

ATTITUDE CHANGE AS A FUNCTION OF INTERNAL-EXTERNAL
CONTROL AND COMMUNICATOR STATUS

by *DEY*

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Numerous investigations have been conducted in recent years which have been subsumed under the general topic of attitude change. Variables which affect attitude change include situational, communicator, and communication content factors. Over and above these kinds of variables, it has been suggested (Hovland, Janis, & Kelley, 1953; Hovland & Janis, 1959) that if other variables are held constant, certain predispositional factors within an individual may strongly affect whether or not attempted influence will result in the acceptance of that influence. Such predispositional characteristics have often been classed under the general term "persuasibility factor." Evidence for a trait of general persuasibility has been obtained in studies which have presented a variety of opportunities for influence to take place and which have, at the same time, demonstrated that the same individuals tended to accept influence in a variety of situations. For example, Janis and Field (1959), with several diversified topics and with different types of appeals, tried to persuade individuals first in one direction and then in the opposite direction. Results showed that the same subjects tended to change their opinions on all issues, and furthermore, changed in the directions of both sets of communications even though the sets contained opposing views. Additional evidence to support a general persuasibility factor has been obtained from studies by Abelson and Lesser (1959), and Linton and Graham (1959). These studies have shown such a factor to have generality (within the populations used) across various content characteristics such as topics, appeals, types of arguments, and stylistic features of the communication.

Other studies have attempted to relate attitude change to a variety of personality variables which might be hypothesized to play some part in a general persuasibility factor, e.g., self-esteem (Cohen, 1959; Nisbett & Gordon, 1967), introversion-extraversion (Kiesler, 1964), and authoritarianism (Wright &

Harvey, 1965). The relationships of variables that have emerged from such studies have been shown to be complex, depending in part on both predispositional factors and external factors, such as source of influence, type of influence, etc.

The present study is concerned with a personality variable, internal-external control of reinforcement, which, in the light of its definition would appear to have some relationship to the acceptance or rejection of influence. However, inasmuch as this relationship will likely vary as certain situational cues are changed, concern will also be devoted to situational components of change.

The concept of internal-external control of reinforcement has developed from Rotter's (1954) Social Learning Theory. Social behavior is construed by this theory as being a function of the individual's expectancy for reinforcement in a given situation, and the value of that reinforcement. The internal-external (I-E) construct involves an expectancy but, more precisely, is viewed as a generalized expectancy which operates over a variety of situations. Briefly, internal-external control refers to the degree to which an individual expects to be instrumental in controlling the occurrence of reinforcements. That is, an externally controlled person expects that reinforcements are primarily determined by forces over which he has little control, while an internally controlled person expects that the reinforcements he obtains are primarily due to his own efforts or lack of them.

Recent reviews (Rotter, 1966; Lefcourt, 1966) have pointed out that while the I-E construct does not affect all situations indiscriminately, it does appear to have generality over a wide variety of situations. Research involving I-E has generally taken two main directions. One direction has involved varying the situation as being within or not within the individual's

control; the other has involved the construction and validation of a measure of generalized expectancy for control of reinforcement. The first type, which essentially involves situational studies, has primarily used tasks which were structured as skill or change, i.e., tasks on which reinforcement is seen as being within or not within an individual's control. Such structure has been achieved experimentally (Phares, 1957; Phares, 1962) or by assumed prior cultural experience (Rotter, Liverant, & Crowne, 1961). Individuals have been found to behave in characteristically different ways in skill versus change situations. For example, on expectancy measures specific to the task, subjects in skill situations tend to change their expectancies more often and more frequently in the direction of prior reinforcement than do subjects in chance situations. On the other hand, subjects in change situations tend to show more shifts in expectancy which bear little relation to the reinforcement schedule (Phares, 1957).

The development of a scale to measure individual differences in a generalized internal-external control expectancy took place concurrently with the above noted situational studies. The first attempted development of such a measure was by Phares (1955) who constructed a scale consisting of 26 Likert-type items. Half these items were worded in a skill direction and half in a chance direction. The chance items on this scale were found to yield low level predictions such that persons with chance-oriented attitudes tended to show smaller and less frequent expectancy changes than did those with skill-oriented attitudes. The latter also tended to show a greater frequency of "usual" shifts in expectancy. The original scale has since been modified by James (1957) and further revised by Liverant, Rotter, and Crowne (Rotter, 1966). The resultant scale, now called the I-E Scale does not describe a

typology. Rather, it is a continuum which indicates a greater or lesser degree of internal or external attitudes. Reliability measures have been found to range between .60 and .83 over a one-month interval. Also, correlations with social-desirability and intelligence are quite low and nonsignificant. Although evidence for the validity of the I-E Scale has been most striking in those experiments which most closely involve real-life situations, validity has also been suggested by the relationships between the I-E Scale and interview data and a story-completion test (Rotter, 1966).

Behavioral validation studies have taken a variety of directions. For example, in studies by Gore and Rotter (1963) and Strickland (1965), Negroes committing themselves to take part in social action, or already taking part in such action, were found to be significantly more internal than those who were not committed. Studies relating information-seeking to internal-external control have found that internal tuberculosis patients seek more information about their condition than do external patients (Seeman & Evans, 1962); internal reformatory inmates have been found to know more about their situation and about parole information than external inmates (Seeman, 1963); and it has been demonstrated that internal college students actively seek more information about a person whom they believe they will later attempt to influence than do external students (Davis & Phares, 1967). In a study concerning differences in actual influence exerted, Phares (1965) found that when subjects were instructed to attempt to change the attitudes of others, internal subject-experimenters were significantly more successful than were external subject-experimenters.

Studies which relate more directly to the present investigation are those which have investigated conformity in relation to I-E. In line with the I-E

construct, such studies have predicted that externals would conform more than internals, since their expectations involve the shaping of experiences due to sources outside their own control. Internals, on the other hand, if aware of outside pressure should be more likely to resist this pressure since it would run counter to their expectations of being in control of their environment. Some indirect confirmation of these hypotheses was obtained in a study (Odell, 1959) which showed that those ranking high in externality on an earlier version of the I-E Scale also were significantly more conforming than internals as measured by Barron's Independence of Judgment Scale. In a behavioral study of conformity (Crowne & Liverant, 1963), an Asch conformity situation was utilized to determine differences between internals and externals. Two situations were involved--one with the usual Asch instructions, and the other, a betting situation. Subjects could bet or not bet on any given trial and also choose what amount they would bet (limited by the money furnished them for betting purposes). With the usual Asch instructions, no differences were found between internals and externals. However, in the betting situation, externals yielded significantly more often than internals, and, in addition, bet more on the trials in which they yielded than on the trials in which they did not yield. Internals, on the other hand, bet about the same amount over trials regardless of whether they yielded or not.

Other studies which have involved attempts at persuasion are those by Strickland (1962), Gore (1962), and Getter (1966). Both the Strickland and the Getter studies used verbal conditioning paradigms to investigate I-E differences. Although no over-all differences were shown by internals and externals during conditioning, Strickland found, on the basis of post-experimental interviews, that internals who were aware of the reinforcement contingency showed significantly

less conditioning than did either the internals who were not aware or the externals. Getter found a similar result when he examined extinction trials. During extinction, a number of subjects gave significantly more conditioned responses than they had given during training trials. These subjects were found to be significantly more internal than both those who did not show such increases and those who did condition during training. Gore, in her study, attempted influence in a somewhat unique manner. TAT cards were presented to subjects, supposedly to enable the experimenter to learn which cards produced longer stories. However, Gore used three conditions of varying influence in which she either overtly told the subjects which card she thought was best, or used covert influence, by saying, "Now let's see what you can do with this one," or attempted no influence at all. No differences between internals and externals were obtained in the first and third conditions. However, in the covert influence condition, internals produced significantly shorter stories than externals. These three studies have been taken as evidence that internals tend to resist subtle attempts at persuasion. That is, they show such resistance in situations which may be construed as attempts to influence them without their knowledge, thus removing from their control the decision to accept or not accept influence. However, when the attempted influence is overt, internals apparently perceive that the choice to respond or not to respond is still within their control which allows them to accept the influence or reject it as they see fit.

Although the last cited study appears to demonstrate that a key to the acceptance of influence by internals is whether the attempted influence is perceived as subtle or overt, the same variable does not appear to differentially affect externals' acceptance of influence. In both the overt and the

covert conditions in Gore's study, externals produced longer stories than in the control condition with no attempted influence. Does this mean that externals will tend to be more persuasible in all situations? A further look at the I-E construct might shed some light on this question. An external has been defined as one who perceives reinforcement as being the result of luck, chance, fate, control by powerful others, or unpredictable factors because of the complexity of the world. But an internal is defined as one who perceives events as being "contingent upon his own behavior or his own relatively permanent characteristics" (Rotter, 1966). As was pointed out earlier, the overt influence attempts apparently allow internals to perceive their acceptance of influence as being within their own control. In the covert situation, S might regard it as an attempt to deprive him of this control. Perhaps the externals perceive reinforcement in both cases to be under the control of others consistent with their generalized expectations of control of events being due to forces outside themselves. In the Asch conformity situation, the sheer number of those opposing the individual's perceptions should confirm such an expectancy. A related question is whether externals would accept influence if the source were perceived as low in power, status, or authority. It appears possible that such a source would have less influence on externals than a source which could be perceived as high in status or authority. The present study will be addressed in part to this question.

