the ratings received by Instructor B (Dr. Smith) showed a difference which was significant at the $\alpha = .05$ level ($U = 0$, $n_1 = 11$, $n_2 = 11$, two-tailed test).

A Mann Whitney-U test comparing the ratings of Instructional Environment A to Instructional Environment B showed a difference which was significant at the $\alpha = .05$ level ($U = 1.5$, $n_1 = 11$, $n_2 = 11$, two-tailed test).

Procedure

The experimenter attended freshman, sophomore, and junior level psychology classes at Eastern Illinois University. She introduced herself, stated that she had a fifteen minute task for each member of the class to complete, and distributed the test booklets which had been arranged in a randomized order.

In order of presentation, each booklet consisted of: (a) the Rotter IE Scale, (b) the two descriptions of Instructors A and B each immediately followed by (c) the 20 rating items from the Purdue Cafeteria System. One half of the students read and rated Instructor A first and one half of the students read and rated Instructor B first. Complete instructions were printed on the test booklets in a step-by-step form so that the instruments were self-administered. The examiner collected the test booklets and answer sheets when the subjects had completed the task.

Design and Analysis

Design

The study employed a counterbalanced design in which experimental control was achieved by entering all subjects into all treatments. The Latin-square arrangement was employed in the counterbalancing (Campbell & Stanley, 1963). The two experimental treatment levels, i.e., the internal instructor and the external instructor, were assigned in a randomized manner to the subjects.

There were two independent variables, each possessing two levels. Independent variable A refers to the locus of control orientation of the student. The internal scorers were assigned the A_1 level, while the external scorers were assigned the A_2 level. Independent variable B refers to the instructional environment. The internal instructor (Dr. Jones) was designated B_1 and the external instructor (Dr. Smith) was designated B_2 . The dependent variable is the mean rating given the instructor on the Purdue Cafeteria System. The design written in Campbell and Stanley (1963) notation is as follows:

O_1 = All subjects take the Rotter IE Scale

O_2 through O_9 = Ratings on the Purdue Cafeteria System

X = Treatments (Dr. Smith or Dr. Jones)

O_1	R	X_{11}	O_2	X_{21}	O_3
	R	X_{12}	O_4	X_{22}	O_5
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	R	X_{21}	O_6	X_{11}	O_7
	R	X_{22}	O_8	X_{12}	O_9

Analysis

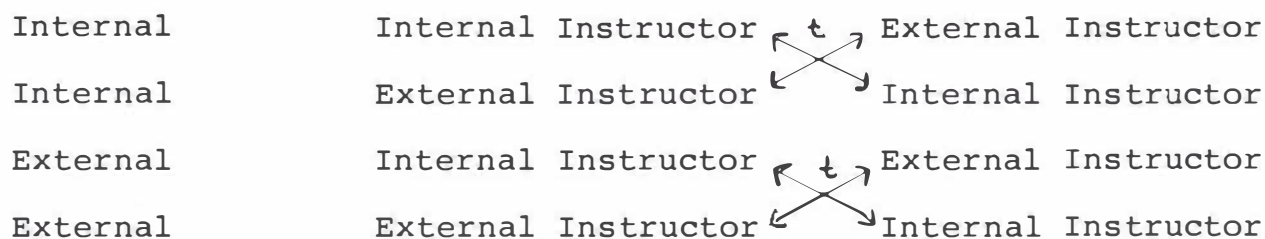
A counterbalanced design was employed in order to determine whether subject variables such as fatigue and testing effects resulted in different instructor ratings. In order to discover these effects, a t-test was computed between the mean ratings the internal students gave the internal instructor (Dr. Jones) when presented first vs. the mean ratings of the internal instructor when presented second. Similar t-tests were computed on the internal students' ratings of the external instructor first vs. the external instructor second; the external students' ratings of the internal instructor first vs. the external instructor second; and the external students' ratings of the external instructor first vs. second. The following diagram, used to clarify the arrangement, shows that a t-test was computed between the two groups connected by arrows.

ORIENTATION of STUDENT

PRESENTATION ORDER

First

Second



In order to test the two main effect hypotheses and the interactive hypothesis, a split-plot analysis of variance for unweighted means was computed (Kirk, 1968).

