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A FURTHER ANALYSIS OF INTERNAL CONTROL OF REINFORCEMENT

by

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INTRODUCTION

Accurate prediction in the sciences increases as a function of the investigator's ability to either control or in some way account for the relevant factors which can be shown to functionally relate to his subject population.

This investigation is concerned with the way in which subjects are classified on the internal-external (I-E) locus of control dimension (Rotter 1966) and how this classification relates to their performance on an attitude change task. In recent years, the simple classificatory scheme of internal versus external locus of control (belief in personal control in the acquisition of reinforcements versus belief that reinforcements are obtained as a function of luck, chance, fate, or powerful others) has been questioned (Mirels, 1970; Thomas, 1970; Ritchie, 1970; Hersch & Scheib, 1967).

In Mirels' (1970) factor analytic study two general factors were noted in place of the single general factor which was previously assumed. Mirels proposed that one factor accounted for belief in internality and externality in the area of personal control over reinforcements and a second factor, which assessed I-E belief in the political arena. Since these factors are independant by definition it is quite possible that confounding could occur if a task variable was specifically related to one of the factors and the general I-E scale was used for subject classification. Thomas (1970) examined the I-E scale for some

possible response biases related to political ideology. He found that active affiliation with certain conservative organizations and upper middle class membership (income above $20,000 per year) were strongly associated with a very businesslike attitude toward the acquisition of reinforcements e.g., "In the long run you get the respect you deserve". Liberals, though just as politically active, scored lower on the I-E scale. Hersch and Scheib (1967) suggested that externals could be classified into two groups. They found that one group of externals viewed the forces controlling reinforcements as benevolent while the second group viewed the "controlling forces" as malevolent.

The study most germane to this investigation is that of Ritchie (1970). She classified a sample of externals as either congruent or defensive based on a second individual difference variable, willingness to take action in the acquisition of reinforcements. When she dichotomized the sample in this way, she was able to account for some of the previously noted variability associated with the external population. The particular relevance of this study will be discussed later in more detail.

The four studies just cited suggest that prediction can be enhanced by taking a closer look at the way in which subjects respond to the I-E scale as well as the criteria which may be pooled to define placement along the I-E continuum. Since this investigation of the ways in which some of the variables relevant to the I-E scale articulate is being conducted within the frame-

work of social learning theory (Rotter, 1954), a brief theoretical exposition of the theory follows.

Social learning theory, as defined by Rotter (1954), contains four major constructs: Behavior Potential, Expectancy, Reinforcement Value, and the situation. These elements are combined to form the following formula:

Behavior Potential = f(Expectancy and Reinforcement Value).

Expectancies are composed of expectancies based on prior experiences in the same situation (E^1) and expectancies generalized from other relevant past experiences (GE).

Internal-external locus of control (I-E) is such a generalized expectancy dimension. This generalized expectancy reflects the individual's belief regarding the relationship between one's behavior and subsequent reinforcement. I-E presumably cuts across several need areas and represents a continuous distribution. At one end of the continuum is the extreme internal who states the belief that the relationship is near perfect: any reinforcement he does or does not receive is a function of his behavior. Conversely, the extreme external states the belief that reinforcement is capricious, i.e., generally under the control of luck, fate, chance, or powerful others.

With the strong emphasis of Rotter's social learning theory on situational as well as individual differences variables, I-E research has been focused in two main areas: differences in task structure and individual differences.

Task structure research has shown that experimental manipulation of task perceptions will produce reliable differences in behavior. In the first study in this area, Phares (1957) described situations to groups of subjects as tasks where success was a function of either chance or skill. Those in the skill condition, as compared to those in the chance condition, changed their expectancies for success more frequently, with greater magnitude, and in the direction of previous experience on the task. Schedules of reinforcement were held constant for both groups. Subsequent research in the area has supported this finding in a wide variety of circumstances (Lefcourt, 1966).

Experiments in the individual differences area related to I-E began with the construction of a scale to measure I-E (Phares, 1955). Two revisions (James, 1957; Rotter, 1966) produced the current 29 item scale (23 I-E items and 6 filler items). Much validational evidence for the scale appears in Rotter's 1966 monograph. Individual differences on the I-E dimension have been linked to a variety of behaviors, e.g., activity level, conformity, attitude change, and defensiveness. The following relationships represent a sample of the correlates which figure prominently in the present investigation.

Activity Level

In a study by Davis and Phares (1967) internals, as compared to externals, more actively sought information about another student when they were told their task would be to

persuade that student to change his attitude about certain issues. Seeman and Evans (1963) demonstrated that internally scoring tuberculosis patients possessed more information relevant to the disease and were better informed about their own condition. Gore and Rotter (1963) approached the relationship between internality and activity in another context. They correlated black students' willingness to participate in civil rights activities with their scores on the I-E scale. Higher internal scores were associated with an increased willingness to participate. Strickland (1963) corroborated this result. The consensus of these studies, then, is a positive relationship between internal beliefs and both actual increased goal-directed activity and a stated willingness to increase one's goal directed activity.

Conformity

Odell (1959) assessed the relationship between I-E and Barron's Independence of Judgment Scale (1953). Subjects high in externality were more conforming. Crowne and Liverant (1963) found the same relationship in their expanded study of punished conformity. Another important finding in their study was that high need for approval externals were more conforming than low need for approval internals (based on Marlowe-Crowne Social Desirability scores).

Attitude Change

In another line of research, Ritchie and Phares (1969) noted that internals were less likely than externals to change

an attitude as a function of communicator status. They also found that internals showed little difference on an attitude change task between high and low prestige communications while externals were significantly more susceptible to high prestige sources than low prestige sources. Internals have also been found to be resistant to more subtle forms of persuasion as compared to externals (Gore, 1962).

In a study of persuasion, or experimenter influence (Phares, 1965), it was demonstrated that internally controlled experimenters were more successful in their attempts to induce attitude change. Both internal and external experimenters were delivering the same communication to other students in a highly controlled laboratory setting.

Internal-External Control and Defensiveness

The potential defensive component of an external belief has been informally discussed for several years. A major attempt to study this defensive component has grown out of the research of Phares and his students. They noticed several years ago that 14–26 per cent of the externally defined subjects performed more like internals on behavioral tasks in several experiments.

D. Davis (1970) employed the technique of locating "false positives" (Cronbach, 1949) by combining scores from two data sources. Her prediction was that externals who also responded as do internals on the Action Taking Scale (D. Davis, 1970) would be the principal contributors of this external behavior. The three groups generated by this technique were congruent

externals, defensive externals, and internals. A congruent external is one who both professes externality on the I-E scale and does not attempt to engage in behaviors which would facilitate the acquisition of reinforcements which he has stated are capriciously determined; hence the label congruent. A defensive external, however, professes externality yet states the desire to participate in activities which may enhance his ability to control reinforcements. The defensive external's behavior has been construed as defensive with the reliance on external statements serving to attribute the guilt for personal failures to extrapersonal sources, i.e., forces beyond ones personal control. Internals, at this point, are treated as a homogeneous group although some experimental findings concerning high and low action taking internals will be discussed.

One of the behavioral criteria Davis selected was an assessment of the total number of questions asked following an information disseminating session. Internals and defensive externals asked more questions than externals did.