In order to set up a situation in which influence could be attempted, it was decided to use an attitude change procedure, wherein a measure of opinions could be obtained before and after the attempted influence. Since this investigation was not primarily interested in attitude change per se, but rather in differences between internals' and externals' response to influence, an

attempt was made to create a situation in which differential opinion change could take place.

The primary independent variable involved manipulation of the communicator's status, which will be referred to in the remainder of the paper as prestige. Several early attitude change studies also manipulated a prestige variable and found a positive relationship between attitude change and communicator prestige (Hovland & Weiss, 1951; Kelman & Hovland, 1953). In addition, experiments have been carried out investigating the credibility of the communicator and the discrepancy between the advocated opinion change and the original opinion held by the subject. Some experimenters have found an increasing amount of change as this discrepancy increases (Cohen, 1959; Zimbardo, 1960; Aronson, Turner, & Carlsmith, 1963). Others have found that the greater the discrepancy, the less the change (Hovland, Harvey, & Sherif, 1957; Cohen, 1959). Hovland, et. al. (1957) explained these conflicting results in terms of the degree to which the subject is involved with the topic of the communication, i.e., the greater the degree of involvement, the lesser the change, and vice versa. Therefore, in order to maximize the likelihood that opinion change would occur in the present study, the topic of national budget expenditures was chosen since it did not appear likely to be highly involving for the subjects to be used (females). Nonetheless, two levels of involvement with the topic were used for each subject. Involvement is here defined as the degree to which individuals feel strongly about their expressed opinions. Thus, some items were used for each individual which would likely represent a greater degree of involvement, and some which would likely represent a lesser degree of involvement. However, the overall task was one not likely to be highly involving for the subjects.

The major hypothesis of this study involves the prediction of differential amounts of total change between the two external groups when a communication is attributed to sources differing in prestige. Specifically, it is predicted that externals will change their attitudes more when receiving information from a high prestige source than when receiving information from a low prestige source. In addition, it is predicted that externals will change more than internals when both receive communications attributed to a high prestige source. No difference is expected between internals and externals when both receive low prestige communications. Also, no difference is expected between internals receiving a high prestige communication and internals receiving a low prestige communication.

As a secondary interest, it will be possible to explore differences in change in the two levels of involvement. In light of the attitude change studies mentioned previously, it might be expected that the items which are assumed to be of more personal concern to the subjects will be changed less by subjects in all conditions than those items which are assumed to be of lesser personal concern. Thus, the hypothesis is that low involvement items will be changed more than high involvement items.

METHOD

Materials

The I-E Scale (Appendix A) was administered to a large general psychology class at Kansas State University. At the same time, an attitude questionnaire (See Appendix B) concerning the national budget was also administered. Twenty-six items pertaining to the national budget were included. Each item was to be placed by the student along a nine-point Likert-type scale according to

whether the government should be spending more, less, or the same amount of money relevant to that item. In addition, the last page of the attitude questionnaire contained two questions concerning the degree of confidence each individual felt about his ratings. This was included in order to determine whether or not the amount of confidence each individual felt concerning his judgments would account for the degree of change that the individual might evidence after receiving the communication.

For each budget item later used in the treatment, short paragraphs were written which advocated more or less money being spent as regards that item. These paragraphs are shown in Appendix C. In addition to the readministration of the attitude scale during the experimental session, each subject also filled out two questionnaires to determine the degree of correlation of opinion change with the value placed on reinforcement from internal or external sources. The first of these questionnaires was the Adult Locus of Evaluation Scale (ALOE) which is a twenty-four item scale devised by Miller (Duncan, 1966). Duncan found that individuals ranking high or low in externality on the I-E Scale also ranked high or low, respectively, on the ALOE scale. The second questionnaire was devised by the present author and consisted of several questions designed to measure reinforcement value with more specific questions than those on the ALOE scale. Both of these questionnaires are reproduced in Appendix D.

Subjects

Since a sex variable has sometimes been found to interact with opinion change (Janis & Field, 1959), it was decided to use only female subjects in the present investigation. In addition, since the majority of previous studies utilizing the I-E Scale have used subjects with extreme scores on the scale,

the present study followed the same procedure. The rationale for such a procedure involves the perception of the I-E dimension as a continuum. Subjects falling at the extremes of the continuum would be expected to show more generalization of internal and external expectancies than those at the middle of the scale. The availability of female subjects in the general psychology class dictated the final cutting points used in the present study. Of the students given the I-E Scale in the class, 152 were females. Thus, on the basis of their I-E scores, 42 females were chosen from the upper (external) end of the distribution, and 42 from the lower (internal) end. External scores ranged from 12-17 and comprised about 30% of the distribution. Internal scores ranged from 1-6 and also comprised approximately 30% of the total distribution. Ss signed up for the experiment in groups of 2-6 each. These groups were randomly assigned to either the high or the low prestige group. Participation in the experiment gave Ss credit toward their general psychology grade.

Procedure

The portion of the experiment dealing with attempts to exert influence took place approximately two weeks after the initial questionnaire data had been gathered. When Ss arrived for the experiment, they were taken to a small classroom and seated. Instructions were then read to the Ss as follows:

A short time ago, you participated in a survey which obtained your views of national budget expenditures. This is an extension of that survey. At this time, I would like to collect some additional data which will help us to understand more precisely college students' economic views. Today, I am going to ask you to read some short statements giving another person's views concerning some of these budget areas.

At this point the instructions deviated according to the group's pre-assignment to the high or low prestige group. Following are the remainder of the high prestige instructions:

These statements were obtained from a survey conducted by a national agency which sought opinions from leading economists and government officials about the national budget. According to a recent economics periodical which published the results of this survey, there were many different opinions on all areas of the budget. A few comments about some of the more controversial areas by a few of the participants in the survey were published also. Thus, the statements you will be reading give one of the views presented concerning some controversial areas of the budget--the views of Douglas Dillon. I might say, incidentally, that Douglas Dillon has been closely associated with the government since 1958. In 58-59 he was Under Secretary of State for Economic Affairs. In 59-60 he was Under Secretary of State. Both of these positions were during the Eisenhower administration. Since that time, and presently, Mr. Dillon has served as Secretary of the Treasury in both the Kennedy and Johnson administrations. After reading the statements, I would like you to again rank all the items according to your views as to whether the proportion of the budget spent for each item should be more, less, or the same.

The low prestige groups received the following alternative set of instructions:

A survey similar to the present one was conducted during the past summer by a friend of mine in an introductory economics class at Ball State Teacher's College. The survey was different in that the students were asked to give reasons for favoring more or less expenditures for budget areas. Since my interest was in the same area, I was able to obtain the statements after the survey was completed. These statements you will be reading give one of the views concerning some controversial areas of the budget--the views of Jack Reidle, a twenty-year-old college sophomore. After reading the statements, I would like you to again rank all the items according to your views as to whether the proportion of the budget spent for each item should be more, less, or the same.

After the instructions were read, each S received a six-page booklet which consisted of the alleged opinions of the source concerning six of the budget items and an attitude scale identical to the one previously given with the exception of the deletion of the last page--the confidence ratings.

The six items on which the communication was based were chosen individually for each S on the basis of where the items had initially been ranked. The original plan had been to choose several items from the middle ranking, i.e., where Ss advocated spending slightly more, the same, or slightly less for those particular items, and an identical number of items divided equally between

the upper three extremes and the lower three extremes. This was to constitute the varying levels of involvement; the rationale being that items rated at either extreme would likely be items about which Ss felt rather strongly. The items placed in the middle region of the scale would likely be, at least in part, items about which individuals would have less strong feelings. This division of items did not prove feasible, however, since few subjects initially advocated the lesser extreme. The categories of items finally decided upon included six items--three which were taken from the upper three ratings (very much more, much more, or moderately more) and three which were taken from the middle rating (same). This division, by the same rationale, should constitute two levels of involvement. Thus, the communications each S received depended on which six items had been chosen from her initial rating. Communications concerning items originally ranked in the upper extremes, gave opinions advocating less budget money be spent. Items originally rated in the middle position were divided with each S receiving two communications advocating that more money be spent and one advocating that less money be spent.