CHAPTER IV

RESULTS

Preliminary Analysis

Sex. No significant differences were found between the sex of the subjects and their scores on the Rotter IE Scale ($t = .68$). The mean IE score for males was 9.67; and the mean score for females was 10.40. The standard deviation for the entire sample was 4.8. Therefore, the total sample was investigated.

Order effect. The four t -tests used to determine whether the order of presentation had an effect were all nonsignificant. The mean rating given by the internal subjects to the internal instructor when presented first was not significantly different from the rating given the internal instructor when presented second ($t = 1.41$, $df = 40$). The mean rating given by the internal students to the external instructor when presented first was not significantly different from the rating given the external instructor when presented second ($t = .40$, $df = 40$). Similar nonsignificant t values were found for the external students' ratings of the internal instructor ($t = .68$, $df = 49$), and their ratings of the external instructor ($t = .28$, $df = 49$).

Since the order of presentation had no significant effect, the rating scores were combined for the purposes of the analysis. Thus, the ratings of the internal instructor as given by the internal students were treated as one group regardless of presentation order. The same

combinations were made for all other like groups. The mean ratings received by each instructor are presented in Figure 1.

Effect of Internal vs. External Control of Students

The analysis indicates that the main effect of the IE orientation of the subjects was nonsignificant ($F = .16938$, $df = 1/91$). There were no significant differences in the faculty ratings given by internal control subjects when compared to those given by external control subjects. Therefore, the null hypothesis was not rejected (see Table 1).

Effect of Internal vs. External Control of Types of Instructor

The analysis shows that the main effect of the IE orientation of the instructors was nonsignificant ($F = 3.13627$, $df = 1/91$). There were no significant differences in the ratings received by the internal instructor when compared to those received by the external instructor. Therefore, the null hypothesis was not rejected (see Table 1).

Interaction Effect

The interaction effect of the locus of control orientation of the students was found to be nonsignificant ($F = .4952$, $df = 1/91$). Therefore, the null hypothesis was not rejected (see Table 1).

Additional Results

An additional question, written by this experimenter, was added to the Purdue Cafeteria System (PCS). Item 21