In the case of expectancy for success in academically related areas and the reinforcing value (Academic Recognition subscale of Personal Values Questionnaire; Jessor et al., 1968) of these particular need areas, the following differences were observed. Defensive externals indicated they placed a higher value on academic recognition needs (the need for recognition for academic superiority) than congruent externals (Academic Recognition subscale of Personal Values Questionnaire; Jessor et al., 1968). The discrepancy between expectancy and rein-

forcement value (the social learning analogue of anxiety) was in the predicted direction also, with defensive externals evidencing a much higher discrepancy between expectancy and reinforcement value. This large discrepancy was particularly due to the high reinforcement value placed on academic success by defensive externals. Of further interest are some comparisions Davis made which were only indirectly related to her research. She divided the internal population into high and low action takers depending upon their scores on a questionnaire devised to measure willingness to take action to improve grades. The low action taking internals had somewhat higher expectancy scores than the defensive externals, their mean reinforcement value was reliably greater than that of defensive externals, and the low action-taking externals showed a lower mean discrepancy between expectancy and reinforcement value than the defensive externals. Comparisons between high and low action taking internals produced very few differences. Davis concluded that there were no differences between the two subgroups of internals when measured in that way.

The research discussed thus far seems to indicate the following conclusions with regard to the behavior of internals: they more actively seek methods of obtaining goals, are less conforming and are highly resistant to subtle attempts at persuasion when compared with externals. These characteristics will have particular relevance for the following discussion.

PROBLEM

Predictions based upon internal-external locus of control generally have been quite successful. Occasionally, however, the success has been less striking than expected. This has usually been attributed to an inability to control some type of variability within a particular group. D. Davis (1970) trichotomized the I-E population, deriving three distinct groups: internals, congruent externals and defensive externals. By demonstrating the heterogeneity of responses within the external population (differences between congruent and defensive externals) she was able to make prediction more reliable. Further possibilities for the dichotomization within an external population were those of Hersch and Scheib (1967). The combined success of these studies suggests the possibility of a similar dichotomization at the more internal end of the dimension, even though the rationale for the distinction may differ.

It is proposed that a congruent internal can be defined both by the strength with which he holds his belief on the I-E scale and by his corroborative statement on the Action Taking Scale of the utility of personal effort in the acquistion of reinforcements. Simply stated, the congruent internal "practices what he preaches". Therefore, when another internal does not engage in activities which would lead to such personal control of valued reinforcements a question arises about the function of his internal statements.

There are, however, at least two possible explanations for such a discrepancy between internally oriented statements and active striving. The first is that an internal's performance already exceeds his minimal goals. Parenthetically, minimal goal is the lowest event in a particular hierarchy of related reinforcements, which the subject considers positively reinforcing. Thus, when a subject exceeds his minimal goal by a substantial margin, one may safely conclude that he already possesses the skills necessary for the acquistion of this particular class of reinforcers. This is not to imply, however, that the need has been permanently satisfied and will no longer serve to influence behavior.

The second explanation is that the discrepant individuals are not internals in the usual sense of the word but some subset of the internal population, i.e., non-congruent internals. A non-congruent internal can perhaps be described as one who verbalizes internal beliefs on the I-E scale, i.e., personal control in the acquisition of reinforcements, but indicates little willingness to behave in a fashion that will enhance his ability to attain them. He seems not to practice what he preaches. Considering for a moment the dominant internal orientation of the culture (DeCharms, 1968), this contradiction seems less perplexing. Internal statements would seem to be socially desirable and should lead to reinforcements from others when openly expressed. However, non-congruent internals do not behave in consonance with their internal statements.

In short, such individuals verbalize like internals in order to gain certain rewards. Being less committed to an internal orientation, however, they behave in other situations like externals. Previous studies and the above analysis suggest the following hypotheses.

If the non-congruent internal is, in fact, not as strongly committed to an internal belief as is a congruent internal, then on an attitude change task the non-congruent internal would be expected to change his attitudes more in the direction suggested by a high prestige source than would a congruent internal. It would also be expected that non-congruent internals will manifest less change as a function of exposure to communications from low prestige sources than from high prestige sources. Conversely, the congruent internal will maintain his prior position despite exposure to the high and low prestige sources. Thus, the congruent internal will show no significant differences between high and low prestige situations.

Based on the assumption that within the college community especially, internally oriented verbalizations are more highly valued, social desirability is considered to be one of the relevant factors mediating the non-congruent internal's inconsistent statements, i.e., the discrepancy between his responses on the I-E scale and the Action Taking Scale. On this assumption it is predicted that non-congruent internals will rate the strength of reference groups beliefs in I-E as being consonant with their own beliefs. Congruent internals, on the other hand,

should evidence a larger discrepancy, being less responsive to outside influences. As further elaborations on these relationships, it is also predicted that non-congruent internals will obtain higher scores on the Marlowe-Crowne Social Desirability Scale.

METHOD

Subjects

One hundred and one subjects (53 females and 48 males) were drawn from three undergraduate classes at K.S.U. The design required 40 congruent internals, 40 non-congruent internals and 40 unselected controls. Failure to report for the experiment and also the small population from which the samples were drawn, resulted in 37 congruent internals, 43 non-congruent internals and 21 controls. No subjects were lost as a function of the experimental treatments.

Materials

Subject selection required the use of a modified I-E scale (see Appendix A) and an Action Taking Scale (see Appendix B). The prestige manipulation required the construction of four externally oriented communications. They suggested that locus of control is external in four areas of life. These areas conform to the major content areas of the I-E scale. A minimal goal statement (lowest overall grade point average the subject finds acceptable) was elicited at the close of the

experimental session. The dependent measure (changes in attitude) was responses to the I-E Scale.

Procedure

The pretests were administered in the classroom setting with no special instructions beyond the standard information gathering lead in:

> We are conducting this survey to provide information for national norms. We are not concerned with your scores as individuals, but should further research result from this survey and you are interested in participating, please fill in your name and other identifying information on the answer sheets.

Following this brief introduction, the materials were passed out in booklet form. The order was the I-E Scale, Action Taking Scale and the Marlowe-Crowne Social Desirability Scale (see Appendix C). While most subjects were filling out the Marlowe-Crowne, a second experimenter entered the room, privately conferred with the experimenter conducting the session, then made the following request aloud:

> I am conducting a survey of prominent national and international figures currently held in high esteem by college students. Would you please just list them on the back of the sheet you are filling out when you are finished. That will save some time. Thank you.

This deception was an attempt to make the two aspects of the experiment appear separate. The listing of high prestige

figures was, hopefully, divorced from the I-E Scale by this procedure.

At the pretest session, the subjects completed the above instruments. For the selection of high prestige figures, eight persons of national or international prominence who were held in high esteem by the subject were elicited. The modification of the I-E Scale was expected to yield a comparative estimate of the relative strength with which the various groups hold their I-E beliefs. The forced choice nature of the inventory was retained and new strength of belief ratings were made following the forced choice response (see Appendix A).

Scores from the I-E Scale and the Action Taking Scale were pooled to derive the two groups of interest in this study. All subjects scoring above the mean on the I-E Scale (scored in the internal direction) i.e., internals, and above the mean on the Action Taking Scale will be designated as congruent internals. The balance of the internals (Action Taking Scale score below the mean) will be designated as non-congruent internals. All subjects scoring at the mean were excluded.

Six to eight weeks later those subjects meeting the above criteria were solicited for voluntary participation in research. Payment for participation was in the form of research credit (extra points toward the final course grade).

