# SOURCE CREDIBILITY, DISSONANCE THEORY AND ATTITUDE CHANGE

Thesis for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY

Fredric A. Powell

1963




This is to certify that the

thesis entitled

Source Credibility,
Dissonance Theory and Attitude Change

presented by

Fredric Alan Powell

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Communication

Major professor

Date November 21, 1963

APR U 5 1996

# SOURCE CREDIBILITY, DISSONANCE THEORY AND ATTITUDE CHANGE

By

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AN ABSTRACT OF A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Communication

1963

Note: pages are not in order!

ABSTRACT

SOURCE CREDIBILITY, DISSONANCE THEORY
AND ATTITUDE CHANGE

by Fredric A. Powell

Dissonance theory holds a number of implications for the explanation and prediction of the attitude change effects of high and low source credibility: (a) greater attitude change will accrue from behavioral compliance with the position of a low credibility source than from compliance with that of a high credibility source, (b) greater attitude change will follow behavioral compliance than noncompliance, (c) greater attitude change will result from compliance with a position inconsistent with the receiver's preexisting attitudes than from compliance with a position consistent with those attitudes, and (d) magnitude of attitude change is positively associated with the receiver's experienced choice in complying or not complying with the source's position. This study was an empirical examination of the attitude change effects of differential source credibility when the receiver has or has not complied with a consistent or inconsistent attitude position advocated by the source.

Six experimental groups (Michigan State University upperclassmen) were exposed to a persuasive message under conditions of (a) high or low source credibility, (b) voluntary compliance or noncompliance, and (c) high or low discrepancy in the attitude positions of source and receiver.

The criterion measure was amount of attitude change, between before-and-after measures, in the direction advocated by the message source. Attitude change effected by the experimental manipulations was indexed by a series of Likert-type attitude items. Changes in perceived source credibility were also measured.

Statistical analysis of the data included testing the significance of differences in mean attitude change scores among treatment groups. The results of the analysis indicated that, in the behavioral compliance conditions:

(1) Significantly greater mean attitude change was effected in the voluntary than in the involuntary compliance treatment groups,

(2) The mean attitude change effected in the high credibility treatment groups was not significantly different from that effected in the low credibility groups, and

(3) Significantly greater mean attitude change was effected in the initially "unfavorable" than in the initially "favorable" treatment groups.

The failure to obtain a significant difference difference in the mean attitude change scores of the high and low credibility treatment groups was attributed to a failure to effect the intended source credibility manipulations. Apparently, the two sources used in the study were not perceived by Ss as sufficiently different in credibility to produce the predicted attitude change effects; i.e., that a low credibility source will produce greater attitude change than a high credibility source.

The data analysis further indicated that, in the noncompliance conditions:

(1) Significantly greater positive attitude change was effected in the high than in the low credibility treatment groups. This phenomenon was observed, however, only in the message only conditions in which Ss were not given the opportunity to comply. In the voluntary noncompliance groups, greater attitude change was found in the low than in the high credibility conditions.

(2) Significantly greater positive attitude change was effected in the treatment groups initially "unfavorable"

toward the source's position than in the groups initially "favorable."

(3) Significantly greater attitude change was effected in the voluntary noncompliance than in the message only treatment groups.

Changes in perceived source credibility were indexed by twelve seven-position rating scales similar to the Semantic Differential. Changes in perceived source competence, trustworthiness and dynamism were measured, as well as changes in combined credibility estimates (a sum of change scores over the three credibility dimensions). The attitude change effected by the experimental manipulations were found to be significantly and positively correlated with change in perceived competence and trustworthiness, and with change in combined credibility estimates. Attitude change and perceived dynamism change were not significantly related.

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APPROVED: _____

## ACKNOWLEDGMENTS

Here, at the beginning of this volume and the conclusion of the study, I wish to express my deepest appreciation and thanks to my advisor, Dr. Hideya Kumata, and to the members of my guidance committee, Dr. David Berlo, Dr. Malcolm MacLean, Jr., Dr. Milton Rokeach and Dr. Frederick Waisanen. It was these people who guided and assisted me throughout the conceptualization and conduct of this study.

Special thanks are due Dr. Verling Troldahl and Mr. Donald Wells, both of whom devoted long hours to my problems and triumphs. Thanks are also due Mrs. Ruth Langenbacher who typed the final draft of this work.

The greatest debt of gratitude is owed my wife, Katherine, and our families who suffered through and served as my inspiration, and to our friends and colleagues who served as my most severe critics.

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# INTRODUCTION

In recent years, a wide variety of hypotheses in the study of attitude change phenomena have been generated from theories of cognitive consistency in general, and from Festinger's theory of cognitive dissonance in particular, and subjected to empirical test. One hypothesis suggested by dissonance theory asserts that if an individual makes a statement or otherwise engages in overt behavior which is discrepant with or contradictory to an attitude or belief which he holds, he will experience cognitive dissonance. Furthermore, dissonance theory suggests that if other means of reducing or obviating that dissonance (such as adding new cognitive elements which are consistent with beliefs already held or depreciating the importance of one or more of the inconsistent cognitions) are not readily available to the individual he will be motivated to change one or more of his existing attitudes or beliefs. In such a case, attitude change is the only means open to the individual in order that he might reduce dissonance accruing from his discrepant behavior. Investigations by Smith (1961a, 1961b) and Zimbardo (1960) have shown this to be the case.

In the terms of Festinger's theoretic analysis of cognitive dissonance, overt behavior discrepant with an

individual's attitudes or beliefs creates for that individual psychological tension or stress -- cognitive dissonance. Festinger postulates that those cognitions which lead to observable behavior must, if the individual is to avoid experiencing cognitive dissonance, necessarily be consistent with that behavior. Those cognitions which tend to deter behavior are, on the other hand, necessarily dissonant with that behavior.[1] It follows that a central determinant of the intensity or magnitude of dissonance created by behavior discrepant with an attitude or belief is the ratio of dissonant (those deterring the particular behavior) to consonant (those supporting that behavior) cognitions. The smaller this ratio, the greater is the dissonance experienced by the individual. It further follows that if an individual holds an attitude with respect to a particular issue, event or object, and is induced to behave in a manner discrepant with that attitude, the greater the number of cognitions leading to the discrepant behavior, the less will be the magnitude of dissonance experienced. In other words, the more reason or justification the individual has for engaging in the

---

[1]The semantic problems reflected in these sentences -- that of conceiving of dissonance both in terms of inconsistent relations among cognitions and in terms of a psychological state of the individual -- are dealt with in Chapter I.

discrepant behavior, the less will be the magnitude of cognitive dissonance created by having done so.

In the situation with which this study is concerned, the only means of reducing or resolving cognitive dissonance or conflict occasioned by discrepant behavior available to the individual is to alter his attitudes or beliefs so that they become more consistent with his overt behavior. Dissonance theory suggests that the greater the discrepancy an individual perceives between his attitudes and his overt behavior, the stronger will be his attempts to reduce the resulting dissonance. Inasmuch as cognitive dissonance can be reduced by attitude change, it is possible to predict the direction and relative magnitude of the resulting attitude change as a function of the variables contributing to dissonance arousal. Thus, given that an individual has exhibited behavior discrepant with an attitude or pattern of attitudes which he holds, the more nearly equal the balance between the cognitions supporting and contrary to that behavior, the greater will be the magnitude of dissonance and consequent attitude change in the direction of the exhibited behavior.

These suggested relationships between attitudes, behavior and their cognitive discrepancy are, in general,

borne out by research evidence in a variety of experimental situations.

Cohen (1960), in a discussion of dissonance theory and its implications for explaining and predicting the attitudinal consequences of discrepancies between attitudes and behaviors, further suggests that:

> "It also follows from the theory that if a communicator or inducing agent is viewed positively, complying with his request should produce less dissonance and consequently less attitude change toward the event than under conditions where a person complies with the requests of a negative or disliked communicator" (p. 319).

In the case of a negative communicator or source, Cohen argues, there are fewer cognitions supporting the discrepant behavior and thus greater consequent attitude change toward the discrepant position in order to reduce that dissonance.

This study is an empirical examination of the effects of differential source credibility upon attitude change when the receiver has and has not complied with a consistent or discrepant position advocated by the source.

# Chapter I

## THEORETIC BACKGROUND AND RATIONALE

### A Theory of Cognitive Dissonance

The theory giving rise to much of the research reviewed in the following pages is Festinger's theory of cognitive dissonance. Explicated in his book, A Theory of Cognitive Dissonance (1957a), the theory is based upon two basic assumptions:

> "The existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance.
>
> "When dissonance is present, in addition to trying to reduce it, the person will actively avoid situations and information which would likely increase the dissonance" (p. 3).

As evidenced by these assumptions, dissonance theory rests upon the premise that the individual is constantly striving to establish and maintain consistency or congruity among his cognitions (values, attitudes, opinions or bits of knowledge). In support of these assumptions, Festinger offers a number of theoretic statements concerning the arousal and/or presence and magnitude of dissonance:[2]

---

[2]Only those theoretic statements in Festinger's theory of cognitive dissonance which are germane to the present study and discussion are cited.

"Dissonance almost always exists after a decision has been made between two or more alternatives.

"Dissonance almost always exists after an attempt has been made, by offering rewards or threatening punishment, to elicit overt behavior that is at variance with private opinion.

"Forced or accidental exposure to new information may create cognitive elements that are dissonant with existing cognition.

"The magnitude of postdecision dissonance is an increasing function of the general importance of the decision and of the relative attractiveness of the unchosen alternatives.

"The magnitude of the dissonance resulting from an attempt to elicit forced compliance is greatest if the promised reward or threatened punishment is either just sufficient to elicit the overt behavior or is just barely not sufficient to elicit it.

"If forced compliance is elicited, the magnitude of the dissonance decreases as the magnitude of the reward or punishment increases.

"If forced compliance fails to be elicited, the magnitude of the dissonance increases as the magnitude of the reward or punishment increases (italics his)" (pp. 261-63).

Addressing himself to the problem of dissonance reduction, Festinger suggests that:

"Postdecision dissonance may be reduced by decreasing the importance of various aspects of the decision.

"If forced compliance has been elicited, the dissonance may be reduced by changing private opinion to bring it into line with the overt behavior or by magnifying the amount of reward or punishment involved.

> "If forced compliance fails to be elicited, dissonance may be reduced by intensifying the original opinion or by minimizing the reward or punishment involved.
>
> "When some of the cognitive elements involved in a dissonance are cognitions about one's own behavior, the dissonance can be reduced by changing the behavior, thus directly changing the cognitive elements.
>
> "Influence exerted on a person will be more effective in producing opinion change to the extent that the indicated change of opinion reduces dissonance for that person" (pp. 264-65).

(The latter four of the foregoing statements are of crucial interest and relevance to the concerns of this study.)

Festinger, concluding his brief summary of dissonance theory, offers three propositions concerning the effectiveness of dissonance reduction efforts:

> "The effectiveness of efforts to reduce dissonance will depend upon the resistance to change of the cognitive elements involved in the dissonance and on the availability of information which will provide, or of other persons who will supply, new cognitive elements which will be consonant with existing cognition.
>
> "The major sources of resistance to change for a cognitive element are the responsiveness of such cognitive elements to 'reality' and the extent to which an element exists in consonant relations with many other elements.
>
> "The maximum dissonance which can exist between two elements is equal to the resistance to change of the less resistant of the two elements. If the dissonance exceeds this magnitude, the less resistant element will be changed, thus reducing the dissonance" (pp. 265-66).

As set forth by Festinger, the theory of cognitive dissonance has a number of conceptual and operational shortcomings. The first of these lies in Festinger's definition of a "dissonant relation." It is Festinger's contention that ". . . two elements are in a dissonant relation if, considering these two alone, the obverse of one element would follow from the other" (1957a: p. 13). But, as Berlyne (1960) argues:

> "Festinger's 'dissonance' is a relation that can obtain between two 'cognitive elements' (beliefs, evaluations, perceptions) or between a cognitive element and an overt action that the subject either is contemplating or has already executed. He actually subsumes the second case under the first by referring to the cognitive element corresponding to the action (i.e., the memory or the thought of performing it). Most of his discussion is, however, devoted to the second case. He also deals preponderantly with dissonances between evaluations rather than between factual beliefs. Dissonance is defined in terms of logical contradiction ('p implies not-q'), but, taken strictly, this definition does not fit many of the instances that are analyzed. The statement 'Car A is superior to car B,' and the statement 'I have bought car B,' are certainly not contradictory in the usual sense that they cannot both be true. It seems better to invoke the more general notion of conflict" (p. 283).

Furthermore, it seems immediately obvious that, unlike the elements of a purely formal logical system, two cognitive elements can rarely, if ever, be taken alone in human cognitive processes. Festinger implies an awareness of this when he says, "The dissonance might exist because of what the person has learned or come to

expect, because of what is considered appropriate or usual, or for any number of reasons" (1957a: p. 13). Despite Festinger's apparent recognition of the problems inherent in his "formal" definition of dissonance, the researcher is left with a definition that is, at best, inadequate and incomplete.

A closely allied definitional problem arises when the question is asked: "How shall cognitive dissonance be known to exist?" How can an observer know when and if another individual is experiencing dissonance? If, as Rogers (1951) contends, reality can be known only in terms of what the particular individual perceives and experiences it to be, dissonance can be defined only in terms of that particular individual's perceptions and experiences. Kelly (1955) also points to this definitional and operational problem when he asserts that "what one person sees as inconsistent, another may see as consistent" (p. 86). Cognitive dissonance or inconsistency, Kelly implies, is a "property attributed to experience by the person who has the experience" (p. 87).

