



1973

# The Effects of Source Credibility and Ego Involvement on Attitude Change Toward a Discrepant Communication Under Facilitative and Non-Facilitative Cognitive Response Expression Conditions: An Elaboration of the Evaluative Set Theory Approach

John A. Scileppi  
*Loyola University Chicago*

## Recommended Citation

Scileppi, John A., "The Effects of Source Credibility and Ego Involvement on Attitude Change Toward a Discrepant Communication Under Facilitative and Non-Facilitative Cognitive Response Expression Conditions: An Elaboration of the Evaluative Set Theory Approach" (1973). *Dissertations*. Paper 1424.  
[http://ecommons.luc.edu/luc\\_diss/1424](http://ecommons.luc.edu/luc_diss/1424)

This Dissertation is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Dissertations by an authorized administrator of Loyola eCommons. For more information, please contact [ecommons@luc.edu](mailto:ecommons@luc.edu).



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License](https://creativecommons.org/licenses/by-nc-nd/3.0/).  
Copyright © 1973 John A. Scileppi

The Effects of Source Credibility and Ego Involvement on  
Attitude Change Toward a Discrepant Communication Under  
Facilitative and Non-Facilitative Cognitive Response  
Expression Conditions: An Elaboration of the  
Evaluative Set Theory Approach

By

Brother John Scileppi

A Dissertation Submitted to the Faculty of the Graduate School  
of Loyola University of Chicago in Partial Fulfillment  
of the Requirements for the Degree of  
Doctor of Philosophy

February, 1973

## Life

Brother John A. Scileppi, F.M.S. was born in New York City, August 30, 1946. He graduated from Archbishop Molloy High School, New York City, in June, 1963. He received the degree of Bachelor of Arts, Magna cum Laude, in psychology from Marist College, Poughkeepsie, New York, in June, 1967.

The author began his graduate studies in September, 1967, and received the degree of Master of Arts in psychology from Loyola University of Chicago, in February, 1969. He took a leave of absence to pursue intensive religious study at the Marist Brothers Novitiate in Cold Spring, New York. He resumed his graduate studies at Loyola University in September, 1969, under a National Defense Education Act Title Four Fellowship. In September, 1971, he was appointed as Assistant Professor of Psychology, at Saint Xavier College, Chicago, Illinois.

## ACKNOWLEDGMENTS

The author wishes to express his gratitude to Dr. Homer H. Johnson, Dr. John D. Edwards, and Dr. Emil Posavac for their guidance, patience, and assistance throughout the execution of this study.

He is also grateful to Dr. Anthony G. Greenwald for his invaluable consultation in the early stages of this study.

TABLE OF CONTENTS

ACKNOWLEDGMENTS . . . . .	ii
LIST OF TABLES . . . . .	iv
LIST OF ILLUSTRATIONS . . . . .	v
Chapter	
I.    INTRODUCTION . . . . .	1
II.   METHOD . . . . .	25
III.  RESULTS . . . . .	41
IV.  DISCUSSION . . . . .	77
APPENDIX . . . . .	100
BIBLIOGRAPHY . . . . .	111

## LIST OF TABLES

Table	Page
1. Intercorrelations Among the Four Attitude Scales and the Combined Total Attitude Measure . . . . .	43
2. 2X2X2 Analyses of Variance of the Attitude Measures . . . . .	45
3. Summary of Means: Attitude Scales . . . . .	46
4. 2X2 Analysis of Variance of the Cognitive Response Ratings, and the Time Measure . . . . .	51
5. Summary of Means: Cognitive Response Ratings, Time and Recall . . . . .	52
6. Intercorrelations Among the Seven Source Evaluations . . . . .	55
7. 2X2X2 Analyses of Variance of the Source Evaluations . . . . .	57
8. Summary of Means: Source Evaluation Measures . . . . .	58
9. 2X2X2 Analysis of Variance of the Recall Measure . . . . .	61
10. Intercorrelations Among the Four Variables of Intensity, Importance, Involvement, and Tried Hard . . . . .	64
11. Summary of Means: Emotional Involvement . . . . .	65
12. Intercorrelations Among the Dependent Variables Grouped in Categories . . . . .	68

LIST OF ILLUSTRATIONS

Figure	Page
1. Total Attitude Measure . . . . .	47
2. Cognitive Response Favorability Ratings . . . . .	53

## Abstract

In this study, 190 college students received a persuasive communication under conditions of high or low source credibility and high or low ego involvement, in which Ss were permitted to overtly respond to the communication or not. This study, a replication of an earlier pilot study, was based on two approaches to attitude change: social judgment and cognitive response analysis of persuasion. The major hypotheses, designed to test critical evaluative sets, stated that less attitude change will occur (a) in the low rather than the high credible source (low credible source set), (b) in the high rather than low involvement (high involvement set), (c) in the high rather than low cognitive response (high cognitive response set), and (d) for the high involvement, high cognitive response condition, in the high rather than low credible source (high credible source as threat set). Results confirmed the existence of the high cognitive response set, but did not confirm the existence of the remaining three sets. Reasons for the failure to confirm these latter sets are discussed.



## CHAPTER I

### INTRODUCTION

This research is an attempt to demonstrate a previously never discussed phenomenon in the area of attitude change. The phenomenon, in my opinion, is a fairly common one in social situations. If a person is presented with a communication proposing a view opposite to his own, and if the communication is attributed to a highly reputable author, and if the person is provided the opportunity to offer rebuttal and feels personally involved in the debate, then the person may view the author as a threat, and he might present a stronger rebuttal as a result of these conditions, thereby reinforcing his previous position. The research is modeled after a similar situation in the realm of track and field sports. A runner will run to defeat his opponent. As his opponent is viewed as a serious threat to the runner's own competence, the runner will run faster to defeat him. The same situation would be present in a political debate, a discussion among colleagues, and perhaps in certain advertising situations.

This present study seeks to replicate and elaborate upon the results of an earlier pilot study (Scileppi, 1971) which explored the same phenomenon.

More specifically this paper is an attempt to investigate the process of attitude change and to determine the effects of three variables: source credibility, ego-involvement, and cognitive response expression facilitation and their interactions, on attitude change. The research was prepared in order to elaborate upon two major approaches to attitude change, the social judgment-perceptual set approach and the cognitive response analysis to persuasion. Each of these two orientations will be considered in succession, along with the variables relevant to these theories and to this research. Finally, the interaction of the three variables will be considered, in view of these two approaches, and the merits of a new concept, "the high credible source as threat" evaluative set will be discussed.

### The Social Judgment Approach

The social judgment approach, initiated by Sherif and Hovland (1961) is basically concerned with the manner in which an individual forms a reference scale with which to perceive and to judge a persuasive communication. The approach originated in the area of psychophysics and has been adopted by these and other social psychologists as a new perspective with which to study attitude formation and change. Sherif and Hovland's research involved the manner in which the individual perceived the degree of discrepancy between his own position on an issue and the position of a persuasive communication. These researchers maintained that a person would judge the communication by comparing it with some

anchor or frame of reference, and then determine whether the position advanced by the communication fell into his latitude of acceptance or into the range of his rejection. If the position of the communication fell into the former category, the individual assimilated the new position into his own, and attitude change toward the position of the communication occurred as a direct function of the degree of discrepancy. If the communication fell into the latter category, the individual rejected the new position, and perceived the communication as expressing a viewpoint more discrepant from his own position than it actually was. In this case, he would contrast his position with that of the communication, and if any attitude change occurred at all, it would be in the direction opposite that advocated by the communication, i.e., attitude change would be a decreasing function of the degree of discrepancy. A third alternative occurred if the communication fell into neither of these two categories. In this case, the individual perceived that the communication lay in his latitude of non-commitment and presumably would have no effect on his attitude.

### Ego Involvement

Sherif and his associates (Sherif and Hovland, 1961; Sherif and Sherif, 1967; Sherif, Sherif and Nebergal, 1965) found that certain variables affected the size of the latitudes of acceptance, rejection and non-commitment. One of the more important of these variables was ego involvement.

The definition of the term, attitudinal involvement, has been modified and altered often in the past twenty-five years. Sherif and Cantril (1947) were the first major authors to apply the term ego involvement to the study of attitudes. These researchers considered ego involvement to refer to any stimulus related by the person to himself. This definition included those attitudes with which the person identifies and makes part of himself, and which are incorporated into his self definition and become aspects of his frame of reference. Sherif and Cantril suggested that the degree of ego involvement determined how greatly an individual would "cling to" a particular attitude. Much of Sherif's later work on involvement concerned this "cling to" aspect of attitudes.

More recently, other researchers have attempted to divide ego involvement more precisely into its various components. A typical breakdown was offered independently by Freedman (1964) and Greenwald (1965). These researchers defined position involvement as interest in, or commitment to a particular position on an issue; that is adherence to a prior position or decision. Solution involvement, on the other hand, was defined by these authors as interest in an issue, without reference to a particular position, and the commitment to seeking a good solution to a problem. It could be argued that the two types of involvements are not basically distinct. Solution involvement could result from a positive self concept in which the individual feels motivated to

come to a good solution to a problem in order to maintain his image of himself as a critical evaluator and intelligent person. Such a situation could also be called position involvement, if one considers that the attitude issue in question is a person's self concept, and the position adhered to is a favorable self concept.

Furthermore, one would expect that the two types of involvement exist together, phenomenologically. Miller (1965) views ego involvement as a combination of four factors. In addition to position and solution involvement, Miller also lists social support and frequent rehearsal of arguments supporting one's position as indicative of attitudinal ego involvement. High involvement, according to Miller, implies that all factors are present. Thus Miller does not see position and solution involvement as occurring independently of each other.

Ostrom and Brock (1968) returned to Sherif and Cantril's (1947) broad definition of ego involvement as referring to the manner in which the individual identifies himself. These researchers have investigated the process relating attitudes and personally held values. In their model, Ostrom and Brock predicted that involvement was dependent on the number of values related to the attitude, the degree of relationship between the attitude and the value, and the centrality to the self concept of the value. Thus, emphasis has moved from isolating the types of involvement to considerations of the process by which an attitude becomes ego involving, and the results of involvement.

In the social judgment approach, as ego involvement increased, Sherif and his associates considered the person's own position would become the internal anchor from which the scales of reference were based, and that the internal anchor is more influential than external anchor standards in forming judgments. The main effects of ego involvement hypothesized by Sherif and Hovland (1961) were that involvement would tend to exaggerate both the assimilation and contrast effects, distorting the perceived position of the communication, and that the point on the continuum of attitude positions in which a shift from assimilation to contrast occurred would move closer to the individual's own position. Thus a highly involved person would have a wider latitude of rejection and a narrower latitude of acceptance than a less involved person. Later empirical results (Sherif & Sherif, 1967) led Sherif to conclude that the latitude of acceptance does not change but that high ego involvement causes the latitude of rejection to enlarge, making the latitude of non-commitment smaller.

The literature on involvement has shown some fairly consistent trends. Freedman (1964), using a concept formation task, found that more change in concept occurred under low involvement than under high involvement. Involvement according to Freedman, concerned the importance to the subject of an aspect of the experimental task, and the salience of that sub-task in determining intelligence level. A number of the other researchers supported the hypothesis of the social judgment approaches that low

involvement will cause more attitude changes than high involvement. Aiello (1967) found persuasibility was negatively correlated to involvement. Sereno (1968) using a belief-discrepant communication, found that although both the high involvement and low involvement groups did exhibit attitude change toward the communication, the attitude change of the low involvement group was significantly greater than that of the high involvement subjects. Rhine and Severance (1970), using an increase-in-tuition topic, found more attitude change occurred under low involvement than for high involvement. Atkins and Bieri (1968) in an experiment evaluating the effects of the levels of involvement on social judgment, found heightened involvement caused greater contrast effects, which cause less change, particularly in highly discrepant messages. McGinnies (1968) relates two experiments conducted in Taiwan and Japan which also support the hypothesis that more attitude change occurs under low ego-involvement than under high involvement.

Edwards and his associates (Edwards, 1970; Edwards & Ostrom, 1969, using research stemming from Ostrom and Brock's cognitive bonding model on a person perception topic, found that as the individual's attitude toward the stimulus person was bonded to more central values (i.e., as involvement increased), there was greater resistance to attitude change, thus supporting Sherif and Hovland's hypothesis.

One of the few experiments which did not confirm Sherif and Hovland's hypothesis was conducted by Miller (1965). In this

study, Miller manipulated involvement by stressing the importance of the issue, and by committing the subjects to distribute literature in support of the attitudes among other methods. Miller found no difference in the latitudes of acceptance and rejection caused by involvement, thus not confirming the involvement hypothesis. The vast body of literature, however, continues to support the hypothesis. Research conducted by the author (Johnson & Scileppi, 1969; Scileppi, 1971) involving both high school and college students has demonstrated that subjects in the high involvement condition showed significantly less attitude change than subjects in the low involvement condition.

The problem with much of the research which has been used as evidence supporting this thesis is that Sherif and many other researchers have used natural groups with different levels of involvement, and a variety of types of issues, both of which vary on many continua other than involvement, thus confounding the involvement variable. Johnson and Scileppi (1969) utilized a different method to manipulate involvement. These researchers varied the stated purpose of the research while retaining the communication concerning the same topic, with samples of subjects taken from the same population. In this study, high involvement was achieved by informing high school males that the purpose of the research, funded by a national foundation, concerned how well they as high school students could make mature, sound and intelligent judgments. Low involvement was produced by informing similar students that the purpose of the research was to



standardize some materials, and that the researchers were not interested in their opinions as such. In this way, only involvement is manipulated, and there is a smaller possibility that other factors are influencing these results.

In an unpublished study (Scileppi, 1971) used a similar method to manipulate ego involvement for college students. In this study, the high involvement treatment consisted of stating that the purpose of the study was to determine whether college students aged eighteen to twenty years were capable of evaluating material relevant to political issues as an indication of their qualifications to vote in national elections. The low involvement treatment was nearly identical to the earlier Johnson and Scileppi (1969) study.

Involvement was considered to be an important variable in the present study, both in terms of its relationship to the evaluative set theory and also because of the variable's potential interaction with the other two independent variables in the study. Also, high involvement was found to be of crucial importance in the earlier Scileppi (1971) pilot study in developing the situation in which the subject would feel motivated to compete against the author of the discrepant communication.

#### Source Credibility

Another variable discussed by Sherif and Sherif (1967) relevant to the social judgment approach is source credibility. Source credibility refers to the degree to which the subject

perceives the source as being knowledgeable on the issue and as being motivated to communicate his knowledge. Basically, source credibility involves expertise and trustworthiness (McGuire, 1968). The Sherifs have postulated that as the credibility and status of the source increase, the latitude of acceptance will increase and the latitude of rejection will decrease. Thus, attitude change in the direction of the source's position will be directly related to the source's credibility. This conclusion is by no means unique to the social judgment approach. Most theorists following a cognitive consistency approach or a learning-reinforcement approach have made the same hypothesis. Research has demonstrated this relationship starting from the earliest studies (Hovland & Weiss, 1952). Insko (1967), after reviewing all the relevant research, stated that this conclusion has been widely accepted, and that all that remains in question are the reasons for the relationship. More recently, however, the universality of this hypothesis has been questioned. A number of researchers have found that source effects attenuate or even disappear completely under certain conditions. Variables affecting and limiting source effects fall into two categories, communication factors and subject factors. Thus far, the first category has been noticeably less significant and less extensive than the latter. One example of a communication factor attenuating source effects is given by Goldberg (1970). He found that when the persuasive message was ambiguous, the usual source effects dropped out. The subject, according to Goldberg, has less motivation to

agree with a high credible source associated with an ambiguous communication.