Upon entering the experimental room, each subject received a booklet containing the four communications (see Appendices D-G) and the I-E Scale. All four communications

were highly external in orientation and related to the major content areas sampled in the I-E Scale; political, socio-economic, academic, and general beliefs in luck, fate, chance, and powerful others. The communications varied only in their purported source, i.e., either high or low prestige. In the high prestige condition the four communications were attributed to the second highest source listed by each subject during the initial session. The low prestige source was a fictitious sophomore allegedly from K.S.U. English classes. The following instructions were read to the subject:

> We are conducting research on the much discussed "Generation Gap". You may recall listing the names of persons you held in high esteem. Well, we selected those names listed most frequently and obtained their views, from various sources, on four subjects. The names you personally listed may or may not appear. The passages have all been given the same title and have been rewritten so that writing style will not affect your agreement or disagreement. The content of the author's message has not been changed. You are only required to read each passage and rate your agreement from zero to ten. Zero is the least agreement and ten is the most agreement. Following the passages is the Social Reaction Inventory. Instructions for its completion are on its cover sheet. Any questions? Begin, and proceed as rapidly as you can.

The final sheet of the booklet read:

> Thank you very much for your participation. One final request. Please list the lowest overall grade point average you could obtain and still be pleased with, i.e., the lowest overall G.P.A. you would find acceptable right now.

This statement served as a further check on the validity of each subject's group assignment. If, for example, the subject's current G.P.A. exceeds his minimal goal and the subject verbalizes no desire to acquire further study skills, his inclusion in the non-congruent internal group would not seem justified.

REVIEW OF HYPOTHESES

The major purpose of this study is to test the hypothesis that within what is usually referred to as an internal population, heterogeneity of response, on dependent measures, can be accounted for by some foreknowledge of the strength with which internal beliefs are held. The method selected for acquiring this foreknowledge is as follows. Those subjects with internal scores on the Modified Social Reaction Inventory and a high Action Taking Scale score will be indexed as congruent internals and those internals with low action taking scores will be indexed as non-congruent internals. Such a procedure is based on the positive relationship between active striving for reinforcements and an internal orientation (Gore and Rotter, 1963). This positive relationship between action taking and internal beliefs

should not occur for externals and, indeed, did not occur in the Gore and Rotter study. It is, therefore, expected that congruent internals will be active strivers for reinforcements and further that they will indicate this tendency to strive by a high score on the Action Taking Scale.

Therefore, it is expected that if non-congruent internals are, in fact, low strength internals, as evidenced by their low action taking score, then they will be more responsive to persuasion attempts. Specifically, it is predicted that the non-congruent internal will behave more like a so-called external and actually lower his internal beliefs under the low prestige condition and rate his strength of belief even lower under the high prestige condition. Conversely the congruent, or high strength internal, should be relatively resistant to change under the high prestige condition and may even evidence "reactance" (response in the opposite direction of the persuasion attempt) as described by Brehm (1966) under the low prestige condition. It is further predicted that the non-congruent internals will rate the two reference groups' strength of belief as being the same as their own while the congruent internals, being relatively more independent of social influence, will rate the reference groups as being discrepant (directionality of the differences will not be specified) from themselves. The final prediction is that higher need for approval scores will occur for the non-congruent as compared to the congruent internals.

RESULTS AND DISCUSSION

The objects of the persuasion attempt were the I-E items themselves. Following the persuasion attempt each subject re-rated the I-E Scale by first making his forced choice (in accordance with the regular scale instructions) and then rating each item in the pair regarding the strength with which he held each belief; zero being the lowest strength and ten the highest strength. Each subject's strength score consisted of the sum of his internal strength scores (assigned a positive value) and his external strength scores (assigned a negative value).

The implicit assumption here is that it is possible to predict with more accuracy the behavior of the "types" of internals by preselecting them on multiple criteria. One of the major contributions of this study, however, is that the way you define congruent and non-congruent internals is crucial to the understanding of the effects of persuasion within the internal population. In the first two analyses (A and B) the congruent and non-congruent internals are defined as previously noted, i.e., congruent internals have an action taking score 4 and the non-congruent internals have an action taking score 3. In the third analysis (C) congruence is defined by a score above the median on total corrected strength but the analysis still retains the high and low action taking distinction. In the fourth analysis (D) congruence is defined by a score above the median on corrected strength and high or low I-E (high 16, low 15) is substituted for the action taking distinction. The

reader will recall that the purpose of this study was to delineate "strong" and "weak" internals. It was erroneously assumed that this could be accomplished most accurately by an assessment of a corroborative statement of the utility of personal effort in the acquisition of reinforcements. The error occurred in assuming that action taking had trait-like properties; that a high academic action taking score was synonymous with a high action taking tendency in all need areas. This does not imply that action taking is not a reliable correlate of strength of belief, but suggests instead that the predictive utility of action taking is probably restricted to its related need area.

The data were analyzed with an unequal N Analysis of Variance. The test of the first hypothesis (differential response to persuasion for congruent and non-congruent internals) is the change on the individual differences variable as a function of the type of prestige (either high or low) from pre test to post-test. In short, what happens to "strength of belief" as a function of persuasive communications. Any discussion of these results, however, is premature until the reliability of the modified I-E Scale has been established. The attempt to gather test-retest data on 45 S's from an introductory psychology class at K.S.U. produced 21 controls. The pre-post correlation of their I-E scores, over a five week interval, produced a substantial relationship; $r = .95$ (19 df, p .01, two-tailed test of significance). It can be assumed for the purpose of this study that without specific intervening treatment, the scores

obtained on the MI-E would not have changed substantially from pre to post test without impetus from an external agent.

Analysis A (Table 1) serves as a baseline against which more discriminant analyses can be compared. The independent variable which serves to discriminate between subjects is academic action taking and the dependent variable is the subject's uncorrected I-E score (the simple sum of the number of items checked in the internal direction, with strength ignored). The results are quite clear. There is no main effect associated with either the individual differences variable (Action Taking) or the treatment, prestige source. This only means that when pre- and post-tests are pooled, no differences are noted as a function of differences in type of treatment or primary classification. The main effect of Pre-test-post-test only indicates that there is a reliable change from pre- to post-test. The outcome of primary interest is the Action Taking x Prestige x Time interraction. This interraction assesses the differential effect of high and low prestige sources on subjects who differ on the individual differences variable, action taking. Reference to Table 1 (Action Taking x Prestige x Pre-Post) clearly illustrates the lack of any reliable effect. It should be noted at this point that in the preliminary discussion of the results, this finding is not perplexing since the Action Taking measure is specific academic action taking. The inability of academic action taking to predict across the entire spectrum of need areas assessed by the I-E Scale is certainly consistent with

Table 1

Group Means and "F" Values Using the Action Taking Scale Score as the Individual Differences Variable and Uncorrected I-E as the Dependent V

Group Means

		Pre-Test	Post Test	% Change
High Action Taking	High Prestige	16.25	14.65	- 9
	Low Prestige	15.18	15.59	+ 3
Low Action Taking	High Prestige	16.83	13.45	-20
	Low Prestige	15.21	14.53	- 4

"F" Values

	F
Action Taking	1.00
Prestige	1.00
Action Taking x Prestige	1.00
Pre vs Post Test	10.64*
Pre vs Post Test x Action Taking	3.28
Pre vs Post Test x Prestige	7.00*
Pre vs Post Test x Prestige x Action Taking	1.65

*p .05

the social learning theory assumption that behavior shows much situational specificity. More succinctly, one's willingness to take action in academic areas may not be related to willingness to take action against the threat of communism.