Two equally feasible approaches to the solution of this definitional impasse seem available. First, it might be assumed that cognitive dissonance is a motive or drive aroused by the perception of incongruities or

contradictions among cognitions. External knowledge of the presence of dissonance would be confined, if this approach was adopted, solely to clearly discernible, readily observable (and presumably universally recognizable) behavioral indices of cognitive discrepancies and to reasonable inferences based on knowledge of the individual's perceptual world. A second solution of the definitional problem would assume that cognitive dissonance <u>is</u> the "real" presence, available to observation, of illogical relations among cognitive elements. This approach must further assume that the various means of resolving cognitive dissonance include the "defense mechanisms" of repression, avoidance, rationalization, projection and denial. McGuire (1960c), in discussing these and other possible solutions of the problem, notes that all give rise to serious problems themselves and that, in the final analysis, it is the purpose and theoretic leanings of the individual investigator which determine the definitional approach utilized.

Festinger writes at length concerning magnitude of dissonance and the determinants of that magnitude. Any consideration of magnitude of dissonance ultimately turns on the question of when dissonance reaches a level or threshold sufficient to motivate dissonance reduction

activity. This question is central to the behavioral discrepancy and choice experiments reviewed later; i.e., how discrepant must behavior be or how much choice is required before dissonance reduction behaviors will be initiated? Hovland and Rosenberg (1960) contend that present methods of defining and operationalizing dissonance are so crude as to make it virtually impossible to do more than simply take account of the presence or absence of cognitive inconsistencies. In line with this reasoning, they advance the concept of "threshold of response to inconsistency." Berlyne (1960) voices a similar notion:

> "An additional assumption that we must make is that there is some sort of threshold value that the relative strength, p, of a response tendency must exceed if it is to contribute to conflict . . . . The reduction of response uncertainty to below a threshold value is what we mean when we speak of a conflict being resolved" (p. 36).

Concurrent with the question of <u>how much</u> dissonance is necessary before the individual is motivated or driven to attempt dissonance reduction, the issue of <u>when</u> dissonance occurs must also be considered. Cohen (1960) suggests that dissonance may occur only as a consequence of commitment to a decision or choice. An individual is committed, in the sense intended by Cohen, "when he has decided to do or not do a certain thing, when he has

chosen one (or more) alternatives and thereby rejected one (or more) alternatives, when he actively engages in a given behavior or has engaged in a given behavior. Any one or a combination of these behaviors can be considered a commitment" (Brehm and Cohen, 1962: p. 7). In discussing studies dealing with behavioral discrepancy and attitude change, he notes the importance of certain conditions which seem to affect the relationship between the extremity of a person's own position and attitude change:

> "These conditions concern the importance of volition, i.e., the person's own actions, in making an approach toward, or committing himself to receipt of, or involving himself with, a communication contrary to his position" (Cohen, 1960: pp. 307-08).

> ". . . the perception of commitment to a choice may be a necessary precondition for the creation of cognitive dissonance . . . the mechanism through which variations in motivational inducements are operating in producing variations in attitude change may conceivably be the person's subjective perception of the choice he has in submitting or exposing himself to an undesirable event" (p. 306).

A similar notion is expressed by Maccoby and Maccoby (1961) in their hypothesis that exposure to a message contrary to one's beliefs is a postdecisional, rather than predecisional, action in that the individual has previously elected to believe what he now believes.

The suggestion is made by Hovland and Rosenberg (1961) that cognitive inconsistency and conceptual conflict may

be the same fundamental phenomenon and that it should be possible to "derive clues for measurement of inconsistency from the theorizing about factors affecting the degree of conflict" (p. 214). Voicing a similar position, Berlyne (1960) says:

> ". . . there is much in common between these conceptions (cognitive inconsistency and conceptual conflict), despite their divergent emphases. The ways in which dissonance or imbalance can be removed . . . , parallel the ways in which the acquisition of knowledge can relieve conflict, as we shall see. Furthermore, all these theories are alike in recognizing that the beliefs, attitudes, and other symbolic processes of an individual do not exist in isolation but interact, that there can be discrepancies between them that the individual is motivated to remedy" (p. 285).

It might be noted that the theoretic pursuits of Berlyne seem to lead him in a somewhat different direction than that taken by Festinger and other balance theorists. Berlyne's apparent interest is in the kind(s) of cognitive resolution(s) which will eventually be effected in a conflict situation, whereas Festinger's theoretic interests appear to be in the cognitive and behavioral modifications which accompany that resolution. Berlyne is not, however, oblivious to the concerns of Festinger, inasmuch as the changes which accompany cognitive resolution cannot be divorced from the resolution process itself.

The issues raised in the foregoing discussion turn about the question: "In which direction in time from the

point of decision -- forward or backward -- should one be looking?" Cohen (1960) directs attention to the question in stating:

> "Another difficult problem concerns the dual theoretical notions of conflict and dissonance. With regard to the free-choice situations, a conflict interpretation might claim that re-evaluation of alternatives occurs before choice, thereby changing the approach-avoidance gradients for the alternatives, and allowing finer discriminations so that a choice can be made. While both pre-decisional re-evaluation before choice owing to resolution of conflict and post-decisional re-evaluation after choice owing to resolution of dissonance undoubtedly occur, it is not clear to which process and therefore to which theoretical notion the major share of re-evaluation may be attributed. More realistically, it is at least important to specify the conditions under which one or the other process might be expected to occur" (p. 313).

It appears that two separate and distinct, yet closely interrelated, cognitive processes are being discussed here. The first process, in which a state of cognitive "conflict" (in Berlyne's sense) might be experienced, is the process of arriving at a decision. The second, in which the individual might experience cognitive "dissonance" (in Festinger's sense), is that of justifying or rationalizing that decision once it has been made. Festinger (1957a) himself takes cognizance of the distinctiveness of the two processes as he says:

> "It is best, before going on, to also discuss the distinction between conflict and dissonance, because they are dynamically different in their

> effects. The person is in a conflict situation before making the decision. After having made the decision he is no longer in conflict; he has made his choice; he has, so to speak, resolved the conflict. He is no longer being pushed in two or more directions simultaneously. He is now committed to the chosen course of action. It is only here that dissonance exists, and the pressure to reduce this dissonance is not (italics his) pushing the person in two directions simultaneously" (p. 39).

The operational possibilities for distinguishing between the two cognitive processes are severely restricted in that both processes seem to elicit the same behaviors (and require the same behaviors for their inference) and it is extremely difficult to ascertain, or even to arbitrarily delineate, where one process leaves off and the other begins.

A study by Deutsch, Krauss and Rosenau (1962) demonstrates the difficulties associated with attempting to differentiate operationally cognitive dissonance and conflict. Investigating the effects of choices relevant to an individual's self conception, they noted that the ultimate effect of a choice was the same irrespective of whether self concept relevance was induced prior to or following the time at which the choice was made. In addition, the fait accompli investigations of Brehm (1959) and Brehm and Cohen (1959b) suggest that justification efforts (during which dissonance may be experienced) can be expected to continue until the individual has experienced

and/or taken account of all of the possible consequences of his decision or behavior.

Recognizing the theoretic, if not operational, distinctiveness of cognitive conflict (viewed as the decision process) and cognitive dissonance (viewed as efforts designed to justify or defend that decision), it might prove productive and parsimonious to consider the two as closely interrelated components of the same cognitive process. Cognitive dissonance might then be variously construed as a need or drive to reduce cognitive inconsistency, as a drive or motivation to resolve cognitive conflict or as psychological tension aroused by the perception of conflict. Berlyne (1960), for instance, takes the theoretic position that cognitive conflict is the simultaneous arousal within an individual of two or more incompatible responses or response tendencies. Arousal, in turn, is the occurrence of an external or internal stimulus which is associated with a particular response. Cognitive conflict, then, may be due to the occurrence of a number of stimuli, each of which is associated with a separate and distinct response, or it may be the consequence of the occurrence of a single stimulus associated with two or more antagonistic responses.

Following this reasoning, cognitive conflict is

resolved by the making of a response -- a decision or behavior. That response is accompanied by cognitive dissonance; the individual experiences a drive to justify or defend that response. Dissonance reduction, in turn, is the process of justifying or defending a response -- a decision or behavior -- once it is manifested.

Berlyne's conflict resolution and Festinger's dissonance reduction cannot, then, be seen as the same cognitive process, but rather as interrelated processes.

Cohen (1960) suggests that magnitude of dissonance is a function of the number of alternatives or choices perceived by an individual in justifying a decision and of the qualitative dissimilarity of those alternatives. Similarly, degree of conceptual conflict is defined by Berlyne as a function of the nearness to equality in strength of competing response tendencies, their absolute strength and their number. Additionally, the degree of incompatibility of the competing response tendencies contributes to the degree of conflict experienced. A similar view is espoused by Hovland and Rosenberg (1960).

The determinants of degree of conflict or of magnitude of dissonance seem to exist in two distinct

dimensions: (a) the difficulty of making or justifying a decision and (b) the importance of that decision. The difficulty dimension encompasses the number of alternatives or competing response tendencies, their equality or inequality of desirability and their compatibility or incompatibility. Importance, on the other hand, is tied to the constructs of the "importance of dissonant relations" and the "absolute strength of competing response tendencies." Furthermore, the importance dimension appears to be closely associated with the anticipated consequence of having made a decision. That is, degree of conflict or magnitude of dissonance can be expected to be less when the anticipated consequences of a decision are seen to be rewarding than when those consequences are seen to be punishing, i.e., when those consequences accrue from making a wrong or inappropriate decision. The consequences of an erroneous decision might entail any or all of the following: physical and/or psychic harm to the individual, the loss of valued objects or the failure to attain one or more desired goals. Deutsch, Krauss and Rosenau (1960) concisely state the position espoused here in this manner:

> "In concluding our discussion, it should be noted that, according to Festinger's theory of dissonance, the magnitude of dissonance is a function of the importance of the dissonant elements. . . .

> The question, then, naturally arises as to what makes a decision important? Unfortunately, Festinger does not define 'importance' apart from equating the importance of a cognitive element with the extent to which it is valued by the person or with how "consequential' it is to the person (Festinger, 1957, p. 16). It is obvious from our results with the self-involvement conditions that it is not the perceived value of the items directly involved in the choice which is critical in determining the importance of a choice; a choice can be important because of its self-relevance when the items involved in the choice have little perceived value" (p. 26).

Deutsch, Krauss and Rosenau are suggesting that an individual experiencing postdecisional dissonance is endeavoring to defend himself from the perceived implications of his decision which he sees as contradictory to his self conception. Cohen (1960) expounds a similar view when he notes that "while the dissonance formulation as it stands deals with bundles of cognitions in opposition and is conceptualized at a very abstract level, a more adequate formulation might point to the conflict within the person as different aspects of his self become embroiled in opposition as a result of a choice or commitment on his part" (p. 307).

Placing the problem of dissonance and dissonance reduction in the context of the individual's desire for self security, Deutsch, Krauss and Rosenau go on to point out that:

> "Due to the pervasive concern in our society about being 'correct,' 'popular,' 'successful,' 'free of blame,' etc., one can expect defensiveness

> about decisions -- i.e., postdecisional dissonance -- to be a fairly widespread phenomenon. One can expect postdecisional dissonance to be accentuated under conditions which enhance self-defensiveness: when the individual has doubt that he conforms to his vested self conception; when the 'correctness,' 'popularity,' 'successfulness,' etc., of his decision is seen to be a relevant measure of some aspect of his self; when his sense of responsibility for the decision is strong; when the external or social challenge to his self-conception is strong, etc. On the other hand, one would expect postdecision dissonance to be minimized: if the individual feels secure in his self-evaluation; if his self conception permits him to recognize and acknowledge fallibility in the area of the given decision; if the area in which the decision has been made has little evaluative significance for his self conception; if he feels his decision conforms with his self-evaluation; if he does not anticipate that his decision will be challenged by others; if he does not view the decision as self-determined, etc." (pp. 25-26).

Should an individual's behavior violate one or more aspects of his self conception, Lecky (1951) suggests that such behavior (and the concommitant sense of violation to the self concept) will lead the individual to reinterpret that behavior in order to bring it into line, in his own mind, with his image of himself. ". . . most of our thinking appears to have the purpose of merely rationalizing our behavior to make it seem consistent, of defending conclusions already reached or justifying positions already taken . . ." (pp. 164-65). He also suggests that those ideas or cognitions most closely related to the individual's concept of self will be more intensely maintained and defended than more peripheral

cognitions, since the individual's self concept lies at the core of his total cognitive system. (This notion is reminiscent of the central-peripheral belief dimension posited by Rokeach, 1960). Furthermore, Rogers (1951) holds that although the individual is relatively free to alter his self perception in any way he deems appropriate or necessary, he is, to the extent that he is able, most likely to reorganize that portion of his cognitive system which does not include his self perceptions. The self concept, then emerges as the most resistant to change aspect of the individual's total cognitive organization.

An individual, however, does not deliberately seek to avoid all cognitive conflict and difficulty. Instead, as suggested by Rogers (1951), the individual values and sometimes actively seeks experiences which, when successfully carried through, enhance the self. That is, an individual's sense of self-adequacy may be heightened by the successful accomplishment of some task or the achievement of some goal if, at the outset, there existed the possibility of failure. Lecky (1951) further contends that people may, in fact, need difficulties to overcome:

> ". . . a pleasure cannot be understood except in terms of its history; it came into existence because a difficulty was overcome, but as the

> difficulty diminishes it is destined to pale, so that eventually the affective value of most behavior approaches neutrality. Hence, since the pleasure to be gained by repeating the same performance is likely to be limited, we arrive at the unorthodox conclusion that continuous pleasure demands the continuous solution of new problems, rather than a condition of relief and passivity. . . . the generalization that pleasure consists in the removal of conflict by some means or other appears to hold true in all cases" (p. 139).

In a similar vein, Hovland and Rosenberg (1960) point to man's unique capacity for symbolic manipulation as a means whereby he can modify his ideational representations of his environment when necessitated by the need to resolve cognitive conflict or dissonance:

> "Among the many behavioral expedients available to animals in conflict, one that seems virtually unique to man is symbolic manipulation. He far more than any other animal can change his ideational representations of the objects of the environment relevant to his conflict; probably he only can maintain a dialogue with himself in which he is capable of altering his ways of representing what he feels, believes, and intends toward the conflict relevant objects.
>
> "With these considerations in mind we may note the simple point that a socialized human, by the time he has come to maturity, will have undergone thousands of 'training trials' in which 'conflict-like' situations have been altered, and their attendant frustrations reduced or eliminated, through active efforts at reorganizing the representation of certain aspects or components of those situations so as to reduce the inconsistency between them. When the total representation of a conflict-arousing situation has been so transformed that its objects do not elicit competing and incompatible response tendencies, the conflict has been solved; overt behavior productive of need reduction has become possible and is undertaken and carried to completion.