After all Ss finished reading the booklet given to them and had filled out the attitude questionnaire for the second time, an attempt was made, via individual interviews, to determine whether Ss were aware that an attempt had been made to influence them. For this reason, the following instructions were read to them:

You have been participating in a pilot study. In order to determine if the procedure is adequate for the aims of the study, I would like to ask each of you a few questions individually to get your evaluation of the experiment. This will enable me to improve the procedure, if need be. I will take you, one at a time, into another room for your evaluation. While you are waiting for your interview, I have another questionnaire I would like for you to fill out.

The last questionnaire referred to was a filler questionnaire designed to occupy

the remaining Ss' time while E was out of the room with individual Ss. E took each S individually to a nearby, small experimental room for the interview. The initial question was, "What do you feel was the aim of the experiment?" Depending upon the answer to that question, S was asked to elaborate, or was asked why she reacted the way she did. S was also asked whether the opinions she had read had an influence on the second rating of budget items. At the conclusion of the interview, S was asked to return to the other room and fill out another questionnaire (the reinforcement value questionnaires referred to earlier). At the completion of the final questionnaire, the experimental session was terminated.

RESULTS AND DISCUSSION

Prestige and Attitude Change

Opinion change scores were computed for each S by using an algebraic summation of the number of places each S's ratings changed from the first rating to the second rating. For example, if S placed an item initially in the "much more" category, but placed it in the "moderately more" category on the second rating, a score of +1 was assigned to that item because the change was in the same direction as that advocated by the communication. However, if the item were placed in the "very much more" category on the second rating, it would receive a -1, because the change was in the opposite direction from that advocated by the communication. Means and standard deviations for the change scores are shown in Table 1.

Table 1
Means and Standard Deviations for
Opinion Change Scores

	Internals			Externals		
	Involvement		Total	Involvement		Total
	High	Low		High	Low	
High Prestige	4.05 (3.17)	2.14 (1.85)	6.19 (4.03)	6.57 (3.16)	2.19 (2.54)	8.76 (5.20)
Low Prestige	4.48 (3.25)	2.76 (2.53)	7.24 (5.02)	4.33 (2.65)	1.00 (2.65)	5.33 (4.40)

Note: Standard Deviations are in brackets.

The major hypotheses of the study were as follows: (1) externals will show more opinion change in the high prestige condition (HP-E) than in the low prestige condition (LP-E); (2) externals in the high prestige condition will change more than internals in the high prestige condition (HP-I); (3) there will be no differences in amount of change between internals in the high and low prestige (LP-I) groups, and no differences between internals and externals in the low prestige groups. To test these hypotheses, an analysis of variance and multiple t tests were computed. The results of the analysis of variance are presented in Table 2. Examination of this table shows the main effects of both I-E and Prestige to be nonsignificant, i.e., internals and externals changed their opinions to about the same degree when summed over high and low prestige conditions. Likewise, approximately the same amount of opinion change was exhibited by high and low prestige groups when summed across internals and externals. The I-E X Prestige interaction, however, is significant ($<.05$).

The significant interaction indicates that the pattern of change was different for internals and externals in the high and low prestige conditions. Specifically, externals exhibited less change than internals in the low prestige condition and more change than internals in the high prestige condition.

Table 2
Analysis of Variance of Change Scores

Source	df	Ms	F
Total	167		
Between Ss	83		
IE	1	1.16	<1.00
Prestige	1	14.88	1.36
IE X Prestige	1	52.60	4.79*
Error (b)	80	10.97	
Within Ss	84		
Involvement	1	337.16	79.33*
IE X Involvement	1	44.03	10.93*
Prestige X Involvement	1	4.03	<1.00
IE X Prestige X Involvement	1	1.97	<1.00
Error (w)	80	4.25	

*Significant at $p \leq .05$.

In order to determine the significance of the obtained differences, one-tailed t comparisons were performed between the HP-E and LP-E groups and between the HP-E and HP-I groups. These comparisons were significant at $p < .025$ ($t = 2.32$) and $p < .05$ ($t = 1.80$), respectively. The remaining four comparisons were made by means of two-tailed t tests. All were nonsignificant ($t < 1$). Thus, all three major hypotheses were supported.

As predicted, externals exhibited more change when presented communications attributed to a high prestige source than when presented communications attributed to a low prestige source. This result lends support to the general suggestion that externals might not be uniformly susceptible to influence attempts in different situations. As was hypothesized earlier, it appears that the source of an attempted influence will have an effect on acceptance or non-acceptance of influence by externals. It seems possible in this study that the higher degree of change for externals when presented with a high prestige source, as opposed to a low prestige source, may have resulted from a heightened expectancy for reinforcement with change toward that source. The predicted difference obtained between the HP-E and HP-I groups could be interpreted in a similar manner. That is, it is possible that externals had a higher expectancy for reinforcement with change toward a high prestige source than did internals.

Although the comparisons among the HP-I, LP-I, and LP-E means showed no significant differences, one question remains unanswered. Did these three groups exhibit some change, no change, or resistance to change? In light of Gore's study which suggested that internals tend to resist attempts at subtle persuasion, but do not resist overt attempts at persuasion, it might have been expected that at least the HP-I group might perceive the present experiment as a subtle attempt at persuasion. Thus, they might have shown evidence of resistance to change if, in fact, this was perceived as a subtle attempt at persuasion. However, the size of the means in this study suggests that there was no great resistance to persuasion on the part of Ss in any group. The individual interview with each S constituted an attempt to find out if Ss did, in fact, perceive an attempt at persuasion and also whether Ss reported having changed or having resisted change after receiving the communication. Only eight Ss,

however, indicated they were aware that the experiment was designed to influence them. Of these, four were from the HP-E group, two from the LP-I group, and two from the LP-E group. The majority of Ss verbalized the aim of the experiment as being an attempt to find out how much college students knew about the national budget. When asked whether or not reading the communication had influenced their second rating of budget items, the answers of Ss ranged from, "Not much," to "Yes, quite a bit." Instances of no change or change in the opposite direction from the communication were not reported. If the interview data is accepted at face value, it appears that most Ss did not perceive the treatment as an attempt to change their opinions. It is possible, however, that the interview was not designed well enough or administered skillfully enough to obtain valid answers to these questions. The fact that all Ss reported changing to some degree might point to some awareness of the purpose of the administration of the communications.

Neither the size of the means nor the interview data can help to deal with the foregoing questions. Thus, without comparison with a control group receiving no communications, further speculations concerning resistance to persuasion by these groups would not be possible. Therefore, it was decided to add two control groups, one composed of internals and the other of externals in order to determine whether or not all HP and LP groups showed significant opinion changes.

The control groups were also composed of female Ss; 21 internals and 21 externals drawn from another general psychology class. The same range of I-E scores was used for these Ss as was used for those in the original groups. The I-E Scale and the initial attitude scale were administered, as before, to the entire class. Since no treatment was to be administered to the control groups, six items--three from the middle level and three from the upper three

extremes--were picked randomly for comparison with the second completion of the attitude scale. Approximately two weeks later, Ss were asked to fill out the attitude questionnaire a second time (after participation in another experiment). The control groups will be referred to as the no prestige (NP) groups in the remainder of the discussion.

The HP and LP groups were assigned positive and negative change scores on the basis of change toward or away from the advocated communication. Since the NP groups received no communications, the same basis for scoring could not be used. However, for items initially placed in extreme ratings, the experimental groups also received positive scores for advocating less money on the second as compared to the first rating, and negative scores for advocating more money on the second rating. By using the same scoring procedure for the NP groups, control and experimental scores could be compared. However, items originally rated in the middle category (advocating the same amount of budget money) presented more of a problem for comparison. Middle items for the HP and LP groups were subdivided. One item was scored in the same manner as extreme items, while the other two were scored in the opposite direction, i.e., negative scores were assigned to a change in rating advocating less money and positive scores to a change advocating more money. Thus, in order to be strictly comparable to the experimental groups, all three middle items for the control groups were scored in two ways--one with a plus score being given for a change advocating more money in comparison to the initial rating and a negative score for a change advocating less money. The second scoring reversed the plus and negative scoring, i.e., a lesser advocated amount received a positive score and vice versa. This scoring procedure necessitated using average change scores for all groups in further analysis. The average change scores were obtained

for each S. Also, since the scoring procedure for middle items for the NP groups would give exactly opposite scores, they could not be combined in a single analysis of variance. Accordingly, two separate analyses were performed with the average change scores. One analysis (AOV I) compared the average algebraic change for extreme items for all groups; the average of the two middle items for experimental groups which received a plus score for a change advocating more money for those items, and an average of the three items for the NP groups scored in the same direction. The second analysis (AOV II) compared the same average scores for extreme items for all groups, the remaining middle item for experimental groups which received a plus score for a change advocating less money being spent for that item, and the average of the three items for NP groups scored in the comparable direction.