Analysis B (Table 2) is exactly the same as Analysis A but "corrected strength" scores are substituted for the undifferentiated I-E scores utilized in Analysis A, and "strength of belief" (either high or low based on a median split) can now be treated as a variable. Group composition then becomes High Action Taking-high strength, High Action Taking-low strength, Low Action Taking-low strength and Low Action Taking-high strength. When the strength scores are analyzed, the reliability of the effect is fairly obvious (High strength $\bar{x}$ = 208.16, low strength $\bar{x}$ = 87.92; F = 29.31; 1,72 df; p .01), though inconsequential since the subjects were dichotomized with respect to this variable. The critical test of the major hypothesis, however, does not quite reach the conventional level of significance (Pre-Post Test x Strength x Prestige, F = 3.95; 1,72 df; p .06). The reader will notice that the test of the critical hypothesis has been made via a more direct measure of strength of belief rather than the presumed correlate, action taking.

Analysis C (Table 3) begins to account for the fact that the measure of action taking is academically related by the technique of eliminating those subjects from the sample who appear to have excellent control of some academically related

Table 2

(Analysis B)

Group Means and "F" Values Using the Action Taking Scale Score and the "Corrected Strength" Score as Individual Differences Variables and "Corrected Strength" Following the Influence Attempt as the Dependent Variable

Strength	Prestige	Action Taking	Pre-Test	Post Test	% Change
High	High	High	234.69	209.38	-11
		Low	195.21	174.36	-10
	Low	High	215.17	218.50	+ 1.5
		Low	241.86	162.57	-33
Low	High	High	102.34	3.71	-96
		Low	103.20	61.00	-41
	Low	High	83.27	147.82	+78
		Low	78.50	123.17	+57

"F" Values

	F
Action Taking	1.00
Strength	29.31**
Prestige	1.00
Action Taking x Strength	1.00
Action Taking x Prestige	1.00
Strength x Prestige	1.00
Action Taking x Strength x Prestige	1.00
Pre vs Post	1.57
Pre vs Post x Action Taking	1.00
Pre vs Post x Strength	1.00
Pre vs Post x Prestige	3.07
Pre vs Post x Action Taking x Strength	1.00
Pre vs Post x Action Taking x Prestige	1.25
Pre vs Post x Strength x Prestige	3.95
Pre vs Post x Strength x Prestige x Action Taking	1.00

**p .01

Table 3

(Analysis C)

Group Means and "F" Values Using the Action Taking Score and the "Corrected Strength" Score as Individual Differences Variables and "Corrected Strength" Following the Influence Attempt as the Dependent Variable (Non-Congruent Internals Who Exceeded Their Minimal Goal by 1.65 Standard Deviations Excluded)

Strength	Prestige	Action Taking	Pre-Test	Post Test	% Change
High	High	High	234.69	209.38	-11
		Low	214.16	193.91	-10
	Low	High	215.17	218.50	+ 1.5
		Low	239.96	182.77	-30
Low	High	High	102.34	3.71	-96
		Low	103.33	73.00	-29
	Low	High	83.27	147.82	+78
		Low	73.93	158.87	+114.6

"F" Values

	F
Action Taking	1.00
Strength	27.35**
Prestige	1.01
Action Taking x Strength	1.00
Action Taking x Prestige	1.00
Action Taking x Strength x Prestige	1.00
Pre vs Post	1.00
Pre vs Post x Action Taking	1.00
Pre vs Post x Strength	1.00
Pre vs Post x Prestige	4.03*
Pre vs Post x Action Taking x Strength	1.14
Pre vs Post x Action Taking x Prestige	1.00
Pre vs Post x Strength x Prestige	4.53*
Pre vs Post x Strength x Prestige x Action Taking	1.00

*p .05
**p .01

reinforcements (grades). In this analysis, any subject who exceeded his minimal goal by at least 1.65 standard deviations (upper 5% of the distribution) was excluded from the non-congruent internal classification. It does not seem reasonable to relegate a subject to the non-congruent category for not wanting to acquire control skills in an area where competence is already assured. It is analagous to asking the "A" student to learn study skills which will enable him to obtain "A's". It should be noted, that if the treatments had no particular effect on the subjects who were removed, then the reduction in N would have two effects. First, the variance estimate would approximate the population variance less well and the F value required for statistical significance is increased. If, however, these subjects were affected in some selective way or possessed some common characteristics, a noticeable difference in group parameters would emerge. A comparison of the Low Action Taking-high strength vs Low Action Taking-low strength means demonstrates that the removal of the subjects who exceeded their minimal goal by the prescribed margin actually served to make the two groups (Low Action Taking-high and low strength) less disparate (see Table 4). The percent change scores stay relatively constant with the exception that "reactance" seems to have been more convincingly demonstrated in the low strength low prestige group. The critical test of the major hypothesis now provides a more convincing estimate of the reliability of the finding (Pre-Post x Strength x Prestige, $F = 4.74$; 1,65 df; p .05).

Table 4

A Comparison of Percent Change with (Analysis B) and Without (Analysis C) Subjects that Exceeded Their Minimal Goal by 1.65 Standard Deviations

			% Change	
Low Action Taking	Prestige	Strength	Analysis B	Analysis C
	High	High	-10	-10
		Low	-41	-29
	Low	High	-33	-30
		Low	+57	+114.6

In Analysis D (Table 5) an attempt is made to verify the utility of "corrected strength" as a more reliable indicator of the strength with which I-E beliefs are held. Previously the I-E Scale has been thought of as an additive scale, i.e., one in which belief in personal control across a variety of need areas is cumulative. The addition of the strength measure gives the scale a second dimension, it now has length (number of I-E items checked) and intensity (strength with which the belief is held). The question can now be asked do these two quantitative distinctions allow the same qualitative differences to be predicted, and if so, with any greater surety? The answer is affirmative. For this analysis the subjects were first split at the median on their gross I-E score (High internals, I-E score 16, Low internals, I-E score 15) and then dichotomized (by a median split) on their strength scores. The test of the

Table 5

(Analysis D)

Group Means and "F" Values Using "High" (I-E Score 16) and "Low" (I-E Score 15) in Place of Action Taking and "Corrected Strength" as Individual Differences Variables and "Corrected Strength" Following the Influence Attempt as the Dependent Variable

Strength	Prestige	I-E Score	Pre-Test	Post-Test	% Change
High	High	High	249.64	224.18	-10
		Low	199.86	209.79	+ 5
	Low	High	203.50	197.67	- 3
		Low	254.67	175.33	-31
Low	High	High	113.78	28.89	-75
		Low	116.30	11.40	-90
	Low	High	89.64	160.55	+80
		Low	85.15	121.08	+42

"F" Values

	F
I-E Scale	1.00
Strength	32.76**
Prestige	1.00
I-E Scale x Strength	1.00
I-E Scale x Prestige	1.00
Strength x Prestige	1.91
I-E Scale x Strength x Prestige	1.00
Pre vs Post	1.96
Pre vs Post x I-E Scale	1.00
Pre vs Post x Strength	1.00
Pre vs Post x Prestige	3.00
Pre vs Post x I-E Scale x Strength	1.00
Pre vs Post x I-E Scale x Prestige	1.00
Pre vs Post x Strength x Prestige	7.79**
Pre vs Post x Strength x Prestige x I-E Scale	1.00

**- .01

major hypothesis now produces an F of 7.79 (1,72 df; p .01; Pre-Post Test x Strength x Prestige interaction). The lack of any main effect for I-E (High vs Low I-E) and the enhancement of the interaction (from F = 4.74 to 7.79) further support the utility of strength of belief as the appropriate individual differences variable of choice for prediction.