> "The long-term consequence of an extended history of such transactions repeated again and again will be that the state of 'consistency' between affective, cognitive, and overt behavioral responses toward objects will become, in itself, a desired and gratifying state of affairs; it will have the status of a basic learned incentive. And of course from this it follows that the encounter with extensive inconsistency between such responses . . . will be psychologically painful and will activate the individual's learned skills of response reorganization" (pp. 224-25).

To briefly summarize the preceding discussion, it can be argued that rational man (rational in the sense that his acts are in accord with the demands of his environment) is impelled to successfully maintain, enhance and defend his conception of himself -- his self image. In order to assure the maintenance and defense of his self conception, he must be master of his relations with the environment, necessitating stability in his cognitions of his physical and social environment and of himself.

Successful behavior tends to maintain and enhance man's self concept. Successful behavior accrues from the actual or potential responses of others which are consistent with man's conception of himself -- responses which will maintain and enhance his self concept. Unsuccessful behavior -- that which elicits responses from others which are inconsistent with man's self concept -- results in threat to his self concept. All of man's behavior, both successful and unsuccessful, has

implications for the maintenance, enhancement and defense of his self concept.

Cognitive conflict is an unavoidable, integral part of man's existence. It tends to block the achievement of man's purposes, including that of maintaining and defending the self concept. The resolution of such conflict necessitates behaviors which achieve man's purposes and enhance his self concept. Successful conflict resolution is, in and of itself, self-enhancing in that it culminates in a sense of self security and competence in man's dealings with his environment.

Rational man can be conceived, then, as motivated to successfully resolve his conflicts and to seek out those conflicts which he expects that he can successfully resolve. Man actively seeks to avoid what he perceives to be the undesirable consequences of a decision (e.g., social disapproval, criticism, ridicule or ostracism) and to attain what he sees as the desirable consequences of his decision or action (e.g., social approval and approbation). Mills and Snyder (1962) concisely express this notion in the following terms:

> "One basic assumption is that when a person is in a decision situation, that is, when he perceives that different courses of action are available to him which will have different consequences for motive satisfaction, he will want to choose the

> alternative which will lead to the most favorable consequences and will avoid committing himself to a poorer alternative. He will try to avoid making a mistake . . . . It is also assumed that his desire to avoid making a mistake will be greater, the more important the decision, i.e., the greater is its consequences for motive satisfaction" (pp. 459-59).

The behaviors which follow from a decision must, in turn, be justifiable and defensible in man's mind.

If one accepts the preceding ideas of the nature of cognitive conflict, its resolution and relation to the maintenance and defense of the self concept, cognitive dissonance may be defined as the drive to defend and justify one's decisions. Dissonance is the postdecisional drive -- aroused by one's selection between behavioral or cognitive alternatives -- to accomplish conflict resolutions which achieve one's purposes, enhance one's self concept and are justifiable. The magnitude of cognitive dissonance, apart from the determinants posited by Festinger, is, from this point of view, the strength of that drive -- the drive to defend and justify (to oneself and to others) one's decisions.

This re-definition of cognitive dissonance is reminiscent of the defense mechanism of rationalization suggested by Freud. Dissonance is here defined as the drive to justify and defend an act or decision;

rationalization is viewed as a means of justifying and defending an act or decision. Rationalization can be construed, then, as the means by which a motive or drive -- cognitive dissonance -- is satisfied. This is not to say that the process of rationalization is the only means by which an individual might reduce cognitive dissonance; the mechanisms of denial, repression, projection, etc., might also be employed to defend and justify his act or decision.

The cognitive dissonance which follows from making a decision (a choice between behavioral alternatives) can be analyzed, as suggested previously, into the interrelated dimensions of importance and difficulty. The difficulty of a decision, in terms of the likelihood of making the wrong decision occasioned by an inability to successfully identify and evaluate the alternatives, is a function of the number, qualitative dissimilarity and immediate desirability of the alternatives, as well as the extent of one's knowledge of the alternatives' possible consequences. Directly tied to the question of one's knowledge of the alternatives' consequences, the importance of a decision is a function of the ratio of the desirable to the undesirable consequences which might accrue from a given decision. In terms of the foregoing analysis, a decision's

importance is reflected in the individual's assessment of the actual or potential harm which might accrue to the self concept through physical injury, non-reward, loss of valued objects or associates, contradiction of one's self concept and failure to maintain and enhance one's self concept. Magnitude of dissonance is thus a function of the conjoined magnitude of the importance and the difficulty of a decision.

Primarily concerning themselves with choice behavior, Deutsch, Krauss and Rosenau (1962) posited a number of hypotheses concerning magnitude of dissonance which are directly contingent upon the importance dimension of a decision or choice. They contend that magnitude of dissonance is a function of (a) the degree of responsibility which an individual feels he has for having made the decision or choice, (b) the degree to which he is unable to negate or avoid the consequences of that decision or choice, (c) the extent to which he views the decision or choice as a valid reflection of his self conception and (d) the degree of consistency obtaining between that decision or choice and his self concept. These hypotheses suggest a variety of means whereby the importance of a decision might be heightened. The importance of a decision might be enhanced by

emphasizing the consequences of that decision in one or more of the following ways: pointing out the inconsistency between the individual's self concept and his decision, stressing the individual's direct or incidental responsibility for the decision, making irrevocable the decision or pointing out the relevance of the decision for the individual's self concept. It seems reasonable to assume that these and other consequences of a decision are rarely, if ever, fully realized at the time a decision is made.

In order that one's self concept be maintained and enhanced, one's behaviors and decisions must not only be successful; they must also be defensible. A variety of "defense mechanisms" have been suggested in the social behavior literature. Festinger (1957a) contends that one or more elements in a dissonant relation may be modified, cognitive elements consonant with existing cognitions may be added and/or the importance of dissonant elements may be decreased. Osgood (1960) lists and modifies somewhat the four means of reorganizing cognitions first suggested by Abelson: (a) <u>denial</u> -- changing one's evaluation of one or more of the dissonant elements or relations; (b) <u>bolstering</u> and/or <u>undermining</u> -- finding additional cognitive elements which support one "side"

of the cognitive conflict whle derogating the other "side"; (c) differentiation -- distinguishing between two aspects of one of the dissonant elements in such a way that one aspect of that single cognitive element is viewed positively and the other negatively (e.g., ". . . a tendency to believe in the truth of the Bible and a tendency to believe in the theory of evolution are reconciled by differentiating literal truth and figurative truth and attributing only the latter to the Bible.", Berlyne, 1960: 284-85); and (d) transcendence -- combining the conflicting cognitive elements into a larger whole which may not completely resolve, but at least minimize, the dissonance.

Although taking cognizance of Abelson's "defense procedures," Berlyne (1960) takes a somewhat different approach to the means of resolving conceptual conflict. He suggests that conflict is reducible in only three ways: (a) conciliation -- acquiring information indicating that the conflict is, in reality, not a conflict; (b) swamping -- introducing a new response tendency stronger than and overriding those in conflict; and (c) disequalization -- strengthening or weakening one of the conflicting tendencies so that their relative strength is no longer equal.

Lecky (1951) points out that a conflict situation may be tolerated for a great length of time awaiting a basis of resolution and that cognitive conflict may, in some instances, be tolerated indefinitely. Rogers (1951) suggests a similar position in noting that people will occasionally repress some or all of an experience or, at most, allow it access to awareness only in distorted form:

> "As experiences occur in the life of the individual, they are either (a) symbolized, perceived, and organized into some relationship to the self, (b) ignored because there is no perceived relationship to the self-structure, (c) denied symbolization or given a distorted symbolization because the experience is inconsistent with the structure of the self" (p. 503).

In a similar vein, Festinger (1957a) notes the possibility of the psychological revocation of decisions. And finally, a number of researchers and theorists (Osgood, Suci and Tannenbaum, 1957; Hovland, Janis and Kelley, 1953; Newcomb, 1953; Heider, 1958) have demonstrated that tensions experienced in a conflict situation can sometimes be relieved by derogating the perceived source of that situation.

## Previous Research Evidence

### The Dissonance and Behavior Literature

Past investigations of the cognitive consequences of decisions, commitment or compliance and exposure to

discrepant communications have been accomplished, for the most part, within the framework of Festinger's (1957a) conceptualization of cognitive dissonance. Festinger, it will be recalled, conceives of dissonance as the presence of inconsistent, nonfitting relations among cognitions; a cognition being defined as "any knowledge, opinion, or belief about the environment, about oneself, or about one's behavior" (p. 3).

The research to be reviewed in this section may be cast, as Brehm and Cohen (1962) have done, into one (or more) of three categories of studies: (a) those of forced compliance, (b) studies of free choice situations and (c) those involving exposure to information. These categories are, of course, neither independent nor mutually exclusive. Many of the following investigations may be placed in the first category of study -- forced compliance with a discrepant position.

Forced compliance studies. The forced compliance studies usually involve a manipulated "choice" on the part of an S between engaging in an act discrepant with his existing attitudes or beliefs (i.e., an act that he would not voluntarily have done) or not engaging in that act. Dissonance, in these studies, is a function of the extent to which the act is inconsistent with S's position,

and the number and importance of cognitions favoring the discrepant act beyond that minimum necessary to cause S to engage in the act at all.

Dissonance theory suggests that if an individual expresses an opinion or engages in overt behavior discrepant with his privately held attitudes, attitude change in the direction of the discrepant behavior will be induced. Kelman (1953) reports a study providing specific (although somewhat equivocal) evidence in support of this prediction. Students listened to a speaker who espoused a position discrepant with their own views. Immediately after, they wrote essays either supporting the speaker's or their own position. Three inducement conditions -- high, low and no (control) incentive for complying -- were employed.

Kelman found the high incentive group to have the largest percentage of Ss conforming with the speaker's position, the control group the smallest percentage. Amount of opinion change, however, did not vary directly with degree of conformity. Significantly more opinion change was induced in the low incentive group than in the high incentive and control (no incentive) groups. Kelman suggests that the opinion changes obtained may have been the result, not of the persuasive efforts of

the speaker, but of Ss' persuading themselves to take the stand they did in writing their essays.

Brehm (1957) provides a less equivocal test of the hypothesis. Junior high school students were induced to write statements supporting a position which they opposed. The statements were written under one of three (high, medium or low) incentive conditions. Brehm expected that as external incentives for writing the discrepant statements increased, Ss' private opinions would become relatively less important, thereby creating less dissonance and consequent attitude change in the direction of shorter vacations. The results confirmed this expectation; Ss complying in the high incentive condition manifested less attitude change in the direction of compliance than those in the medium and low reward conditions. Cohen (1960) contends that Brehm's findings refute a self-persuasion hypothesis in favor of a dissonance theory explanation that public expression of a position discrepant with one's private attitude leads to attitude change in the direction of the discrepant position.

In a similar study, Cohen, Brehm and Fleming (1958) had Yale undergraduates write essays supporting the side opposing their own on the question of making the university

coeducational. Incentive for taking the discrepant stand was manipulated by giving some Ss minimal reasons for doing so (low justification) and others a number of compelling reasons for writing the discrepant essay (high justification). The attitude changes obtained revealed a trend in the expected direction. Low justification Ss said that they perceived less external pressure to comply, thus experiencing greater dissonance as a result of their compliance and manifesting greater consequent attitude change toward the discrepant position than did high justification Ss. The difference in attitude change was not, however, significant between the high and low justification conditions.

The preceding investigations provide evidence that expressing a stand discrepant with one's attitudes or beliefs results in the shifting of attitudes in the direction of the discrepant stand or behavior. Studies reported by Rabbie, Brehm and Cohen (1959) and Festinger and Carlsmith (1959) provide further evidence of an inverse relationship between attitude change toward a discrepant position and justification for overtly taking that position.

An experiment conducted by Brehm (1960) was designed to test the hypothesis that attitude change toward a

discrepant position can be effected by overt behavioral compliance other than verbal expression. He induced Ss to eat a vegetable for which they had expressed an intense dislike. It was found that for Ss given negative information about the vegetable, the more they consumed, the more they expressed liking for that vegetable. The tendency to increase liking for a disliked vegetable was in proportion to the amount of unpleasant behavior (eating), however, only when negative information was provided about the vegetable. Dissonance and consequent attitude change in the direction of the discrepant behavior was found to be a joint function of the amount of compliance behavior to which S was committed and the presence or absence of negative information concerning the disliked vegetable. Brehm's study demonstrates that, in some circumstances, dissonance engendered by behavior inconsistent with one's attitudes can be reduced or eliminated by making that attitude more consistent with one's overt actions.

Aronson and Mills (1959) tested the proposition that when an individual elects to engage in a discrepant act, dissonance accruing to that decision increases as the number and importance of the reasons against engaging in that act increase. Dissonance was induced by requiring

female Ss to take an "embarrassment test" in order to join a sex discussion group. High and low dissonance conditions were created by manipulating the obscenity of the "test." Subsequent to the "test," Ss audited a dull and uninteresting recording of a purported sex discussion group. The attitude of Ss in the mild embarrassment (low dissonance) condition did not differ from those of a control group who did not take the "test," while Ss in the severe embarrassment condition (high dissonance) evaluated the taped discussion more favorably than those in the control and mild embarrassment groups. Aronson and Mills consider the hypothesis that dissonance and positive attitude change increase as the number and importance of cognitions against engaging in a certain behavior increase to be confirmed.