FIGURE 1

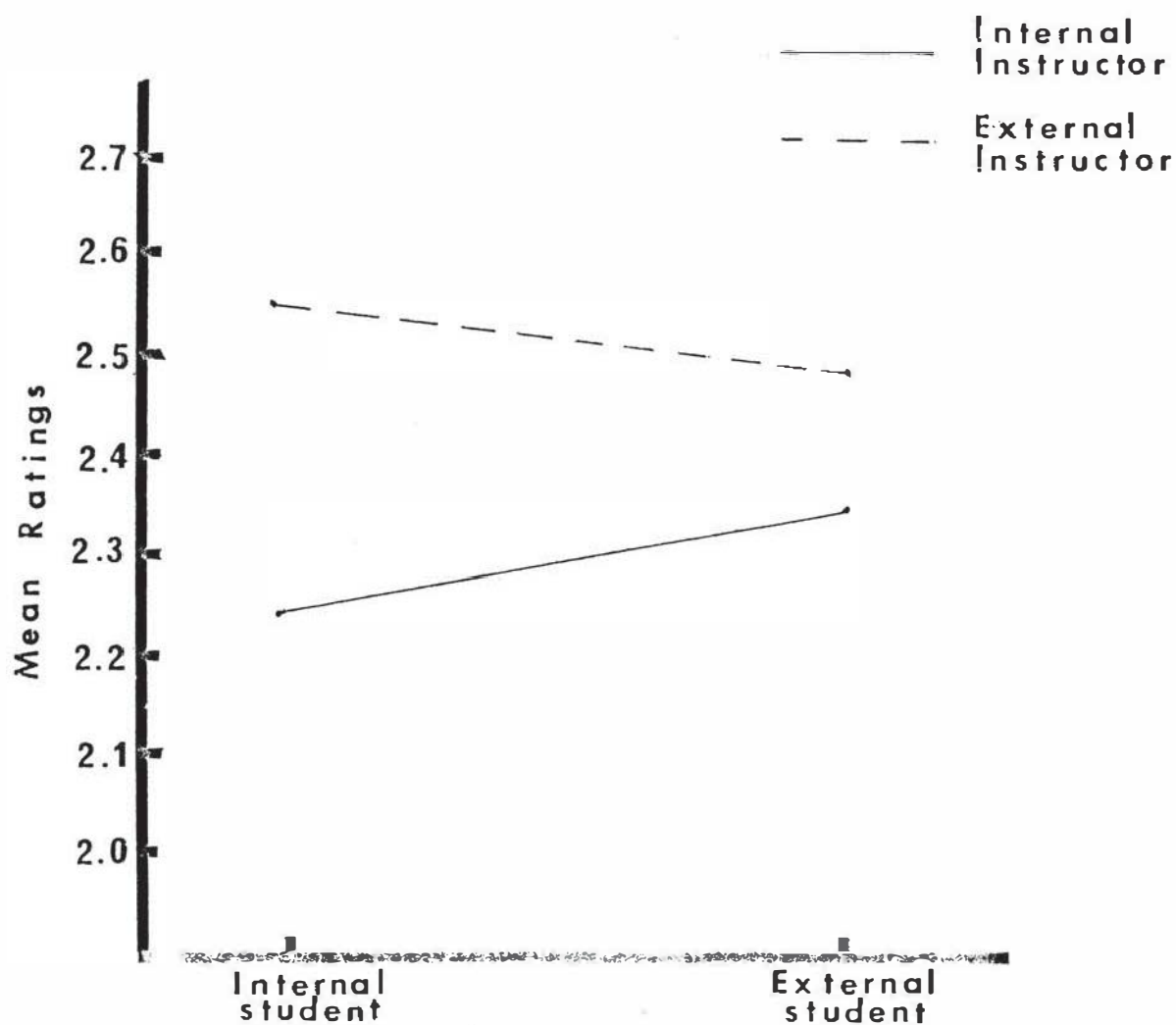


Figure 1. Mean ratings received by instructors from internal and external students. (Rating of 1 = high positive statement; rating of 5 = high negative statement)

Table 1
Analysis of Variance for Instructor Ratings

Source	SS	dF	Ms	F
A	.0926	1	.0926	.16938
Subj. w. grps.	49.751	91	.5467	
B	2.1888	1	2.1888	3.13627
AB	.3456	1	.3456	
B x subj. w. grps.	63.509	91	.6979	.4952

was, "In this course I would expect to receive a grade of . . . A B C D F." These expected grades were treated as a dependent variable.

A t-test was computed between the expected grades of all the internal students and the expected grades of all the external students in the internal instructional environment. On a scale in which A = 1, B = 2, C = 3, D = 4, F = 5, the mean grade expected by the internal students was 1.33 and the mean grade expected by the external students was 1.73. In addition, a t-test was computed between the expected grades of all the internal students and the expected grades of all the external students in the external instructional environment. The mean grade for the internal students was 1.74 and the mean grade for the external students was 2.33 (see Table 2).

These analyses significantly supported the following two main effects (see Figure 2). First, the students in general predict that they will receive significantly higher grades in an internal course than they will in an external course (Externals: t = 4.24, df = 100, Internals: t = 2.90, df = 82). And second, internal students predict that they will receive higher grades overall than do external students (see Figure 2).

Table 2
Mean Expected Grades of Internal and External Students
in Different Instructional Environments

Students	Instructional Environment		Total Mean
	Internal Mean	External Mean	
Internal	1.33	1.74	1.54
External	1.73	2.33	2.03
Total Mean	1.35	2.04	

Note. Grade of A = 1; B = 2; C = 3; D = 4; F = 0.