Recently, a large body of literature has been compiled concerning the effects of subject factors which attenuate source effects on attitude change. Most of this literature concerns the area of inner directed versus other directed personalities or in Sherif and Hovland's terms and theories, individuals who have internal or external scales of reference. For example, Ritchie and Phares (1969) found that internally controlled subjects were less affected by high prestige sources than externally controlled subjects. In the same vein, Koslin, Stoops and Loh (1967) found that the more stable subjects were also less affected by the source than less stable subjects. Concerning other subject traits, Johnson, Torcivia and Poprick (1968) found that high authoritarian subjects were less affected by source credibility difference than low authoritarian subjects. Johnson and Torcivia (1968), in a similar experiment, found that the personality trait of nonacquiescence also decreases source credibility effects. Furthermore, cognitive states can be induced in subjects which will interact with source credibility in affecting attitude change. Sigall and Helmreich (1969) and Johnson, Izzett and Honig (1970), working from different theoretical approaches, found high irrelevant fear induced in subjects caused the differential source effects to disappear. :

Interaction of Involvement and Credibility  
and the Evaluative Set Model

Ego involvement is another factor which limits source credibility effects. Sherif and Sherif in a 1967 evaluation of the social judgment approach theorized that source effects will only occur under low ego involvement, since in this condition, the subject does not have an internal standard for evaluating an unfamiliar or neutral message which is not involving for him; however, under high ego involvement, the subject has less need for an external standard or anchor, as his internal anchor serves as his point of reference for making the judgment. This source by involvement interaction has been found often in the literature of the last four years, by a number of researchers working independently. In a direct test of Sherif's hypothesis, Sereno (1968) found that the high credible source had differential effects under low and high ego involvement. Under low involvement, the high source produced significantly more attitude change than under high ego involvement. Unfortunately, Sereno failed to include a low credible source in his experiment, so his results do not include all possibilities in this two way interaction. McGinnies (1968) reported the results of two 1965 experiments, one conducted in Taiwan and the other in Japan, concerning the issue of American involvement in Viet Nam. The Taiwan experiment demonstrated source and involvement main effects but no interaction, whereas in the Japanese experiment, there was a significant source by involvement interaction. In this latter experiment, the high

credible source produced significantly greater attitude change in the low involvement treatment than in any of the other three conditions. Furthermore, the differential source effects disappeared under high involvement. Rhine and Serverance (1970) found the same interaction effect. In this study, a significantly greater difference in attitude change due to source credibility under low involvement was found. Johnson and Scileppi (1969) also found the same effect. These latter researchers elaborated upon the basic social judgment theories by explaining these results in terms of an evaluation set model. They argued that source credibility creates an evaluative set with which the subject perceives the communication differentially. The high credible source predisposes the subject to accept the message less critically, whereas the low credible source influences the subject to perceive the message more critically and to reject the communication more readily. In the same study, Johnson and Scileppi suggest that ego involvement could be seen as producing a similar evaluative set. A subject who was led to perceive the issue as more important to himself would become more involved in his position and would tend to be more critical in his evaluation of a communication advocating a position discrepant from his own, than if he were less involved in the issue. Thus as a result of either of these critical evaluative sets, low source credibility or high involvement, an individual's latitude of acceptance will decrease, with less assimilation. More significantly, an individual's latitude of rejection would increase, with greater contrast effects

resulting. The effects of these two critical evaluative sets produce similar effects, and if either set is present, attitude change decreases. The Johnson and Scileppi (1969) study, as well as the McGinnies 1968 Japanese study, found that the source by involvement interaction was due primarily to the increase in attitude change of the high credible source-low involvement treatment, with the other three treatments producing mutually similar and smaller amounts of attitude change. This led Scileppi (1971) to suggest that these two critical evaluative sets are non-additive. Thus an all or nothing threshold effect exists. That is, if either of these two critical evaluative sets is present, less attitude change results, but the amount of attitude change is not further decreased by the presence of both sets. If the high involvement critical evaluative set is present, low source credibility will not decrease attitude change any further. Similarly, if the low source credibility critical evaluative set is present, high involvement will not further decrease attitude change. The explanation for this finding is not as yet understood. The present study seeks to shed some light on this question by including another variable, cognitive response expression facilitation, which under certain conditions may produce still a third critical evaluative set. More elaboration concerning the variable will be given later in the paper, but first it is appropriate to summarize the source and involvement variables.

Concerning the ego involvement variable, the source credibility variable and the source by involvement interaction, the

present study seeks to confirm the following hypotheses. Low involvement will result in more attitude change<sup>1</sup> than high involvement (Hypothesis One). In those treatments which are conducted in a manner similar to the vast majority of attitude change studies (i.e., low cognitive response expression facilitation conditions) there will appear a source by involvement interaction. Specifically, the effects of source credibility differences will occur only under low ego involvement conditions (Hypothesis Two). Finally, a main effect due to source will result in an attitude more favorable to the high source's position than to the low credible source (Hypothesis Three).

#### Cognitive Response to Persuasion

The second major aspect of the present study involves A. G. Greenwald's (1968) cognitive response to persuasion analysis of attitude change. By using this method to study the mediational cognitive processes involved in attitude change, a greater understanding of the processes proposed in the evaluative set theory may be gained. Basically, Greenwald reasons that when an

---

<sup>1</sup>In the remainder of this paper, the phrases "attitude change" and "attitude favorability to the source's position" will be used interchangeably. Attitude change is perhaps a less accurate term, as no attitude pretests were administered to the subjects. However, since the topic was fictitious, the subjects should not have developed an attitude prior to receiving the information in the test booklet. Also, the two control groups serve as a reasonable indication of the average subject's attitude change if one assumes that all subjects had attitudes similar to the control groups before the experimental manipulation was administered.

individual is exposed to a persuasive communication, he is motivated to reconcile the message with his existing knowledge, values and feelings, which are not actually present in the communication. He therefore rehearses his existing cognitive elements relevant to the message, which includes his initial attitude concerning the issue. The reading of a persuasive communication may actually recall to the person his own prior attitude, thus defeating the purpose of the communication. Thus an opposing communication could strengthen a person's own attitude because he is led to rehearse his own position and relearn that position better. Hovland, Lumsdaine and Sheffield (1949), and Kelman (1953) include the possibility that these cognitive rehearsals could act as interfering responses decreasing the learning or the acceptance of the persuasive communication which generated these responses.

Greenwald named the cognitive rehearsal the "cognitive response to persuasion." In his research, he has used these responses as independent variables in the study of attitude change. Thus, he has studied the relative effects on attitude change of both the persuasive communication and the cognitive responses to that communication. Greenwald included response or evaluative sets as one aspect of these cognitive responses. Response sets affect the subject's perception of the salience of particular cognitions in evaluating the persuasive communication. Greenwald further contends that the mere recall of the content of the persuasive communication bears little if any relationship with the attitude change, since the content of the message will only serve



as a stimulus, provoking the rehearsal of the person's previous attitudinal position. Thus a larger percentage of the variance involved in such attitude change research will depend on the subject's initial feelings about the issue and the degree to which he is motivated to rehearse his own position while attending to the persuasive communication than on the content of the persuasive communication itself. Greenwald (1968) cited an unpublished experiment by Love as supporting this conclusion. In Love's study, subjects were asked to read one communication advocating either that Puerto Rico become the 51st state or that the Secretary of State be elected by the people. Each of the communications was divided into three parts, with the main or theme sentence underlined in advance for each part. The subjects were asked to react to these statements. Later, they were asked to recall their cognitive reactions during the communication. Love tested each of these three variables (recall of communication, recall of self-generated responses, and the content of those responses) as predictors of attitude change. The results indicated that the actual content of the cognitive responses, and the recall of these self-generated responses correlated significantly greater with attitude change than the recall of the main points of the message. In most of Greenwald's work, an assumption is made that the subject is continually making cognitive responses to persuasive communications, and that asking a person to verbalize or write responses does not change the degree or intensity of the cognitive responses but represents only a change from covert to overt expression

(Greenwald, personal communication January 5, 1971). However, Scileppi (1971) found that requesting the subjects to write down responses facilitated their expression and increased their intensity. Those subjects involved in writing their cognitive responses demonstrated significantly less favorable attitudes toward the position advocated by the persuasive communication than the subjects not asked to express their cognitive responses.

The present paper views the cognitive response expression facilitation as a critical evaluative set, orienting the individual to rehearse and defend his initial position more than if he were asked merely to read the persuasive communication.<sup>1</sup> It is hypothesized that cognitive response expression facilitation (high cognitive response) will produce less attitude change than merely reading the communication (low cognitive response) (Hypothesis Four). It is also predicted that the degree of favorability to the source's position of the cognitive response statements in the high cognitive response conditions will be highly correlated with attitude change (Hypothesis Five).

Scileppi (1971) also found a tendency toward greater recall of the persuasive communication for the high cognitive response

---

<sup>1</sup>Considering cognitive response as a critical evaluative set is not opposed to the counterarguing research (cf. Deaux, 1969, Rodgers and Thistlethwaite, 1968). All that is implied by the present model is that encouraging the overt expression of one's thoughts on the message causes the individual to view the material more critically. Thus, a perceptual set is established. This evaluative set will cause more intense counterarguing to take place. The set is the predisposing factor, the more intense counterarguing represents the process which results.

groups than for the low cognitive response groups. Thus it would appear that by asking a subject to verbalize his responses to the communication, he considered the communication more seriously and pondered over it more closely. This lends more evidence to the view that cognitive response expression facilitation is a critical evaluative set model, and that through the request for verbalization, the individual structures his cognitive abilities for this task to a greater extent than if he were not asked to write his responses. Therefore, it is predicted that the amount of recall of the persuasive communication will be significantly greater in the high cognitive response treatment than for the low cognitive response treatment<sup>1</sup> (Hypothesis Six). As a corollary to the fourth and sixth hypotheses it is also predicted that there will be a significant negative correlation between the amount of recall and attitude change (Hypothesis Seven).<sup>2</sup>

---

<sup>1</sup>It is interesting to note that in the high cognitive response condition, although exposure to the persuasive communication may be longer, attitude change toward that communication is predicted to be less than the low cognitive response group.

<sup>2</sup>It should be emphasized at this point that all the above predictions concerning cognitive response and recall will occur only in situations in which the persuasive communication is discrepant from the subject's initial position on the issue. In order to achieve a standard initial opinion, each subject first read an objectively worded communication concerning an unfamiliar, fictitious issue, involving a large industrial company moving into a small town. The persuasive communication followed, written in a personalistic manner, and advocating a position contrary to that suggested by the more objective communication. As the second communication was advocating a position contrary to the objective communication, the cognitive responses to the persuasive communication were expected to be generally negative.

Another result of high cognitive response expression facilitation is that it tends to lower the subject's evaluation of the source. This finding was noted in the earlier Scilleppi (1971) study as a nonsignificant trend. It was inferred in that earlier work that as the subject develops his own cognitive responses to the source's argument, he devalues the author of those arguments. Subjects in the high cognitive response condition tend to rate the source as being less trustworthy, less intelligent and less competent than those subjects in the low cognitive response condition. Thus, in the present study, it was predicted that high cognitive response will result in lower source ratings than under the low cognitive response condition (Hypothesis Eight).

In summary, high cognitive response expression facilitation tends to produce greater recall of the persuasive communication but at the same time, it allows the subject to develop his own arguments better, and causes him to derogate the author of the persuasive communication. Although there is greater recall, the net effect of cognitive rehearsal and overt cognitive responding is to decrease attitude favorability toward the position advocated by the persuasive communication.

The cognitive responses serve a threefold role. First, the encouragement to respond overtly is an independent variable. Its presence or absence is predicted to produce an effect on attitude change. Secondly, the cognitive responses serve as mediator variables. By inspection of the cognitive responses, the process of attitude change, that is, the individual's acceptance or

rejection of the message, can be studied. Finally, the subject's rating of their own cognitive responses serves as a dependent variable, as they indicate the subject's final position on the issue.

#### High Credible Source as Threat Evaluative Set

The present study has been devised in order to show the roles of social judgment and cognitive response analysis approaches to attitude change. Both theories discuss evaluative sets; the social judgment theory explains the effect of set on attitude change, whereas the cognitive response approach sheds light on the method by which a set operates. It is proposed that, given a condition producing a critical evaluative set, less attitude change should result due to the lack of acceptance of the message. This lack of acceptance should be mediated through the subject's counterarguing against the message, which can be observed in the cognitive response ratings.

The present experiment is an attempt to confirm the existence of the source and involvement sets and also to confirm the existence of another critical evaluative set, as well as to explore the interaction of the three sets. In the condition in which the subject is highly involved in an issue, and therefore experiences a critical evaluative set toward a discrepant communication, he will counterargue as previously described. If the subject perceives that the discrepant message is a strong one due to its attribution to a highly credible source, he will perceive the source as more

threatening than the lower source and as a result, he will be motivated to defend his position, and he will counterargue more strongly and intensely against the message if given a chance to respond to the message. This follows analogously from the widely held belief that a man attempts to outpace his opponent and that a person will be motivated to fight more strongly against a more capable opponent rather than a weaker one. Since the message is the same in all conditions, increased counterarguing due to this set evaluation of the high credible source as threat should result in less attitude change than the low credible source, given that a critical evaluative set due to high involvement already exists. Thus in this condition, a mild source boomerang effect should result, which again reopens the question of the universality of Insko's conclusion that attitude change varies directly with source credibility. This effect will be lessened however but probably will not disappear, since the low credible source also produces a critical evaluative set. The Scileppi (1971) experiment, a pilot study of the present experiment, attempted to demonstrate the existence of this high source as threat critical evaluative set. In that study, the high credible source-high involvement high cognitive response treatment did produce less attitude change toward the position advocated by the communication than did the parallel low credible source treatment. The difference, however, was not significant. The present study has replicated the earlier study, but with some slight modification in an attempt to strengthen the intended manipulation and to demonstrate

the critical evaluative sets. The source identifications, the involvement manipulation, and the objective message prior to the persuasive communication were improved. The present study predicts that there will be less attitude change and less favorable cognitive response ratings in the high rather than the low credible source treatment under high involvement, high cognitive response condition due to the existence of a high credible source as threat critical evaluative set (Hypothesis Nine).

In summary, the present study makes the following predictions:

1. Low involvement in one's initial stand will result in more attitude change than high involvement.
2. The effects of source credibility will occur only under low involvement.
3. The high credible source will produce an attitude more favorable to the source's position than the low credible source.
4. High cognitive response will produce less attitude change than low cognitive response.
5. In the high cognitive response condition, the degree of favorability to the source's position of the cognitive response statements will be positively correlated with attitude change.
6. The amount of recall of the persuasive communication will be significantly greater for the high cognitive

response treatment than for the low cognitive response treatment.

7. There will be a significant negative correlation between the amount of recall and attitude change.
8. High cognitive response will result in less favorable source ratings than the low cognitive response condition.
9. There will be less attitude change and less favorable cognitive response ratings in the high rather than the low credible source treatment under the high cognitive response-high involvement condition, and not under other conditions.

Concerning the main dependent variable, attitude change, a three-way interaction is predicted in hypothesis nine, such that the high credible source will produce less attitude change than the low credible source under the high involvement, high cognitive response condition, but not under other conditions.

A two-way source by involvement interaction is predicted in hypothesis two such that the usual source credibility effects will occur only under low involvement, and not under high involvement.

Finally, main source effects are predicted in hypothesis three, main involvement effects are predicted in hypothesis one, and main cognitive response effects are predicted in hypothesis four.



## CHAPTER II

### METHOD

A hypothetical issue was chosen to test the experimental hypotheses. The issue involved a fictitious situation concerning a small, poor town deciding upon whether to allow a company to build a large factory in the town. An information-oriented, objective communication was presented to the subjects which emphasized the benefits the factory would bring to the townspeople. The subjects were then given a persuasive communication which emphasized the harm that the factory would do to the town. Thus the information in the first communication was intended to produce an attitude favorable to the factory's entry into the town, while the persuasive communication proposed a view discrepant from the first communication.

#### Subjects

The subjects were 190 male and female college students enrolled in introductory psychology classes at Loyola University of Chicago. Over 95% of the subjects were between the ages of eighteen and twenty years old. They received one hour's experimental credit for participation in this experiment. The subjects were not told the actual purpose of the experiment, and were

tested in small groups varying in size from two to fifteen people. The subjects were randomly assigned to experimental conditions with nineteen per cell.

### Design

A 2 x 2 x 2 design, with two levels of each of three variables (source credibility, ego involvement, and cognitive response) with two control groups was used in this experiment. All subjects in the eight experimental groups received a persuasive communication. This communication was attributed to a high or low credible source, and was given under either high or low ego involvement conditions. The subjects were either requested to write cognitive responses to the arguments presented in the communication or not. The design also included two control groups who received either one communication concerning an objective account of the situation in the town or two communications, the objective account and the persuasive communication. There were six categories of dependent variables: measures of attitude change, emotional involvement, cognitive response ratings, source evaluations, recall and time.