The summary analyses for AOV I and AOV II may be seen in Tables 3 and 4 respectively. The earlier question of whether any treatment groups evidenced resistance to change can be answered by referring to these tables. The prestige main effect was significant in both analyses. However, the orthogonal comparisons performed on this effect in both analyses show that most of the variance was accounted for by the high plus low versus no prestige comparison, thus indicating that significantly more attitude change took place in the treatment groups than in the no treatment groups.

The I-E X Prestige interaction was significant in the original analysis (See Table 2) and in AOV II, but not in AOV I. However, in both of the latter analyses the orthogonal comparison, I-E X Prestige _{HP vs LP} accounts for most of the variance though not reaching the significance level in AOV I chosen for this experiment ($p \leq .05$). AOV II included the four items from the HP and LP groups

Table 3

Analysis of Variance (I) for Average Change Scores
 Incorporating HP, LP, and NP Groups
 (Middle Items Scored Positive for
 Changing in Rating Toward More)

Source	df	Ms	F
Total	251		
Between <u>Ss</u>	125		
IE	1	.51	<1.00
Prestige	2	11.349	17.015*
HP vs. LP	1	2.458	2.858
HP + LP vs. NP	1	20.240	23.535*
IE X Prestige	2	1.2195	1.418
HP vs. LP	1	2.301	2.676
HP + LP vs. NP	1	.138	<1.00
Error (b)	120	.860	
Within <u>Ss</u>	126		
Involvement	1	53.43	90.86*
IE X Involvement	1	1.791	3.046
Prestige X Involvement	2	1.5795	2.686
HP vs. LP	1	.150	<1.00
HP + LP vs. NP	1	3.009	5.117*
IE X Prestige X Involvement	2	1.621	2.757
HP vs. LP	1	1.869	3.179
HP + LP vs. NP	1	1.370	2.330

*Significant at $p \leq .05$.

Table 4

Analysis of Variance (II) for Average Change Scores
 Incorporating HP, LP, and NP Groups
 (Middle Items Scored Negative for
 Change in Rating Toward Less)

Source	df	Ms	F
Total	251		
Between <u>Ss</u>	125		
IE	1	.015	<1.00
Prestige	2	12.845	10.785*
HP vs. LP	1	.080	<1.00
HP + LP vs. NP	1	25.609	18.227*
IE X Prestige	2	6.818	4.853*
HP vs. LP	1	13.538	9.636*
HP + LP vs. NP	1	.097	<1.00
Error (b)	120	1.405	
Within <u>Ss</u>	126		
Involvement	1	86.158	105.199*
IE X Involvement	1	3.724	4.547*
Prestige X Involvement	2	2.086	2.547
HP vs. LP	1	2.795	3.413
HP + LP vs. NP	1	1.376	1.680
IE X Prestige X Involvement	2	1.073	1.310
HP vs. LP	1	.633	<1.00
HP + LP vs. NP	1	1.515	1.850
Error (w)	120	.819	

*Significant at $p \leq .05$.

which had communications directed to them advocating the allocation of less budget money. Apparently these four items accounted for much of the differential reaction of internals and externals.

Involvement and Attitude Change

The secondary hypothesis concerned the two levels of involvement. It was predicted that items originally placed in extreme categories (high involvement items) would tend to move less during the second rating than those originally placed in the middle category (low involvement items). For analyses pertaining to the secondary hypothesis total opinion change scores were subdivided for each S into two parts representing high and low involvement. The initial analysis of variance (See Table 2) showed a highly significant main effect for involvement in the opposite direction from that predicted ($F = 79.33$). That is, more change was exhibited by all groups with high involvement items than with low involvement items.

A factor which may have contributed to these results involves the direction of the advocated communications. All of the communications except two pertaining to middle range items advocated much less budget money being spent for those items. Those two exceptions advocated the spending of more money. It is possible that Ss, for some reason, were more reluctant to agree with spending more money than they were to agree with spending less. To examine this possibility, mean change for middle items was tabulated separately across all treatment groups according to the direction of the advocated communication. The resultant means showed a slight tendency in the opposite direction, i.e., change was slightly more when the communications advocated more money being spent. Thus, the advocated direction was not responsible for the result.

An alternative explanation for the greater change for high involvement items could be that items originally placed in the extreme position had more potential room to move (from six to eight levels), whereas items originally placed in the middle position had the potential of moving only four levels in any one direction. In addition the middle items had a greater potential of moving in a negative direction, since the majority of extreme items were originally rated in the "very much more" category, thus precluding movement in a negative direction. The addition of the control groups provided an opportunity for an examination of this possibility. If this explanation accounts for the greater amount of change shown for items originally rated in the extreme portion of the scale, the control groups would be expected to have shown more change for extreme items also. If this explanation does not account for the differential change for high involvement versus low involvement items, the Prestige X Involvement interaction should be expected to be significant, i.e., the NP groups should have shown a pattern of change for high and low involvement items which is different from that of the combined HP and LP groups.

Examination of Tables 3 and 4 shows that the Involvement main effect was highly significant in both analyses including the NP groups ($F = 90.86$; $F = 105.199$), thus indicating that most of the effect could be accounted for in terms of number of possible places for an item to be moved and greater potential for negative change for low involvement items. However, the Prestige X Involvement interaction suggests that not all of the greater change for high involvement items could be accounted for in this manner. The orthogonal comparison, Prestige X Involvement $_{HP + LP}$ vs NP, is significant in AOV I, though not in AOV II. The mean average change in AOV I for the combined

HP and LP high involvement items was 1.62; for low involvement items, it was .54. For NP high involvement items, mean change was .79, while for low involvement items, it was .18. Although change was greater for high involvement items than for low in both cases, there was a significantly greater difference between the HP and LP means than between the NP means.

It would appear that if the presumed levels of involvement had been in effect, the high and low involvement means would have been more nearly equal than they were, even taking number of possible of levels for movement into account. Thus, it seems possible that the assumed involvement levels did not actually represent high and low levels, but were rather both representative of a fairly low involvement task. In fact, during the interview, approximately half of the subjects stated that they knew little about the national budget.

If the task involvement for all items is considered to be low, the significant Involvement X Prestige orthogonal comparison in AOV I could be due to another factor--the discrepancy of the advocated communications from the original rating of items. In a review of several attitude change studies, Hovland (1959) presented evidence that with low involvement topics, an increase in discrepancy of communications as compared with attitudes initially held, increased the amount of attitude change. In the present study communications directed to items which were originally rated by Ss in the extreme categories were more discrepant from the original rating than those placed in the middle category. This was because items originally placed in the middle category represented advocacy of the same amount of budget money being spent for those items. Therefore since all communications advocated either much less money being spent or (for two of the middle items) much more money being spent, the discrepancy from the original rating was more for extreme items. Least Significant Difference (LSD; Fryer, 1966) comparisons were made between involvement means in all three analyses of variables.

These may be seen in Tables 5 and 6. Referring to the means presented in these tables it can be seen that both internals and externals showed significantly more change for high discrepancy items than for low discrepancy items.

Table 5
Ordered Array of Involvement Means From Table 1
and Indications of Significant Differences
Among the Means of the % Level (*)

Condition	HP-E high	LP-I high	LP-E high	HP-I high	LP-I low	HP-E low	HP-I low	LP-E low
Involvement Mean	<u>6.57</u>	<u>4.48</u>	<u>4.43</u>	<u>4.05</u>	<u>2.76</u>	<u>2.19</u>	<u>2.14</u>	1.00

LSD * = 1.26

Any two means not underscored by the same line are significantly different at $p \leq .05$.

One other result from the initial analysis of variance of some interest to a discrepancy interpretation concerns the significant I-E X Involvement interaction (See Table 2). Summing over the prestige variable, mean change for internals with low and high discrepancy of communications was 2.45 and 4.26 respectively, while for externals it was 1.60 and 5.45. Thus, externals more clearly show the pattern of change referred to in the preceding paragraph, i.e., least change with low discrepancy communications and most change with high discrepancy communications. This appears to make some sense in light of the I-E construct. Externals, with the expectation that reinforcement is controlled from outside sources, might tend to change more with highly discrepant

Table 6

Ordered Array of Means for Average Individual Change in High and Low Involvement Conditions and Indications of Significant Differences Among the Means at the α Level (*)

Means of Scores Used in AOV I													
Condition	HP-E	LP-I	LP-E	HP-I	HP-I	NP-E	NP-E	HP-I	HP-E	LP-I	LP-E	NP-E	NP-I
	high	high	high	high	low	high	high	low	low	low	low	low	low
Involvement	2.19	1.49	1.44	1.35	.79	.78	.70	.57	.54	.37	.21	.14	
Mean													
	LSD * = .47												
Means of Scores Used in AOV II													
Condition	HP-E	LP-I	LP-E	HP-I	HP-I	NP-E	NP-E	HP-E	HP-I	LP-E	NP-E	NP-E	NP-I
	high	high	high	high	low	high	high	low	low	low	low	low	low
Involvement	2.19	1.49	1.44	1.35	.95	.79	.78	.43	.005	-.005	-.14	-.21	
Mean													
	LSD * = .55												

Any two means not underscored by the same line are significantly different at $p \leq .05$.

communications (although more with a high prestige source than a low). Internals appeared to have evaluated the content of communications regardless of low or high discrepancy, or low or high prestige, more nearly in accord with their previously held opinions and the reasonableness of the content. This would be consistent with their expectations of reinforcement as being due to forces within their own control.