FIGURE 2

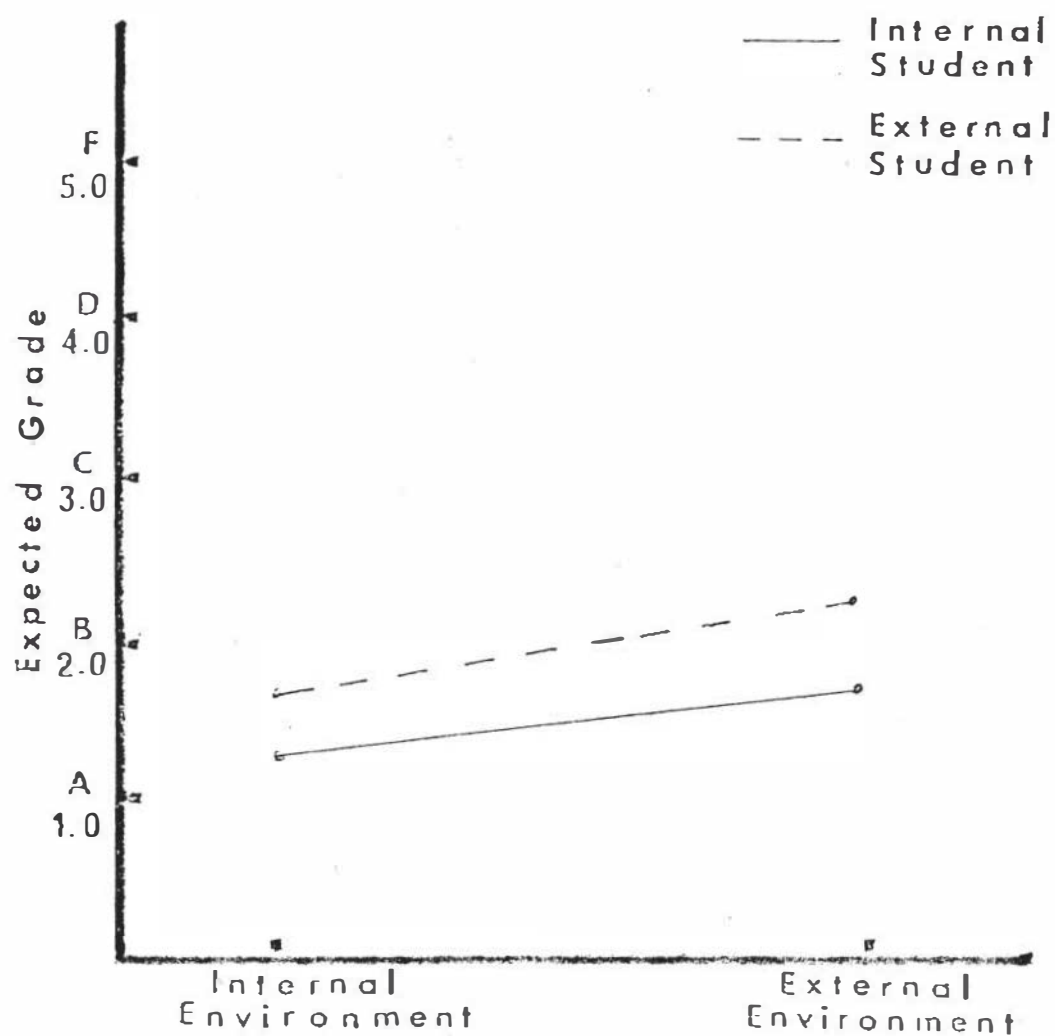


Figure 2. Expected grades of internal and external students in different instructional environments.

CHAPTER V

DISCUSSION

There were no significant differences between the mean scores on the Rotter IE Scale and the sex of the subjects. This finding is consistent with the majority of studies in which no sex differences are found between internal and external locus of control individuals (Phares, 1976).

The counterbalanced design showed that the presentation order did not affect the students' ratings of the instructors. Thus an instructor received consistent ratings regardless of the time of presentation, suggesting that fatigue and testing effects were not a source of error.

The present study was undertaken in order to test three main hypotheses. First, it was predicted that faculty ratings given by internal control subjects would differ significantly from those given by external control subjects. The results failed to support this hypothesis. As mentioned in the review of the literature, Follman (1975) compiled a list of student personality characteristics that markedly affect faculty ratings. Some of these student characteristics are need for achievement, artistic interests, and authoritarianism. The present study indicates that locus of control orientation is not one of the student personality factors that affects faculty ratings.

Similarly, Joe (1971) reviewed the literature concerning the locus of control trait and concluded that

external individuals tend to possess personality characteristics such as anxiety and lack of confidence. The social perception theory (Kerlinger, 1963), previously examined, asserts that a student's characteristics could be attributed to the instructor through the process of projection. If this projection occurs, a student may perceive the instructor as anxious and as lacking in confidence. Theoretically, the external student would then rate the instructor more critically because the external student is attributing his own personal faults onto the instructor. The results of the present study imply that these student characteristics are not projected onto the instructor since external students did not rate the teachers significantly lower than did the internal students.