### Independent Variables

Ego involvement conditions.--On the second page of the test booklet, the subjects read a statement that was purported to be the purpose of the study. For the low ego involvement condition it was stated that the purpose was to standardize some of the materials in the test booklet for later research, and that the

experimenters were not interested in the subjects' opinions. The actual statement was as follows:

The purpose of this study is to standardize some of the study for use in later research. We are not particularly interested in your attitudes or opinions, but only to see if the materials can be used in later studies.

For the high involvement condition, the subjects were informed that the purpose of the study was to determine possible criteria for voting in national elections, and to see whether eighteen to twenty year olds are able to critically evaluate material and make sound and intelligent judgments concerning what they have read. The subjects in this condition were also told that the study was sponsored by a joint congressional committee studying the quality of voting. The high involvement manipulation was as follows:

The purpose of this study is to determine whether there are ways of differentiating good voters from bad voters in state and Federal elections. This particular study grew out of a recent controversy in Congress concerning possible differences in the manner of thinking between 18 to 20 year olds, and those 21 and over. This research, sponsored by the joint congressional committee on voter regulations and by several state legislatures, is being undertaken in selected colleges and universities throughout the country to study the problem, and to make recommendations concerning the establishment of meaningful criteria to evaluate the quality of voter judgment and behavior, to be used in the 1972 Presidential election. Specifically, this study is concerned with two questions: Are there meaningful differences in ability to weigh information between those individuals 18 to 20 years old and those 21 and over? Can college students critically evaluate material relevant to political issues, and make sound intelligent judgments concerning what they have read.

Cognitive response conditions.--On the second page, the subjects read the directions which contained this manipulation. The

low cognitive response expression condition group were instructed merely to read the arguments on the next page carefully.

The high facilitation cognitive response expression groups were instructed to read each argument carefully, and to express their thoughts, feelings and opinions on each argument immediately after reading them, on a lined sheet of paper which was provided. The actual directions were as follows:

On the next page you will find a blank sheet of paper. Detach this sheet and place it on the side of your desk. On the following page, you will find a list of arguments included in the letter by one of the town's residents. Please read each statement carefully, and immediately after reading each statement, write a response to that statement on the blank sheet on the space provided. Include all your thoughts and feelings on the statement. Write as much as you want, but express only one idea in each sentence you write.

Source credibility condition.--Also on the second page of the booklet, the subjects were given short descriptions of the high or low credible source. The high credible source was described as an intelligent, respected, very active and publicly-minded life-long resident of the town, while the low credible source was described as an ordinary middle-aged man who moved to the town less than six months ago and had not yet made many friendships in town. The high credible source was described in the test booklet as follows:

The following letter was written by one of the leading citizens of the town, a very respected and intelligent person who has performed a number of public services in the town throughout his lifetime. He has been an influential member of many of the town's civic organizations, and the general feeling in the town is that he is a trustworthy and an honorable man. This prominent resident has spoken out on the

major issues affecting the town's future on many occasions in the past.

The low credible source was described as follows:

The following letter was written by a middle-aged man, one of the few people to move into the town recently (within the last six months, according to his letter). This man left his former residence in another state after he had run unsuccessfully for a small public office. He stated that he had few supporters there, as others did not understand him and apparently did not place much trust and confidence in him. Although having made few friends in his present town as yet, he claims to understand the feelings of the town.

Both source biographies ended with the statement that the author "was definitely against the company moving into the town, due to the reasons mentioned (and printed below)."

### Dependent Variables

The five main groups of dependent measures used in this study included attitude scales, measures of emotional involvement, cognitive response ratings, source evaluation scales, and measures of recall. The particular measures used are described in further detail later on in this paper.

Attitude.--There were four Likert attitude scales which were combined to yield a total attitude measure. These attitude scales concerned the subject's attitude toward the company moving into the town.

Emotional involvement.--There were four measures of emotional involvement. The first three were similar in nature and were combined to form a general emotional involvement measure. These included ratings of intensity of feeling, importance of the issue,

and involvement in the issue. The fourth measure of emotional involvement concerned the subject's perception of the amount of effort he made in the experiment.

Cognitive responses.--The cognitive response ratings involved the subject judging the degree to which his ten cognitive responses were favorable to the persuasive communication. The subject was instructed to rate each response on a five point scale.

Source evaluation.--There were seven source evaluation ratings covering the subject's perception of the source's trustworthiness, intelligence, competence, social activity, "threateningness," intent to persuade, and the source's position on the issue. The first three measures, trustworthiness, intelligence and competence, were measures of source credibility as defined by McGuire (1968), and were therefore combined into one measure.

Recall.--Recall was measured by instructing the subject to write down as many arguments included in the persuasive communication as he could. In addition, four fill-in-the-blank type questions were included, which involved material present in the first objective communication.

A measure of the time taken to complete the cognitive responses was also included in the study, although this measure was not, strictly speaking, a dependent variable relevant to the experimental hypothesis, but was included for future research.

Procedure

The test booklets were "shuffled" to insure random assignment of the subjects to treatments, and placed face down on students desks in an average sized classroom. One desk was left empty between every two desks with booklets, in order to discourage any student interaction. The students were then admitted to the room and were permitted to take any unoccupied desk with a test booklet on it. They were instructed not to turn over the booklet until they were told to do so by the experimenter. When all the subjects were seated, the experimenter explained to the subjects that they would be asked to read the material in the booklets and to answer all the questions present in the booklet. Since both the high and low cognitive response conditions as well as the control groups were present in the same room, subjects were informed that there were several forms of the experiment going on at the same time, and that some students would be asked to do different things. Subjects were informed that if they completed their own form of the test earlier than others, they should remain seated and quiet in order to allow other students to finish their forms. Also, in order to obtain a time factor for the high cognitive response condition, a black check mark was placed on the eighth page of the booklet for these groups. The subjects were told to raise their hands when and if they came across the check mark, and the experimenter would give these subjects further instructions at that time. This allowed the researchers to note the time required for the subjects to give their cognitive response to the

persuasive communication, and as the cognitive response sheets were collected at this time, the subjects could not use this sheet for responding to the recall questions asked later. All subjects were told that they were to read each page in the booklet in succession, and that once a page was completed, they were not to turn back to that page, but always to move forward. The experimenter told the subjects to turn the booklets over and begin, and he then took a desk in the back of the classroom and observed the subjects. When the experimenter observed that all subjects had completed the booklet, he collected the forms, and he thanked them all for participating in the experiment and proceeded to explain the true purpose of the experiment and the particular variables that were operating in the study. The actual hypotheses were not stated. The subjects were allowed to ask questions and to discuss the experiment with the researcher. The subjects were then informed of the reasons why all information concerning the study should not be revealed to other students, and the subjects were urged to keep this information in confidence until May, 1971. No student admitted to having heard about the study before, although they had opportunity to do so without fear of penalty.

### Materials

The materials consisted of a test booklet. A complete copy of the test booklet appears in the Appendix. On the cover sheet of the test booklet appeared a 250 word, objective, two-sided account of a situation involving a small, poor town with a



decreasing population which had been approached by a large company which wished to build a factory and a research center in the town. This account was given so as to give all the subjects a similar initial attitude on the topic, generally in favor of the company entering the town.

The second page consisted of experimental manipulations, as described above. There were eight variations of this paper fulfilling the 2 x 2 x 2 design.

The third page consisted of the communicator's listing of ten arguments advocating that the company should not be permitted to move into the town. These arguments were advocating a position discrepant with the communication presented on the cover sheet. These arguments covered such areas as pollution, crime, the town's style of life and its future, traffic, outsiders moving in, conservation of wildlife and natural resources. These arguments, the persuasive communication, were the same for all eight experimental treatments. One of the two control groups received this communication in their test booklet.

The high cognitive response condition had a lined page following the third page upon which the subject's cognitive responses were to be written.

The following pages consisted of scales and questions comprising dependent measures. The first of these pages included four statements with instructions stating that the subject should indicate his own personal opinion concerning the statement's truth on a 15 point Likert scale. The first two questions concerned the

subject's attitude towards the company moving into the town, the other two questions centered on the subject's intensity and involvement concerning the issue. The first attitude scale stated "I fully encourage the town council to grant the company its request to move into the town." This statement was intended to give a direct measure of the subject's personal attitude on the specific issue. This scale was used in an earlier study (Scileppi, 1971) and was found to correlate highly with the total attitude and with other attitude scales. The second attitude measure stated "The problems the company will cause in the town are very great." This scale was a less direct measure of attitudes, and, although positively correlated to the first measure,<sup>1</sup> in the earlier study, it tapped a slightly different source of variance. In this case, the subject had to give a more cognitive opinion, with less affective significance, whereas the first statement was more affective and behavioral. The second statement did not force the subject to take a position on the general issue; whereas the first did require the subject to make a stand.

The third scale concerned the degree to which the subject perceived his feelings on the issue to be intense. The scale stated "My feelings on the issue are very intense." This scale was intended to shed light on the processes involved in

---

<sup>1</sup>The direction of the second scale was opposite that of the other three scales in order to serve as a check on response bias. In the computations, the scores of the second measure were inverted so as to conform to the remaining attitude scales. All correlations involving this measure refer to the inverted scores.

attitude change. It was hypothesized that the manipulations such as high involvement, would produce the critical evaluative sets in the subjects, and that the presence of these evaluative sets would heighten the intensity of the subject's feelings. In the absence of physiological measures, it was hoped that a scale concerning intensity of feeling would tap such a process. In an earlier pilot study, higher ratings of intensity were recorded in treatments which involved critical evaluative sets, particularly in the treatment involving the high credible source as threat evaluative set.

The fourth sentence on this page stated "I feel my position on this issue is very important to me." This statement was addressed to the same source of variance as the third scale, and was included as an additional measure which should correlate with the statement on intensity of feeling. This scale had not been used previously.

On the next page, for the high cognitive response groups only, instructions were given to the subjects to rate their cognitive response in terms of the degree to which each response was favorable to the position advocated by the persuasive communication on a +2 to -2 scale. This method of self rating, according to Greenwald (1968), has been highly reliable and consistent with other judge's ratings, and is a very feasible method of rating subjective cognitive responses. In the pilot study, a slightly altered form of the self rating scale was found to be highly correlated to attitude scores, an indication of its validity.

The subjects were requested to place their rating index number to the left of each cognitive response.

The next page for all subjects included three more statements in which the subjects were requested to express their personal opinion. The first scale concerned "What do you think of the company moving into the town?" This statement, on a 15 point favorable-unfavorable scale, was considered a more affective measure of the subject's attitude on the entire issue. As an evaluative measure, it was meant to tap a similar source of variation as the first attitude scale. This statement was introduced in the present study, and was expected to correlate highly with the first attitude scale.

The second statement on the same page concerned the subject's degree of involvement in the issue. This scale measured a dimension similar to the intensity and importance scales, and was used as a third measure tapping the same source of variance in order to observe the factor from a number of perspectives, and measure the factor more reliably. This dependent variable, the degree of involvement, was chosen for a second reason, namely, to aid in determining the validity of the involvement manipulation.

The last question on this page asked "If you were a resident of the town, how would you view the company's request to enter the town?" The subjects were asked to respond on a 15 point scale where 1 referred to "having all bad points" and 15, "having all good points." This attitude scale required the subject to take the perspective of a resident of the town to make an evaluative

judgment as a person whose future would be affected by the outcome of the issue. Thus this attitude scale, while tapping the same general attitude dimensions as the other attitude scales, also included a unique aspect, involving the assumption by the subject of the role of an interested person actually concerned with the issue.

The next page consisted of two categories of questions. The first category, consisting of four questions, centered on the subject's ability to recall the main theme of the objective introductory communication, and of the involvement manipulation. These questions concerned the economic status of the town, the amount of population decrease in the preceding two years, the method by which the town council chose to resolve the issue, and the stated purpose of the experiment. The first three were considered useful in determining whether a subject read the cover sheet, and had an understanding of the material relevant to the study. Correct responses would insure that the subjects grasped the town's plight, and understood the reason why the town resident wrote the persuasive communication. The fourth question centered on the subject's understanding and recall of the involvement manipulation. A correct response, differentiating high from low involvement, indicated that the subjects at least were capable of forming the high involvement critical evaluative set in the appropriate condition. These four questions, with minor variations, were used in the pilot study. Over 90% of the subjects in that study responded appropriately to all four questions.

The second category of questions consisted of seven 9 point bipolar scales concerned with the subject's perception of source attributes. Three of these scales measured more traditional source attributes such as trustworthiness, intelligence and competence. The other four dealt with the subject's evaluation of the source's position in this issue, his intent to persuade, the degree to which the source was active in the town, and the degree to which the source appeared to be threatening. These scales served a number of purposes. First, they were manipulation checks on the source variable. Second, they indicated possible source derogation due to the effects of the other two independent variables. Certain individual scales were included in order to test specific characteristics. It was hoped, for example, that the existence of a "high credible source as threat" evaluative set could be demonstrated by the bipolar scale concerning the attribution of "threateningness" to the source by the subject. The scale concerning the source's position on the issue was devised as a means of determining the degree to which assimilation or contrast effects were present in the subjects.

On the next page, the subjects were instructed to recall as many of the arguments written by the town's residents as they could. The page consisted of these instructions and fifteen blank lines which was considered sufficient space to write the full ten arguments. This task indicated the amount of recall of the persuasive communication.

The final page of the experimental booklet was designed to provide further data on the student's interest and involvement level and also to complete the experiment. The subjects were asked to indicate how "hard" they tried on a 15 point scale. This scale was intentionally located after the subjects believed the experiment was completed and was worded so as to incorporate the subject's feelings throughout the experiment, rather than how they felt about the particular position or issue. It was considered that this scale would give an indirect measure of their interest and involvement, and that the measure should correlate with the three similar measures previously described (involvement, intensity, importance).<sup>1</sup>

---

<sup>1</sup>These four measures, and the scales measuring the attribution to the source of the quality of threatening, were included in order to delve into the process of attitude change. These measures were intended to give an indication of the success of the experimental manipulations, and to show more directly the process relating the dependent measures to the independent variables. This was judged to be a better method than merely using the existence of the attitude change to confirm the existence of some hypothetical construct or intervening variable. The present practice is necessary according to Singer (1966) in assessing the motivational outcome of the independent variables. Alternative intervening variables, representing different processes of attitude change may be present, and may happen to have the same effects for the conditions tested as the hypothesized process. What is needed, according to Singer, is some direct checks on the process. Thus in order for the hypothesized critical evaluative sets of the present study to be confirmed, more than attitude change is required. The materials involved in this study attempted to include direct measures of the evaluative sets. It should also be understood, however, that it is impossible to devise any checks on the validity of the measures used, apart from face validity. Thus although some of these scales were used previously in the earlier pilot study, and found to be somewhat successful, negative or non-confirmatory results of these measures do not necessarily indicate the non-existence of the hypothesized process, but the inadequacy of the measures to tap or reflect that process.

The other aspects of this final page included a promise of silence, and a question devised to allow the student to explain any previous information about the experiment. Also, the subjects were asked if they felt they were mistreated in any way by the experimenter or as a result of particular aspects of the experimenter or as a result of particular aspects of the experiment. The subjects then gave their name, age and year in college for reference purposes.



## CHAPTER III

### RESULTS

In this chapter, the results of the experiment are discussed in the following sequence. First, the methods used in analyzing the data will be discussed briefly. Then the dependent measures in relation to the experimental hypotheses will be elaborated upon. The results of the manipulation checks will be mentioned, and finally, other results; that is significant intercorrelations among the dependent measures, and significant interactions found in the dependent measures which were not predicted in the experimental hypotheses, will be discussed and elaborated upon.

#### Analysis

To test the various hypotheses of the study, the following statistics were utilized: (a) the analysis of the variance F ratio was used for each of the eighteen dependent variables (four attitude scales, four involvement measures, seven source evaluations and, for the high cognitive response groups only, one measure of time and one cognitive response rating). The eight experimental treatments (or in the case of the cognitive response and time measures, the four experimental treatments) were compared for each dependent measure, and main effects, two way and three

way interactions among the three independent variables were examined in terms of the experimental hypothesis. (b) Since the design also included two control groups, the Dunnett test (Edwards, 1968) was used to compare the control groups with each of the experimental groups for each of the eighteen dependent measures.