In three separate experiments, Smith (1961a, 1961b) varied the characteristics of the communicator at whose request S commits himself to a discrepant act and the nature of the message employed by the communicator to induce compliance. Under the guise of a study of the desirability and adequacy of survival foods, he induced Army reservists to "taste-test" three different (and presumably undesirable) "strange" foods. Manipulating communicator authority or prestige and message purpose

(persuasive versus nonpersuasive), he found that a cool, formal and official inducing agent effected greater attitude change than a warm, permissive and friendly one; that a negatively perceived communicator produced greater attitude change than a positively perceived communicator; and that a condition in which Ss were given a brief rationale for trying the foods and then left to make their own decision (voluntary compliance) was consistently more effective than a condition of forced compliance. Although the evidence provided by Smith is not unequivocal, it appears that for persons complying with a discrepant request, the more negative the communicator and the fewer the cognitions supporting the compliance, the greater is the consequent dissonance and ensuing attitude change. Having once complied, one can reduce dissonance by modifying one's attitude to be more consistent with the compliant behavior.

Aronson and Carlsmith (Brehm and Cohen, 1962, pp. 41-42) were concerned with the extent to which coercion used to force the rejection of a desirable alternative produces attitude change in the direction of derogation of that alternative. They anticipated that mild external threat supporting rejection of a desired alternative would lead to greater dissonance than would severe threat.

Having committed themselves to the discrepant act, Ss in the mild threat group were expected to experience greater dissonance because they would be able to muster fewer cognitions in support of the discrepant behavior. Severe threat was seen to be more consistent with engaging in the discrepant behavior than mild threat. Thus, Ss in the mild threat condition were expected to be more likely to reduce dissonance by devaluing the desirable rejected alternative than those in the severe threat condition. The results of the study strongly support that expectation. The results of this study and those of Aronson and Mills and Smith suggest, then, that as the number and importance of the reasons against engaging in an act increase and as the number and importance of the reasons for engaging in that act decrease, dissonance is enhanced and greater attitude change in the direction of the discrepant act is produced.

A study by Mills (1958), concerned with the effects of cheating behavior upon attitudes toward cheating, provides further evidence that as justification for behavior decreases, dissonance and attitude change increase. He offered prizes to grade school children for good performance of simple tasks. Temptation to cheat was manipulated by offering or not offering the prize. Restraints

against cheating were varied by giving Ss differential opportunity to cheat while scoring their own performances. Mills hypothesized that an individual who cheats will experience dissonance in proportion to the strength of the restraints to which he is exposed. And, as with other discrepant behaviors, the dissonance created will decrease as the inducing force (temptation to cheat) is increased. Thus, those most tempted to cheat were expected to become more lenient toward cheating and the more honest students to become more critical of cheating. In general, the results of Mills' study support this expectation.

The preceding five studies all demonstrate that dissonance and consequent attitude change in the direction of discrepant behavior accruing from the act or decision to engage in such behavior increase as the amount of justification which an individual can bring to bear upon that act decreases.

The following four studies bridge two of the categories of studies suggested by Brehm and Cohen (1962) -- forced compliance and free choice situations.

A study by Davis and Jones (1960) offers evidence in support of the hypothesis that a chosen discrepant behavior must be perceived as relatively irrevocable if

it is to lead to greater attitude change than an unchosen discrepant behavior. The question was, in effect, one of the differential effects of voluntary and involuntary compliance. They induced dissonance by having Ss read to an unseen person a derogatory evaluation of that person. Half of the Ss were "assigned" to this task, the other half were "persuaded" to do so. It was expected that the dissonance created by choosing to derogate a person would be reduced by shifts in Ss' actual evaluations of that person. Postexperimental ratings of the falsely derogated person were found to be more negative in the "persuasion" than in the "assignment" condition, supporting the hypothesis that dissonance, and consequent attitude change, increases with choice.

In addition, half of each group ("assignment" and "persuasion") were told they would be given the opportunity to explain to the recipient of the negative remarks why they had been expressed; the remaining Ss were led to believe that they would have no chance to retract their statements. The amount of attitude change toward the message recipient was, as predicted, significantly greater in the negative direction in the irrevocable choice than in the other three conditions. The relatively noncommitted Ss showed no evidence of evaluating

the unseen target person more negatively in the "persuasion" (high choice) than in the "assignment" (low choice) condition.

It is not clear from the results of this study, however, whether the effect of revocable commitment is to eliminate the arousal of dissonance in the first place or to change the means whereby it is reduced or eliminated.

Brock (1962) provides additional evidence of the effects of choice on dissonance in a forced compliance situation. Giving non-Catholic college students either high or low choice in whether or not to comply, he induced them to write on the subject: "Why I would like to become a Catholic." Change in attitudes toward Catholicism supported the prediction that dissonance and consequent attitude change toward the discrepant position espoused in the essays would increase as choice increased.

The Davis and Jones and Brock investigations demonstrate that attitude change accruing from inconsistent compliance tends to increase as the degree of choice in complying or not complying increases.

Two experiments investigated the attitude change effects of a fait accompli; a chance (or seemingly chance) event which might have led to different behavior had it been predictable at the point of decision. Brehm and

Cohen (1959b) gave psychology students the tedious task of copying random numbers. Half were told they could be excused from the task if they had a good reason; the other half were not given the opportunity for excuse. Feelings of high and low relative deprivation were induced in half of each of these groups after they had committed themselves to perform the task. Ss' attitudes toward the task were assessed after these manipulations but before any work was actually performed. Although somewhat variable, the results generally indicated an interaction effect between degree of perceived choice in participating and degree of relative deprivation. The most favorable attitudes toward the task were found in the low-choice, low-deprivation and high-choice, high-deprivation conditions.

Brehm and Cohen's results are difficult to interpret for several reasons. First, they made no check to ensure that the fait accompli event had not been predicted by Ss; whether or not a fait accompli effect was induced or not is open to question. Second, Brehm and Cohen were forced to rely on Ss' testimony of the degree of choice which they had perceived available to them; the degree of choice manipulations were generally unsuccessful. Third, there is no evidence, pro or con, that either

variable -- perceived choice and relative deprivation -- alone had any measurable effect. Fourth, Brehm and Cohen measured only postinducement attitude scores and therefore were compelled to rely on inferential information when assessing attitude change. And finally, their results do not accord perfectly with predictions derivable from dissonance theory in that maximal attitude favorability was observed in both maximum and minimum dissonance arousing conditions. Brehm and Cohen offer no explanation for this phenomenon, yet, as will be seen in other studies, the phenomenon has been observed repeatedly. The results of this and other studies reflecting this phenomenon seem to fit a "behavior justification" explanation in which punishing behavioral consequences (actual or potential) create psychological pressures to justify and defend discrepant behavior.

Somewhat more definitive results were obtained by Brehm (1959) in a subsequent investigation. Eighth grade students were offered a small reward for consuming a sample of a heartily disliked vegetable. Half of the Ss were told when nearly finished eating that their parents would be informed of their behavior. Favorable attitude change was significantly greater in this group than in a group not told their parents would be apprised

of the fact that they had eaten the disliked food. Apparently, knowing that their parents would learn of their behavior constituted a cognition against the choice and increased the need to justify allowing oneself to be induced to do something disliked by the promise of a small reward.

In both fait accompli studies, chance deprivation was induced following commitment to engage in discrepant behavior. A fuller understanding of fait accompli effects must await the investigation of its effects when chance deprivation follows commitment to behavior which at the time commitment is made appears consistent with all relevant cognitions.

Dissonance theory might suggest that public commitment contributes to attitude change conforming to the nature of that commitment by increasing the importance of the commitment decision. The available evidence, however, does not confirm this expectation. A study by Bennett (1955) suggests that the crucial variables associated with positive attitude change (and follow-through behavior) are not public commitment, but rather the making of a decision and the perception that the group to which one belongs has achieved high consensus on the action request. The results of the study by Rabbie,

Brehm and Cohen (1959) also support the notion that attitude change toward a discrepant position is effected even when the individual has not actually engaged in the discrepant behavior but has merely privately committed himself to the behavior. Public commitment or compliance thus appears unnecessary to induce attitude change; a private decision or commitment is sufficient.

Free choice studies. Festinger's theory of dissonance suggests that "a person who chooses to behave in a way he ordinarily avoids experiences dissonance; the more unpleasant the induced behavior, the greater the magnitude of dissonance and the greater the consequent attitude change in order to reduce it" (Cohen, 1960, p. 305). Brehm and Cohen (1959a) further suggest that "an appropriate statement of the fundamental hypothesis (of Festinger's theory) as it applies to the choice situation is that the magnitude of psychological dissonance is a direct function of what one has to give up compared to what one obtains" (p. 373).

The free choice studies generally entail providing S with a choice between attractive or potentially attractive alternatives which differ along the dimensions of attractiveness, utility, desirability or some other "evaluative" dimension. In such situations, dissonance

is conceived of as a function of the relative number and importance of the cognitions supporting the chosen and unchosen alternatives.

An experiment reported by Festinger (1957a, pp. 126-31, 162-76) is illustrative of this category of studies. College students were given $2.50 with which to play a card game against E. In describing the rules of the game, it was implied that one side was much more likely to win than the other, and that S should easily be able to choose the winning side. Unknown to S, the deck was stacked so that he was most likely to lose a moderate amount over the first 12 trials. Festinger predicted that after the choice, the greater the loss, the greater the dissonance experienced. At the 12th trial, E announced that before going on, S could look at a graph from which the true probability of winning could be computed for each hand. The Ss who were winning or losing only slightly and therefore experiencing little dissonance were expected to study the graph with the expectation that the information would reduce their dissonance by informing them that they had selected the winning side to play on. On the other hand, Ss who were losing much would be experiencing greater dissonance and would expect to learn from the graph that they were on

the losing side. These expectations were confirmed by a measure of the amount of time Ss in the two conditions spent looking at the graph.

Festinger's study was replicated by Cohen, Brehm and Latane (1959) who added a check of Ss' expectations as to what the graph would say about whether or not they had chosen the winning side to play. They also varied the perceived importance of the game. The results of this study generally confirm those of Festinger.

These two studies provide evidence that magnitude of dissonance is a function of the ratio of dissonant to consonant cognitions and can be reduced, not only by changing the dissonant cognitions, but also by the addition of consonant cognitions -- additional consonant information in this instance.

Deutsch, Krauss and Rosenau (1962) tested the hypothesis that "a chooser will experience postdecisional dissonance only when he perceives his choice in a given situation to be inconsistent with the conception of some aspect of himself which he tries to maintain (for himself or for others) in that situation" (p. 18). Three choice conditions were created: high self-involvement, post-decision induction (of self-involvement via a self-esteem

involving message); high self-involvement, predecision induction; and low self-involvement (in which the self-esteem involving message was omitted). Under conditions in which choice was made relevant to valued attributes of the self (high self-involvement), postdecisional dissonance occurred; when choice was not self-relevant (low self-involvement), postdecisional dissonance was not observed. No significant difference was noted between the two high self-involvement groups. Changes in liking of alternatives involved in the choice were generally confined to enhancing the attractiveness of the chosen alternatives; the ratings of the rejected one did not show a significant decrease.

The next three studies are hybrids of this and the third category of study -- free choice and exposure to discrepant information situations. Mills, Aronson and Robinson (1959) studied the effects of a negative choice on dissonance arousal and attitude change. Psychology students were given a choice between an essay and multiple choice examination. Half of the Ss were told the choice was highly important and the other half that the choice was unimportant. It was assumed that the most salient feature of the choice situation was fear of failure on an examination which Ss had themselves not

chosen. Each S then indicated from a list of articles dealing with the two types of examination which one article they wished to read. The titles on some lists implied that the articles described positive attributes of the examinations; those on other lists implied that the articles contained negative information. To the extent that Ss were experiencing dissonance, it was expected they would choose the "positive information" articles and avoid those providing negative information. This tendency was further expected to be greatest in the high importance condition. The investigators' predictions were only partially borne out. Positive articles dealing with the chosen type of examination were preferred to those dealing with the rejected type. However, there was no avoidance of negative articles, nor did the importance manipulation show any effect. Despite the inconclusiveness of their results, Mills, Aronson and Robinson contend that the instrumental value of negative choice is no less than that of positive choice.

Rosen (1961) replicated the Mills, Aronson and Robinson experiment, obtaining essentially the same results. Both of these experiments reflect a tendency for individuals to seek supporting information in an attempt to reduce dissonance, but fail to find evidence

of any propensity to avoid dissonance producing information.

Ehrlich, Guttman, Schonbach and Mills (1957) were interested in the postdecisional consequences of a decision for selective seeking of and attention to information bearing on choice alternatives. They found owners of new cars more likely to read advertisements for their new cars than for cars which they had considered but did not purchase or for cars not involved in the purchase decision. These selective tendencies were less pronounced among owners of older cars who had made no recent decision. These results support the dissonance theory prediction that persons tend to seek out information after an important decision in which they have rejected an alternative having positive attributes.

Exposure to information studies. In contrast to the studies discussed to this point, in which Ss are themselves induced to generate messages contrary to their beliefs and opinions, this type of study involves exposing Ss to contrary information usually framed by the investigators. Ss generally are confronted with information which is inconsistent with their attitudes or cognitions. Dissonance is aroused as a function of the inconsistency between Ss' prior cognitions and the new information and of the conditions under which the

exposure takes place.

Illustrative of this category of study is an experiment designed by Adams (1961) to demonstrate that exposure to information discrepant with one's own position produces dissonance. Adams expected that Ss exposed to a message opposing their position would experience more dissonance than those exposed to a supporting message. Dissonance theory suggests that one way of reducing such dissonance is to seek additional information supporting one's point of view. Thus, Ss initially exposed to an opposing viewpoint were expected to be more anxious to hear a second message consistent with their own position. The results of Adams' study are not entirely confirmatory. Ss originally exposed to a discrepant viewpoint showed more interest in later hearing messages both consistent and inconsistent with their own view. Ss first exposed to a message consistent with their own position were more anxious to hear supporting information than to expose themselves to a message opposing their own view. Adams' findings reflect a differential motivation to hear information, either pro or con. This differential motivation, however, may only have been due to the arousal of intellectual curiosity. Ss who initially heard the opposing view, while more interested in a future message

espousing their own convictions than in an opposing message, were no different in this respect than those who initially heard the message supporting their own view. The results of this study, therefore, fail to unequivocally support the idea that exposure to discrepant information creates dissonance or that such dissonance is reduced by avoidance of dissonance-producing information.