As previously noted, the work of Ritchie (1970) implies that the relationship between I-E and response to persuasion is negative and linear. The stronger a subject's belief in internality, the less likely is he to respond to persuasive attempts and further that if the attempt is subtle rather than overt a reversal effect (reactance) will be noted with the subject responding in a direction opposite to the persuasive communication. Both of these effects were found in this experiment, but in a fashion contradictory to Ritchie's. If the results merely extended and supported Ritchie's, then the higher the subject's I-E score the more resistant he would be to overt attempts at persuasion. From this premise, it would seem to follow (though not explicitly stated by Ritchie) that the higher the subject's I-E score, the higher the reversal strength in subtle attempts at persuasion. Analysis D provides a test of this hypothesis; the interaction between subject classification (individual differences variable) by high and low I-E and type of persuasion employed. No differences in response can be attributed to these variables (F = 1.00; 1,72 df).

The results of analyses B, C, and D (Table 6) indicate that it is not the level of internality (gross I-E score) that predicts behavior in this study but rather the strength with which this particular class of expectancies is held. The most parsimonious explanation of the subject's behavior is that "high strength" internals respond primarily to the content of the communication regardless of the type of persuasive attempt (overt, high prestige-covert, low prestige) and they are more resistant to change. "Low strength" internals, on the other hand, are more responsive to the sources the persuasive attempts are attributed to, and their belief system regarding I-E is less resistant than the high strength internals to attempts at influence.

Table 6

A Comparison of the Percent Change in Analyses B, C and D as a Function of Increasingly More Stringent Criteria

Individual Differences Variable	Prestige	Strength	% Change Analysis B	Analysis C	Analysis D
High	High	High	-11	- 11	-10
		Low	-96	- 96	-75
	Low	High	+ 1.5	+ 1.5	- 3
		Low	+78	+ 78	+80
Low	High	High	-10	- 10	+ 5
		Low	-41	- 29	-90
	Low	High	-33	- 30	-31
		Low	+57	+114.6	+42

The preceding results and discussions make three things quite clear. First, a useful distinction can be made between "types" of internals; the population should no longer be considered homogeneous. Second, "strength of belief" may, for some purposes, be a more useful way to assess the individual differences variable, belief in internal and external locus of control. Finally, more discriminant analyses (the increments in extending the analysis from A to D) enhance prediction.

Unfortunately many questions are still unanswered, e.g., no external sample was tested hence the generality of the predictive utility of "corrected strength" is severely curtailed. It would be useful to determine whether strength would provide some linear relationship across the I-E continuum, e.g., does an external's belief strength also correspond to his response to persuasion? Will analogous processes be found for the defensive external?

In summary, support for the major hypothesis is not found when a subject's strength of belief is defined by his corroborative statement of the "utility of personal effort", for the reasons advanced in the discussion of Analysis A. When a more proximal measure, "strength of belief," is assessed, the results are clear. There is a distinct difference in the way in which congruent and non-congruent internals respond to subtle and overt attempts to persuade them. The appropriate index of the strength with which internal beliefs are held is not the subject's willingness to take action in some particular need

area, but may rather lie in his own assertions regarding the strength with which he holds his beliefs. It is not possible, at this time, to state whether or not "strength" could be assessed by the single query, "How strongly do you hold this particular belief?" The ability of the modification of the response format (strength with which the subject rates himself, his friends and the college community) may be tied to the reference or conceptual anchor point provided by the "most friends", "most college" categories. Further research is required on this matter.

The second hypothesis in this study was generated by the assumption that the social desirability of internal responses was one of the factors mediating the production of discrepancies between internal beliefs and willingness to take action. It was specifically predicted that congruent internals would be less dependent on approval and tend to rate themselves as different from their peers and the general college community. The non-congruent internals, on the other hand, would define themselves as similar to the prevailing milieu, i.e., they would report that they held internal beliefs with the same strength as the two reference groups.

The Role (self, most friends, most college) x Individual differences variable interaction yields an F of 11.00 (1,154 df; p .01). The means in Table 7 illustrate the nature of the differences. This result provides only partial support for the hypothesis, however, since no independent measure of the

Table 7

A Comparison of the Differential Attribution of Strength of Belief Ratings Assigned to the Most Friends, Most College Reference Groups by Congruent and Non-Congruent Internals (Data from Analysis B)

	Self (1)	Most Friends (2)	Most College (3)
Congruent Internals	80.77	69.30	71.34
Non-Congruent Internals	30.03	27.63	29.05

	Comparison	Mean Difference	T	p
Congruent Internals	1 vs 2	11.51	2.11	.025
	1 vs 3	9.42	1.76	.05
Non-Congruent Internals	1 vs 2	3.18	.94	NS
	1 vs 3	.97	.26	NS

strength with which reference groups actually held their beliefs was obtained. Any assumptions about the veridicality of a particular group's perception of others is pure conjecture. It can only be stated with certainty that the congruent internals rate themselves as different than the reference groups.

The final hypothesis predicted a relationship between the Marlowe-Crowne Social Desirability Scale and strength of belief. It was specifically predicted that the non-congruent internals would score higher on the Marlowe-Crowne since the goal of their discrepant statements (belief in internality and unwillingness to seek skills enhancing attainment of reinforcements) was presumably to maintain the availability of potentially reinforcing agents. This hypothesis received no support. This is not a particularly discouraging result, however, since during the construction of the I-E Scale an attempt was made to balance the items for social desirability (Rotter, 1966). Perhaps this hypothesis could be more accurately assessed with some less closely correlated instrument.

SUMMARY AND CONCLUSIONS

Utilizing the technique of locating "false positives" through dual criteria analysis (I-E score and Action Taking Scale), the supposedly homogeneous internal end of the I-E continuum was dichotomized into congruent (high internal strength) and non-congruent (low internal strength) internals. It was proposed that segregating internals in this fashion would permit closer examination of a portion of the variability in the internal population in an attitude change situation. Since the set of expectancies being assessed were the items in the I-E Scale, the objects of the persuasion attempt were the I-E items themselves. Inasmuch as previous data suggest that some unique effects, e.g., "reactance", are exhibited within the internal population, the influence was attempted under conditions of high and low prestige.

It was assumed that if the belief system was, in fact, strongly held (and not a matter of social convenience) then it should be highly resistant to persuasive attempts. Since it was assumed that some of the factors mediating the non-congruent internals' behavior were conformity and social desirability needs it was further predicted that the non-congruent internal would evidence higher scores than the congruent internal on the Marlowe-Crowne Social Desirability Scale and, when rating the strength with which two reference groups most friends-most college held internal beliefs, the non-congruent internal

should rate the groups the same as themselves and the congruent internals should rate the reference groups as discrepant from themselves.

One hundred and one subjects (53 females, 48 males) were drawn from undergraduate psychology classes at K.S.U. and randomly assigned to the high or low prestige conditions (congruent internals:high strength/high prestige, N = 20; high strength/low prestige, N = 17; and non-congruent internals: low strength/high prestige, N = 19; low strength, low prestige, N = 24). 21 controls were administered a modified version of the I-E Scale used in this study. They yielded a test-retest correlation (after five weeks) of .95.