(c) The Duncan New Multiple Range test (Edwards, 1968) was used to determine the significance of the difference of the means among the eight experimental treatments for each dependent measure.

(d) The Pearson product moment correlation was also used to compare dependent variables measuring similar factors and for determining various intercorrelations. Due to the large number of correlations obtained and the possibility of probability loading, it was considered necessary to determine levels of significance from tables which took the number of the variables into account. Such tables are found in Guilford (1965, pp. 580-81). Finally the .05 level of significance was chosen as the standard by which to accept or reject the null hypothesis of this study. However, those comparisons of dependent variables or treatments which reached the .10 level were reported as tendencies and for informational purposes.

### Attitude Change

Hypotheses One, Two, Three, Four, and Nine are primarily concerned with the main dependent variable, attitude change. The measures making up this variable will be discussed, and then the relationship between these measures and the relevant hypotheses.

The four attitude measures were intercorrelated. The Pearson Product Moment Correlation Coefficients for the four attitude scales appear in Table 1. Each intercorrelation reached the .05

TABLE 1

INTERCORRELATIONS AMONG THE FOUR ATTITUDE SCALES  
AND THE COMBINED TOTAL ATTITUDE MEASURE<sup>a</sup>

	Attitude Measures				Total
	1	2 <sup>b</sup>	3	4	
1		.26	.62	.55	.80
2			.44	.33	.68
3				.60	.86
4					.75

<sup>a</sup> $n = 152$   
 $p < .01$ ,  $r = .27$  (from Guilford (1965), for 150 df, four variables)

<sup>b</sup>The values of the second attitude measure are reversed to conform to the direction of the other three measures.

level of significance, and all but one correlation, that between the first and second attitude scale reached the .01 level. This implies that there was a significant degree of overlap among the four measures. The range of correlation coefficients varied from .26 for the first and second attitudes to .61 for the first and third scales. Due to these high positive and significant intercorrelations, the four attitude scales were combined into a total attitude score by summing across the four scales.

The 2X2X2 analyses of variance were computed for the total and for the four separate attitude scales, and the results are given in Table 2.

The first hypothesis predicted that low involvement would result in more attitude change than high involvement. As can be seen in Table 2, the  $F$  ratios for the separate attitude measures and for the total attitude combined measure were below or near unity. This indicates that none of the relevant differences were significant, and that the hypothesis was not confirmed. There was no significant main effect due to involvement.

The mean attitude change of the treatments of the four separate attitude scales and of the combined measure (shown in Table 3) however, demonstrate that under low cognitive response, the high involvement treatments were generally lower than the parallel treatments under low involvement. The same trend did not occur under the high cognitive response condition, suggesting a potential involvement by cognitive response interaction. Table 2 shows that this interaction approached significance in the first, third, and fourth measures. Thus, hypothesis one was not confirmed by the present study. High cognitive responding caused the usual involvement effect to disappear.

Hypothesis two predicted that source credibility effects would appear only under low involvement. Thus a source by involvement interaction was expected. The  $F$  ratio for this interaction was less than unity for all attitude measures. There was a slight tendency for the differences between parallel treatment

TABLE 2

## 2X2X2 ANALYSES OF VARIANCE OF THE ATTITUDE MEASURES

Source of Variation	df	Attitude #1		Attitude #2		Attitude #3		Attitude #4		Total Attit.	
		MS	F	MS	F	MS	F	MS	F	MS	F
Involvement (A)	1	4.8		10.0	1.1	6.7		.6		81.1	1.2
Cognitive (B) Response	1	75.3	8.3 <sup>a</sup>	5.9		55.7	7.3 <sup>a</sup>	18.5	4.4 <sup>b</sup>	519.5	7.6 <sup>a</sup>
Source (C) Credibility	1	1.9		7.6		3.7		.2		11.1	
A X B	1	24.5	2.7 <sup>c</sup>	.2		19.2	2.5	19.9	4.7 <sup>b</sup>	174.8	2.6
A X C	1	.6		.2		.6		.6		.8	
B X C	1	44.1	4.5 <sup>b</sup>	23.7	2.6	.9		7.1	1.6	210.5	3.1 <sup>c</sup>
A X B X C	1	4.1		3.7		.9		1.1		5.5	
Within	144	9.9		9.2		7.6		4.2		68.4	

<sup>a</sup><sub>p</sub> < .01, df = 1/144

<sup>b</sup><sub>p</sub> < .05, df = 1/144

<sup>c</sup><sub>p</sub> < .10, df = 1/144

## Notes:

Only F's greater than unity have been reported.  
N = 152, with 19 Ss per cell.

TABLE 3

## SUMMARY OF MEANS: ATTITUDE SCALES

Treatments	Attitude Measures				
	1	2	3	4	Combined
High Cognitive Response					
Hi Inv Hi Cr So.	4.53	6.47	4.00	6.42	21.42
Hi Inv Lo Cr So.	4.05	5.89	3.32	5.79	19.05
Lo Inv Hi Cr So.	4.42	7.84	3.42	5.58	21.26
Lo Inv Lo Cr So.	3.26	6.01	3.32	5.21	17.84
Low Cognitive Response					
Hi Inv Hi Cr So.	4.42	6.53	4.26	5.79	21.00
Hi Inv Lo Cr So.	5.37	6.79	4.05	6.37	22.58
Lo Inv Hi Cr So.	5.26	6.95	5.42	6.74	24.37
Lo Inv Lo Cr So.	6.84	7.53	5.16	6.89	26.42
Control Groups					
One Message	3.32	6.38	3.89	5.17	18.56
Two Messages	5.94	9.04	5.50	7.00	27.52

## Note:

The higher the mean, the greater the attitude favorability to the source's position.

means of the combined measure to increase under low involvement relative to high involvement. This tendency was not significant. A graphic illustration of the treatment mean attitude change of the total attitude measure showing the extent of this tendency appears in Figure 1. The present study therefore failed to confirm the second hypothesis.

Attitude  
More  
Favorable  
to Source's  
Position

27.5

Two Message Control

26

Attitude Favorability

23

Lo So., Lo Cog.  
Resp.

Hi So., Hi Cog.  
Resp.

Hi So., Lo Cog.  
Resp.

20

Lo So., Hi Cog.  
Resp.

One Message Control

Attitude  
Less  
Favorable  
to Source's  
Position

17

Low  
Involvement

High  
Involvement

Fig. 1.--Total Attitude Measure

The third hypothesis predicted that the high credible source will result in an attitude more favorable to the source's position than the low credible source. Thus a main effect was predicted. In Table 2, the  $F$  ratio for this effect was less than one for all attitude measures, and therefore non-significant. The treatment means in Table 3 show that the high credible source produced more attitude change than the low credible source for parallel treatments in the high cognitive response condition, but not for the low cognitive response condition. In the low cognitive response condition, the low source tended to produce more attitude change than the high credible source for parallel treatments. This unusual set of findings will be discussed in the next chapter. At any rate, since there was no main source effect, hypothesis three was not confirmed in the present study.

Hypothesis four predicted that less attitude change would occur in the high cognitive response condition rather than the low cognitive response condition. A main effect due to the cognitive response expression facilitation was expected. A significant main effect due to the cognitive response was found for the total attitude measure ( $F = 7.60$ ,  $df = 1/144$ ;  $p < .01$ ). Significant main effects for this variable were also found for the first, third and fourth attitude measures. By inspection of the means (Table 3) the high cognitive response groups had less favorable attitudes (to the source's position) than the means of low cognitive response groups for parallel treatments. The Duncan New Multiple Range Test (DNMRT) demonstrated that one set of parallel means



accounted for much of the significance of the differences. This test indicated that the low credible source, low involvement, low cognitive response treatment had significantly greater attitude change ( $p < .01$ ) than did the low credible source, low involvement high cognitive response group. As can be seen in Figure 1, the differences between nearly every other set of parallel means for the total attitude measure were in the predicted direction; however, none was significant. Thus, hypothesis four was confirmed in the present study. High cognitive response did produce significantly less attitude change than low cognitive response.

The next hypothesis dealing specifically with attitude change was hypothesis nine. It was predicted that less attitude change would occur in the high rather than the low credible source treatment under the high involvement, high cognitive response condition, and not under any other condition. It was expected that a three way interaction would occur if this hypothesis had been confirmed. From the analysis of variance results of Table 2, this interaction was not significant. Also, by inspection of the means in Table 3, the mean attitude change for the high credible source in the critical condition was actually larger in magnitude than the attitude change for the low credible source in the same condition. This finding was in a direction contrary to the prediction of hypothesis nine. The tendency existed however for all the attitude measures. Thus hypothesis nine was not confirmed by the present study. This finding is significant since the confirmation of this hypothesis would have demonstrated the existence of the high

credible source as threat critical evaluative set. A more complete discussion of this finding will be given in the next chapter.

### Cognitive Response Favorability Ratings

The cognitive response dependent variable was included in the predictions of hypothesis nine, and the relationship between the cognitive response measure and attitude change was relevant to hypothesis five. Hypothesis nine predicted that the high credible source high involvement treatment would result in less favorable cognitive responses than the low credible source, high involvement treatment. Since the cognitive response ratings involved only the high cognitive response condition, a 2X2 analysis of variance was performed on the data. The results of this analysis appear in Table 4. A source by involvement interaction was predicted in hypothesis nine. This interaction was significant ( $F = 4.87$ ,  $df = 1/72$ ,  $p < .05$ ). By inspection of the means found in Table 5, and by inspection of the graph of the cognitive response ratings found in Figure 2, the direction of the interaction was contrary to the prediction. A DNMRT was performed on the cognitive response favorability ratings. The difference between the means of the high and low credible source under high involvement was not significant, but the difference between the means of the two source treatments under low involvement was significant at the .05 level. That is the low credible source, low involvement treatment produced significantly more favorable cognitive response ratings than the high credible source, low involvement group. This also

TABLE 4

2X2 ANALYSIS OF VARIANCE OF THE COGNITIVE  
RESPONSE RATINGS, AND THE TIME MEASURE

Source of Variation	<u>df</u>	Cognitive Response		Time	
		<u>MS</u>	<u>F</u>	<u>MS</u>	<u>F</u>
Involvement (A)	1	18.0		62.6	2.27
Source (B)	1	11.1		42.8	1.54
A X B	1	156.3	4.87 <sup>a</sup>	12.6	
Within	72	32.1		27.6	

<sup>a</sup><sub>p</sub> < .05, df = 1/72

## Notes:

Only  $\frac{F}{2}$ 's greater than unity have been reported.  
n = 76

TABLE 5  
 SUMMARY OF MEANS: COGNITIVE RESPONSE  
 RATINGS, TIME<sup>a</sup> AND RECALL

Treatment	Cogn. Resp. <sup>b</sup>	Time	Recall
High Cognitive Response			
Hi Inv Hi Cr So.	14.21	24.63	7.89
Hi Inv Lo Cr So.	12.11	25.32	8.00
Lo Inv Hi Cr So.	10.37	22.00	8.32
Lo Inv Lo Cr So.	14.00	24.32	8.32
Low Cognitive Response			
Hi Inv Hi Cr So.			7.05
Hi Inv Lo Cr So.			6.63
Lo Inv Hi Cr So.			6.31
Lo Inv Lo Cr So.			6.11
Control Group			
Two Message			5.44

<sup>a</sup>Cognitive response and Time measures given to High Cognitive response groups only.

<sup>b</sup>High score indicates agreement with the persuasive communication.

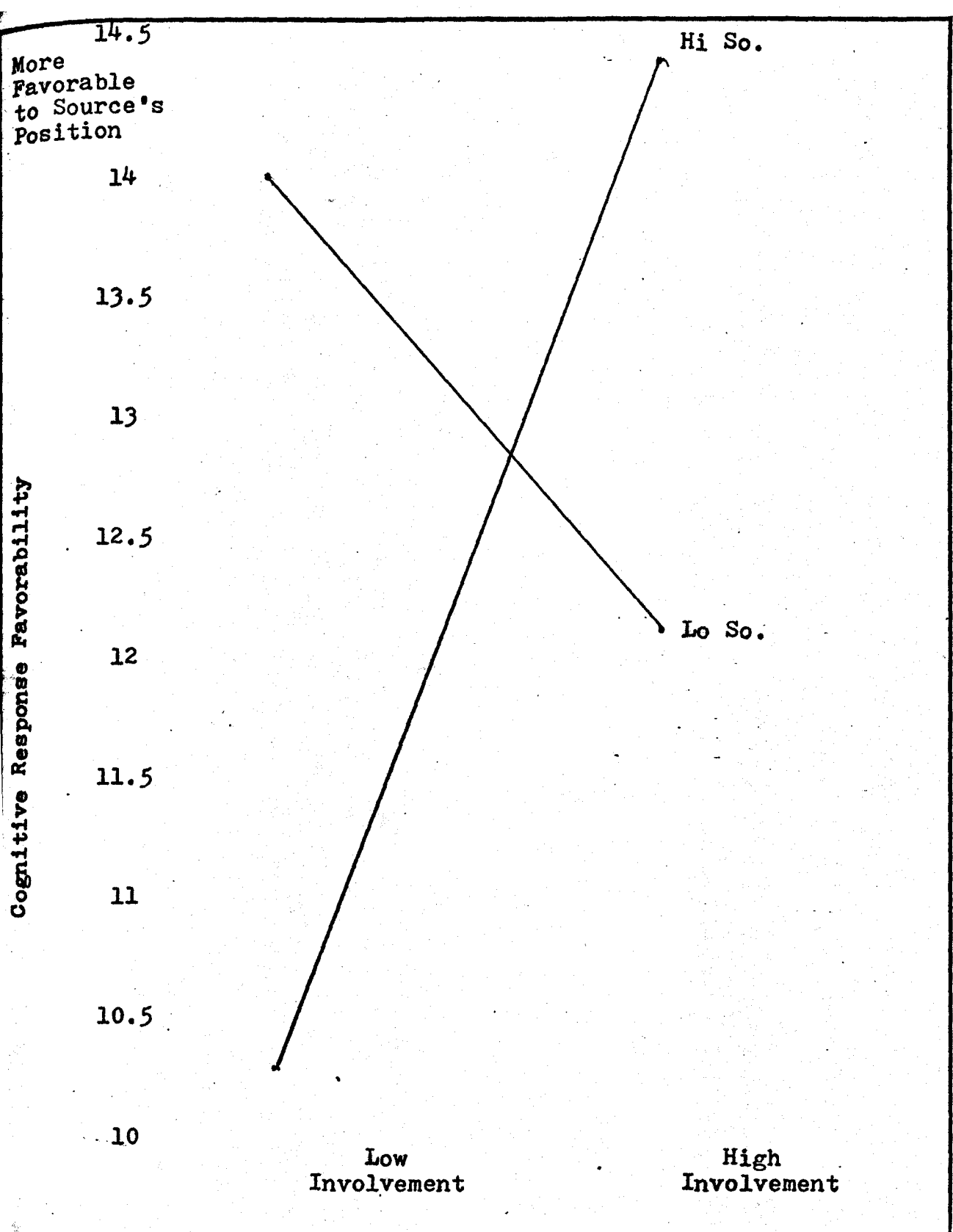


Fig. 2.--Cognitive Response Favorability Ratings

was unexpected. Thus the predictions concerning the cognitive response favorability ratings of hypothesis nine were not confirmed.

Hypothesis five predicted that the cognitive response favorability ratings would be positively correlated to attitude change. The Pearson Product Moment Correlation Coefficients between the attitude measures and the cognitive response favorability ratings were calculated. The coefficients ranged from .25 for the second attitude measure and cognitive response to .47 for the third attitude scale. The  $r$  between the total attitude measure and the cognitive response ratings was .44. The average  $r$ , for the relationship between the attitude scales and the cognitive response favorability ratings, was .37. Using a conservative test for significance of the  $r$  accounting for the probability loading caused by multiple intercorrelations, the average correlation with seventy-six subjects in the high cognitive response condition and five measures involved, was significant beyond the .05 level. Thus the relationship between cognitive response favorability ratings and attitude change was significant. Hypothesis five was confirmed in the present study.