Two results remain to be mentioned--the confidence ratings and the reinforcement value questionnaires. The questions attempting to determine the level of confidence Ss placed in their original ratings were scored on a seven-point scale--a high score representing a high level of confidence. Thus, if low confidence in original judgements affected amount of later change, a negative correlation would have been expected between confidence ratings and change scores. However, the correlation between change scores and confidence scores including all LP and HP groups was .18 (ns). Additional correlations were performed within each LP and HP group to determine if correlations within groups might have accounted for differential patterns of change. The HP-E group (which evidenced the most change) showed a significant correlation (.44; $p < .05$) in the same direction as the overall correlation. The other correlations were nonsignificant (HP-I = -.11; LP-I = .20; LP-E = .22). Of these only the HP-I group showed a correlation in the direction expected if original lack of confidence in judgements would tend to produce more change. These results indicate that the original confidence level, as measured by this method, apparently did not determine whether or not opinion change would occur.

An analysis of the relationship between the two measures of reinforcement value and the magnitude of attitude change also failed to show significant results. Separate correlations were obtained for each HP and LP group with each question-

naire. All correlations were nonsignificant. In addition, a t test was performed between the ALOE scores of internals and externals. This, too, yielded nonsignificant results ($t < 1$).

SUMMARY AND CONCLUSIONS

Subjects representing two extremes of a personality dimension were used to examine the possible differential reactions of these subjects in an attitude change situation when given communications attributed to high or low prestige sources. The personality dimension involved was that of internal-external control. Persons at one end of this continuum (externals) hold a generalized expectancy that forces outside themselves are primarily responsible for the occurrence of reinforcements. Persons at the other extreme of the continuum (internals) hold the reverse generalized expectancy, i.e., they themselves are primarily responsible for the reinforcements they receive.

An attitude change situation was created whereby communications were given to internal and external Ss concerning six items of the national budget which Ss had earlier ranked according to how much they thought the government should be spending for those items as compared to present spending. The communications were attributed to sources either high or low in prestige. It was hypothesized that external Ss would change more when given communications attributed to a high prestige source than they would when the attributed source was low in prestige. It was also hypothesized that externals would change more than internals when both were given a high prestige communication. No differences were predicted between internals and externals when both received low prestige communications. Likewise, no differences were predicted between the two groups of internals when one received a high prestige source and the other a low prestige

source. Using four groups of female subjects (21 in each group), support was found for the above hypotheses.

Gore's (1963) study found some suggestion that internals tend to resist attempts at persuasion if the situation is perceived as a subtle attempt at persuasion, but do not resist similar attempts if the situation is perceived as an overt attempt at persuasion. Although an attempt was made to arrange the situation in this study as a subtle attempt at persuasion, it was not possible to determine whether or not there was evidence of resistance to persuasion unless comparisons were made with a control group. Accordingly, two control groups were added--21 internals and 21 externals--which did not receive persuasion attempts. With further comparisons, it was determined that all treatment groups changed significantly more than the no treatment groups. Thus, no further evidence was obtained for Gore's interpretation. Perhaps Ss did not perceive the situation as a subtle attempt at persuasion. Two other possibilities remain--the situation may have been perceived as an overt attempt at persuasion or it may not have been perceived as an attempt at persuasion. Interview data gathered during the experiment suggest the latter interpretation. However, whether or not an attempt at persuasion was perceived, the results suggest that internals in both conditions evaluated the communications as regards their own previously held opinions and the content of the communications, whereas externals appeared to be influenced according to the prestige of the source, regardless of communication content.

Although the low prestige source used in this experiment was not designed to be seen as a negative source, it is interesting to speculate what types of relationships might be found with a negative source. Perhaps internals would tend to evaluate content of the communications even in such a case, and would

not exhibit change significantly different than that shown when the communication is attributed to positive sources. This would be consistent with the above results and with internals' expectancy that they are in control of their own reinforcements. Externals, however, might perceive change toward a negative source to be negatively reinforcing. Thus, it is conceivable that they would change less than internals, or perhaps change in the opposite direction from the communication.

A secondary hypothesis of the study concerned the involvement level of the six items. Three items were assumed to represent a high degree of involvement for Ss, and three were assumed to represent a lower degree of involvement. No differential predictions for internals and externals were made for these items, but it was predicted that all Ss would exhibit more change for low involvement items than they would for high involvement items. However, a highly significant effect was obtained which was opposite to that predicted. Consideration of three variables which might have contributed to this reversal were discussed. (1) It is possible that the assumption of high involvement for three of the items was in error and that all items actually represented low involvement. (2) The control groups' changes were also significantly greater for high involvement than for low involvement items, thus pointing to the likelihood that advocated communications were not primarily responsible for the effect. Instead the major part of the effect appeared to be due simply to the differential number of spaces available for re-rating high involvement versus low involvement items. (3) Two significant interactions suggested that some small degree of the significant involvement effect could have been accounted for by the advocated communications. This was discussed in connection with a discrepancy interpretation. That is, communications directed to high involvement items were more discrepant than those directed to low involvement items. For some

of the items change was greater for the experimental groups than for the control groups. Also, externals in both high and low prestige groups evidenced more of a differential change between high and low involvement items than did internals. Thus, the discrepancy of the advocated communications may have accounted for a small part of the main effect of involvement and the two significant interactions.

The above results lead to the suggestion that internals, in addition to better evaluation of content of communications regardless of source, also tend to be less easily swayed by the discrepancy of the advocated communications than do externals. The tenability of such a suggestion and the processes at work in differential reactions to the discrepancy of advocated communications might better be examined in future work under a latitude of acceptance framework. A recent study (Atkins, Deaux, & Gieri, 1967) using such a framework suggests that individuals differ both in size of latitude of acceptance and in the degree to which they tend to see extremely discrepant communications as being more nearly like their own (assimilation effect). It is conceivable that externals would evidence more of an assimilation effect, given a small latitude of acceptance than would internals.

Although speculation concerning the involvement effect is of interest, the primary aim of the investigation was an attempt to provide further validity for the I-E construct by examining possible differences between internals and externals in response to communications attributed to high and low prestige sources. This aim was realized by results supporting all the primary hypotheses. The results showing that externals changed significantly more with high prestige than with low prestige communications lends support to the hypothesis that externals, expecting reinforcement to be controlled primarily by forces outside

themselves, apparently are influenced more by those who are high in status or authority than from those who are low. The remaining results indicated that internals did not change as much as externals when given a high prestige source. Neither did they react differentially to the high and low prestige sources nor differentially from externals when both received a low prestige source. This lends support to the hypothesis that internals, with the expectancy that reinforcements are primarily within their control, will tend to evaluate communications more according to content than according to the originating source.

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APPENDICES

APPENDIX A

Social Reaction Inventory

This is a questionnaire to find out the way in which 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 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.

Your answers to the items on this inventory are to be recorded on a separate answer sheet which is loosely inserted in the booklet. Remove THIS ANSWER SHEET NOW. Print your name and any other information requested by the examiner on the answer sheet, then finish reading these directions. Do not open the booklet until you are told to do so.

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 black-in the space under the number 1 or 2 which you choose as the statement most true.

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 as 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 that 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.
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.

I more strongly believe that:

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.
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."

I more strongly believe that:

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.
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.

I more strongly believe that:

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 _____

Sex _____

Instructor _____

Much criticism has been directed at the national government for the proportion of money spent on various governmental activities. We are conducting a survey in order to obtain your views concerning the national budget.

Below, you will see a list of several areas for which a portion of the national budget is spent. On the following page you will find a nine-point scale ranging from "Very Much More" to "Very Much Less." This scale refers to the relative amount of money which you think the government should be spending in each area compared to what it is now spending. Read each item in the list of areas, decide where you think it should be placed on the scale, and write it under that category. Remember to use every item from the list of areas.

military pay	control of lake pollution
school lunch and milk program	Viet Nam
FBI	Highway systems
aid to underdeveloped countries	Job Corps
Peace Corps	medical research
national parks	CIA
social welfare	space program
weather research	school building program
urban renewal	rent-subsidy
national defense	control of air pollution
Teacher Corps	civil rights
aid to disaster areas	research grants to universities
congressional salaries	Head Start projects

Nine-point Scale

Very Much More

Much More

Moderately More

Slightly More

Same Amount

Slightly Less

Moderately Less

Much Less

Very Much Less

Following are two questions concerning your confidence of the judgements which you just made concerning the national budget. The first concerns your general confidence of the ratings; the second concerns your confidence in comparison to others in this class. Circle the answer for each question which best expresses your feeling of confidence.