Some of the findings were unexpected. Although both congruent internals and non-congruent internals manifested decrements in overall belief strength following the persuasion attempt there was no evidence of the "reactance" phenomenon on the part of the congruent internals. There was instead, a fairly consistent decrement under both high and low prestige conditions (high prestige = 12.5%; low prestige = 16.0%). The non-congruent internals, on the other hand, displayed a 30 percent decrement in the High prestige condition and a 70 percent increase (reactance) in overall strength following the Low prestige source persuasion attempt. These differences were discussed in terms of response to content vs communicator status.

Support was also found for the hypothesis that congruent internals saw themselves as more independent of the prevailing

social milieu. They rated themselves as discrepant from the most friends-most college reference groups. Non-congruents behaved in a fashion similar to that noted in externals in other situations; they failed to discriminate between themselves and the above reference groups. No differences were found between congruent internals and non-congruent internals on the final dependent variable, the Marlowe-Crowne Social Desirability Scale. The reference group findings were discussed in terms of maintenance of potentially reinforcing relationships.

All of the above findings were discussed in terms of the proficiency of prediction under more comprehensive and discriminative analysis.

The results of this study, then, support the contention that reliable differences exist between two subpopulations of internals. Particularly, that congruent internals respond to the content of a persuasive communication regardless of communicator status and non-congruent internals respond to content under high prestige conditions and manifest "reactance" under the press of a low prestige communicator. A possible underlying process is suggested in that the non-congruent internal may be relying on what he perceives as socially acceptable verbalizations for self description on the I-E Scale. Whether or not he is an external as typically defined can only be determined by the non-congruent internal's response on various criteria in diverse situations. This finding is useful and is the logical outgrowth of Ritchie's work noting the heterogeneity of the

external population. Other studies (Mirels, 1970; Thomas, 1970; McDonald, 1971) are making complementary analyses by examining the nature of the I-E Scale itself as well as divergencies within populations.

It is felt that the major value of this research, however, is the suggestion of a potentially more useful way of measuring the locus of control construct for certain kinds of problems. Regardless of the item modifications the inventory may experience, the items should be measured more finely, with "strength" of belief being assessed following the forced choice response.

The use of a more finely graded response may provide insights all along the I-E continuum, providing as much new information on the expectancies of externals as it does for internals. Through this technique some current discontinuities in the behavior of internals and externals may be better understood.

BIBLIOGRAPHY

1. Brehm, J. W. A Theory of Psychological Reactance, New York: Academic Press, 1966.

2. Crowne, D. P., and Liverant, S. Conformity Under Varying Conditions of Personal Commitment. Journal of Abnormal and Social Psychology, 1963, 66, 547-555.

3. Davis, D. E. Internal-External Control and Defensiveness, Unpublished Doctoral Dissertation, K.S.U., 1970.

4. Davis, W. L., and Phares, E. J. Internal-External Control as a Determinant of Information-Seeking in a Social Influence Situation. Journal of Personality, 1967, 35, 547-561.

5. DeCharms, Richard. Personal Causation the Internal Affective Determinants of Behavior, New York and London, Academic Press, 1968.

6. Gore, P. M. Individual Differences in the Prediction of Subject Compliance to Experimental Bias. Unpublished Doctoral Dissertation, Ohio State University, 1962.

7. Gore, P. M. and Rotter, J. B. A Personality Correlate of Social Action. Journal of Personality, 1963, 31, 58-64.

8. Hersch, P. D. and Scheibe, K. E. Reliability and Validity of Internal-External Control as a Personality Dimension. Journal Consulting Psychology, 1967, 31, No. 6, 609-613.

9. James, W. H. Internal versus External Control of Reinforcement as a Basic Variable in Learning Theory. Unpublished Doctoral Dissertation, Ohio State University, 1957.

10. Jessor, R., Graves, T. D., Hanson, R. C., and Jessor, S. L. Society, Personality and Deviant Behavior. New York: Holt, Rinehart and Winston, 1968.

11. Lefcourt, H. M. Internal versus External Control of Reinforcement: A Review. Psychological Bulletin, 1966, 22, 185-195.

12. Mirels, H. L. Dimensions of Internal versus External Control. Journal of Consulting and Clinical Psychology, 1970, 34, 226-228.

13. Odell, M. Personality Correlates of Independence and Conformity. Unpublished Master's Thesis, Ohio State University, 1959.

14. Phares, E. J. Changes in Expectancy in Skill and Chance Situations. Unpublished Doctoral Dissertation, Ohio State University, 1955.

15. Phares, E. J. Expectancy Changes in Skill and Chance Situations. Journal of Abnormal and Social Psychology, 1957, 54, 339-342.

16. Phares, E. J. Internal-External Control as a Determinant of Amount of Social Influence Exerted. Journal of Personality and Social Psychology, 1965, 2, 642-647.

17. Ritchie, D. E. and Phares, E. J. Attitude Change as a Function of Internal-External Control and Communicator Status. Journal of Personality, 1969, 37, 429-443.

18. Rotter, J. B. Social Learning and Clinical Psychology. Englewood Cliffs: Prentice Hall, 1954.

19. Rotter, J. B. Generalized Expectancies for Internal versus External Locus of Control of Reinforcement. Psychological Monographs, 1966, 80, (1, Whole No. 609).

20. Seeman, M. and Evans, J. W. Alienation and Learning in a Hospital Setting. American Sociological Review, 1962, 27, 772-783.

21. Strickland, B. The Prediction of Social Action from a Dimension of Internal-External Control. Journal of Social Psychology, 1965, 66, 353-358.

22. Thomas, L. E. The I-E Scale, Ideological Bias, and Political Participation. Journal of Personality, 1970, 38, No. 2, 273-286.

APPENDIX A

SOCIAL REACTION INVENTORY

This is a questionnaire to find out the way certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers. After you make your selection (a or b) then rate the item, from 0 to 10, for the strength with which you hold the belief, the strength with which you think most of your friends hold the belief and finally for the strength with which you think most people in the college community (students and professors) hold the belief. Here is an example:

1. a. Spankings are necessary to teach social behavior to children.

   b. Children learn social behavior best by being praised.

Answer Sheet

		I.	Most Friends	Most College	
1.	a.	7	2	5	or
	b.				
1.	a.				
	b.	9	7	2	

Your answers to the items on this inventory are to be recorded on a separate answer sheet which follows the questionnaire. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions and go on immediately to answer the questions.

Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every

choice. Find the number of the item on the answer sheet and circle the alternative (a or b) then rate your choice for the strength with which you hold it.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

Remember

Select the alternative which you personally believe to be more true.

I more strongly believe that:

1. a. Children get into trouble because their parents punish them too much.

   b. The trouble with most children nowadays is that their parents are too easy with them.

2. a. Many of the unhappy things in people's lives are partly due to bad luck.

   b. People's misfortunes result from the mistakes they make.

3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.

   b. There will always be wars, no matter how hard people try to prevent them.

4. a. In the long run people get the respect they deserve in this world.

   b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. a. The idea that teachers are unfair to students is nonsense.

   b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. a. Without the right breaks one cannot be an effective leader.

I more strongly believe that:

b. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. No matter how hard you try some people just don't like you.

b. People who can't get others to like them don't understand how to get along with others.

8. a. Heredity plays the major role in determining one's personality.

b. It is one's experiences in life which determine what he is like.

9. a. I have often found that what is going to happen will happen.

b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.

b. Many times exam questions tend to be so unrelated to course work, that studying is useless.

11. a. Becoming a success is a matter of hard work, luck has little to do with it.

b. Getting a good job depends mainly on being in the right place at the right time.