A more complex study is reported by Cohen, Terry and Jones (1959). College students were given high or low choice in listening to a communication upholding a position counter to their own. The results showed that under conditions of low choice, a direct resistance effect was encountered. The greater the discrepancy between the position upheld in the message and that of the Ss, the less was the attitude change effected. Under conditions of high choice, the greater the discrepancy between the communication and Ss' initial attitudes, the greater was dissonance and the consequent attitude change induced. The mean attitude changes in the low choice-moderate discrepancy and high choice-moderate discrepancy conditions were similar, but somewhat higher in the former condition. This phenomenon, in which slightly more attitude change occurred under conditions of least dissonance than in the moderate dissonance conditions

is contrary to dissonance theory expectations and presently appear to be inexplicable. It might be recalled that a similar phenomenon was found to occur in the Brehm and Cohen (1959b) study of relative deprivation. A question for research is thus presented: "Why does this phenomenon occur, and why in some investigations based on dissonance theory and not in other such studies?"

Allyn and Festinger (1961) studied the influence of providing Ss with a reason for attending to a message upon attitudes toward both the speaker and the topic of his message. Their experiment was designed to test the hypothesis that pre-exposure knowledge that a speaker will oppose one's own position results in dissonance reduction by avoidance and defensiveness rather than by attitude change. In one experimental condition, Ss had no a priori knowledge of the speaker's position while, in the second, they were aware of that position. It was assumed that an attitude-discrepant message would create dissonance, but that knowledge of the speaker's position would allow the latter Ss to more effectively reduce dissonance by rejecting the speaker. The "naive" Ss, on the other hand, were expected to reduce dissonance by changing their attitudes in the direction of the speaker's position. Comparison of pre- and post-communication

attitude measures in general confirmed these expectations. Attitude change toward the advocated position was greater among Ss initially unaware of the speaker's position than among those apprised of the speaker's bias.

Feather (1963) reports an investigation attempting to distinguish the effects of dissonance upon an individual's sensitivity to information from its effects upon his evaluation of that information. He predicted that, in general, Ss would be more sensitive to information which decreases dissonance than to information which increases dissonance and that they would evaluate or interpret information in such a way as to reduce dissonance. Feather took as his index of sensitivity Ss' reported interest in a particular item of information. Ss were male college students, both smokers and nonsmokers; the critical communications dealt with the relationship of smoking and lung cancer.

The results of this experiment verified those of an earlier Feather study (1962); i.e., that states of cognitive dissonance are more likely to influence evaluation or interpretation of information than to influence sensitivity to or interest in information, both pro and con. There was no differential sensitivity or interest among smokers to the pro-cancer and anti-cancer

articles as implied by dissonance theory. On the other hand, smokers were far more critical of pro-cancer information than were nonsmokers and more likely to rate this information as unconvincing. It appears, then, that evaluation and interpretation (as well as acceptance) of information, but not sensitivity or interest, is affected in the manner suggested by the theory or cognitive dissonance. The findings of Adams (1961), which were not wholly in accord with dissonance theory predictions, might be similarly interpreted.

A variation of the dissonance theory notion that discrepant or inconsistent information creates dissonance is the hypothesis that magnitude of dissonance is a direct function of the degree of perceived inconsistency. Evidence relating degree of inconsistency and issue importance as determinants of magnitude of dissonance is provided by Zimbardo (1961). He, like Deutsch, Krauss and Rosenau (1962), incorporated self-involvement as a major variable, as well as importance of the issue and perceived discrepancy between Ss' position and that of a peer. Pairs of friends were led to believe that they disagreed either a lot or a little in their judgments of a juvenile delinquency case study.

It was expected that dissonance aroused by knowledge

that judgments made by one's friend (the other member of a pair) disagree with one's own judgments could easily be reduced by changing one's own judgments toward those of the friend. It was found that changes in judgment toward the friend's position were, as predicted, directly proportional to the amount of discrepancy and the perceived importance of the issue, thereby lending support to the hypothesis that exposure to information discrepant with one's view creates dissonance and attitude change.

In summary, the research cited thus far offers evidence of the motivating effects of discrepancies between various cognitions and behavior; of the effects of decisions, choices and actions; and of a number of conditioning variables which serve to modify, enhance or detract from these effects. Several of the investigations reviewed demonstrate that engaging in behavior or expressing an opinion at variance with certain of one's attitudes or beliefs results in a modification of those attitudes or beliefs in the direction of being more consistent with the discrepant behavior or opinion expression. Perhaps the most crucial factor bearing upon the magnitude of this effect is that of the justification or lack of justification which an individual

feels himself to have for engaging in a discrepant behavior or expressing a discrepant statement. The factor of justification (or defense of one's actions) is pointed up by a number of findings reported in the research thus far discussed:

> (1) The amount of attitude change accruing from an act discrepant with one's attitudes decreases as the amount of incentive, inducement, reward or punishment employed to induce the discrepant behavior increases.
>
> (2) The amount of attitude change accruing from an act discrepant with one's attitudes increases as the number and importance of the reasons against engaging in that behavior increase.
>
> (3) The amount of attitude change accruing from an act discrepant with one's attitudes increases as the amount of choice which an individual has in engaging in that act increases.

Attitude change accruing from a decision or action which is discrepant (or even in some cases consistent) with one's attitudes thus appears to be inversely related to the amount of justification which an individual perceives himself to have for engaging in the discrepant behavior or for making the discrepant decision. For example, Smith (1961a, 1961b) noted that authority figures were much less effective in producing attitude change in the direction of an induced discrepant behavior than were non-authority figures. In the latter instance, Ss were able to perceive less justification for their

having complied with the communicator's requests.

It was also seen that a discrepant behavior or decision must be perceived as relatively irrevocable if it is to lead to greater attitude change. If Ss felt that they could later deny, nullify or negate their behavior or decision, less attitude change was induced than if they felt their actions to be irrevocable. Whether or not the former Ss were really committed to the decision or behavior induced by the experimental manipulations in such studies is open to question.

It was further suggested by the results of two studies (Bennett, 1955; Rabbie, Brehm and Cohen, 1959) that once an individual has consciously, although privately, committed himself to a discrepant act or decision, there appears to be no additional motivational force resulting from having made that decision or commitment privately. Studies of the attitude change effects of private commitment seem to suggest that commitment to discrepant, unpleasant behavior leads to attitude change even before the behavior is actually performed.

The influence of choice upon the attitude change effects of compliance behavior was found to be mediated by the extent of discrepancy between an act or opinion expression and the individual's existing attitudes.

That is, under conditions of high choice (voluntary compliance), attitude change was positively related to the extent of discrepancy between a decision or act and prior attitudes; whereas under conditions of low choice (forced compliance), the converse relationship was noted in the form of attitude reinforcement or of resistance to attitude change.

It was also found in a number of studies that individuals tend to seek information consistent with their attitudes in order to reduce dissonance resulting from exposure to discrepant information. It was not, however, consistently demonstrated that information opposing one's attitudes or beliefs is avoided. At least three studies (Adams, 1961; Feather, 1962, 1963) reflect a tendency for Ss experiencing dissonance to seek consistent information with no particular effort being made to avoid inconsistent information. Opposing information was not sought, but it was not avoided either. Furthermore, Feather found no differences in interest in or sensitivity to discrepant and consistent information, although the former information was generally more negatively evaluated than was information supporting Ss' attitudes or opinions.

It was further noted that the more an individual's

conception of self was involved in and made relevant to the decision or choice process, the greater was the attitude change in the direction of the decision or choice which was effected.

One particularly peculiar phenomenon was reported in at least two studies (Brehm and Cohen, 1959b; Cohen, Terry and Jones, 1959). It was noted that theoretically minimal dissonance conditions frequently produced more attitude change than in moderate dissonance arousal conditions (although the attitude change effected was less than in conditions of high dissonance). Another enigma was also noted, i.e., the incompatibility of studies indicating that attention to communications known to espouse an opposing view results in attitude change and studies which fail to reflect this phenomenon.

The validity and generalizability of many of the studies reviewed above is difficult to assess. The complexity of many of these investigations creates problems in determining what is actually taking place, lack of adequate control is often evident, crucial variables are in some cases confounded, checks of crucial assumptions are sometimes absent and there are occasional instances of ineffective manipulation of critical inducements. There is, in each of these studies, some question

as to just what Ss agreed or failed to agree to do. Behind each of the decisions or choices made in these investigations is a conglomerate of other choices and decisions including the decision to participate in the study. There is also the question of whether Ss were, in each study, agreeing to perform behaviors seen as clearly discrepant; of whether they agreed to act as a result of "challenges" perceived in the situation, to demonstrate their ability to handle any situation that arises or for some other purpose known only to Ss themselves.

Studies of Source Credibility

Whether an individual will accept or reject the suggestions and conclusions of a given communicator depends, at least in part, upon how well informed, trustworthy and intelligent he believes that communicator to be. Acceptance or rejection of what a source says is dependent upon the "credibility" attributed to him by his audience. Source credibility, as conceptualized by Hovland, Janis and Kelley (1953), is a function of (a) the extent to which the source of a message is perceived to be a source of valid assertions (his expertness) and (b) the receiver's degree of confidence in the source's intent to communicate only those assertions

he considers valid (his trustworthiness).

A number of studies provide evidence of the importance of source trustworthiness to attitude change. Hovland, Lumsdaine and Sheffield (1949) provide correlational evidence in a study of soldiers' reactions to a War Department film. Among soldiers perceiving the film to be "propagandistic," opinion change was significantly less than among those who thought the film "informational." Hovland, Lumsdaine and Sheffield offer their findings as incidental evidence of a tendency on the part of receivers to reject communications perceived to be manipulative in intent.

A study by Ewing (1942) investigated opinion change effects occasioned when a speaker states his intentions in the introduction to his speech. Two groups of Ss, initially favorable in their opinions of Henry Ford, heard the same message unfavorable to Ford. In one group, the speaker, in his introduction, stated his purpose as favorable to Ford; in the other, as unfavorable. More opinion change in the direction of the communication was effected in the group where the speaker's announced intention was represented as consistent with Ss' initial attitudes. Ewing suggests that acceptance of a communicator's message is increased if, at the outset, he

explicitly states his purpose as consistent with that of his audience. Ewing's study is relevant to the trustworthiness dimension of source credibility in that the audience is immediately apprised of the speaker's motive. Furthermore, if the speaker presents material in support of a conclusion different from his avowed purpose or position, this may be taken as evidence of objectivity on his part and create even more confidence in his arguments.

A number of experiments provide incidental evidence of a phenomenon suggested by the results of Ewing's study. Ewing's investigation suggests that when the communicator's purpose, intent or motive is perceived as consistent with the attitudes of his receivers, the attitude change effected will be greater than when the communicator's message is seen as antagonistic to the receiver's position. The source's motives, hence his trustworthiness, are less apt to be suspect in the former case than when there is an obviously perceived discrepancy between the positions of the source and his audience.

Brehm and Lipsher's (1959) investigation characterizes the notion advanced here. They hypothesized that the perceived trustworthiness of a source will

decrease as discrepancy between the opinions of that source and the receiver(s) increases. High school students were exposed to communications advocating moderate or extreme positions on each side of three issues. The results of the study indicated that perceived trustworthiness is, in general, inversely related to the magnitude of discrepancy between Ss' original opinions and the position advocated by the source.

Brehm and Lipsher further expected opinion change to be directly related to perceived trustworthiness. Their results, however, did not confirm this expectation. Opinion change was not significantly related to the trustworthiness attributed to the source. The authors suggest that this may have been due to the fact that the experimental conditions tended to encourage changes in perceived trustworthiness and, at the same time, minimize attitude change.

The findings of Pastore and Horowitz (1955) also support the notion that a source is perceived to be more trustworthy if his avowed motive for communicating is consistent with the views of the receivers. They found that sources to whom their receivers attributed "good" motives tended to be more highly evaluated than those perceived to have "bad" motives. Further, such

sources effected greater attitude change than initially "good" sources perceived to have a "bad" motive. Trustworthiness, it appears, is a function of the source's apparent motive and is directly related to attitude change effects. In addition, Weiss (1958) noted that if a receiver knows the direction of attitude change the source is advocating, and this is opposed by the receiver, the extremeness of the source's position is directly related, in general, to evaluations of that source and the amount of attitude change he effects. Tannenbaum's (1956) investigation of initial attitude toward the source and the topic of his message as factors in attitude change might also be interpreted in this light.

Haiman (1949) investigated the influence of the introduction given a speaker upon acceptance of his proposals. A recorded speech on compulsory health insurance was played for three student audiences. One group was led to believe that the speaker had high prestige; the second, that he was of low prestige; and the speaker was anonymous in the third group. Examination of pre- and postmanipulation attitude indices indicated that a significantly greater number of Ss shifted from unfavorable or neutral positions in the direction of

the speaker's proposals when Ss believed they were listening to a high prestige source than when they thought him to be of low credibility.

Paulson (1953, 1954), in two studies concerned with the effects of a speaker's prestige and acknowledgement of opposing arguments on audience retention of the arguments and opinion change obtained similar results.

Hovland and Weiss (1952) report an experiment concerned with the effects of high and low credibility sources on learning and opinion change. Messages prepared on four topics were "presented" by high and low credibility sources. Comparison of pre- and postmanipulation measures of perceived credibility and Ss' opinions on the topics yielded these results:

> (1) High credibility sources, irrespective of the topic and position (affirmative or negative) advocated, were considered more fair in their presentation and more justified in their conclusions than were low credibility sources.
>
> (2) There was no significant difference in the amount of factual information learned when the same information was attributed to high or low credibility sources.
>
> (3) In contrast to the amount of information gained, there were significant differences in the extent of opinion change when the messages were credited to sources of high and low perceived credibility. Ss changed their opinions more often in the direction advocated by the high credibility sources than in that advocated by the low credibility communicators.