#### Source Ratings

Hypothesis eight was concerned with the dependent measure of source evaluations. The seven source evaluation measures were intercorrelated to determine whether they were measuring the same factor or not. As expected, three measures, trustworthiness,

intelligence, and competence, were most highly correlated. These correlations are given in Table 6. These three measures are

TABLE 6

INTERCORRELATIONS AMONG THE  
SEVEN SOURCE EVALUATIONS

	Trust.	Intell.	Compet.	Active Threat	Persuas.	Position
Trust		.47	.45	.30	-.23	-.02
Intell.			.62	.25	-.18	-.17
Compet.				.38	-.24	-.06
Active					.11	.02
Threat						.04
Persuas.						.14
Position						

## Notes:

$n = 152$  subjects

$p < .05$ ,  $r = .28$

$p < .01$ ,  $r = .32$  (for 150 df, 7 variables)

typically used to describe source credibility. The three were combined to give an overall source evaluation measure. Activity correlated significantly with trustworthiness and competence ( $r = .30$  and  $.38$ ,  $p < .05$  and  $p < .01$  respectively) but less so with intelligence ( $r = .25$ ). Activity was not included in the overall source rating measure as it was not a usual source credibility measure. The other three measures will be treated

individually. All intercorrelations among the intent to persuade, threat and position scales failed to reach significance, when a probability loading factor was included. The  $r$ 's varied from .02 to .14 for these three measures. The correlations between threat and the first three source ratings (trustworthiness, intelligence, and competence) were all marginally negative ( $r = -.23, -.18, \text{ and } -.24$ , respectively). This would indicate that there was a tendency to perceive a more threatening source as being less credible.

Hypothesis eight predicted that high cognitive response will result in less favorable source ratings than the low cognitive response cells. Thus a main effect of cognitive response was expected to occur in the source evaluations. A 2X2X2 analysis of variance was performed on the source ratings and appears in Table 7. The  $F$  ratios for this main effect in the intelligence and competence scales as well as in the combined source evaluation measure were significant beyond the .01 level. In addition, the scale concerning the evaluation of the source as threatening showed a near significant  $F$  ratio ( $F = 2.8, df = 1/144, p < .10$ ) for the cognitive response main effect. By inspection of the means found in Table 8 the treatment means of the scales concerned with source credibility (trustworthiness, competence and intelligence) were all in the predicted direction. High cognitive response expression resulted in less favorable evaluation of the source than low cognitive response. Also, Table 8 shows that the treatment means of the threat scale were also in the predicted direction. Under high cognitive response, the source was viewed



TABLE 7

2X2X2 ANALYSES OF VARIANCE OF THE SOURCE EVALUATIONS<sup>1</sup>

Source of Variation	df	Trust.		Intell.		Compet.		1+2+3		Active		Threat	
		MS	F	MS	F	MS	F	MS	F	MS	F	MS	F
Involve- ment (A)	1	.8		.8		.5		.2		.3		.3	
Cognitive (B) Response	1	9.0	2.2	24.5	8.4 <sup>a</sup>	11.1	4.1 <sup>b</sup>	130.8	7.2 <sup>a</sup>	3.5		11.1	2.8 <sup>a</sup>
Source (C) Credibility	1	67.1	16.6 <sup>a</sup>	17.1	5.9 <sup>b</sup>	37.0	13.8 <sup>a</sup>	333.1	18. <sup>a</sup>	162.	55.2 <sup>a</sup>	4.1	
A X B	1	.5		8.1	2.8	1.5		21.4		1.9		29.5	7.6 <sup>a</sup>
A X C	1	5.5	1.4	1.1		.5		18.4		13.3	4.5 <sup>b</sup>	.5	
B X C	1	21.4	5.3 <sup>b</sup>	26.1	9.0 <sup>a</sup>	.5		109.4	6.1 <sup>b</sup>	9.0	3.1 <sup>c</sup>	2.9	
A X B X C	1	3.5		4.8	1.6	7.2	2.7 <sup>c</sup>	45.3	2.5	6.3	2.2	.6	
Within	144	4.1		2.9		2.7		18.1		2.9		3.9	

<sup>1</sup>N = 152, with 19 Ss in each treatment.

Only F's greater than unity were reported. The persuasive and position scales analyses were not reported, since no F for these scales were greater than one.

<sup>a</sup><sub>p</sub> < .01, df = 1/144

<sup>b</sup><sub>p</sub> < .05, df = 1/144

<sup>c</sup><sub>p</sub> < .10, df = 1/144

TABLE 8

## SUMMARY OF MEANS: SOURCE EVALUATION MEASURES

Treatments	Trust.	Intell.	Compet.	Active Threat	Persuasive	Position
High Cognitive Response						
Hi Inv Hi Cr So.	4.74	4.00	4.94	6.74	6.21	8.24
Hi Inv Lo Cr So.	4.84	4.68	4.63	6.16	6.06	8.24
Lo Inv Hi Cr So.	5.15	4.21	5.42	8.05	5.22	8.79
Lo Inv Lo Cr So.	3.89	3.84	4.00	5.47	5.37	8.69
Low Cognitive Response						
Hi Inv Hi Cr So.	6.16	5.53	5.84	8.16	4.43	8.64
Hi Inv Lo Cr So.	4.16	3.84	4.42	5.79	4.90	8.43
Lo Inv Hi Cr So.	6.21	5.95	5.84	8.21	5.27	7.85
Lo Inv Lo Cr So.	4.05	4.63	5.05	5.47	6.00	8.74
Control - 2 Message	4.44	4.89	5.22	6.56	5.56	7.00

Note: The greater the number, the greater the degree of attribution to the source of the particular quality.

Each Mean based on 19 subjects.

as more threatening than under low cognitive response. This point will be elaborated upon in the next chapter, due to its importance to the critical evaluative set concept. A DNMR was performed on the source ratings to determine which means accounted for this main effect. In the trustworthiness and intelligence scales, the mean difference between two pairs of parallel means reached significance at the .05 level. These were the high involvement, high credible source, high and low cognitive response treatments, and the low involvement, high credible source, high and low cognitive response treatments. The low credible source, low involvement treatments followed the same pattern of differences, but the low credible source high involvement cells did not. Both of these latter effects were not significant for these two measures. These two effects were significant at the .10 level for the combined source evaluation measure, however. For the threat scale, a DNMR was also performed. The mean difference between the high involvement high credible source, high and low cognitive response treatments was significant beyond the .05 level and the mean difference between the high involvement, low credible source, high and low cognitive response treatments was significant at the .10 level. Other pairs of parallel treatment means tended slightly in the opposite direction.

None of the other source evaluation scales (activity, persuasiveness, or the source's position) showed any significance main effect due to the cognitive response independent variable. These scales, however, had been considered as less important than the

source credibility scales, in terms of the hypothesis. Thus hypothesis eight was confirmed in the present study. The source evaluations were significantly less favorable in the high cognitive response condition than in the low cognitive response condition.

### Recall Measure

Hypothesis six was concerned with the recall measure, and the predictions of hypothesis seven were concerned with the relationship between recall and attitude change. Hypothesis six predicted that the amount of recall of the persuasive communication would be significantly greater in the high cognitive response treatments than in the low cognitive response groups. A 2X2X2 analysis of variance was performed on the data obtained from the recall measure. This analysis appears in Table 9. A significant main effect due to cognitive response appeared ( $F = 38.6$ ,  $df = 1/144$ ;  $p < .001$ ). Inspection of the means (Table 5) for recall shows that the high cognitive response groups had higher recall than the low cognitive response treatments. A DNMRT was performed on the recall data. This test demonstrated that the difference between all the pairs of parallel cell means were significant beyond the .10 level except for the high involvement high credible source high and low cognitive response treatments which approached the .10 level of significance. Thus the high cognitive response condition did produce greater recall of the persuasive communication

TABLE 9

2X2X2 ANALYSIS OF VARIANCE OF  
THE RECALL MEASURE

Source of Variation	<u>df</u>	<u>MS</u>	<u>F</u>
Involvement (A)	1	.6	
Cognitive Response (B)	1	97.9	38.61 <sup>a</sup>
Source Credibility (C)	1	.6	
A X B	1	9.5	3.75 <sup>b</sup>
A X C	1	.3	
B X C	1	1.3	
A X B X C	1	.2	
Within	144	2.5	

<sup>a</sup><sub>p</sub> < .01, df = 1/144

<sup>b</sup><sub>p</sub> < .10, df = 1/144

Note:

n = 152 subjects

than the low cognitive response condition. Hypothesis six was confirmed in the present study.

Hypothesis seven predicted that there would be a significant negative correlation between amount of recall and attitude change. Evidence in the present study for this hypothesis came from two findings. First, both hypotheses four and six were confirmed. Hypothesis four predicted that high cognitive response would produce less attitude change than low cognitive response, whereas

hypothesis six predicted that high cognitive response would produce greater recall than low cognitive response. The main effect due to cognitive response in both attitude change and recall were significant beyond the .01 level. Thus this evidence points to an inverse relationship between attitude change and recall. Secondly, more direct evidence was obtained from the Pearson Product Correlation Coefficient relating the two variables. For the four attitude scales and recall, the  $r$ 's varied from  $-.24$  to  $.03$ , with an average  $r$  of  $-.15$ , for the total attitude scale and recall,  $r = .18^1$ , indicating that attitude change and recall are negatively related. Thus hypothesis seven tended to be confirmed in the present study.

#### Manipulation Checks

In order to demonstrate that the various hypotheses were confirmed due to the independent variable manipulation, and to investigate more deeply into the process of attitude change, it is necessary to provide evidence that the manipulations were successfully performed.

---

<sup>1</sup>The significance level of this correlation coefficient is open to interpretation. If the four attitude scales are considered as a total attitude measure, and then compared to the one recall measure, so that only two measures are being correlated, then the relationship is significant at the .05 level. If the four attitude scales are separately correlated with recall, then the average  $r$  does not quite reach significance at the .05 level, by a conservative probability estimate, taking into consideration the probability loading of four correlations (Guilford, 1965). The present author opts for the former interpretation, since the four scales when combined give a more comprehensive estimate of each subject's attitude than the four measures taken separately.

Source credibility.--A 2X2X2 analysis of variance was performed on the seven source evaluations, plus the combined trustworthy, intelligence-competence measure, and the results appear in Table 7. On the combined measure, a very significant source credibility main effect was noted ( $F = 18.4$ ;  $df 1/144$ ,  $p < .01$ ). This effect was noted for each of the three source measures comprising the measure and also for the active measure. The magnitude of the  $F$  in each case confirms that the source manipulation was successful. Observing the means of each treatment of each measure in Table 8 shows that the high credible source was evaluated more favorably than the low credible source. Thus the failure to obtain a source main effect on the attitude measures cannot be due to an unsuccessful source manipulation. More will be said concerning this finding in the discussion section of the paper.

Ego involvement.--Four scales were incorporated into the experiment to measure this variable. These four scales included the intensity, importance, involvement, and "tried hard" measures. These measures were all considered to concern a common factor involving an emotional aspect. The four scales were intercorrelated and these results appear in Table 10. Involvement, intensity and importance correlated very highly, ranging from .62 to .75. These three were considered to be measuring a common factor, and were combined into one measure. The 2X2X2 analysis of variance were performed on the four original scales, and on the combined measure, but none of these five analysis produced

TABLE 10

INTERCORRELATIONS AMONG THE FOUR VARIABLES  
OF INTENSITY, IMPORTANCE, INVOLVEMENT,  
AND TRIED HARD

	Measures			
	Importance	Involvement	Intensity	Tried Hard
Importance		.75	.62	.27
Involvement			.68	.39
Intensity				.26
Tried Hard				

## Notes:

$n = 152$  subjects

$p < .05$ ,  $r = .23$

$p < .01$ ,  $r = .27$  (for 150 df, four variables)

significant main effects or interactions. There was one marginally significant interaction however. On the importance scale, the involvement by cognitive response interaction nearly reached significance ( $F = 3.57$ ,  $df$  1/144,  $p < .08$ ). By inspection of the means, found in Table 11, this effect is due to a larger difference in importance between the high involvement and the low involvement treatments under the high cognitive response than the low cognitive response condition. A DNMRT test was performed, which showed that this interaction was due largely to a significant difference ( $p < .10$ ) between the high and low involvement condition of the high cognitive response condition for the low



TABLE 11

## SUMMARY OF MEANS: EMOTIONAL INVOLVEMENT

Treatments	Measures			
	Intens.	Import.	Involv.	Tried Hard
High Cognitive Response				
Hi Inv Hi Cr So.	8.74	9.74	9.63	10.63
Hi Inv Lo Cr So.	9.63	10.63	10.58	11.68
Lo Inv Hi Cr So.	9.42	7.79	9.26	11.54
Lo Inv Lo Cr So.	9.52	7.79	8.84	11.94
Low Cognitive Response				
Hi Inv Hi Cr So.	8.57	9.32	11.00	11.00
Hi Inv Lo Cr So.	8.63	9.05	10.26	10.68
Lo Inv Hi Cr So.	9.00	9.05	10.26	10.79
Lo Inv Lo Cr So.	9.73	9.79	10.58	10.95
Control Groups				
One Message	8.39	8.94	9.26	11.00
Two Messages	9.00	8.94	10.11	10.50

## Note:

Each mean based on 19 subjects.

credible source. Under the low cognitive response condition, the two comparable means were not significantly different and the direction of the difference was in the opposite direction (i.e., the low involvement treatment group rated the importance higher than the high involvement group). No interpretation was given to this finding as there is a possibility that the cognitive response by involvement interaction is spurious. A probability level

$p < .08$  could be expected by chance, given for analyses, with seven possible effects, were included in this section.

The two control groups rated the four scales in a manner similar to the experimental treatments, and no significant differences were found when Dunnett tests were performed on these measures.

As a partial manipulation check on the independent variable of involvement which would bear direct relevance on these four scales, a question was included on the recall page asking the subject to state the purpose of the study. Only seven out of 152 subjects failed to indicate the given purpose of the study, or a reasonably close approximation of it. This would indicate that the involvement manipulation was at least comprehended by 95% of the subjects, although the manipulation failed to affect the subjects differentially.

Cognitive response.--Since the cognitive response manipulation occurred in the directions given to the subjects, the only direct check on this manipulation involved the manner in which the directions were carried out. Every subject in the high cognitive response group wrote down cognitive responses, whereas none of the remainder of the subjects did. Thus the manipulation was carried out correctly. The results indicate that many dependent measures were affected differentially by the two levels of this variable, and these differences appear to be due solely to the subjects

making their cognitive responses to the persuasive communication in the high cognitive response condition.

### Other Results

The present study found a number of important relationships, main effects and interactions which were not directly related to the experimental hypotheses, but are worthy of mention as they shed light on the process involved in attitude change.

Intercorrelations among the dependent measures.--After considering each measure category separately, it became important also to demonstrate the interrelatedness between the categories of attitudes, source evaluations, emotional involvement ratings, recall and cognitive response ratings. These representative correlations are presented in Table 12.

Attitude favorability was found to correlate highly and positively with cognitive response favorability ( $r = .37$ ) which indicates a close association and possibly even a process-product relationship between the two. Attitude favorability was negatively correlated to recall, indicating that retention and acceptance of a persuasive communication are not at all directly interrelated. Recall and cognitive response were also negatively related ( $r = -.26$ ). Attitude favorability and source favorability were positively correlated, though not very highly ( $r = .13$ ), which is consistent with the low  $F$ 's obtained for source main effects in the analysis of attitude measures. Attitude and emotional involvement (relating to the four measures of intensity, importance,

TABLE 12

INTERCORRELATIONS AMONG THE DEPENDENT VARIABLES  
GROUPED IN CATEGORIES

Measures	Range of $r$	Average $r$	Based on # of Corr.
Attitude - source evaluation	.02 to .22	.13	15
Attitude - emotional involy.*	-.08 to .07	-.02	15
Attitude - cognitive resp.*	.25 to .47	.37	4
Attitude - recall	-.24 to .03	-.15	4
Attitude - time*	-.29 to .03	-.15	4
Attitude - threat	-.23 to .03	-.11	4
Source evaluation - emotion.	-.16 to .10	-.01	15
Source eval. - cog. resp.*	-.10 to .19	.06	4
Source eval. - recall	-.17 to .03	-.08	4
Source evaluation - time	-.16 to -.25	-.20	4
Source evaluation - threat	-.11 to -.24	-.19	4
Cognit. Resp. - emotion. inv.*	-.09 to .03	-.04	4
Cognitive response - recall*	-.26	-.26	1
Cognitive response - time*	.00	.00	1
Cognitive response - threat*	-.27	-.27	1
Recall - emotional involve.	-.16 to .16	-.05	4
Recall - time*	-.10	-.10	1
Recall - threat	.11	.11	1
Time - emotional involve.*	-.21 to .02	-.06	4
Time - threat*	.13	.13	1
Threat - emotional inv.	.06 to .30	.24	4

68

## Notes:

$n = 152$ , for each correlation. For those correlations followed by an asterisk (\*),  $n = 76$  (high cognitive response groups only were measured on those scales).