1. How much confidence do you have in your preceding judgements concerning the national budget?

Extremely Confident; Confident; Moderately Confident; Neutral;
Moderately Unconfident; Unconfident; Extremely Unconfident.

2. How confident are you of the ratings you just made in comparison with the other females in this class if you are a female or other males in this class if you are a male?

Extremely Confident; Confident; Moderately Confident; Neutral;
Moderately Unconfident; Unconfident; Extremely Unconfident.

APPENDIX C

Communications Advocating Larger Budget Allocations

One of the best things for which a portion of the national budget has been spent is aid to underdeveloped countries. The only problem is that not nearly enough money has been available for this purpose. The funds spent to help poorer countries to get on their feet and become self-supporting through technical and agricultural aid has brought unmeasurable dividends.

Although little is publicly known about the CIA, (by the very nature of its activities), recent events have shown that its work has been vital in our country's welfare and security. However, in order to be more effective, the agency needs to widely expand its personnel and activities. To do this, the CIA must have a significant increase in funds from the national budget.

Congressional salaries need to be significantly increased. Although when one hears the figures of congressional salaries, it may sound like an adequate amount, the cost of living for a congressman must be taken into consideration. All congressmen must keep two residences, due to the fact that in any election year they may be leaving Washington; it is mandatory that congressmen entertain; and the amount of traveling done by a congressman to keep up with things at home runs into an enormous amount of money. We expect great things of our congressmen, but without giving them the means to do it.

Air pollution has become an increasing problem in the past decades. Because of the wide-spread effects of air pollution, the national government has entered the picture. However, the actions so far provided to control the

pollution of this vital substance have been less than forceful. This has been primarily due to lack of funds. I feel that it is urgent to allocate more funds for this purpose before our future generations' health has suffered the debilitating effects of air pollution.

Control of lake pollution is a many-sided problem. Increasing pollution of lakes is taking away many existing and potential recreational beaches, the natural beauty of lakes and lakeshores is being destroyed, and both commercial and recreational fishing has been seriously affected. A Water Pollution Control Administration has been created to do something about these problems, but the lack of sufficient funds has greatly inhibited its potential. This is an area which needs a radical increase in appropriations in order to save one of our most valuable natural resources.

Although it is generally conceded that the FBI is a very efficient organization, there are vast holes in the job the organization does through sheer lack of funds. In order to bring maximum protection to the citizens of our country, new equipment, better training, and more law-enforcers are needed. The upgrading of the services of the FBI can only be accomplished with a substantial upswing in funds allocated to the agency.

One of the bitter disappointments of the grabbing for governmental funds is the way the Head Start Project has come out. This project needs to have a maximum amount of funds in order to get at the basic root of the next generation's educational problems. Only with a maximum increase in funds can this goal be realized.

Highway system expansion has not kept up with the growing number of

vehicles on the road. It is mandatory that highway expansion keep pace with the demands placed upon it, both in terms of ease and speed of travel, and in terms of the increased safety which properly built and maintained highway systems can give. Thus, the budget expenditure for highway systems should be sizeably increased.

The Job Corps has been one of the bright spots in the fight for bettering the economic plight of many who could otherwise hope for no better future. The success of the program has thus far been encouraging, but limited. A substantial increase in funds to this program is needed.

The amount of money presently paid to men in the service is a cause for national shame. A large proportion of the military is existing on subsistence and below subsistence levels. Men who wear a uniform should be able to wear it with pride--pride that their country has called upon them to do a job necessary for their country's future. The present extremely low pay scale makes it difficult to look upon military service as anything but a period to be gotten through as quickly as possible. I strongly urge that a drastic increase in budget funds be allotted to military pay.

National defense, in our modern era, has become one of the most important activities for which budget expenditures are made. In view of this, care must be taken not to limit this vital activity by false economy. New weapons for defense and new methods of defense are constantly being discovered, but many times these do not get beyond the planning stage due to lack of funds. If we are to have a secure future, more funds must be made available for this purpose.

A number of far-sighted people have been concerned for years about the fast dwindling amount of land available for beauty and recreation. Unless national budget funds are increased drastically for purchase of new areas to be designated for national parks, land which can never again be reclaimed may be taken over in the near future by industry and new housing.

Of the programs which have not been allocated sufficient funds, one of the saddest is rent subsidies. With present funds, only a minute fraction of those needing this help badly will be able to be helped. Who is to decide which families in what locations will receive the help? It appears that with the present insufficient allocations, only more ill-feeling will result than had no funds been available at all; thus I would like to see a sizeable increase in budget funds for this purpose.

Aid to elementary and secondary school buildings has not been increased in the present year. The burden of new and improved schools cannot be placed entirely on the states. It is generally recognized that the education of our youth is an extremely important national interest. Thus, I submit that, in order to keep up with population growth and new ideas which have been tested and found good, the funds allotted to the school building program need to be greatly increased.

Although the portion of the national budget allotted to social welfare is only a supplement to the individual states' budgets, I propose a sizeable increase in the national portion of welfare. This increase would be used for training those on welfare in skills of some kind, in order for them to be valuable enough to the labor market to become self-supporting. Only in this

way, that is by an immediate initial increase in funds allotted for welfare, can a sizeable portion of those now on welfare be eventually taken off.

The space program has been fortunate in being able to usually obtain the funds which it needs. Now, however, it too has begun to feel the bite of economy. At the present time an extreme increase in allocations for the space program is needed. Since an interval has passed after the first shock of finding ourselves behind in the space race, a complacent attitude has again begun to settle on those responsible for allocating funds. Let us not lose sight of the more important issues.

Urban renewal has been an oft repeated term with little constructively done about it. We have seen pilot programs demonstrating plans for urban renewal, but little done on a large scale. It is recognized that those presently living in slums and tenements have little likelihood of ever being able to leave them en masse. The proportion of Americans living in such places is a national disgrace. I propose putting the pilot programs into effect on a large scale, which necessitates an extreme increase in budget allocations for this purpose.

One area of the budget which has often been shunted aside in the race for funds is the weather bureau. Few people know how important a part the weather bureau has played in research of the upper atmosphere weather. Recently, it has become apparent that the turbulence in the upper atmosphere has been the cause of many plane crashes. Yet the weather bureau's research program is currently being financed with much less money than one jet air-liner! I maintain that a sizeable increase in budget is needed for weather research.

Communications Advocating Smaller Budget Allocations

Although aid to disaster areas is a part of the budget for which need cannot adequately be predicted, in the past, aid has been made indiscriminately available, even when other coverages, such as insurance would have covered losses. Thus, I propose a significant reduction in the proportion of aid given in the future from national funds.

One of the major farces which has taken budget money is aid to under-developed countries. The general mishandling of these funds and diversion into pockets for get rich quick schemes would have been laughable, were it not so serious. Instead of earning our country respect, it has become a source of ridicule. I am in favor of drastically reducing the amount of funds available for this purpose and in addition revamping the program to really bring benefit to the countries aided.

It has come to light recently that some of the activities of the CIA have consisted of more than just gathering intelligence information. These activities, (though they have been hurriedly hushed up) have had, and will have, far-reaching effects on foreign governments, unless they are curtailed. The aforementioned activities have been so secret that the senate sub-committee appointed to keep an eye on the CIA often does not know what it is up to until after the fact. I strongly recommend that the funds available to the CIA from the national budget be drastically cut, in order to be sure these "extracurricular" activities will cease.

Let me say before there is any misunderstanding that I am not against Civil Rights, but I am against the way federal funds are being used to effect integration. School funds and Civil Rights funds have gotten all mixed up together so that it is difficult to know where one begins and another ends. Withholding funds to schools is not my idea of effecting a peaceful and voluntary desegregation. I propose cutting the funds earmarked for Civil Rights and putting them back where they belong.

Another area in which the national government has become increasingly involved in the past few years is that of control of air pollution. This is a province which should never have come under the auspices of the national government. State governments should enact whatever laws are needed and hold private industries responsible for keeping these laws. The portion of the national budget now being spent in this area should be channeled to other purposes.

The same reasons which I have often given concerning the role of the national government in control of air pollution hold for lake pollution also. The national government should leave this affair to industry to put into action and to state governments for enforcement, thus freeing national funds for other uses.

The increasing influence of the FBI in the daily affairs of the citizens of our country has not been fully realized by most of the general public. Not many people know how much extralegal activity is involved in the very agency employed to find lawbreakers. Although this has been kept very quiet, many people have become increasingly concerned. I propose that one partial solution to this, is a severe reduction in the amount of funds given from the national budget to the FBI.