The results of the present study are inconsistent with the Seeman and Evans (1962) article in which internally oriented hospital patients were found to exert more control over their environment than did the externally oriented hospital patients. The internalizing patients exerted this control by asking frequent questions and by actively seeking feedback and reinforcement. However, in the present research, the internal students were allowed to express a preference for an instructional environment which provides frequent feedback and personal control (internal) or a preference for an instructional environment which provides infrequent feedback and lack of

personal control (external). The students did not indicate that they would prefer one environment over the other.

It is possible that students do not connect frequent tests and consistent feedback with the acquisition of positive reinforcement. McKeachie (1963) pointed out that both students and instructors tend to emphasize the aversive side of examining and grading rather than viewing the procedures as part of the learning experience. This attitude is supported by the traditional college teaching and testing methods in which examinations are not administered until several months after the beginning of a course (Ryan, 1974). As a consequence, students learn to view tests as aversive stimuli and believe that the function of the test is to penalize them for incorrect responses. Thus the internal instructor who tests each week may be avoided by students regardless of his locus of control orientation.

A second proposal examined in the present study was that the ratings received by the internal instructor would be significantly different from those received by the external instructor. The results failed to support this proposal. In contrast, Davison (1973) showed that teachers who are most unlike the students receive higher ratings. However, the present study indicated that teachers are rated the same regardless of their similar or dissimilar locus of control orientation.

It is possible that the students were unable to make discriminating evaluations on the basis of the brief descriptions of instructors provided. During a debriefing session, several student-participants stated that insufficient information was presented for them to differentiate between the two instructors on the evaluation scale. Thus, both instructors received similar ratings because they were not seen as distinctively dissimilar.

The students may also have rated Dr. Jones (internal) and Dr. Smith (external) on the basis of their past experiences with instructors who used the same teaching methods as each instructor. In this event, the locus of control orientation of the experimental teacher could have been confused with the locus of control orientation of the past instructor. The student may have been biased in his assessment of Dr. Jones or Dr. Smith due to the student's past experiences, resulting in evaluations based on variables other than the locus of control trait.

The third hypothesis examined in the present study was that there would be an interactive effect between the locus of control orientation of the instructors and the locus of control orientation of the students. That is to say, the internal or external instructor may have received a higher or lower evaluation dependent upon the student's locus of control orientation. The study failed to support this hypothesis. This result is inconsistent with the Nowicki and Blumberg (1975) research in which both internal

and external subjects were more highly attracted to a tape of an internal stranger. In the present study neither the internal students nor the external students were significantly more attracted to either the internal instructor or the external instructor.

In fact, the overall ratings indicate that the students tended to rate both instructors positively. It is possible that Dr. Jones and Dr. Smith both possess admirable qualities and are therefore favorably evaluated. Or as mentioned earlier, the high evaluations may be due to the brevity of the descriptions presented or to the previous educational experiences of the student raters.

Finally with regard to the expected grade, two significant main effects were supported. The first is that students in general predict that they will receive higher grades in an internal course than in an external course. As previously mentioned, internals perform better in skilled situations when it is apparent that their behavior affects the outcome (Phares, 1957). The internal course, which is based on Keller's Personalized System of Instruction (PSI), is an instructional setting in which a student's performance can be immediately reinforced and the student can move at his own rate of learning (Johnson & Croft, 1975). The present study indicates that students in general expect to obtain higher grades when placed in a situation in which their own behavior controls the course outcome as in the PSI. That students expect

to do better in a PSI course is consistent with past research showing that students actually do receive higher grades in a PSI course (Ryan, 1974).

The second main effect supported by the additional results of this study is that internal students expect to receive higher grades overall than do the external students. This expectation is consistent with research showing that internals tend to score higher on academic tasks and are more highly achievement oriented (Organ, 1975; Ramanaiah et al., 1975).