In a related study, Kelman and Hovland (1953) studied the effects on opinion change of varying the credibility of a message source. Three versions of a tape recorded message, identical in substantive content, were prepared and attributed to high, low or neutral credibility sources. After the manipulations, clear differences in opinion were noted. These differences indicated that the initial effect of the messages on opinion change was greatest when presented by the positively perceived source and least when presented by the negative communicator. Agreement with the neutral source's position was intermediate to the other two treatment effects.

Hovland and Mandell (1952) were primarily concerned with the trustworthiness component of source credibility. Variation in communicator trustworthiness was induced by prefacing one of the communications with an introduction designed to elicit suspicion of the source's motives and the other with an introduction intended to elicit belief in the source's impartiality. The two messages were alike in all other respects.

Hovland and Mandell's findings demonstrate that cues as to a source's motives influence receiver's evaluations of his presentation and the content of his message. The suspicion-arousing introduction led Ss

to view the source as having done a poorer job and as having been less fair and honest in his presentation than the "impartial" source. It was observed, however, that the messages produced no greater net change in opinions when presented by the non-suspect source than when delivered by the suspect source. Thus, variations in trustworthiness did not produce a significant difference in the opinion change effected. This finding, coupled with those of Brehm and Lipsher (1959) and the inconclusive results reported by Pastore and Horowitz (1955) suggest that the variable of trustworthiness is not alone sufficient to produce variations in attitude change, but rather that other aspects of credibility (e.g., expertness, dynamism or sociability) must also be considered. Credibility and trustworthiness do not seem to be one and the same. In fact, expertness seems to emerge as the more crucial determinant of source credibility, with trustworthiness a contributing factor.

The final investigation to be noted is reported by Bergin (1962). This study combines both major concerns of the study reported in this volume -- dissonance theory and communicator credibility. Bergin tested the effect of dissonant persuasive communications upon a

self-referring attitude. Ss rated themselves on masculinity-femininity following which they received a communication on this subject at one of three discrepancy (distance between the source's position and the receiver's self evaluation) levels (moderate, high, extreme) from either a high or a low credibility communicator. They then made a second self-rating of masculinity-femininity. Bergin found that attitude change increased as a monotonic function of communication discrepancy under the high credibility conditions, while in the low credibility conditions, little or no attitude change was observed. Attitude change was shown to be a function both of source credibility and of the amount of dissonance induced by communication discrepancy.

Summarizing this very brief review of the source credibility literature, the research evidence suggests that reactions to and acceptance of a communication are significantly affected by the perceived credibility of the communicator -- by cues as to his motives or intentions, his expertness and his trustworthiness. It was found that identical messages were more likely to produce attitude change toward the position advocated in the message, and that the attitude changes tended to be greater in intensity, when attributed to a high credibility

source than when credited to a low credibility source. Furthermore, identical messages were more likely to be favorably evaluated and accorded immediate acceptance when attributed to a positively evaluated source.

It should be noted, however, that even in the case of low credibility sources, overall attitude change is generally in the direction advocated by the communicator. A negatively evaluated source tends, however, to produce less positive attitude change than a positively perceived, high credibility source.

## Rationale

The research studying the attitude change effects of compliance behavior which has emerged from theories of cognitive balance holds a number of implications for the understanding of communication and attitude change processes. One of these implications is in the area of source credibility and its attitude change effects.

Cohen (1960), extrapolating from Festinger's dissonance theory, suggests that if a source or inducing agent is positively evaluated by a receiver, complying with the requests or suggestions of that source should produce less cognitive dissonance for the receiver and consequently less attitude change toward the position advocated by the source than when the receiver complies

with the recommendations of a negatively evaluated communicator. In the latter case, supporting justificatory cognitions are of lesser number and intensity and the balance between incompatible cognitions (e.g., knowledge that he has complied with the source's recommendation, his negative evaluation of that source, knowledge that his behavior is inconsistent with his attitudes and beliefs, etc.) is maximized. In short, the receiver is aware of many reasons for not engaging in the discrepant behavior and can find few reasons for doing so, yet he has manifested the discrepant behavior at the behest of a negatively perceived communicator. Consequently, he experiences heightened dissonance -- conceptualized as a postdecisional or postbehavioral drive to justify one's decision or behavior -- or need to resolve the conflict between incompatible behavior and attitudes. The conditions thus are present to maximize attitude change in the direction of the discrepant behavior or decision.

In the case of a negatively evaluated, low credibility source, there are fewer cognitions supporting the compliant act and greater cognitive dissonance accrues to compliance. In the absence of any alternative means of reducing that dissonance (e.g., adding new

cognitions which reinforce existing ones or discounting the importance of those cognitions which are inconsistent), such dissonance will be reduced by greater attitude change toward the compliant behavior or decision advocated by a negative, low credibility source.

This paradoxical effect had not, until recently, been tested empirically, although Brehm (1959) provided some indirect evidence in support of it. The effect has now been demonstrated (within the framework of Festinger's dissonance theory) by Smith (1961a, 1961b) and Zimbardo (1960), the results of their investigations supporting predictions made about the attitude change effects of compliance with a discrepant position. In both cases, negative or low credibility sources were found to be more effective influencing agents than were positively perceived sources when Ss had complied with the sources' recommendations. Zimbardo explains his findings by suggesting that Ss perceived less justification for complying with the recommendations of a negative source, hence more cognitive dissonance was experienced when discrepant behavior was induced and greater consequent attitude change was effected.

Clearly, the effect postulated by Cohen and the results of the Brehm, Smith and Zimbardo studies are not

wholly in accord with the conclusions generally accepted in the source credibility literature. One of the conclusions of that body of research, previously noted, is that a high credibility source is significantly and unqualifiedly more effective in inducing positive attitude change than is a low credibility source when the same message is attributed to the two sources. Nevertheless, the conditions under which a negatively evaluated source may be more effective than a positively evaluated source in producing positive attitude change are clearly implied by dissonance theory. Specifically, dissonance theory suggests that if the receiver has complied, either voluntarily or involuntarily, with the recommendations of a source, a negative or low credibility communicator will effect greater attitude change than will a positive, high credibility source. Hence, the conclusion that attitudes are always changed in the direction advocated in a communication to a significantly greater degree when the message is presented by a high credibility source than when it is attributed to a low credibility source cannot be taken to be pervasive and unqualified.

An important factor determining the magnitude of the attitude change to be expected when a receiver has complied with the recommendations of a high or low

credibility source is his freedom or lack of freedom in electing to engage in the discrepant behavior -- whether or not his compliance is voluntary or forced. Dissonance theory suggests, as noted by Cohen (1960), that "under those conditions where the individual experiences least external pressure to engage in discrepant behavior or consider a piece of counterpropaganda he will become most positive toward the induced position" (p. 317). Thus, the less the receiver perceives the source to be attempting to influence him to engage in behavior inconsistent with his attitudes, the more favorable should the receiver become toward the position advocated by the source. The issue to be considered is the centrality of choice with which the receiver commits himself to behavior discrepant with attitudes and beliefs he holds. In those cases in which the receiver experiences the greatest subjective choice, the dissonance effects of having engaged in a discrepant behavior can be expected to be maximized and, consequently, the receiver expected to change his attitudes in the advocated direction to a greater extent than in a situation in which the discrepant behavior is not voluntary but is, rather, forced compliant behavior.

It follows that the effects posited in the preceding

paragraphs will be maximized in conditions of voluntary compliance; these effects being greater than when the receiver has no choice in deciding whether or not he will engage in the discrepant behavior.

It may be predicted, then, that under conditions of compliance with the recommendations of a source, low credibility sources will effect greater positive attitude change than will high credibility sources due to the receiver's inability to muster justification for his compliance. The most relevant cognition, that of source credibility, is, in fact, antagonistic to that of having complied with the recommendations of a low credibility source. In such a case, the receiver will experience greater cognitive dissonance and will be more likely to reduce that dissonance by attitude change in the direction of the behavior recommended by the source. In the case of compliance with the requests of a high credibility source, the credibility of the source adduces justification for complying, dissonance is not heightened and attitude change is less than when compliance is induced by a low credibility source.

The attitude change effects of compliance are further enhanced when that compliance is discrepant or incompatible with attitudes and beliefs held by the

receiver. That is, compliance with the requests of both high and low credibility sources will produce greater attitude change when that compliance is incompatible with the attitudes of the receiver than when it is consistent with his attitudes. Again, the receiver is able to muster fewer cognitions in support of and in justification of his compliance with a discrepant position and can bring to bear reasons against engaging in discrepant behavior, thereby experiencing greater cognitive dissonance and manifesting greater attitude change in the direction of the compliant behavior or decision to act induced by the source.

Furthermore, the more choice the receiver perceives to be his in engaging in a discrepant act or deciding to engage in such an act, the greater is the consequent dissonance and positive attitude change expected to follow from such compliance.

The rationale of this study rests, in summary, upon the following statements derived from dissonance theory and research couched within its theoretic framework:

> (1) If an individual engages in overt behavior discrepant with his attitudes or beliefs, cognitive dissonance will be experienced and attitude change in the direction of that behavior will be induced.
>
> (2) The extent of attitude change accompanying compliance behavior is an inverse function of the amount of justification (supporting reasons)

which an individual can muster for his compliance.

(3) Attitude change in the direction of compliance behavior increases as the number and importance of the cognitions (reasons) against engaging in that behavior increase.

(4) Greater attitude change in the direction of compliance behavior is effected when an individual perceives the behavior to be of his own choice or volition than when he has no choice in whether or not to comply.

The purpose of the present investigation, then, is to explore the implications of dissonance theory (as redefined in terms of a postdecisional drive to justify behavior) for the explanation of communicator credibility effects and to attempt a reconciliation and/or integration of homeostatic theory and credibility theory and research.

It is expected that the initial attitude change effects of high and low source credibility are, in general, as reported in the credibility literature, provided that the receiver has not been subjected to cognitive dissonance occasioned by his overt compliance with, and consequent commitment to, the communicator's discrepant position. That is, if the receiver is not required or voluntarily elects not to comply with the recommendations of the source, the attitude change effects of high and low credibility should be as noted in the research of Hovland and his associates. High credibility sources should be more effective in inducing

attitude change in the direction advocated than should low credibility sources. This superiority of high credibility sources should be manifested both when the recommendations and position of the source are compatible (attitude change in terms of reinforcement of existing attitudes held by the receiver) and when they are incompatible (attitude change in terms of direction change) with the receiver's prior attitude toward the issue in question. Furthermore, the differential effect of high and low credibility upon attitude change should, in noncompliance situations, be more pronounced in the latter context, i.e., when the position advocated by the source is incompatible with the receiver's initial attitude.

The attitude change expectations outlined in the preceding paragraph, reflecting the reported findings of the Yale credibility research, are consistent with attitude change predictions, in a noncompliance situation, which might follow from dissonance theory. That is, homeostatic theory suggests, in those situations in which the receiver does not behaviorally comply with the recommendation of the source, the superiority of high credibility sources over low credibility sources in effecting attitude change in the direction advocated.

If, however, the receiver, either voluntarily or as a result of induction, complies with the recommendation of the source, i.e., if he, by his behavior, complies with the source's position, dissonance theory suggests that a low credibility source will prove more influential in effecting attitude change in the direction advocated than will a high credibility communicator. This phenomenon should be most pronounced when the receiver, by his compliance, commits himself to a position incompatible with or discrepant with his prior attitudes. In the case of compliance with the recommendation of a low credibility source, the receiver is able to muster fewer cognitions in support of his discrepant behavior and consequently experiences greater cognitive dissonance as a result of his compliance. He, therefore, can be expected to manifest greater attitude change toward the discrepant position advocated by the low credibility source in order to reduce that dissonance, i.e., to justify his compliance behavior.

## Theoretic Hypotheses

Taking into account the experimental variables posited (credibility, compatibility of the source's and the receiver's initial positions, and the nature of the behavioral compliance invoked), the relative attitude and credibility

changes which might be expected as the values of these variables are manipulated can be summarized in the following theoretic hypotheses:

Given the receiver's behavioral compliance with the position advocated by the source:

1. Low credibility sources are more effective in inducing attitude change toward positions both consistent and inconsistent with the receiver's initial attitude than are high credibility sources.

2. Both high and low credibility sources are more effective in inducing attitude change toward positions inconsistent with the receiver's initial attitude than toward positions consistent with the receiver's initial attitude.

3. Both high and low credibility sources are more effective in effecting attitude change toward positions both consistent and inconsistent with the receiver's initial attitude when the receiver's behavioral compliance is voluntary than when that compliance is involuntary.

Given no behavioral compliance on the part of the receiver to the position advocated by the source:

4. High credibility sources are more effective in inducing attitude change toward positions both consistent and inconsistent with the receiver's initial attitude than are low credibility sources. Low credibility sources will tend to effect attitude change counter to the position advocated by the source.

5. High credibility sources are more effective in inducing attitude change toward positions inconsistent with the receiver's initial attitude than toward positions consistent with that attitude. Low credibility sources are more effective in inducing attitude change counter to positions consistent with the receiver's initial attitude than counter to positions inconsistent with that attitude.

Irrespective of the receiver's compliance or lack of compliance with the recommendation of the source:

> 6. Source credibility changes will be such that consonance is maintained between the receiver's evaluation of the source and his attitude (following the experimental manipulations) toward the attitude object or issue.
>
> 7. The greater the discrepancy between the position advocated by the source and the receiver's initial attitude, the greater will be the attitude change effected.

It should be noted that the attitude changes postulated in the various compliance conditions implied in these hypotheses do not differ in direction, but are expected to differ in magnitude. In order of decreasing magnitude of attitude change, the conditions are: (1) low credibility-inconsistency (between the source's position and the receiver's initial attitude)-voluntary compliance, (2) high credibility-inconsistency-voluntary compliance, (3) low credibility-consistency-voluntary compliance, (4) high credibility-consistency-voluntary compliance, (5) low credibility-inconsistency-involuntary compliance, (6) high credibility-inconsistency-involuntary compliance, (7) low credibility-consistency-involuntary compliance and (8) high credibility-consistency-involuntary compliance.