One of the greatest errors the government has made in recent years is jumping with both feet into the Head Start program without sufficient evidence that it will create better long-range performance of youngsters in school. I recommend cutting back the proportions allotted to this program to a minimum until a sample of projects has proved that the program can do what it is purported to be able to do.

The administration of funds for highway systems has been blatantly misused. New interstate systems have been built some places where no justification can be seen for years to come, while in other areas desperately needing new systems, no construction has been started. I suggest a drastic curtailment in national funds provided for this purpose, thus forcing a better administered program of dealing out these funds.

The Job Corps has been a fiasco from its start. The program has proved to be expensive, wasteful, and full of confusion. Furthermore, it is designed to be pro-big city and anti-rural. I propose that the program either be cancelled altogether or drastically reduced until it has proved its merits.

Another area in which the government has been much too involved is that of medical research. Medical research is far better left to private agencies. One of the major reasons for this is that there is less waste and much more efficiency in using funds when such things depend on private means.

It is my contention that a drastic reduction is needed in the portion of the budget which now goes to military pay. This does not involve a cut in pay to men in uniform, but rather a pay increase. By increasing the pay of all military men, thereby creating an incentive for making a career of

military service, the training costs of constantly adding new men could be greatly decreased. This would more than offset the increased pay, thus decreasing the total amount of budget now spent on military pay.

Spending for national defense should be extremely reduced. National defense has become a sort of by-word for money. No matter how little basis a request has for actually contributing to defense of our country, a hand-out is usually forthcoming. By effecting close cooperation between the different agencies concerned with national defense, much useless spending could be curtailed.

The national government has become involved in more and more issues which should be left to private and state means. One issue which should be left primarily to states is that of land for recreational purposes. I feel that the national government should reduce expenditures for national parks, thus allowing the states to take over this area.

The Peace Corps, in principle, sounds like a worthwhile cause. However, I question the wisdom of sending people to other countries to improve their lot while we have a great proportion of people here in the United States who still lack adequate education, skills, etc. to make even a subsistence level of living. How many of the people sent to other countries would be willing to do the same for unfortunate individuals here? It seems to me that many of these are cloaking their desire for travel under a worth-while disguise. Thus, I suggest that we spend a great deal less on the Peace Corps until we have come closer to solving our own problems.

I recommend a much more stringent control of funds allocated for research grants to universities. I am not saying research is bad, quite the contrary; however, the manner in which these funds are presently being used is often a farce. In effect, many researchers are operating a profitable parasite industry at the fringes of the government. It would be better for all concerned to severely limit the amount of funds available for research, thus in effect upgrading the type of research which is supported.

Funds given to the school building program have been snowballing in recent years. It seems that individual states have been asking for more and more monetary aid from the federal government in this area, but resent any limitations about how such money should be used. I submit that individual states should be providing more of the proportion of school building funds, thereby putting the cost on those who will use the facilities, and not burden areas needing fewer schools with the cost of paying for more schools in other areas. Thus, the national budget expenditure for school building programs should be greatly reduced.

One of the programs which seems to have never lacked for more than adequate funds is the school lunch and milk program. Granted that the original purpose of this program was a worthwhile one, it seems to me that it has gone overboard, when there are so many other areas desperately needing more funds. I have seen first hand the enormous waste of free food which has been engendered by this program. It would be much more practical to drastically reduce the funds allotted to this program, thus creating a much more economical use of this aid.

Our social welfare system of giving relief money for support in emergency situations has become a farce in many cases. In a recent investigation of welfare, it was found that a large proportion of those receiving checks enjoy a higher standard of living than was ever experienced while working. This situation gives no incentive for getting off welfare and becoming self-supporting. I feel that a substantial portion of the budget which goes to supplement state relief should be cut, thus forcing a more uniform system of welfare. This, in turn, would create more incentive for those on welfare to be self-supporting.

The space program has been eating up more and more of the national budget in the determination to be second to none in space exploration. I contend that although the space program is important, most of us will remain on earth for our entire lives. Thus, a sizeable reduction in the allocations for space exploration would result in more money being available for making life a little better for more people.

The National Teacher Corps is a domain from which the national government would do well to withdraw. More and more, in recent years, the government has become involved in school politics. This program seems to me to be one more step in eventually having the complete educational program of our country under the auspices of the federal government. I recommend a significant reduction in funds available for this purpose, thus putting the education of the children back where it belongs--in the hands of the states.

Urban renewal has been an oft repeated slogan. Expensive pilot programs have been put into effect to demonstrate the effectiveness of this slogan. It

is my contention that these pilot programs have proved nothing but their extreme costliness. Urban renewal should be started at the root of the problem, by decreasing unemployment and by better city planning rather than by costly national expenditures; thus I feel that a slash is called for in budget allocations for this purpose.

The arguments for staying in Viet Nam have been given as resistance to aggression, the containment of China, the containment of Communism, and the prestige of the United States. The first three have been systematically demolished a number of times by experts. The last is merely a face-saving device. I agree with the proposal that we should systematically put into effect a policy of disengagement. This, it follows, would bring about a drastic reduction in budget funds which could be put to better use in the domestic needs of our country.

APPENDIX D

ALOE-C Scale

DIRECTIONS. The questions on the following pages are to find out how people like you feel about certain things. There are no right or wrong answers. Some people will answer a question "Yes," while other people will answer the same questions "No". Your answer will depend on how you feel about the questions.

Please do not answer the questions in the way you feel that you should. Try to make an honest appraisal of the way you behave along these dimensions.

Read each question carefully; then if you think the answer should be "Yes" or mostly "Yes" for you, mark your answer on the answer sheet in the "Yes" column. If you think the answer should be "No" or mostly "No" for you, mark your answer on the answer sheet in the "No" column.

PLEASE ANSWER EVERY QUESTION.

ALOE SCALE

1. Is the best comparison for deciding if you're doing well the comparison you make with yourself?
2. Is it best to ask people other than you who does the best work?
3. When it comes to your own success, are you the one that is really the best judge?
4. Would you be able to make the right decisions in an elective office of an organization?
5. Is it difficult for you to tell if you've done a good job?
6. Would you rather not be the judge in a competition because it's hard to decide who's right?
7. Is it unimportant what others think about you and what you do?
8. Are other people better judges than you of the best players when everyone is engaged in the same recreation?
9. Do you feel that knowing if you've done well depends on what others think?
10. Is it difficult to tell if you've done poorly until you find out what others think?
11. Do you think staying out of trouble is easy if you just follow what others say to do?
12. Is it easy to decide who's right when you're a witness?
13. When there's an argument about the right thing to do, do you usually give in because the other people know best?
14. When you do something, do you find it hard to tell if it's right or wrong?
15. Do you have trouble making up your mind about the best thing to do?
16. Can you usually tell if you've done poorly without finding out what others think?
17. Do you think it's hard to get along without worrying about what others think?
18. Do you do what everyone else is doing because that's the best way to do what's right?

19. Do you usually make up your mind without asking someone first?
20. Would you rather have the other people help you decide what's best for you?
21. Others may not know, but do you feel you usually know the right thing to do?
22. Do you feel that talking about what's right only makes it hard to decide?
23. Do you feel you would rather depend on the others to decide what's best?
24. Can you usually rely on yourself to make the best decisions without help from others?

The following paragraphs concern some current controversial issues. Read each paragraph carefully. After each paragraph there are some statements concerning your feelings about the issue. Read each statement and circle the alternative following the statement which best expresses your agreement or disagreement with the statement.

Research is important to the accumulation of new knowledge in any field. This is no less true of psychology than of any other area. However, psychological research is somewhat different than most other research, in that in order to study human behavior, it often is necessary to study some aspect of behavior without the person or people under study being aware of exactly what is being studied. In other words, an experiment may be designed in order to give subjects one idea about what is being studied, while in reality something entirely different is under study. This deception has been thought to be necessary because humans, by the very fact that they are human and can engage in thought processes, can also in many cases foil investigations, if the purpose of the experiment is clear.

The use of deception in some psychological experiments has often been criticized. The following questions pertain to your attitudes toward the type of psychological research which employs deception as part of the procedure.

1. I feel that psychological research is of ultimate benefit to mankind.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.
2. I feel that deception in psychological research is necessary at times, in order to further knowledge in the area.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.

3. I feel that any deception used in connection with psychological research is an invasion of my privacy.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.
4. I value being able to help in the accumulation of knowledge by taking part in psychological experiments, no matter how much deception is involved.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.
5. I would support a movement to make it unlawful for any deception to be employed in psychological experimentation.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.

It is generally recognized that for a number of years in the United States, it has been the policy for news items concerning national and international events to be more or less censored by the government. There have been a number of reasons given for this "management of news", among which are, "what people don't know won't hurt them", endangerment of national security, and protection of agencies concerned with apprehension of law-breakers.

The following questions concern your feelings in regard to managed news.