However, Hjelle (1970) did not find that locus of control orientation differentially affected academic performance. Hjelle administered the Rotter IE Scale to 500 college students and used the extreme scorers in his research. He computed the grade point averages for these extreme scorers and found that internals do not demonstrate higher academic achievement. Furthermore, Johnson and Croft (1975) investigated the relationship between locus of control orientation and student performance in a PSI course. Three criteria were used to evaluate course performance: grades, time to complete the course, and attendance at discussion sections. They found that the locus of control orientation of the students did not differentially relate to course performance. It seems logical that an internal student who believes that he controls the events of his world will expect to achieve higher than will an external student who believes that

luck, chance, or powerful others control him. Although the present study indicates that internal students expect to achieve higher grades than external students, other researchers have not found an existing relationship that supports the internal student's expectations. Thus, this study suggests a need for further evaluation of this relationship between IE orientation of the student and grade expectations.

This study has generated several ideas for further research. Dr. Jones' method of instruction is highly structured, while Dr. Smith's method is less structured. The students responding on the Purdue Cafeteria System (PCS) may have been affected by their needs for structure. In order to test this conjecture, the ratings of two instructors who use the same instructional method but differ in attitudinal positions in terms of locus of control orientation could be compared. In order to obtain this goal, videotaped instructional sessions or longer written descriptions could be presented for evaluation.

A limitation of the present study involves the data collection and analysis. The Purdue Cafeteria System rates instructors on a five point likert-type scale. The midpoint is an "Undecided" rating. This response frequently occurred reducing the number of clear cut evaluative statements. Future research could use a forced-choice format questionnaire in which the student is given only two options and must choose whether he "likes" or

"dislikes" a characteristic. The resulting data may be more sensitive to statistical analysis. Another possibility would be to include only the extreme scorers on the IE Scale as the student raters. These extreme scorers may tend to respond with more extreme ratings.

The final implication for future research involves specification of the student sample. Most of the students used in the present study have had experience with college instructional methods. Therefore, they have probably developed biases concerning the type of instructor and the instructional method in which they perform best. A replication study in which the student sample consists of naive freshmen who have no prior college experience may control for the bias effect present in experienced college students.

In conclusion, this study suggests that the locus of control personality factor may not be predictive of the way in which a student evaluates an instructor. However, a student's expectations of his own performance in a course was shown to be related to the locus of control personality traits of the student, instructor, and the instructional setting. Attempting to predict behavior on the basis of the IE Scale alone leaves out a great deal of information. However, the assumptions that beliefs about personal control materially affect a student's performance and an instructor's teaching method are well founded. An individual will seek to control his own environment only when he

believes that such control is possible. When methods found to enhance an internal locus of control orientation are incorporated into the educational system, the result should be an increased number of students who believe that they are responsible for their own behavior (Johnson & Croft, 1975). This spiral of increased personal control with increased belief of personal responsibility may contribute to individual growth and autonomy.

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APPENDIX A

APPENDIX B

(Instructor A)

As you carefully read the following description of the first day in Dr. Jones class, imagine that you are a student in this course. When you have finished reading the description, indicate your reactions to your teacher, Dr. Jones, on the next page.

Dr. Jones walked into the first meeting of his course on American National Government. He introduced himself and made the following comments.

"In this course you will be able to move at your own rate. You will not be held back by other students or forced to go ahead until you are ready. You may be able to meet all the course requirements in seven weeks or you may not complete the job in fifteen weeks. How fast you go is up to you.

The work of this course is divided up into fifteen units. Each unit consists of reading assignments and homework exercises. These units will come in a definite numerical order. You must show your mastery of each unit before moving on to the next. You show mastery by passing a quiz over the unit.

A lot of your reading for this course may be done in the classroom. When there are no lectures or activities taking place, your classroom will be a study hall.

The lectures in this course have a different relation to the rest of your work than is usually the rule. They will be provided only when you have demonstrated your readiness to appreciate them. There will be no examinations based on the lectures and you do not have to attend them if you do not wish. When a certain percentage of the class has passed a unit, a lecture will be available at a stated time.

The teaching staff of your course will include proctors and the instructor. The proctors are graduate students who have mastered the course content. The proctors will be available at all class meetings to assist you. They will also provide you with all your study materials and tests. Furthermore, they will grade your quizzes. If you don't pass a test on the first try, you can take it again. It is better to get too much testing than not enough since failures will not be held against you. Therefore, your success in this course is assured if you pass the exams.