The average correlations were computed by the  $Z$  transformation method of Guilford, 1965.

involvement and tried hard) correlations were slightly negative, as were emotional involvement and cognitive response favorability. Both of these correlations, while very slight, were in the predicted direction. That is, as involvement increased, attitude favorability to the communication's position decreased.

Time taken did not correlate with cognitive response favorability ratings ( $r = .00$ ), but time correlated negatively with attitude favorability to a slight extent ( $r = -.15$ ). Time correlated negatively ( $r = -.20$ ) with source favorability, which might be interpreted through a low source evaluative set approach. As the subject feels less favorable towards the source, he tends to spend more time evaluating the source's communication, more critically studying it, and he tends to take longer writing his responses to that communication.

Threat correlated negatively with attitude favorability ( $r = -.11$ ) and with cognitive response favorability ( $r = -.27$ ) which is consistent with an approach which views the process of attitude change in terms of bolstering one's position and developing counter-arguments to resist persuasion when threatened. Threat correlated positively with emotional involvement ( $r = .24$ ), which is consistent with the approach of this paper. Threat correlated negatively with source favorability ( $r = -.19$ ) which would indicate that the lower the evaluation of the source by the subject, the greater the perceived threat. This could be interpreted as source derogation, due to threat, but other interpretations are also equally plausible.

Significant interactions found in the attitude measures.--

Table 2 also shows a significant cognitive response by source interaction for the total attitude measure. ( $F = 3.08$ ,  $df = 1/144$ ,  $p < .10$ .) This interaction reached the .05 level of significance for the first attitude scale and tended in the same direction, but nonsignificantly for the other three scales. Basically, this interaction effect was due to a tendency for the high credible source to produce a more favorable attitude than the low credible source under the high cognitive response conditions, whereas with low cognitive response condition, the low source produced a slightly more favorable attitude.

The involvement by cognitive response interaction reached significance on the first and fourth attitude scales, but not on the total attitude scale. All attitude scales except the second attitude measure showed the same tendency, namely, under the low cognitive response condition, low ego involvement produced more attitude change than high involvement, whereas, under high cognitive response a smaller trend in the opposite direction occurred.

Both the involvement by cognitive response and the cognitive response by source interactions failed to produce any significant differences between any two critical relevant treatment means, when the DNMR test was performed on the treatment means. This would imply that these interactions were due to the combining of two means for each point of the two-way interaction, and that the effects are therefore general, and the variance is not due solely

to one treatment mean being significantly higher or lower than the others.

The two message control group, incorporating both the objectively worded first message and the discrepant persuasive second message, without any source given or purpose of the study given, produced a more favorable attitude toward the persuasive communication than any of the other treatments. The mean of this control group, by the Dunnett test was significantly greater than the means of only the high cognitive response, low source, high or low involvement treatments. The one message control group, having only the objectively worded message, produced a less favorable attitude than all but the low involvement, high cognitive response low credible source treatment, by inspection of the means. The results of the Dunnett test showed that the one message control group was significantly lower than the low involvement, low cognitive response, low credible source treatment, and the two message control group. The four individual attitude scales show basically the same trends, and the same significant differences between the control groups and the treatment means. The data from all attitude measures, with the exception of the third attitude scale demonstrate a significant difference between the two control groups, thus confirming that the inclusion of the persuasive communication (the second message) did produce an attitude significantly more favorable to the source than the first message alone.

Significant interactions present in the source evaluation measures.--A significant cognitive response by source credibility interaction was noted for the combined source measure ( $F = 6.06$ ,  $df = 1/144$ ,  $p < .05$ ) and for the active scale. This generally is due to a lessening of the source evaluation differences in the high cognitive response groups. In the trustworthy and intelligent scales, as well as the combined measure, the high credible source in the high involvement cognitive response condition was evaluated less favorably than the low credible source in the same condition. The DNMRT was utilized, but the differences were found to be insignificant.

This test, performed on these three measures, showed that the difference between the high and the low credible source in the high and low involvement - low cognitive response conditions were significant at the .05 level, but that under high cognitive response, these same differences were nonsignificant, and in some cases, tended in the opposite direction.

There was a marginal involvement by cognitive response interaction which appeared on the "intelligent" scale ( $F = 2.76$ ,  $df = 1/144$ ,  $p < .10$ ). This effect was due largely to an increase in favorability in source evaluation from low involvement to high involvement for the high cognitive response groups, whereas under low cognitive response, the low involvement groups rated the source more favorably than the high involvement subjects. The "threat" source scale showed also the same involvement by cognitive response interaction but to a higher level of significance



( $F = 7.56$ ,  $df = 1/144$ ,  $p < .01$ ). The effect occurred in the same direction as the "intelligent" scale. Under high cognitive response, the high involvement groups rated the source as more threatening than the low involvement group, and under low cognitive response, the low involvement groups rated the source as more threatening.

A DNMRT was performed on both these scales but no relevant treatment mean difference reached significance. Again, the interaction is due to the summation of two means for each point of the interaction, and is not the result of one mean accounting for an excessive amount of the variance.

Finally, there was a significant cognitive response by source interaction present in the active scale ( $F = 4.53$ ,  $df = 1/144$ ,  $p < .05$ ). In this case, the interaction was due to a lessening of source differences under high cognitive response conditions, relative to the low cognitive response condition. The main reason for this lessening of source differences in the high cognitive response condition concerned the two high involvement treatments only. That is, the difference in evaluating the source as active, for the high source relative to the low source under the high involvement high cognitive response condition was relatively small, whereas the differences between the high and low source for the low involvement high cognitive response group and the high or low involvement low cognitive response groups were significantly greater ( $p < .05$  - DNMRT).

The persuasive and sources' position scales produced no significant main effects or interaction, and no further analysis was performed on these scales.

The two message control groups included the same source evaluation scales, but without an identified source. That is, the subjects were asked to rate the sources only on the basis of the communication which was attributed to an unidentified source. On the first five source evaluation scales (trust, intelligent, competent, active and threat), the control groups rated the unidentified source less favorably than the high credible source groups and more favorably than the low credible source groups. That is, the mean source evaluation of the control group for these scales fell in between the marginal means of the groups receiving a high credible or a low credible source biography. On the remaining two scales, the control groups rated the source as less persuasive and as having a more moderate position than either the high or low credible source.

It is interesting to note that in the two scales (intelligent and competent) in which the cognitive response variable main effect was highly significant, the control group rated the source in a manner more similar to the low cognitive response group than to the high cognitive response group. This lends some support to the prediction that under high cognitive response conditions, the source will be devalued relative to the low cognitive response groups.

Significant interactions appearing in the recall measure.---A

2X2X2 analysis of variance was performed on the recall data. In addition to the previously mentioned main effect due to cognitive response, a near significant involvement by cognitive response interaction was present ( $F = 3.75$ ,  $df = 1/144$ ,  $p < .08$ ). In the high cognitive response group, low involvement produced a greater amount of recall than high involvement, whereas under low cognitive response, high involvement produced a larger recall score than low involvement. Again the direction of this interaction is exactly the reverse of that demonstrated in the attitude measures. By inspection of the treatment means (Table 5) for recall, this interaction was not due to any one specific treatment mean accounting for the variance, but was due to the combination of all relevant means taken together.

Time.---The last dependent variable to be considered was a time measure. This measure applies only to the high response groups, and represents the time from the beginning of the experiment to the completion of the final attitude scale. It was assumed that the largest part of the variability in this measure would be due to the time taken to write the cognitive responses. If the measure showed significant main or interaction effects, these could be interpreted as indicating that the cognitive response manipulation was not consistent or constant for all and that those who took longer or shorter to write responses could be considered as separate treatments, subject selected and controlled,

which would jeopardize the standardization and interpretation of the variables. One could ask in such a situation, was the effect due to the independent predetermined variables, or was it due to a time factor. That is, are the resulting differences in time merely random effects, irrelevant to the independent and dependent variables? To answer these questions, a 2X2 analysis of variance was performed on the high cognitive response groups (the only group whose times were recorded), and the results of this analysis indicated that no main effects or interactions were found to be significant (largest  $F = 2.27$ ,  $df = 1/76$ ,  $p < .15$ , for involvement). The treatment means for this time measure appears in Table 5.

In conclusion, the analysis of the data of this present study indicated that hypotheses one, two, three and nine were not confirmed but hypotheses four, five, six, seven and eight were confirmed.

## CHAPTER IV

### DISCUSSION

#### Critical Evaluative Sets and the Hypotheses

The purpose of this research was to delve more deeply into the process of attitude change, and to demonstrate the existence of four critical evaluative sets which cause the subject to view the persuasive communication from a more critical perspective. These critical evaluative sets cause the subject to place the position of the persuasive communication in his latitude of rejection, and therefore, less attitude change results. The four critical evaluative sets are high ego involvement, low source credibility, high cognitive responding, and in a particular condition, the high credible source as threat. The hypotheses of the study were proposed as tests of the validity of these critical evaluative sets.

High ego involvement critical evaluative set.---The first hypothesis concerns the high ego involvement critical evaluative set. The differences in attitude change between high and low involvement, summed over the source credibility and cognitive response conditions while in the predicted direction, was not statistically significant. This is an unexpected finding. Two previous

studies - Scileppi (1971) using a nearly identical involvement manipulation, and Johnson and Scileppi (1969) using a similar manipulation - found the expected involvement main effects. However, in the present study, since hypothesis one was not confirmed, the high involvement critical evaluative set was not demonstrated. Reasons for this failure to confirm will be given later in this chapter.

Low credible source evaluative set.--The third hypothesis was concerned with the low credible source evaluative set. The analysis of the data failed to confirm this hypothesis. The difference in attitude change between the high and low credible source, summed over all levels of the involvement and cognitive response variable was not statistically significant. The lack of confirmation of this hypothesis is surprising, since the vast majority of research involving source credibility has demonstrated that the low credible source produces less attitude change than the high credible source. In the pilot study of the present research (Scileppi, 1971), a source credibility main effect had been found, which gave credence to the low credible source critical evaluative set concept. In the present research, however, since the third hypothesis had not been confirmed, the low credible source evaluative set had not been demonstrated. The reasons for the failure to confirm the existence of this set will be discussed later in this chapter.

As was previously mentioned, the low source credibility and

high involvement critical evaluative sets were thought to be related in a non-additive manner. That is, if one critical evaluative set was present, the presence of the other would not lower attitude change any further. Thus either set acted to produce a threshold in an all-or-nothing situation. This relationship was tested in hypothesis two. A source by involvement interaction was expected. This interaction was highly significant ( $F = 8.35$ ,  $df = 1/136$ ;  $p < .01$ ) in the Scileppi (1971) study. In the present study, this interaction was not significant and from the graph of the total attitude measure (Figure 1), nothing similar to the predicted interaction appeared. Thus this hypothesis was not confirmed, and the predicted relationship between the two critical evaluative sets was not demonstrated. The reasons for this failure appear to be contained in the reasons given for the failure of the two critical evaluative sets taken separately. If the two critical evaluative sets did not produce the desired results, then the interaction between the two would also be ineffective in producing the predicted effects.

High cognitive response evaluative set.--The fourth hypothesis was concerned with the high cognitive response critical evaluative set. Thus a main effect due to cognitive response was expected such that less attitude change would occur under high cognitive response condition rather than under low cognitive response. The results of the present study confirmed the prediction of the hypothesis. The difference in attitude change between high and low

cognitive response, summed over the involvement and source credibility conditions, was statistically significant at the .01 level, and in the predicted direction. Thus the hypothesis was confirmed, and the high cognitive response critical evaluative set was demonstrated in the present study.

It was also expected that high cognitive response would not only decrease attitude change, but would also cause the subjects in this condition to derogate the source. Thus the high cognitive response critical evaluative set would also affect the source ratings. This was the prediction of hypothesis eight. The analysis of the results of this study indicate a significant main effect of cognitive response in the combined source evaluation ratings. The difference in the source evaluation ratings between the high and low cognitive response treatments, summed over involvement and source credibility were statistically significant, and in the predicted direction. Thus hypothesis eight was confirmed, and another effect of the cognitive response critical evaluative set was demonstrated.

High credible source as threat critical evaluative set.--The author's main purpose in preparing this research was to investigate the high credible source as threat critical evaluative set. The conditions for the existence of this set were carefully considered. It was believed that given the high involvement set, the subjects would be motivated to critically evaluate the material. Then, if the subjects were instructed to write down their response



to the persuasive communication, they would be better able to elaborate upon their more critical responses, and to convince themselves of the validity of their own arguments. Furthermore, with these two critical evaluative sets established, the subjects would view the author of the persuasive communication as an opponent, proposing a view discrepant from their own. A debate situation would result. If the author of the persuasive communication was considered to be a strong opponent, then the subject, already motivated to defend his own position, would view the high credible source as a greater threat, and therefore become more concerned to maintain his initial stand on the issue. Furthermore, the subject in this situation is likely to see the position of the source to be more discrepant from his own position than it actually is, and some polarization might occur. This might actually cause a mild source boomerang effect to be present, such that the subject would develop an attitude less favorable to the source's position than his initial attitude (after reading only the objective message). Thus the high credible source as threat critical evaluative set was expected to produce an even less favorable attitude than the low credible source evaluative set, in this particular condition.

Hypothesis nine tested this prediction. A three-way interaction was expected, in which the high credible source, high involvement, high cognitive response treatment would result in less attitude change than the low source in a parallel condition, and lower than all other conditions. The results of this experiment did not confirm this hypothesis. The three-way interaction did not

approach significance. The mean attitude change of the critical treatment was actually greater than that of the low credible source in the parallel treatment. Thus the results of this experiment did not demonstrate the existence of the high credible source as threat critical evaluative set. This again is a surprising finding. The pilot study demonstrated a near significant three-way interaction, with the mean attitude change in the critical condition smaller than that for every other treatment. Reasons for the failure of this present study to demonstrate the existence of this critical evaluative set will be given later in the paper.

Thus, the high cognitive response critical evaluative set was demonstrated in the present experiment, whereas the low credible source, high involvement, and high credible source as threat critical evaluative sets were not demonstrated.

In the following section, the relationship between the analysis of the data and the hypotheses of the study will be demonstrated, and compared with a previous pilot study involving the same variables. Reasons for the failure in some cases to demonstrate the hypotheses, and potentially successful lines for future research will be discussed. The results in terms of the two main approaches of the study will be discussed.

The first hypothesis predicted that there would be a main effect due to ego involvement, such that low involvement would produce a more favorable attitude than high involvement. This hypothesis was not confirmed. This result is surprising, in view of the fact that the pilot study demonstrated a very significant

main effect due to involvement, and in the proper direction. The involvement manipulation was nearly identical to the earlier study. Only apparently minor phrases were changed, while the meaning of the content of the passage was retained in toto. One possible difference involves the historical circumstances. The pilot study was conducted in the Fall semester, 1970. The subjects, coming to the sessions of the first study, were being constantly bombarded with political campaigning for the November elections. Two students at Loyola University of Chicago were running for local aldermanic positions. Many students were greatly involved in political action, but were unable to vote because of their age. Also, student sentiment was high on the age of voting issue, as the Illinois Constitution referendum vote on this issue occurred in early Fall, and the twenty-one year old age limit was retained. The involvement manipulation made salient the relationship between the actual voting age requirement and the pilot study.