12. a. The average citizen can have an influence in government decisions.

b. This world is run by the few people in power, and there is not much the little guy can do about it.

13. a. When I make plans, I am almost certain that I can make them work.

b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. a. There are certain people who are just no good.

b. There is some good in everybody.

I more strongly believe that:

15. a. In my case getting what I want has little or nothing to do with luck.

    b. Many times we might just as well decide what to do by flipping a coin.

16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

    b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.

    b. By taking an active part in political and social affairs the people can control world events.

18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.

    b. There really is no such thing as "luck."

19. a. One should always be willing to admit his mistakes.

    b. It is usually best to cover up one's mistakes.

20. a. It is hard to know whether or not a person really likes you.

    b. How many friends you have depends upon how nice a person you are.

21. a. In the long run the bad things that happen to us are balanced by the good ones.

    b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. a. With enough effort we can wipe out political corruption.

    b. It is difficult for people to have much control over the things politicians do in office.

23. a. Sometimes I can't understand how teachers arrive at the grades they give.

    b. There is a direct connection between how hard I study and the grades I get.

I more strongly believe that:

24. a. A good leader expects people to decide for themselves what they should do.

    b. A good leader makes it clear to everybody what their jobs are.

25. a. Many times I feel that I have little influence over the things that happen to me.

    b. It is impossible for me to believe that chance or luck plays an important role in my life.

26. a. People are lonely because they don't try to be friendly.

    b. There's not much use in trying too hard to please people, if they like you, they like you.

27. a. There is too much emphasis on athletics in high school.

    b. Team sports are an excellent way to build character.

28. a. What happens to me is my own doing.

    b. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. a. Most of the time I can't understand why politicians behave the way they do.

    b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX B

Name _____

One problem which students often face early in their college careers is that of learning to make the most efficient use of available study time. Of course this is more of a problem to some individuals than others. However, it is a rare student who has not wished to improve his, or her, study techniques. Thus, you will find below several methods which might be helpful to you for improvement of study techniques. Please check the one, or one, in which you would be interested in participating.

I would be interested in:

_____ A. Receiving a copy of a brochure outlining ways for improvement of study techniques.

_____ B. Receiving a list of several sources which I could obtain from the library that give accounts of how others have dealt with the problem of improvement of study techniques.

_____ C. Attend a series of two lectures entitled "How to Improve Study Techniques and Make Most Efficient Use of Study Time," given by a person who has extensively studied this problem.

_____ D. Attending a small group discussion weekly for a one month period to discuss common study problems of students, and techniques others have found helpful in the solution of these problems.

_____ E. Arranging for weekly appointments for at least six weeks with a person who has had much experience in helping students evolve study techniques which are tailored to each student's individual needs and who would help me tailor such techniques for myself.

_____ F. I would not be interested in any of the above.

APPENDIX C

M-C SCALE

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasion I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen I would probably do it.
10. On a few occasions, I have given up doing something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even though I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.
14. I can remember "playing sick" to get out of something.
15. There have been occasions when I took advantage of someone.
16. I'm always willing to admit it when I make a mistake.

17. I always try to practice what I preach.

18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people.

19. I sometimes try to get even rather than forgive and forget.

20. When I don't know something I don't at all mind admitting it.

21. I am always courteous, even to people who are disagreeable.

22. At times I have really insisted on having things my own way.

23. There have been occasions when I felt like smashing things.

24. I would never think of letting someone else be punished for my wrongdoings.

25. I never resent being asked to return a favor.

26. I have never been irked when people expressed ideas very different from my own.

27. I never make a long trip without checking the safety of my car.

28. There have been times when I was quite jealous of the good fortune of others.

29. I have almost never felt the urge to tell someone off.

30. I am sometimes irritated by people who ask favors of me.

31. I have never felt that I was punished without cause.

32. I sometimes think when people have a misfortune they only got what they deserved.

33. I have never deliberately said something that hurt someone's feelings.

APPENDIX D

WHO CONTROLS WHAT?

I was recently attacked by some very intelligent and well meaning friends for my belief in fate, luck and chance. I was politely informed that man ruled the world, and that the course of human events was under his control, not under the control of forces which he has difficulty even comprehending. This attack forced me to stop for a moment and consider what events prompted this belief. I began thinking first of natural disasters--situations where years of personal effort were dashed like waves against the rock-lined coast of hurricanes, earthquakes and floods. The automobile accident which robs the young college graduate of his potential success. Then my thoughts turned to changes in circumstance which propelled the less fortunate in the opposite direction. The mill worker that wins the Irish Sweepstakes. The wealthy relative who leaves his entire fortune to some obscure nephew, the poverty family whose child becomes a national celebrity through sports or the performing arts. Finally a look at the events in an average man's life; the chance meeting of a girl destined to become his wife, all those odd times when you know you've been there before, the premonitions and lucky hunches. All this without even mentioning the varieties of spiritual and religious experiences which touch and change men's lives, turning alcoholics and drug addicts into good citizens and occassionally even prophets.

When I consider these events it is obvious that there are forces at work well beyond man's control.

0 10

APPENDIX E

ON SOCIAL AND ECONOMIC SUCCESS

It has long been part of the American Ethic that each person has control over whether or not he succeeds. The "American Dream" is the Horatio Alger story--through hard work and continued effort, anyone can become a millionaire. The cold, hard fact is that the ratio of millionaires compared to the total population has decreased since Horatio Algers' time. Most people can not and will not become highly successful no matter how hard they try. We all know that those few that do make it are in the right place at the right time or achieve their success through the "right" friendships, the "right" wife, the "right" school etc. It is time Americans accepted the fact that success for the average man is highly dependent on luck and good fortune. Face it, accept it, and enjoy what you have. Stop beating your brains out and hurting your knuckles knocking at the "steel door" of success. Be realistic!

APPENDIX F

SUCCESS IN COLLEGE

Several of my idealistic young friends tell me that their college success is based on their own effort. If that is so either the system itself or those members of the system who call themselves faculty have changed quite a bit. In my time there was an extensive dossier on every professor as well as a backlog of every test he had ever given and every term paper he considered A or B work. If you belonged to the right clique, fraternity or sorority house, good grades were assured. Oh, there were occassional slip-ups when they asked questions from material they said they wouldn't cover, or queried you about that obscure footnote, or provided two equally correct alternatives and then selected the other one. But, generally those in the know were the successful ones. I also pointed out that there were occassional personality clashes where no matter how well you did you didn't succeed. My young friends assured me that that situation no longer exists. I leave the final say to those of you who really know whats going on, for I'm not a skeptic but a realist. Grades are a function of who you are and <u>who</u>, <u>not</u> <u>what</u>, you know.

APPENDIX G

ON POLITICAL ENDEAVOR

One need look no farther than the lack of success of student political effort to see that the direction that this Nation takes is greatly controlled by gigantic and impersonal corporations. Let me cite some illustrative cases. First, the students attempted to elect liberal and forward thinking men to high political offices. The outcome, Eugene McCarthy was forced into retirement and those who actually forge the fate of the nation installed their own conservative leader. This is not a commentary on the worth of the President but a citation of his contributors, DuPont, General Motors, Standard Oil, etc.. How does this relate to you, the students, as a political group? Think for a moment about the oil slicks that cover California's beaches. The wells continue to leak and pollute the environment but somehow the oil companies continue their work. How? Through large contributions, favors owed and lobbyists with unlimited resources. Further, why don't we have cars with electric or turbine engines? You need only ask who would benefit least by switching over. The automobile manufacturers who would lose tremendous amounts of money by having to retool their industry and the suppliers of fuel for their "pollution machines," the oil companies.