You will all be expected to take a final examination in which the entire term's work will be represented. The final exam will consist of questions which, in large part, you have already answered on your readiness tests. Twenty-five percent of your course grade will be based on this examination; the remaining seventy-five percent will be based on the number of units you have successfully completed during the term.

This course will be concerned with the three branches of the U.S. Government, and the political parties. One of the most important things you will learn about government is that individuals like you and I can control world events. You will become aware of your power to influence governmental decisions, as well as your responsibility for the decisions that are made. Therefore, the first two units of this course will deal with how people get into positions of power.

Are there any questions? If not, you're free to begin working on your first unit which the proctors will hand out now. Feel free to come and talk to me or ask questions of the proctors at any time."

(Instructor B)

As you carefully read the following description of the first day in Dr. Smith's class, imagine that you are a student in this course. When you have finished reading the description, indicate your reactions to your teacher, Dr. Smith, on the next page.

Dr. Smith walked into the first meeting of his course on American National Government. He introduced himself and then had the students introduce themselves. He began class with the following comments.

"This course will essentially follow a lecture and discussion format. You will be given reading assignments from the textbooks to supplement the classroom information. Also you will be expected to know about current events from reading daily newspapers.

Class attendance will not be taken. However you will find that class participation will aid you on the examinations. You will be given two exams: a midterm and a final, each worth thirty-five percent of your grade. You will also be given three unannounced quizzes, each worth ten percent of your grade.

The tests will consist totally of essay questions. All of the questions will deal with information presented in class as well as information from the assigned readings. It is important that you give precise responses to the test items as each item will be graded largely on content. I am aware that there is a subjective element involved in grading essays. Therefore, I will ask that you not put your names on your papers but that you use your student number for identification. No matter how unbiased I try to be, little things like using complete sentences and correct grammar will slightly affect your grade. Feel free to appeal to me on any issues concerning your grade.

I am passing out the course outline for the first two weeks of class. We will stick to this schedule unless we get side-tracked onto some interesting issue that uses up our time. When we have covered this material, I'll hand out the next unit for study. We will proceed in this manner until the semester runs out. With a little bit of luck, we'll cover most of the material we need to before the end of the semester.

I hope that each of you discovers that the U.S. Government has a fascinating function. Ask questions as the lectures progress, and share your observations with the class. As long as your comments pertain to the topic at hand, we'll take time for discussion.

This course will be concerned with the three branches of the U.S. Government, and the political parties. One of the most important things you will learn about government is that it is run from the top. There are a handful of people in powerful government positions who make the decisions that profoundly affect our everyday lives. Once a person gets into a position of power, it is very difficult for the people to control what he does. Therefore, the first two weeks of this course will deal with how individuals get into positions of power.

Are there any questions? If not, read chapters one and two in your textbook for Monday. Class is dismissed."

APPENDIX C

NAME _____

RATING SHEET

LOCUS OF CONTROL is a psychological trait based on the individual's belief concerning his ability to obtain reinforcement.

When an individual perceives that a reinforcement follows some action of his own but the reinforcement is perceived as the result of luck, chance, fate, or under the control of powerful others, the belief is termed EXTERNAL CONTROL. This individual believes that what happens to him is under the control of outside forces.

When an individual perceives that a reinforcement follows some action of his own and that his own behavior or his own relatively permanent characteristics cause the reinforcement to follow, the belief is termed INTERNAL CONTROL. This individual believes that he controls what happens to him and that he can reinforce himself.

Not only does an individual's personal belief determine his Locus of Control Orientation, but also an environment may be conducive to either an EXTERNAL or INTERNAL Orientation.

Please rate Instructors A and B on the degree of INTERNAL CONTROL or EXTERNAL CONTROL they exhibit.

INSTRUCTOR A

Internal 1 _____ 2 _____ 3 _____ 4 External

INSTRUCTOR B

Internal 1 _____ 2 _____ 3 _____ 4 External

Now rate the degree to which each instructor has structured his class so that the students can control their own reinforcement.

ENVIRONMENT A

Internal 1 _____ 2 _____ 3 _____ 4 External

ENVIRONMENT B

Internal 1 _____ 2 _____ 3 _____ 4 External