By the second semester, however, when the present study was undertaken, interest in politics sagged, and no elections were forthcoming. The procedures for amending the Federal Constitution regarding the decrease in the age requirement were well under way, and as the issue was swiftly being resolved in favor of youth, interest and discussions declined greatly. Thus as the issue was no longer as important as before, and the manipulation relating the issue to the experiment was not as fruitful as it had previously been. The fact that the manipulation was comprehended and retained was not at issue. Over 95% of the subjects recalled the

purpose of the study. What was altered, however, was the historical circumstance, which decreased the significance of the issue to the subject. In the future, psychologists performing research dealing with similar means of influencing the subject's level of involvement, will have to determine in advance, the projected longevity of the issue, if an actual social issue is to be used, or else run the same risks. It has been the experience of the present investigator, that as the topic of the research becomes more significant from a social standpoint, the greater the risk that historical circumstances will intervene. In an unsuccessful study in the Fall of 1969, research was undertaken which involved a fictitious miracle food supplement named REMOH, which, according to the invented description, would alleviate hunger, but as of the time of writing, was still experimental in nature, and required further testing. Midway through this carefully planned research, the Food and Drug Administration banned cyclamates from the public market, as insufficient research had been performed on the drug. In the succeeding sessions of the experiment, the subject's attitude toward REMOH became erratic, and the data was uninterpretable.

The second hypothesis predicted a source by involvement interaction, under low cognitive response, such that the high credible source would produce a more favorable attitude under low ego involvement, but not under high involvement. The results of this experiment did not confirm this hypothesis. This lack of confirmation is also surprising. Scilleppi (1971) reported a highly significant source-by involvement effect, as did other researchers

previously. Again, very little was modified, and, with the exception of the change in historical circumstances mentioned previously, none of the modifications could have been responsible for the interaction to disappear. At this point, the best explanation would include the difficulties in the involvement manipulation, mentioned above. Yet this is not entirely satisfactory, as those difficulties cannot explain why the low involvement condition produced negative source differences (i.e., the low credible source tended to produce a more favorable attitude than the high credible source) instead of an increase or spreading apart of the usual source differences. The problem may also lie in the source manipulation as well. The problem will be discussed in terms of the third hypothesis mentioned below.

The third hypothesis predicted that the high credible source would produce a more favorable attitude than the low credible source. Again this experiment failed to confirm this prediction, although the pilot study produced a near significant main effect due to source credibility. The source credibility manipulation itself was not at fault. The subjects differentiated the high and low credible source on such scales as trustworthy, intelligent, competent, and active, at the .05 level of significance or better, as the subjects in the pilot study had done on similar scales. Either the subjects of the present study dissociated the source from the communication, or other factors were present which caused the subjects not to regard the source biography when rating their opinions concerning the message. These factors might include

demand characteristics, or a decrease in the plausibility of the manipulation, or of the experiment as a whole. The wording of the source manipulation was basically the same as in the pilot study. Demand characteristics should have been basically the same in the two studies. One minor difference which may have affected demand characteristics appeared in the low credible source biography. A section was added in order to strengthen the low source's bad qualities, which may have actually produced the opposite effect. The sentence stated that the individual who wrote the communication had run unsuccessfully for a small public office in another state, and apparently others in that locality had not placed much trust or confidence in him. Some subjects may have perceived that the manipulation was intending to produce sympathy for the source, rather than a lower evaluation. The pilot study did not include such a statement. Also, there may have been a certain amount of incredulity on the part of some subjects due to the same low credible source biography. The subjects were informed that a particular town resident wrote the persuasive communication as a letter to a local newspaper, and that the source biography was included in that letter. Some subjects may have wondered why the source would include such information about himself, and his unsuccessful political career and the ill-feeling directed him at his former residence. It could be inferred from the source biography that the source wished to escape that publicity, and that he therefore recently moved. Some subjects may have questioned why the author would want to print this information in the local newspaper. The

subjects may have seen this as implausible, and perceived that they were being "taken," and that there were other more personal variables under investigation in the present study. This one statement in the source biography was meant to increase the source differences, but it may have caused new factors to exist in the eyes of the subject, which would partially explain the higher variability in their responses to the attitude scales.

A possible reason for the apparent failure of both the source and involvement manipulation to produce the desired effect, and for the failure to replicate the same effects of these variables present in the pilot study may have been a slight modification in the procedure. In the pilot study, the low and high cognitive response conditions were performed separately. This procedure was undertaken since there was a noticeable difference in the time needed to complete the separate conditions, and if both groups were present in the same session, the low cognitive response subjects would possibly wonder what the others were doing, and why they were taking longer, and if there were pages missing in their own experimental booklets. This procedure, however, had two noticeable flaws. The subjects were not fully randomized, as in any given session, the booklets for only half the treatments were present; and also, the experimenter knew which condition - high or low cognitive response - was being given to the subjects, and the researcher's own bias (Rosenthal, 1966) could influence the subjects' results. This was a particular problem, as slightly different instructions were given to the subjects in the high cognitive

response group. Namely, the subjects in the high cognitive response groups were asked to raise their hand when they came across a check mark in the booklet, and at that time the researcher would take their cognitive response page, and mark the time. In the low cognitive response sessions, these instructions were not given, and different subtle and unconscious cues may have been given to the two groups separately, and in a manner producing the hypothesized results. The fact that the pilot study did produce cognitive response main effects and certain interaction effects would be consistent with this interpretation, and to eliminate this confounding factor, as well as the flaws mentioned previously, the present study had both conditions present in the same session. In order to have both groups present, the subjects in the present study were informed that there were various forms of the experiment and that others in the room would be doing slightly different tasks. This may have created an "experimental set," that is, the subjects were "keyed" to the study as a psychological experiment, and this set may have decreased the plausibility of the high involvement purpose of the study. In the first study, the subjects were more able to believe that this study was sponsored by a Federal agency concerned with voting requirements. In the present study, this may have been less believable, and many subjects may have doubted its authenticity. All other aspects of the procedure of the present study remained unchanged from the pilot study. The experimenter was the same throughout all sessions, and was dressed in the same manner.



The fourth hypothesis predicted that the low cognitive response groups would produce a more favorable attitude than the high cognitive response group. This hypothesis was definitely confirmed in the present experiment. This fact discounted the possibility that the main effect of cognitive response found in the pilot study was due to an experimenter bias effect or artifact. The results of this experiment support the concept that cognitive response expression facilitation does act as a critical evaluative set. Requesting that an individual respond in writing to each of a list of arguments discrepant with his original position does appear to help motivate the person to rehearse and develop his arguments to a greater extent than if the person merely read the arguments. The fact that the high cognitive response condition did result in an attitude less favorable to the source than the low cognitive response group also indicates that the subjects became more critical of the persuasive communication as a result of writing his responses. More support for this concept of high cognitive response as critical evaluative set will be discussed when considering hypotheses five, six and eight.

Hypothesis five predicted that the cognitive response favorability ratings would correlate positively with attitude favorability. The results of this study confirm this hypothesis. The average correlation between the cognitive favorability ratings and attitude favorability was positive, and significant beyond the .05 level. This finding gives further support to Greenwald's (1968) theory relating cognitive responses to attitude. The relationship

can be interpreted as a process-product relationship; that is, the cognitive responses of the subject helped to determine the subject's attitude on the issue.

In considering the process-product relationship, the stochastic model, as proposed by social learning theory, is relevant. McGuire (1968), using this model, considers that the attitude formation process can be broken down into two basic categories - comprehension-retention and acceptance. In this study, the recall measure involved the first category. This measure will be described below, in hypotheses six and seven. These cognitive response ratings, however, can be considered as a reasonable measure of the acceptance factor of the attitude change process. The high positive relationship between cognitive response and attitude can be seen therefore as demonstrating a potentially causal relationship between the two variables.

The cognitive response ratings are interesting for another reason. They are both self-generated in part, and yet, they are also the result of the independent variable manipulation, and the arguments contained in the persuasive communication, which are treatment induced. For example, the pilot study demonstrated that in the analysis of these ratings, a main effect due to involvement was found, and in the present study, a significant source by involvement interaction was reported. Cognitive responses can be seen, therefore, as both an independent variable, and a mediating variable, affected by other independent variables. Greenwald has concentrated on cognitive responses as an independent variable,

whereas the present researcher has discussed these responses from both perspectives.

A point could be made here concerning the potential interaction or association between the act of rating the cognitive responses and then the subjects responding to the attitude scales. In other words, is the high correlation between the cognitive responses and attitude due to a consistency in rating, or is it due to the cognitive responses and real attitudes. Bem (1965, 1967) would possibly interpret the results in terms of his self-persuasion model. That is, a subject makes his cognitive responses to the communication, and then rates them. He may then feel that if he rated his cognitive responses in such a way, then that rating must have been his attitude toward the issue. The present study attempted to demonstrate that this is not the case since the subject first wrote his cognitive responses, then rated two attitude scales, then rated his cognitive responses, and finally, completed two additional attitude scales. Since there were high positive correlations between the first two and the last two attitude measures, the rating of the cognitive responses itself could not have greatly influenced the attitude ratings per se, but it is a plausible position to state that the first two attitude scale ratings could have influenced both the cognitive response ratings and the last two attitude measures. To answer this argument in future research, it would be necessary to have the cognitive response ratings rated by independent judges, rather than by the subjects themselves. This had not been previously done, since

Greenwald (1968) reported a very high correlation between self ratings and the judge's rating of these cognitive responses, and the real problem had not been perceived clearly. Perhaps, however, to fully dismiss the possible objections of Bem and others, ratings of the cognitive responses by independent judges only should be performed.

The sixth hypothesis predicted that there would be a significant main effect of cognitive response on recall, with high cognitive response groups having greater recall than the low cognitive response groups. This hypothesis was definitely confirmed in the present study. This would imply that while writing cognitive responses decreased favorable attitude change, it also had the effect of increasing the retention of the persuasive communication. It would be interesting in future research, to explore the persistence of resisting persuasion. A subject who is encouraged to cognitively respond or to counterargue in writing has to consider both sides thoroughly. He actively understands, retains, and then rejects the opposing position, rather than passively discounting it. Perhaps, in time, when similar arguments are presented, this active rejection will produce in the subject a greater degree of confidence in his own position, and he will feel less inclined to be swayed by new arguments. This has some similarities to McGuire's Innoculation principle (1964), but it differs in the fact that the resistance to future persuasion will result from the encouragement to counterargue from the cognitive response process itself. Such a confirmation in future research would have many practical as

well as theoretical consequences and applications.

The seventh hypothesis predicted that attitude change would be negatively correlated with recall. The hypothesis tended to be confirmed. Thus recall per se is a poor indicator of attitude change, and as the study predicted and confirmed, the relationship between the two tends to be negative, at least in this case. In terms of McGuire's model, retention is by far a less significant component of attitude than is acceptance. In his stochastic model, recall of material is only seen as a necessary but not sufficient factor in attitude formation; that is, once a certain level of retention is reached, recall becomes less important in determining attitude formation and change. The negative relationship that was found in the present study could be due to the fact that all subjects reached at least this necessary level of retention of the persuasive communication for understanding to take place. It appears that the subjects went far beyond this minimal level.

As the subject more fully understood the communication, the more able he was to counterargue against it, and he was less affected by the communication. To further clarify the process of cognitive responding in the relationship between recall and attitude change, cognitive response ratings correlated  $-.26$  with recall and  $+.37$  with attitude favorability. Thus the process of attitude favorability. Thus the process of attitude change is more dependent on acceptance, as viewed by the cognitive response ratings than upon retention, as measured by recall. Thus, it is

possible for a negative relationship to exist between retention and attitude change, particularly if more than a minimal level of retention necessary for understanding is attained by most subjects.

To further demonstrate the importance of the cognitive response variable in the process of evaluating the communicator as well as the communication, the eighth hypothesis predicted that there would be a main effect of cognitive response on the subject's analysis of the source, such that, under low cognitive response, the subject would view the source more favorably than under high cognitive response. This hypothesis was also confirmed. This indicates that as the individual cognitively responded (and since all the subjects tended to oppose the persuasive communication), or counterargued against the communication, he tended to devalue the author of the communication. Thus, not only did he show a less favorable attitude toward the position of the communication, but he also derogated the source. If the process of attitude formation and change were seen analogously as a pressure model, it could be inferred that as the pressure or the motivation to reject the communication increases, this pressure can be channeled or relieved in at least two directions, source derogation and resistance to persuasion. Furthermore, the variable of cognitive response affects both channels in the same manner. This pressure model analogy could shed light on the many failures of manipulations to produce attitude changes, in this study as well as others. Possibly, if all other channels were defined and measured, and then possibly covaried, better studies of attitude

change process would occur. Steiner and Johnson (1964) using a similar model in a cognitive dissonance study had produced results compatible with this reasoning.

The ninth hypothesis predicted that there would be less favorable attitude and less favorable cognitive response ratings for the high credible source, high ego involvement, high cognitive response treatment than for the low credible source under the same conditions. This hypothesis is based on the concept that the high source in this condition would be viewed as a threat. Although there was a slightly greater evaluation of the source as threatening in the relevant high credible source treatment than in the low source condition, both the attitude favorability and cognitive response ratings between the two relevant statements were in the wrong direction. Thus, the hypothesis was not confirmed. The reason for the failure to demonstrate the validity of this high source as threat set concept probably lies in the failure to successfully achieve the high involvement effect, and the correct source credibility manipulation differences, as mentioned previously. It is interesting to note that in the pilot study, the attitude favorability differences were in the correct direction, although not significantly, and a modification in the involvement and source manipulation were included in order to heighten this effect.

It is interesting to note that in the cognitive response rating, the high credible source, low involvement treatment resulted in a less favorable rating than the low credible source in

the same condition, and that this difference was significant beyond the .05 level of the DNMR. Perhaps the reasoning for this concept is correct, but the relevant conditions for its manifestation are wrong. In other words, perhaps the high source is seen as a threat, and in a high cognitive response expression condition, the subject is motivated to cognitively respond to degrade the source's position, but that high involvement as manipulated, may confuse the subject who is interested more in making a correct and intelligent decision, and in this situation he may be swayed more by the high credible source.

More research needs to be performed here, and other factors may be involved before the specific conditions for this set are determined. At this point, the only statement that can be made is that the results of this study have failed to confirm this hypothesis, and that the specific conditions did not produce the predicted results needed to demonstrate the existence of this set.

Thus, because of the flaws of this experiment, and the failure to achieve the desired source and involvement effects on attitude change, little light can be shed concerning the social judgment approach to attitudes. The pilot study and the Johnson and Scileppi (1969) study can be readily interpreted as supporting this approach, and the evaluative set concepts consistent with the approach, as described in the introduction of this paper. Possible reasons for the failure of the study to support the approach have been given, along with suggested solutions.

The researcher has a belief that the approach will be



verified when better experiments are devised, which will occur as the result of the experience gained by conducting experiments such as the present one.

Greenwald's cognitive response approach to attitude formation and change has been utilized successfully in this study. The high cognitive response as a critical evaluative set concept has been found useful in interpreting the results of this study.

Future lines of research studying this concept as an independent as well as a mediating variable would prove fruitful in the understanding of the attitude formation and change process.

Also, it appears to be imperative to develop better means of measuring and analyzing the emotional involvement - intensity states of the subject, if research delving into the process of attitude change relevant to evaluative sets is to be successful. It is the belief of the present author that such research needs to be performed to clarify the processes which produce the attitude change.

Finally, research demonstrating that such factors as perceptual sets and cognitive responding are significant determinants of attitude change has ramifications extending into the realm of philosophical psychology. These factors give credence to the view of man as an active organism. Research on perceptual sets indicates that the orientation a person establishes towards a stimulus will affect his response to that stimulus. Also, research on cognitive responding demonstrates that a person does not passively accept new information, but actively processes it, and contrasts

the new information with previous information in his cognitive system. The present researcher believes that the stimulus - response model of social psychological research is inadequate in the study of attitude change, and that a more phenomenological stimulus - organism - response model, with a heavy emphasis on the active organism, offers the promise of a more comprehensive grasp of the field.