Even the President's powers have been limited. The President attempted to provide very costly but important services,

national health coverage and a comprehensive welfare program. These services are needed by the majority of the people, but what was their fate? The American Medical Association successfully lobbied against national health care and the industrialists were able to keep the welfare funds in the defense budget. Last and most tragically of all, students in general and a significant proportion of the population as a whole have been unsuccessful in stopping the Viet Nam war. Why? DuPont makes napalm, auto and aero-space industries provide tanks, missles etc..

The President's "advisors" tell him it would be unwise to halt the war too quickly. We would have too many unemployed, the industries need time to convert their machines, etc., etc.. Now tell me that the "little" people have political power. Hogwash!

APPENDIX H

RAW DATA

Subjects	Marlowe Crowne Score	I-E Score		"Corrected Strength" Score					
		Pre Test	Post Test	Pre Test			Post Test		
Group I				S	MF	MC	S	MF	MC**
1	18	15	13	22	25	53	34	18	33
2	15	15	15	30	20	13	52	49	35
3	13	16	13	37	39	50	20	22	36
4	12	16	13	15	24	44	14	12	55
5	11	16	16	67	63	58	67	35	52
6	5	14	6	10	7	2	-37	-35	-37
7	17	15	17	52	55	46	82	62	72
8	15	16	16	65	60	55	89	84	79
9	7	13	23	40	40	12	101	85	74
10	23	21	20	146	111	100	130	118	112
11	20	16	14	58	56	54	67	59	63
12	5	13	16	15	25	17	58	59	52
13	18	15	14	65	44	39	42	45	40
14	13	14	21	39	29	18	141	115	161
15	14	16	14	88	80	77	56	47	47
16	9	13	13	26	24	37	29	27	29
17	4	14	21	19	19	17	105	97	90
Group II									
18	27	14	14	53	28	65	48	19	70
19	6	17	18	105	96	58	108	103	111
20	15	13	11	14	-4	32	-2	-18	-4
21	16	13	10	27	22	2	-7	-12	-40
22	17	17	16	93	85	90	38	43	37
23	10	18	17	90	93	71	87	81	70
24	11	14	14	32	26	39	52	43	45
25	9	21	23	142	141	131	176	157	160
26	13	14	6	35	16	33	-84	-97	-61

RAW DATA (Con'd)

Subjects	Marlowe Crowne Score	I-E Score		"Corrected Strength" Score					
		Pre Test	Post Test	Pre Test			Post Test		
Group II				S	MF	MC	S	MF	MC**
27	21	17	14	72	66	69	36	29	46
28	3	17	16	81	64	68	80	63	80
29	19	17	14	61	38	68	21	4	20
30	12	15	8	59	44	43	-34	-31	-38
31	23	15	16	61	42	48	76	50	43
32	16	19	14	102	98	99	43	35	27
33	10	16	14	68	55	55	27	20	4
34	22	15	15	50	55	48	57	44	46
35	11	14	13	56	47	51	34	26	27
36	21	18	21	113	40	40	166	109	98
37	16	18	22	103	97	94	139	132	116
Group III									
38	7	18	14	101	96	102	35	36	32
39*	13	15	8	40	30	24	-43	-43	-46
40	19	14	13	64	51	50	31	25	30
41	7	14	9	30	34	47	-25	-17	-23
42	20	18	18	64	60	72	82	80	73
43	16	15	14	42	55	43	30	33	4
44	18	14	18	42	31	50	94	94	98
45*	9	17	12	90	81	83	12	10	20
46	14	19	17	101	85	70	108	97	89
47	16	14	14	26	-2	-17	33	11	-18
48*	14	14	13	20	30	41	27	29	55
49	12	14	16	44	37	29	67	63	64
50	23	16	9	52	49	55	-36	-37	-31
51*	14	14	11	35	25	32	38	22	10
52	20	14	18	21	18	24	74	55	50
53	10	14	18	6	6	19	94	81	80
54	14	19	21	131	100	136	173	147	162

RAW DATA (Con'd)

Subjects	Marlowe Crowne Score	I-E Score		"Corrected Strength" Score					
		Pre Test	Post Test	Pre Test			Post Test		
				S	MF	MC	S	MF	MC**
Group III									
55	19	13	15	2	-5	-10	88	66	65
56	13	13	18	26	36	31	103	85	80
Group IV									
57	13	23	23	72	151	158	152	147	150
58*	18	14	10	43	38	20	-9	-5	-33
59	16	16	9	60	48	62	-9	-14	-16
60	17	16	11	49	53	55	8	7	24
61*	16	18	9	60	57	79	-37	-49	-65
62	4	18	17	78	58	51	87	75	95
63	11	14	9	23	10	39	-35	-43	-27
64	12	13	7	43	41	46	-48	-48	-40
65	25	15	13	40	31	15	26	18	15
66	7	16	8	61	49	44	12	17	19
67	12	14	19	50	40	43	114	101	108
68	9	14	12	42	38	28	18	13	15
69	4	15	14	6	6	17	24	23	47
70	18	15	13	72	69	83	29	23	68
71	12	17	12	75	69	57	16	9	-11
72	22	15	21	48	54	65	169	168	170
73	13	14	13	29	24	15	11	25	21
74	10	17	21	71	64	64	137	117	122
75	15	18	21	105	74	86	115	102	118
76*	8	18	23	67	50	46	95	86	80
77	3	16	19	79	73	53	111	107	79
78	11	15	8	50	41	47	-33	-29	-26
79	15	17	18	87	52	81	119	81	117
80	15	17	12	78	57	72	38	36	40

These are the subjects scores as they were initially grouped (Analyses A and B).

Group I Congruent internals with communications attributed to the low prestige source.

Group II Congruent internals with communications attributed to high prestige sources.

Group III Non-congruent internals with communications attributed to the low prestige source.

Group IV Non-congruent internals with communications attributed to the high prestige source.

*Subjects dropped from the analysis for minimal goal scores above 1.65 standard deviations from the mean.

** S = Score for the self strength rating.

MF = Score for the most friends strength rating.

MC = Score for the most college strength rating.

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A FURTHER ANALYSIS OF INTERNAL CONTROL OF REINFORCEMENT

by

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AN ABSTRACT OF A MASTER'S THESIS

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Subjects classified as internals on the I-E scale were assigned to treatment groups as a function of their differential response to two other individual differences variables, "strength of belief" in internal locus of control and "action taking." Following this procedure the subjects were exposed to externally oriented persuasive communications which were attributed to either high or low prestige sources. The subjects then re-rated their "strength of belief."

Contrary to prediction "action taking" scores did not allow reliable prediction of response to the persuasive communications. "Strength of belief," however, did differentiate between internals but only partially supported findings from prior related research. High strength internals did not change their "strength of belief" in internality as a function of either high or low prestige, i.e., there were no differences in "strength of belief" related to the prestige of the source of the communication. Low strength internals, by contrast, reduced their rated "strength of belief" following the persuasive communication attributed to a high prestige source but unexpectedly increased their rated "strength of belief" following exposure to the external communication attributed to a low prestige source. This latter anomaly (increase in rated strength following exposure to the low prestige source) was discussed in terms of "reactance." The entire study and results were discussed in terms of their relevance for Social Learning Theory.