On the other hand, in the noncompliance conditions, the predicted attitude (and credibility) changes differ, not only in magnitude, but in direction between the high

and low credibility conditions. In the high credibility conditions, it is expected that attitude change will be greatest when the source's position is inconsistent with the receiver's initial attitude and that that attitude change will be in the direction advocated by the source. In the low credibility conditions, the expected attitude change is counter to the recommendation of the source; the predicted change being greatest when the source's position is consistent with the receiver's initial attitude.

The postulated changes in perceived source credibility are seen as requisite to the maintenance of a relation of consonance or cognitive consistency among the receiver's evaluations of the source, his postmanipulation attitudes and his overt behavior.

This ordering of the experimental conditions, in terms of the direction and magnitude of their expected attitude change effects, asserts, in essence, that the variable of behavioral commitment to a position in general, and compliance with a position discrepant with one's prevailing attitudes and beliefs in particular, is perhaps more influential in effecting attitude change than is that of source credibility <u>per se</u>. For if the hypotheses set forth should be borne out by the results of this

investigation, the findings of past efforts reported in the source credibility literature cannot be taken as universally applicable. Rather, commitment to or compliance with the source's recommended position may be one of the more influential of a number of concommitant variables which must be taken into account if one is to more precisely explain and predict attitude change effects of differential communicator credibility.

# Chapter II

# DESIGN AND PROCEDURES

## Design of the Study

This study was designed to compare the relative attitude change influences of high and low source credibility under four conditions of behavioral compliance and noncompliance. Credibility changes effected under the four conditions were also examined.

A before-and-after experimental design was utilized. Ss' initial attitudes toward a critical attitude object (the American Red Cross blood program) and their prior estimates of the critical sources' credibility were measured in a pretest preceding the experimental manipulations. The experimental treatments were administered approximately four weeks later, entailing Ss' exposure to a persuasive message dealing with the blood program under two credibility and four behavioral compliance or noncompliance conditions. Following administration of the experimental treatments, Ss' source credibility judgments and attitudes toward the critical attitude object were re-assessed, permitting comparison of pretest and posttest measures of the criterion variables.

Experimental Variables

Two of the three experimental variables incorporated in the study design were directly manipulated: (a) source credibility and (b) behavioral compliance. The third experimental variable, the consistency or inconsistency of the Ss' initial attitude with the position advocated by a source (and with compliance behavior), was not manipulated. Ss assigned themselves to one or the other of the two initial attitude conditions on the basis of the "favorability" or "unfavorability" of their prior attitude toward the blood donor program.

Source credibility. Credibility has traditionally been defined in terms of the expertness, trustworthiness, prestige, position or status, etc., of a source. An investigation being completed by Berlo and Lemert (Department of Communication, Michigan State University), using factor analytic techniques, has identified what appear to be three primary dimensions of source credibility -- (a) competence or expertise, (b) trustworthiness or safety and (c) dynamism. Twelve credibility scales taken from the Berlo and Lemert investigation were used in this study to index credibility. The specific scales used to represent each of the three credibility dimensions were:

| | |
|---|---|
| Competence: (Expertise) | educated - uneducated |
| | experienced - inexperienced |
| | informed - uninformed |
| | trained - untrained |
| Trustworthiness: (Safety) | honest - dishonest |
| | objective - subjective |
| | safe - dangerous |
| | openminded - closedminded |
| Dynamism: | frank - reserved |
| | extroverted - introverted |
| | bold - timid |
| | colorful - dull |

These scales were selected on the basis of Troldahl's (Department of Communication, Michigan State University) correlational analysis of the Berlo and Lemert credibility scales. The 12 scales are those which load most highly on each of the dimensions, yet represent most "purely" their respective dimensions.

A credibility pilot study was conducted to select the high and low credibility sources which would be used in the later primary investigation. The pilot study was also intended to determine the credibility scales' applicability to the critical sources and to ensure that the scales discriminated between the high and low credibility sources used in the primary investigation (see Appendix A, the instrument used in the credibility pilot study). Twenty-nine Michigan State University undergraduates, comparable to Ss in the primary study, were asked to evaluate 13 different potential sources. The

potential sources were evaluated in the context of their possible association with messages concerning the blood donor program. The sources judged in the pilot study were:

1. Volunteer worker, Ingham County Red Cross Chapter
2. President, Oakland County Medical Association
3. Research assistant, D. P. Brothers Advertising Agency, Detroit
4. Director, Ingham County Red Cross Chapter
5. Public relations counsel, American National Red Cross, Washington, D. C.
6. Research technologist, Michigan Department of Health
7. Blood donor recruiting chairman, Ingham County Red Cross Chapter
8. Your family doctor
9. Associate professor, University of Michigan Medical School
10. Laboratory technician, Ingham County Regional Blood Center
11. Chief nurse, Ingham County Regional Blood Center
12. Public health officer, U. S. Public Health Service Chicago area
13. Assistant pathologist, E. W. Sparrow Hospital, Lansing

The 13 potential sources were evaluated by pilot study Ss in terms of the Berlo and Lemert credibility scales. A total credibility score and separate scores for each of the three credibility dimensions were obtained for each potential source. These scores were determined by averaging, over the 29 Ss, the credibility ratings given each of the 13 potential sources.

Selection of a single high credibility and low

credibility source to be used in the primary study was complicated by the fact that no one potential source was consistently rated high or low on all three dimensions of credibility. That is, a potential source judged high on the competence dimension might be rated low on the trustworthiness and dynamism dimensions, while another would be evaluated highly on the trustworthiness dimension and low on the other two; their total scores being roughly equivalent.

The highest composite credibility score (summed over the three dimensions) was accorded Your family doctor (60.00; the maximum possible score was 72.00), while the lowest composite score was given to Assistant pathologist (46.21). These two sources also had relatively consistent scores (high and low, respectively) across the three credibility dimensions. It was decided, however, to select as sources to be used in the primary study, two which were not extremely rated. Therefore, the sources rated second highest and second lowest on credibility were selected for incorporation into the study. The high credibility source selected was Public relations counsel (composite score: 55.86); the low credibility source selected was Volunteer worker (composite score: 46.55). It might be noted that the

differential credibility accorded these two sources was due primarily to differences in the competence credited to them, rather than to differences in trustworthiness and dynamism evaluations of the two sources selected. It might also be noted that Assistant pathologist and Volunteer worker, of the 13 potential sources included in the pilot study, were the only ones consistently evaluated to be of low credibility. The remaining 11 potential sources were all given relatively high credibility ratings.

Behavioral compliance and noncompliance. Two conditions of behavioral compliance were effected. Compliance with the recommendation of the source was achieved by causing Ss to voluntarily or involuntarily engage in a behavioral act in accordance with that recommendation and consistent or inconsistent with the Ss' initial attitude. Ss were either asked or persuaded (voluntary compliance condition) or arbitrarily assigned (forced compliance condition) to submit to the taking of a blood sample ostensibly for use in the Red Cross blood research program. No blood was actually taken as it was assumed that the mere voluntary or involuntary commitment to give blood would be sufficient to produce the hypothesized attitude and credibility change effects.

Two behavioral noncompliance conditions were also effected. Ss who had been given the opportunity to voluntarily comply with the request of the source, but who had refused their compliance, comprised the first of the noncompliance conditions. In the no compliance or message only treatment condition, Ss were neither asked nor forced to give the blood sample; attitude and credibility change effects were, in this condition, wholly dependent upon the persuasive character of the experimental message attributed to a high or low credibility source.

Criterion Variables

The criterion variables in this study were attitude change (both in terms of direction change and intensity change) and change in perceived source credibility.

Credibility change. In the pretest phase of the primary study, preceding the experimental manipulations, Ss evaluated both the high and low credibility sources used in the study. They evaluated only that source (either high or low credibility) relevant to the experimental treatment to which they were assigned in the posttest phase of the experiment. Ss' before and after evaluations of the sources, utilizing the 12 credibility scales, were indexed by a total credibility

score (summed over 12 scales) and by three separate scores representing Ss' evaluations of a source on each of the three credibility dimensions -- competence, trustworthiness and dynamism. Credibility change was measured in terms of differences between before and after credibility scores (both overall and for each separate dimension). Because the three credibility dimensions are relatively uncorrelated, independent analyses of the relationship of the criterion variables (attitude and credibility change) were also accomplished for each dimension.

Attitude change. Ss' attitudes toward the critical attitude object, both prior to and following the experimental manipulations, were indexed by a series of Likert-type attitude items based upon the persuasive message used in the study.

A second pilot study was conducted to determine which of 55 potential attitude items would be utilized in the primary study. The potential attitude items were constructed on the basis of information concerning the Red Cross blood program furnished the investigator by the Ingham County Red Cross Chapter. The pilot study was conducted under the guise of a media effects study, purportedly concerned with the effect upon public opinion

of discussions and criticisms of the blood donor program reported in the national news media (see Appendix B, the instrument used in the attitude item pilot study). Thirty Michigan State University undergraduates, comparable to Ss employed in the primary study, indicated their agreement or disagreement, and the extent of their agreement or disagreement, with each of the potential attitude items.

Of the 55 items included in the pilot study, ten were selected for the primary investigation. The items selected were those which best discriminated between Ss favorable and unfavorable to the blood donor program (indexed by a coefficient of discrimination operationalized by the part-whole correlation between each attitude item response and total attitude score summed over all items) and on which there was substantial inter-subject agreement. The ten items selected were all reasonably high in discrimination (none fell below a coefficient of .32) and were as representative as possible of the range of statement favorability or unfavorability. That is, statements were selected which reflected both favorable and unfavorable attitudes toward the attitude object, as well as intermediate degrees of favorability and unfavorability. Figure 1 presents the ten attitude items selected for use in the primary study, together

Figure 1. Attitude items included in primary study.

| Attitude Item | Discrimination | Favorableness of Statement |
|---|---|---|
| The Red Cross blood program is a worthy undertaking. | .321 | 3.26 |
| I would never donate my blood to the Red Cross. | .321 | 1.07 |
| The Red Cross is always asking for blood. | .618 | 1.93 |
| The Red Cross blood donor program definitely should have everybody's full support. | .497 | 2.70 |
| The Red Cross blood donor program is saving many lives in this country. | .424 | 3.26 |
| Most of the Red Cross workers are highly skilled people. | .536 | 2.27 |
| Everyone's life is in the hands of God -- therefore, I can't support any blood donor program. | .389 | .80 |
| It is essential that as many people as possible donate their blood to the Red Cross. | .693 | 2.63 |
| The Red Cross blood donor program is just a lot nonsense. | .497 | .60 |
| The Red Cross never does anything for people who really need help. | .332 | 1.03 |

with their coefficients of discrimination and mean statement favorability.

Attitude changes effected by the experimental treatments were measured by pretest-posttest differences in Ss' total attitude score (summed over the ten attitude items).

Experimental Manipulations

Six experimental groups, together with a control group, were utilized in this study. Intact groups of Ss, composed of Michigan State University upperclassmen, were employed. The experimental groups were randomly assigned to one of the treatment conditions as indicated in Figure 2 (the figure does not include the control group).

Figure 2. Experimental design (excluding control group).

| Source Credibility | Voluntary Compliance | Forced Compliance | No Compliance |
|---|---|---|---|
| High (Positive) | | | |
| Low (Negative) | | | |

Each of the six experimental groups was divided (as indicated by the horizontal dashed line in Figure 2) into two subgroups -- defined by the consistency or inconsistency of Ss' initial attitude with the recommendations of the source -- on the basis of Ss' self-assignment.

Each of the six intact groups was divided into roughly proportional subgroups as a result of this self-assignment.

The involuntary compliance groups were also subdivided for later analyses into those Ss who complied with the request of the source and those who did not comply. This subdivision of the voluntary compliance groups is indicated by the vertical dashed line in Figure 2.

Three versions of the experimental message, designed to induce attitude change in the direction of the sources' recommendations, were prepared (see Appendix C, the voluntary compliance version of the experimental message). The content of all three message versions was the same. Each version described the scope and purpose of the Red Cross blood donor and research program, concluding with an appeal for Ss' participation in the blood research program. Variations in this concluding appeal constituted the compliance manipulations in this study.

Ss in the voluntary compliance and noncompliance conditions were asked to donate a small portion of their blood for research purposes, while those in the involuntary compliance conditions were given to understand that they had no choice but to permit taking of a blood sample. It was merely suggested to Ss in the no compliance

(message only) conditions that they participate in the blood research program if and when the opportunity presented itself. All three versions of the experimental message were orally presented by E.

On the basis of the results of the credibility pilot study, E, in the high credibility conditions, represented himself as a "Public relations counsel to the American National Red Cross," while he represented himself as a "Red Cross volunteer worker" in the low credibility conditions.

The control group was not subjected to the experimental manipulations (either to the message or compliance behavior), functioning as a base-line or reference group against which attitude changes noted in the experimental groups were compared. This group also served as a control on the attitude change influences of extraneous and otherwise uncontrollable events bearing on the criterion variables in the study.

## The Sample

Seven summer school classes, composed of Michigan State University upperclassmen, were used as Ss. Five classes from the College of Business and two from the College of Social Science were utilized. Although these seven groups are not representative of all classes at

Michigan State University, or of all university upperclassmen, no evidence was found of substantial biasing factors on relevant variables. The representativeness of the experimental groups is not, furthermore, a crucial issue in that the attitude and credibility change influences of the experimental variables in this study do not appear contingent upon any concommitant or confounding demographic or organismic variables. That is, it was felt that the effects of the experimental variables incorporated in this study are not mediated by an identifiable attribute upon which groups or individuals might differ.

The classes, as intact groups, were randomly assigned to the experimental treatments. The sample of groups (and individuals), comprised of 177 Ss, is described in Tables 1 and 2.

Table 1 indicates that Ss in the experimental and control groups did not differ substantially from one another in terms of age distribution differences. The proportions of males and females in each group were not, however, homogeneous across groups. No rationale could be constructed for expecting differences in sex variable distribution to have any influence upon the criterion variables of this study.