**APPENDIX**

A certain large company wishes to establish a factory and a research center in a certain small town, in a rural area of the state. The town is a poor town, as over half its citizens are in the lowest socio-economic class. The town's population has been dwindling slowly, from over 4500 people in 1960 to 3100 people, according to the 1970 census. An above average percentage of the adult males are presently listed as unemployed. The townspeople are interested in maintaining the town's quaint atmosphere as it is, and yet they are equally interested in preventing the town from becoming a ghost town, as has happened in similar places. When the town council (the legislative body of the town) was approached by representatives of the company, and asked if certain zoning laws could be changed to permit the building of the factory in the town, the council made no initial evaluation on the company's request, but decided to form a fact-finding committee to discover some objective information about the company. The town's fact-finding committee reported that the company, incorporated in 1961, has shown a high rate of profit and growth over the last decade. The company has registered a large number of patents, and over two-thirds of the products resulting from these patents have large and increasing markets, both domestic and foreign. The company is in urgent need to expand its facilities to tap these markets.

The committee also found that the company pays its employees an above average wage, and employee fringe benefits are rated as "respectable" on industry wide criteria. For the five sites on which the company has built similar facilities in the last three years, the average cost of the buildings has been in the neighborhood of two and one-half million dollars, and the number of men employed has been approximately 550, of which 390 are unskilled or semi-skilled workers.

Since the committee's task only consisted of presenting objective information to the council, it did not make any judgment on the feasibility of the company's proposal for the town. The town council chose to involve the whole town in deciding upon the proposal, and a special election was scheduled. The issue is an important one, as it affects the town as a whole, and each individual resident in many ways.

The town's one newspaper decided not to publicly take sides, but to allow all the citizens to express their views on the issue. In a special edition, the newspaper encouraged the residents to write letters expressing their views on the company's proposal, and these letters were presented in toto. In order to accommodate as many letters as possible, the editor restricted the letters to a brief listing of arguments for or against the proposal. One such letter was randomly selected for the study in which you are presently participating.

The purpose of this study is to determine whether there are ways of differentiating good voters from bad voters in state and Federal elections. This particular study grew out of a recent controversy in Congress concerning possible differences in the manner of thinking between 18 to 20 year olds, and those 21 and over. This research, sponsored by the joint congressional committee on voter regulations and by several state legislatures, is being undertaken in selected colleges and universities throughout the country to study the problem, and to make recommendations concerning the establishment of meaningful criteria to evaluate the quality of voter judgement and behavior, to be used in the 1972 Presidential election. Specifically, this study is concerned with two questions: Are there meaningful differences in ability to weigh information between those individuals 18 to 20 years old and those 21 and over? Can college students critically evaluate material relevant to political issues, and make sound and intelligent judgements concerning what they have read.

#### DIRECTIONS

On the next page you will find a blank sheet of paper. Detach this sheet and place it on the side of your desk. On the following page, you will find a list of arguments included in the letter by one of the town's residents. Please read each statement carefully, and immediately after reading each statement, write a response to that statement on the blank sheet on the space provided. Include all your thoughts and feelings on the statement. Write as much as you want, but express only one idea in each sentence you write.

The following letter was written by one of the leading citizens of the town, a very respected and intelligent person who has performed a number of public services in the town throughout his lifetime. He has been an influential member of the town's civic organizations, and the general feeling in the town is that he is a trustworthy and honorable man. This prominent resident has spoken out on the major issues affecting the town's future on many occasions in the past. He concluded his letter stating that he was definitely against the company moving into the town, due to the reasons mentioned ( and printed below ).

The purpose of this study is to standardize some of the materials in the study for use in later research. We are not particularly interested in your attitudes or opinions, but only to see if the materials can be used in later studies.

#### DIRECTIONS

On the following page, you will find a list of arguments which were included by one of the town's residents. Please read the statements carefully.

The following letter was written by a middle aged man, one of the few people to move into the town recently (within the last six months, according to his letter). This man left his former residence in another state after he had run unsuccessfully for a small public office. He stated that he had few supporters there, as others did not understand him and apparently did not place much trust and confidence in him. Although having made few friends in his present town as yet, he claims to understand the feelings of the town. He concluded his letter stating that he was definitely against the company moving into the town, due to the reasons mentioned (and printed below).

Please write your responses to each statement in the space provided.

A. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

F. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

G. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

H. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

J. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- A. The company plans to build on land set aside as a park and recreational area, one of the nicer places in town. There are no other areas in town suitable for a park.
- B. Crime is on the rise in the town. Who knows what will happen when the company moves in!
- C. There will be much more noise in the town with all the hustle and bustle of truck traffic, people rushing about, and all that.
- D. The style of life in this town will be altered radically.
- E. There's even a chance some of the natural resources of the town (our water supply, plant and wildlife, air) will be jeopardized. I think the town council is not telling us all they know!
- F. This company has hinted that it will build more and more through the years--maybe even other companies will enter once the precedent is set. This will just compound the problems!
- G. You never know what those scientists are doing in that research center they plan to build, either!
- H. The town's whole life will revolve around the work shifts in the factory.
- I. Suppose they want to hire people from the outside!
- J. The factory will be huge--it just won't fit into our town!



On this page, we would like you to indicate your personal feelings about the truth of the statements listed below by circling the one number that best indicates your judgment of the truth of that statement. Notice that the larger the number the more true the statement is judged; the smaller the number the more false it is judged.

Please respond to each of the statements on this page by indicating your own personal opinion of the statement's truth. Answer the questions in the order presented, and do not skip any question. Work rapidly, but read the statements carefully.

1. I fully encourage the town council to grant the company its request to move into the town.

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 /  
 / Definitely / Probably / Uncertain / Probably / Definitely /  
 False False True True

2. The problems the company will cause in the town are very great.

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 /  
 / Definitely / Probably / Uncertain / Probably / Definitely /  
 False False True True

3. My feelings on this issue are very intense.

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 /  
 / Definitely / Probably / Uncertain / Probably / Definitely /  
 False False True True

4. I feel my position on this issue is very important to me.

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 /  
 / Definitely / Probably / Uncertain / Probably / Definitely /  
 False False True True

At this time, we would like you to look back to the responses which you wrote to the arguments written by one of the town's residents. We would like you to evaluate your own responses on the degree to which they are favorable or unfavorable to the town resident's position on the issue. Please score each sentence separately on the following basis:

- +2 very favorable to the resident's position.
- +1 somewhat favorable to the resident's position.
- 0 completely neutral
- 1 somewhat unfavorable to the resident's position.
- 2 very unfavorable to the resident's position.

Please put the rating number to the left of each sentence that you have written.

Please circle the appropriate number which best expresses your feelings.  
Answer the statements in the order presented.

What do you think of the company moving into the town?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Very							Very							
Unfavorable							Favorable							

Rate your degree of involvement in this issue.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Not at all involved											Very much			
(Couldn't care less)											involved			

If you were a resident of the town, how would you view the company's request to enter the town?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
having all			having both						having all					
BAD points			good and bad						GOOD points					
			points											

Please answer the following questions as accurately as you can.

1. Economically speaking, the bulk of the town's residents could be categorized as \_\_\_\_\_ . (poor, middle class, or rich)
  2. How many individuals were residents of the town in 1960? \_\_\_\_\_ In 1970? \_\_\_\_\_
  3. By what method will the issue finally be resolved? \_\_\_\_\_
- 
4. Characterize as best you can the resident who wrote the letter that you read by checking the appropriate number on each line.

a. 

1	2	3	4	5	6	7	8	9
extremely untrustworthy				neutral			extremely trustworthy	

b. 

1	2	3	4	5	6	7	8	9
extremely ignorant				neutral			extremely intelligent	

c. 

1	2	3	4	5	6	7	8	9
extremely incompetent				neutral			extremely competent	

d. 

1	2	3	4	5	6	7	8	9
not at all active in town				neutral			very active in town	

e. 

1	2	3	4	5	6	7	8	9
extremely threatening				neutral			not at all threatening	

f. 

1	2	3	4	5	6	7	8	9
out to persuade				neutral			not out to persuade	

g. 

1	2	3	4	5	6	7	8	9
did not want company to move in				neutral			did want company to move in	

5. Briefly, what was the stated purpose of this experiment?
- 
-



Since it is essential that the students participating in this experiment have no knowledge beforehand of the materials contained in this booklet and of the nature of this experiment, I PROMISE NOT TO DISCUSS ANY ASPECT OF THIS EXPERIMENT WITH OTHER COLLEGE OR UNIVERSITY STUDENTS FOR THE DURATION OF THIS EXPERIMENT (UNTIL MAY, 1971)

Signed: \_\_\_\_\_

Do you have any comments about the experiment or the experimenter?

Do you feel that you were mistreated in any way?

Have you heard of this experiment previously which may have affected your responses?

If so, please explain.

In the past, we have found that the results of such studies are affected by how hard the student tried during the experiment. Some students get very involved in the study, others do not. Without any penalty of any sort (you will still receive your experimental credit), could you help us by indicating your involvement or interest in this particular experiment. In other words, please give us an indication of "how hard you tried."

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
tried not											tried very			
at all											hard			

(The experimenter will explain the exact nature of the experiment when everyone is finished.)

NAME: \_\_\_\_\_

AGE: \_\_\_\_\_

YEAR IN COLLEGE: \_\_\_\_\_

## BIBLIOGRAPHY

- Aiello, T. J. Ambiguity, involvement, judgment and persuasibility. Dissertation Abstracts, 1967, 28, 775.
- Asch, S. Social Psychology. Englewood Cliffs, N. J.: Prentice Hall, 1952.
- Atkins, A. L., and Bieri, J. Effects of involvement levels and contextual stimuli on social judgment. Journal of Personality and Social Psychology, 1968, 9, 197-204.
- Bem, D. J. Self-perception: an alternative explanation of cognitive dissonance phenomena. Psychological Review, 1967, 74, 183-200.
- \_\_\_\_\_. An experimental analysis of self-persuasion. Journal of Experimental Social Psychology, 1965, 1, 199-218.
- Deaux, K. K. Variations in warning, information preference, and anticipatory attitude change. Journal of Personality and Social Psychology, 1969, 11, 301-308.
- Edwards, A. L. Experimental design in psychological research. 3rd. ed. New York: Holt, Rinehart, and Winston, 1968.
- Edwards, J. D. Resistance to attitude change as a function of the centrality and relatedness of bonded values. Psychonomic Science, 1970, 20, 367-369.
- Edwards, J. D., and Ostrom, T. M. Value bonded attitudes: changes in attitude structure as a function of value bonding and type of communication discrepancy. Proceedings of the 77th convention of the American Psychological Association, 1969, 413-414.
- Freedman, J. L. Involvement, discrepancy and attitude change. Journal of Abnormal and Social Psychology, 1964, 69, 290-295.
- Goldberg, C. Attitude change as a function of source credibility, authoritarianism and message ambiguity. Dissertation Abstracts International, 1970, 31, 464-465.

- Greenwald, A. G. Cognitive learning, cognitive response to persuasion and attitude change. In Greenwald, A. G., Brock, T. C., and Ostrom, T. M. (Eds.), Psychological foundations of attitudes. New York: Academic Press, 1968, 147-170.
- Guilford, J. P. Fundamental statistics in psychology and education. New York: McGraw Hill, 1965.
- Hovland, C. I., Lumsdaine, A. A., and Sheffield, F. D. Experiments on mass communications. Princeton: Princeton University, 1949.
- Hovland, C. I., and Weiss, W. The influence of source credibility on communication effectiveness. Public Opinion Quarterly, 1951, 15, 635-650.
- Insko, C. A. Theories of attitude change. New York: Appleton, Century-Crofts, 1967.
- Johnson, H. H., and Izzett, R. R. Relationship between authoritarianism and attitude change as a function of source credibility and type of communication. Journal of Personality and Social Psychology, 1969, 13, 317-321.
- Johnson, H. H., and Scileppi, J. A. Effects of ego involvement conditions on attitude change to high and low credibility communicators. Journal of Personality and Social Psychology, 1969, 13, 31-36.
- Johnson, H. H., and Torcivia, J. M. Acquiescence response style and attitude change. Journal of Personality and Social Psychology, 1968, 8, 349-350.
- Johnson, H. H., Torcivia, J. M., and Poprick, M. A. Effects of source credibility on the relationship between authoritarianism and attitude change. Journal of Personality and Social Psychology, 1968, 9, 179-183.
- Kelman, H. C. Attitude change as a function of response restriction. Human Relations, 1953, 6, 185-214.
- Kiesler, S. B., and Mathog, R. B. Distraction hypothesis in attitude change: Effects of effectiveness. Psychological Reports, 1968, 23, 1123-1133.
- Koslin, B., Stoops, J., and Loh, W. Source characteristics and communication discrepancy as determinants of attitude change and conformity. Journal of Experimental Social Psychology, 1967, 3, 230-241.



- Letchworth, G. Attitude change over time as a function of ego involvement, communicator credibility, and number of exposures to a communication. Dissertation Abstracts, 1969, 29, 2802-2803.
- McGinnies, E. Studies in Persuasion IV: source credibility and involvement as factors in persuasion with students in Taiwan. Journal of Social Psychology, 1968, 74, 171-180.
- McGuire, W. J. The nature of attitudes and attitude change. In Lindzey, G., and Aronson, E. (Eds.), The Handbook of Social Psychology, 2nd ed., Volume 3. Reading, Mass.: Addison Wesley, 1968.
- \_\_\_\_\_. Inducing resistance to persuasion. In Berkowitz, L., Advances in Experimental Social Psychology, Volume 1. New York: Academic Press, 1964.
- Miller, N. Involvement and dogmatism as inhibitors of attitude change. Journal of Experimental Social Psychology, 1965, 1, 121-132.
- Ostrom, T. M., and Brock, T. C. A cognitive model of attitudinal involvement. In Abelson, R. P., Aronson, E., McGuire, W. J., Newcomb, T. M., Rosenberg, M. J., and Tannenbaum, P. H. (Eds.), Theories of Cognitive Consistency: A Sourcebook. Chicago: Rand McNally, 1968, pp. 373-383.
- Page, M. M. Role of demand awareness in the communicator credibility effect. Journal of Social Psychology, 1970, 21, 57-66.
- Rhine, R. J., and Severance, L. J. Ego involvement, discrepancy, source credibility and attitude change. Journal of Personality and Social Psychology, 1970, 16, 175-190.
- Ritchie, E., and Phares, E. J. Attitude change as a function of internal-external control and communicator status. Journal of Personality, 1969, 37, 429-443.
- Rodgers, R. W., and Thistlethwaite, D. L. An analysis of active and passive defenses in inducing resistance to persuasion. Journal of Personality and Social Psychology, 1968, 9, 157-161.
- Rosenberg, M. J. When dissonance fails: on eliminating evaluation apprehension from attitude measurement. Journal of Personality and Social Psychology, 1965, 1, 28-42.
- Rosenthal, R. Experimenter effects in behavioral research. New York: Appleton-Century-Crofts, 1966.

- Scileppi, J. A. The effects of source credibility and ego involvement on attitude change toward a discrepant communication under facilitative and non-facilitative cognitive response expression conditions: a pilot study. Unpublished, 1971.
- Sereno, K. K. Ego involvement, high source credibility and response to a belief discrepant communication. Speech Monographs, 1968, 35, 476-481.
- Sherif, C., Sherif, M., and Nebergall, R. E. Attitude and attitude change. Philadelphia: Saunders, 1965.
- Sherif, M., and Cantril, H. The psychology of ego involvements. New York: Wiley and Sons, 1947.
- Sherif, M., and Hovland, C. I. Social judgment. New Haven: Yale University Press, 1961.
- Sherif, M., and Sherif, C. Attitude, ego involvement, and change. New York: Wiley and Sons, 1967.
- Sigall, H., and Helmreich, R. Opinion change as a function of stress and communicator credibility. Journal of Experimental Social Psychology, 1969, 5, 70-78.
- Singer, J. E. Motivation for consistency. In Feldman, S. (Ed.), Cognitive Consistency: Motivational antecedents and behavioral consequents. New York: Academic Press, 1966, pp. 47-73.
- Steiner, I. D., and Johnson, H. H. Relationships among dissonance reducing responses. Journal of Abnormal Social Psychology, 1964, 68, 38-44.

APPROVAL SHEET

The dissertation submitted by Brother John A. Scileppi, has been read and approved by members of the Department of Psychology.

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

May 24, 1972  
Date

Homer H. Johnson, Ph.D.  
Signature of Advisor