1. I feel that it is to my best interests for the government to manage the news.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.
2. I feel that "managed news" is essential for our national security.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.
3. I place great value on being able to have access to all the facts, regardless of the so-called reasons given for managed news.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.
4. I would support a movement which has as its aim the abolishment of managed news.
strongly agree; agree; mildly agree; neutral;
mildly disagree; disagree; strongly disagree.

APPENDIX E

Raw Data

Algebraic Summations of Change Scores

Subjects	HP-I			HP-E			LP-I			LP-E		
	Involvement			Involvement			Involvement			Involvement		
	Total	Low	High	Total	Low	High	Total	Low	High	Total	Low	High
1	0	-1	1	5	1	4	2	0	2	4	-1	5
2	12	3	9	21	6	15	4	3	1	8	0	8
3	7	1	6	12	5	7	7	1	6	1	0	1
4	9	5	4	1	-1	2	12	5	7	7	2	5
5	6	4	2	3	0	3	14	4	10	5	1	4
6	6	3	3	11	3	8	4	3	1	9	2	7
7	4	1	3	15	3	12	1	2	-1	2	1	1
8	8	2	6	17	7	10	10	2	8	17	5	12
9	4	4	0	9	2	7	5	3	2	2	0	2
10	-2	-2	0	5	2	3	4	2	2	7	3	4
11	7	2	5	8	2	6	3	-1	4	11	5	6
12	10	1	9	16	7	9	8	3	5	2	-2	4
13	7	1	6	5	0	5	4	0	4	2	-2	4
14	8	5	3	10	3	7	7	2	5	8	3	5
15	2	2	0	6	1	5	16	10	6	5	2	3
16	4	2	2	11	3	8	2	0	2	5	2	3
17	15	4	11	5	0	5	18	7	11	9	2	7
18	10	4	6	7	0	7	1	1	0	1	0	1
19	3	2	1	5	-2	7	13	5	8	-4	-7	3
20	8	2	6	9	4	5	9	3	6	5	3	2
21	2	0	2	3	0	3	8	3	5	6	2	4

Raw Data

Average Change Scores for High Involvement Level
for all Groups (AOV I and AOV II)

Subjects	HP-I	HP-E	LP-I	LP-E	NP-I	NP-E
1	.67	1.00	1.67	1.33	.00	1.33
2	2.00	1.67	2.00	.67	.67	.67
3	.33	2.33	2.67	1.00	1.00	1.00
4	2.00	2.33	.00	.33	.33	1.00
5	3.67	1.67	3.67	2.33	1.00	1.00
6	.67	2.67	.67	1.00	1.33	.67
7	.00	1.67	2.00	1.00	-.33	.67
8	1.00	2.33	1.67	1.67	-.33	.00
9	2.00	1.67	1.33	1.33	2.67	.33
10	3.00	3.00	1.67	1.33	1.67	.67
11	1.67	2.00	1.33	2.00	.67	1.00
12	.00	1.00	.67	1.33	.67	.67
13	.00	2.33	.67	.67	1.00	-.33
14	2.00	3.33	2.67	4.00	.33	3.00
15	1.00	4.00	-.33	.33	.33	1.00
16	1.00	2.67	.33	2.33	3.33	1.33
17	.67	1.00	3.33	1.33	.33	1.00
18	1.33	.67	2.33	1.67	.67	.67
19	2.00	2.33	2.00	.33	.67	.33
20	3.00	5.00	.33	2.67	.00	.33
21	.33	1.33	.67	1.67	.67	.00

Raw Data

Average Change Scores for Low Involvement Level
for all Groups (AOV I)

Subjects	HP-I	HP-E	LP-I	LP-E	NP-I	NP-E
1	.67	.00	.33	1.00	.00	.33
2	.67	1.33	1.00	1.67	.33	-.67
3	.67	-.33	1.00	-2.33	.00	.00
4	.33	.33	1.00	.00	.00	-1.00
5	1.33	.33	1.33	1.67	.33	-1.33
6	1.33	.67	.33	.00	-.33	.00
7	.67	1.00	2.33	.67	-1.33	.67
8	1.67	1.00	-.33	.67	-.67	1.67
9	.33	-.33	-.33	-1.00	1.33	1.00
10	.00	2.00	.00	-.33	.33	.00
11	.67	.67	.00	1.67	.67	1.00
12	.33	.00	-.67	1.00	1.00	1.33
13	1.33	.33	1.00	.00	.33	1.33
14	.33	1.67	-.33	1.33	.33	-1.00
15	.00	1.00	.33	.33	-.33	-.33
16	1.00	1.00	1.00	.67	.33	.33
17	1.33	.00	1.33	.33	.00	.33
18	1.33	-.33	1.33	.67	.00	-.33
19	.00	.33	.00	.00	.00	-.67
20	.67	1.33	.67	.00	1.00	1.00
21	.00	.00	.00	-.33	-.33	.67

Raw Data

Average Change Scores for Low Involvement Level
for all Groups (AOV II)

Subjects	HP-I	HP-E	LP-I	LP-E	NP-I	NP-E
1	-2.00	.00	2.00	-1.00	.00	-.33
2	.00	.00	.00	-2.00	-.33	.67
3	.00	-1.00	2.00	.00	.00	.00
4	3.00	-1.00	-2.00	.00	.00	1.00
5	.00	-1.00	3.00	-3.00	-.33	1.33
6	-2.00	1.00	-1.00	2.00	.33	.00
7	.00	-2.00	3.00	.00	1.33	-.67
8	.00	.00	3.00	1.00	.67	-1.67
9	.00	1.00	1.00	1.00	-1.33	-1.00
10	1.00	1.00	3.00	-1.00	-.33	.00
11	.00	.00	-1.00	1.00	-.67	-1.00
12	-3.00	2.00	.00	.00	-1.00	-1.33
13	.00	1.00	.00	.00	-.33	-1.33
14	1.00	2.00	3.00	1.00	-.33	1.00
15	1.00	.00	1.00	.00	.33	.33
16	.00	.00	.00	.00	-.33	-.33
17	.00	.00	.00	.00	.00	-.33
18	1.00	.00	1.00	.00	.00	.33
19	1.00	4.00	1.00	.00	.00	.67
20	1.00	2.00	1.00	.00	-1.00	-1.00
21	-1.00	1.00	.00	.00	.33	-.67

ATTITUDE CHANGE AS A FUNCTION OF INTERNAL-EXTERNAL
CONTROL AND COMMUNICATOR STATUS

by

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Subjects representing two extremes of a personality dimension were used to examine possible differential reaction of these subjects in an attitude change situation to sources differing in attributed prestige. The personality dimension involved was that of internal-external control. Persons at one end of this continuum (externals) hold a generalized expectancy that forces outside themselves are primarily responsible for their reinforcements. Persons at the other extreme of the continuum (internals) hold the reverse generalized expectancy, i.e., they themselves are primarily responsible for the reinforcements they receive.

An attitude change situation was set up whereby communications were given to internal and external Ss concerning six items of the national budget which Ss had earlier ranked according to how much they thought the government should be spending for those items as compared to present spending. The communications were attributed to sources either high or low in prestige. It was hypothesized that external Ss would change more under conditions where communications were attributed to a high prestige source than they would when the attributed source was low in prestige. It was also hypothesized that externals would change more than internals when both were given a high prestige communication. No differences were predicted between internals and externals when both received low prestige communications. Likewise, no differences were predicted between the two groups of internals when one received a high prestige source and the other a low prestige source.

Using four groups of female subjects (21 in each group), support was found for the above hypotheses. Two control groups which received no communications consisting of 21 I's and 21 E's were later added which allowed the further determination that all experimental groups evidenced a change significantly greater than chance. Results from these comparisons indicated

that while internals did not appear to resist the attempts at persuasion, neither did the attributed source of the communications differentially affect their change. Instead, they appeared to evaluate the communications in terms of their own previously held opinions and on the basis of the content of the communication. Externals, on the other hand, appeared to be swayed more according to the prestige of the source, regardless of communication content.

A secondary hypothesis of the study concerned the involvement level of the six items. Three items were assumed to represent a high degree of involvement for Ss, and three were assumed to represent a lower degree of involvement. No differential predictions for I's and E's were made for these items, but it was predicted that all Ss would exhibit more change for low involvement items than they would for high involvement items. A highly significant effect was obtained which was opposite to that predicted. Consideration of three variables which might have contributed to this reversal were discussed.

(1) It is possible that the assumption of high involvement for three of the items was in error and that all items actually represented low involvement.

(2) The control groups' changes were also significantly greater for high involvement than for low involvement items, thus pointing to the likelihood that advocated communications were not primarily responsible for the effect. Instead the major part of the effect appeared to be due simply to the differential number of spaces available for re-rating so-called high involvement versus low involvement items.

(3) Two significant interactions suggested that some small degree of the significant involvement effect could have been accounted for by the advocated communications. This was discussed in the light of a discrepancy interpretation.