Table 1. Age and sex of Ss by treatment groups.

| Group | Age | | | | | | Sex | | N |
|---|---|---|---|---|---|---|---|---|---|
| | 17-19 | 20-22 | 23-25 | 26-28 | 29-31 | 32+ | Male | Female | |
| VC-HC[a] | 4% | 50% | 21% | 11% | 7% | 7% | 75% | 25% | 28 |
| VC-LC | 3 | 55 | 26 | 7 | 6 | 3 | 49 | 51 | 31 |
| FC-HC | 4 | 58 | 25 | 5 | 4 | 4 | 50 | 50 | 24 |
| FC-LC | 0 | 68 | 28 | 4 | 0 | 0 | 80 | 20 | 25 |
| NC-HC | 0 | 67 | 25 | 8 | 0 | 0 | 80 | 20 | 24 |
| NC-LC | 7 | 52 | 24 | 11 | 3 | 3 | 75 | 25 | 29 |
| Control | 6 | 50 | 32 | 6 | 6 | 0 | 100 | 0 | 16 |

[a]The six experimental groups are briefly identified in this and following tables and figures in the following manner:

VC -- voluntary compliance
FC -- forced (involuntary) compliance
NC -- no compliance (message only)
HC -- high credibility
LC -- low credibility

Table 2 demonstrates that Ss in the treatment and control groups did not differ markedly in terms of their past experience with blood donor programs.

That the seven groups were not wholly homogeneous in their initial attitudes toward the Red Cross blood donor program, or in their members' evaluations of the high and low credibility sources, is evidenced by Table 3. Table 3 reports, for each group, the mean attitude and credibility scores obtained in the pretest phase of the experiment.

Table 2. Prior experience with blood donor programs by treatment groups.

| Item | Treatment Groups | | | | | | |
|---|---|---|---|---|---|---|---|
| | VC-HC | VC-LC | FC-HC | FC-LC | NC-HC | NC-LC | Control |
| S donated blood to Red Cross | 46% | 32% | 25% | 49% | 46% | 41% | 38% |
| S donated blood to some other agency | 18 | 23 | 16 | 12 | 12 | 21 | 38 |
| Friend or relative donated blood | 71 | 81 | 79 | 80 | 79 | 76 | 75 |
| S received blood from Red Cross | 0 | 3 | 0 | 0 | 0 | 0 | 12 |
| Friend or relative received blood from Red Cross | 36 | 29 | 33 | 32 | 33 | 31 | 31 |

Standard deviations of the scores within each group are also reported.

Analysis of differences in mean pretest attitude and credibility measures between individual pairs of treatment groups indicated that the control and no compliance - low credibility groups differed significantly from each other in their mean attitude score ($t=2.21$, $p < .05$), while all other attitude score comparisons were not significant ($p > .05$). With respect to initial evaluations of the low credibility source,

Table 3. Means and standard deviations, initial attitude and credibility scores.

| Group | Attitude Score | | Low Credibility | | High Credibility | |
|---|---|---|---|---|---|---|
| | Means | sd | Means | sd | Means | sd |
| VC - HC | 26.63 | 3.72 | 43.20 | 7.99 | 52.83 | 7.38 |
| VC - LC | 26.57 | 3.77 | 40.49 | 8.90 | 49.71 | 10.10 |
| FC - HC | 26.71 | 4.09 | 47.04 | 7.29 | 55.33 | 6.93 |
| FC - LC | 26.36 | 3.96 | 41.64 | 8.96 | 53.57 | 7.50 |
| NC - HC | 26.45 | 3.74 | 41.72 | 8.76 | 53.83 | 7.65 |
| NC - LC | 27.08 | 3.57 | 41.88 | 8.90 | 53.00 | 7.08 |
| Control | 24.25 | 5.53 | 41.50 | 7.96 | 53.00 | 7.76 |

the forced compliance - high credibility group was significantly different (in that its members evaluated the low credibility source more highly) from all other groups with the exception of the voluntary compliance - high credibility group ($p < .05$). No significant differences in mean evaluations of the low credibility source were observed between the remaining groups. Comparisons of mean evaluations of the high credibility source indicated that the voluntary compliance - low credibility group differed significantly (in the direction of attributing lower credibility to the source) from the forced

compliance - high credibility ($t=2.74$, $p < .05$) and from the non compliance - high credibility group ($t=2.13$, $p < .05$), but that all other inter-group comparisons were not significant ($p > .05$).

Despite these differences, the seven groups were considered homogeneous in their initial attitudes toward the Red Cross blood donor program and in their credibility estimates of the two critical sources. This assumption is given weight by the fact that attitude score variances for the seven groups were homogeneous ($\chi^2=27.78$, $p > .05$) as were credibility estimate variances in the case of the low credibility source ($\chi^2=74.76$, $p > .05$). Variances of credibility evaluations given the high credibility source were heterogeneous ($\chi^2=251.83$, $p < .001$); however, this heterogeneity was due almost entirely to variability in credibility estimates in the voluntary compliance - low credibility group. Removing this group from consideration, the remaining credibility estimate variances across the six groups were homogeneous ($\chi^2=15.61$, $p > .05$).

Ss in each treatment group were also divided into those "favorable" and those "unfavorable" in their initial attitudes toward the American Red Cross blood donor and research program on the basis of their self-assignment.

Figure 3. Frequency of Ss favorable and unfavorable in each treatment group.

| Initial Attitude | Treatment Groups | | | | | | | Totals |
|---|---|---|---|---|---|---|---|---|
| | VC-HC | VC-LC | FC-HC | FC-LC | NC-HC | NC-LC | Control | |
| Favorable (above 27.75) | 13 | 13 | 12 | 12 | 15 | 14 | 3 | 82 |
| Unfavorable (below 27.75) | 15 | 18 | 12 | 13 | 14 | 10 | 13 | 95 |
| Totals | 28 | 31 | 24 | 25 | 29 | 24 | 16 | 177 |

Taking the overall median attitude score (27.75) obtained in the pretest as that above which Ss were classified as "favorable" and below which they were classified as "unfavorable" toward the critical attitude object, the Ss' self-assignment divided the treatment and control groups in the manner indicated by Figure 3. It can be seen from Figure 3 that, across experimental treatment groups, the "favorable" and "unfavorable" subgroup ns are roughly proportional.

## The Instruments

Two instruments were employed in this study -- a pretest questionnaire designed to obtain base-line data and a posttest instrument (in two versions). Credibility

and attitude data obtained with the two versions of the posttest questionnaire were compared with base-line data provided by administration of the pretest instrument.

The Pretest Instrument

One form of the pretest instrument, represented as a health information inventory, was administered to all Ss. The instrument consisted of 25 Likert items designed to assess attitudes on a variety of health and medical subjects. The 10 critical items dealing with attitudes toward the Red Cross blood donor and research program were interspersed among 15 "masking" items. Ss were asked to indicate the extent of their agreement or disagreement with all 25 attitude items; only the 10 items concerned with the critical attitude object were scored and evaluated.

The pretest instrument also contained brief title descriptions of six sources, conjoined with a particular health topic with which they might be associated; e.g., "Volunteer worker, Ingham County Red Cross Chapter, speaking on the Red Cross blood program," or "Associate professor, University of Michigan Medical School, speaking on smoking and lung cancer." The critical high and low credibility sources (volunteer worker and public relations counsel, American Red Cross) were included among the six,

together with four other sources associated with different health and medical topics.

Ss were asked to evaluate each of the six sources in the context of the topic with which they were associated in the questionnaire. These evaluations were made in terms of the 12 credibility scales described above.

The pertinent attitude items and sources were "masked" by irrelevant attitude items and sources in an attempt to prevent Ss from suspecting or guessing the actual purpose and interests of the study.

Appendix D presents a copy of the pretest instrument. This instrument was administered to all but one of the seven groups by the class instructor. In the remaining group, the questionnaire was administered by a graduate student in the Department of Communication.

The Posttest Instrument

Administered to Ss immediately following the experimental manipulations, the posttest instrument did not incorporate the "masking" features of the pretest instrument. This instrument consisted only of the 10 relevant attitude items and the credibility scales for the evaluation of "public relations counsel" in the high credibility groups and "volunteer worker" in the low credibility groups. Both versions of the questionnaire associated

the sources being evaluated with the attitude object, "Red Cross blood program." As in the case of the pre-test questionnaire, it was emphasized that the sources were to be evaluated in the context of the source's association with the blood program.

The posttest instrument (see Appendix E for a sample questionnaire) also included these classificatory items: (a) age, (b) sex, (c) whether or not S had donated or received blood through the Red Cross, (d) whether or not close friends or relatives of S had donated or received blood and (e) whether or not S was interested in learning more about the Red Cross blood donor and research program. The last item was also used as a secondary index of the persuasive effects of high and low source credibility under conditions of behavioral compliance and noncompliance.

The posttest instrument was administered in all seven groups by the investigator who had earlier posed as the high or low credibility source in orally delivering the persuasive message.

## Chapter III

## RESULTS AND CONCLUSIONS

The statistical analysis of data obtained in the study and the conclusions to be drawn from the results of that analysis may be divided into three general concerns: (a) results and conclusions pertinent to the hypotheses dealing with and comparing the attitude change effects of voluntary and forced compliance with the requests of the source, (b) results and conclusions bearing on the hypotheses concerned with the effects of noncompliance (the voluntary noncompliance and message only conditions) and (c) those results and conclusions pertinent to both the compliance and noncompliance conditions effected in this study.

Evidence supporting or failing to support each of the theoretic hypotheses was obtained by testing for significant differences in mean attitude change scores between various treatment groups and subgroups. Prior to testing these hypotheses, however, it was first determined whether or not the experimental manipulations had, in fact, produced any attitude change effect. This was accomplished by testing for the significance of the differences between the mean attitude change scores of

the experimental groups and that of the control group. The procedure suggested by Dunnett (1955) for comparing a number of treatment groups with a control or standard was used for this purpose.

The mean attitude change scores of the eight experimental groups and the control group are presented in Table 4. The table also reports the magnitude of differences between attitude change scores of each experimental group and the control group, as well as the level of significance (one-tailed) of each individual difference.

It can be noted from Table 4 that the experimental manipulations produced significant attitude change effects in six of the eight experimental groups. The mean attitude change scores of all but the forced compliance-high credibility and voluntary noncompliance-high credibility treatment groups are significantly greater (at the level indicated in Table 4) than that of the control group. The absence of mean attitude change significantly different from that of the control group in these two experimental groups seems in line with dissonance theory expectations. That is, in these two groups, Ss could be expected to experience minimal cognitive pressure to change their attitudes in the direction advocated by the high credibility source. In the first instance, Ss

Table 4. Differences in mean attitude change scores between experimental groups and control group.

| Group | N | Mean Attitude Change Score | Exp.-Con. Diff. | P |
|---|---|---|---|---|
| Voluntary compliance High credibility | 12 | 6.17 | 5.92 | .01 |
| Voluntary compliance Low credibility | 15 | 6.73 | 6.48 | .01 |
| Forced compliance High credibility | 24 | 1.29 | 1.04 | n.s. |
| Forced compliance Low credibility | 25 | 1.84 | 1.59 | .05 |
| Voluntary noncompliance High credibility | 16 | .62 | .37 | n.s. |
| Voluntary noncompliance Low credibility | 16 | 4.44 | 4.19 | .01 |
| No compliance (message-only), High credibility | 29 | 3.69 | 3.14 | .01 |
| No compliance (message-only), Low credibility | 24 | -2.95 | 2.60 | .01 |
| Control | 16 | .25 | | |

could justify their compliance by the knowledge that they had been forced to do so, while, in the second case, Ss were in effect subjected to pressures against attitude change by their decision not to comply.

The data were also tested for heterogeneity of variance before any tests were made of the statistical hypotheses paralleling the theoretic hypotheses of the study. Application of Bartlett's test of homogeneity indicated that the variances of the eight experimental and the control group were, in fact, homogeneous ($z=1.83$, $p > .05$).

## Compliance Hypotheses

Three theoretic hypotheses were set forth in Chapter I concerning the attitude change effects of behavioral compliance -- both voluntary and forced -- with the requests of recommendations of high and low credibility sources:

> 1. Low credibility sources are more effective in effecting attitude change toward positions both consistent and inconsistent with the receiver's initial attitude than are high credibility sources.
>
> 2. Both high and low credibility sources are more effective in effecting attitude change toward positions inconsistent with the receiver's initial attitude than toward positions consistent with the receiver's initial attitude.
>
> 3. Both high and low credibility sources are more effective in effecting attitude change toward positions both consistent and inconsistent with the receiver's initial attitude when the receiver's

behavioral compliance is voluntary than when that compliance is involuntary.

The first of these theoretic hypotheses suggests that, given the receiver's behavioral commitment or compliance, irrespective of his initial attitude toward the attitude object and toward the position advocated by the source, low credibility sources will effect greater attitude change in the direction advocated in the message than will high credibility sources.

The second theoretic hypothesis postulates that, given that the receiver has behaviorally complied with the request of the source, irrespective of perceived source credibility, greater attitude change will be effected when the receiver is initially opposed to the source's position than when the receiver is initially favorable to the position advocated by the source.

The remaining hypothesis concerned with the attitude change effects of compliance behavior under conditions of high and low source credibility states that irrespective of perceived source credibility and of the receiver's initial attitude, greater attitude change will be effected when the receiver's behavioral compliance with the request of the source is voluntary than when the receiver has no choice in whether or not he will comply.

Empirical evidence supporting or failing to support each of the above hypotheses was obtained by testing the significance of the differences between the mean attitude scores of the four behavioral compliance treatment groups. A minimum .05 (one- or two-tailed, as appropriate) level of significance was used in testing each of these hypotheses, as well as each of the remaining hypotheses.

The unweighted averages method suggested by Snedecor (1956) for the analysis of differences among group means was employed. Mean attitude change scores of the behavioral compliance treatment groups, broken down into subgroups of Ss initially "favorable" and "unfavorable" toward the attitude object (the Red Cross blood program) are reported in Table 5. The results of the analysis of differences in mean attitude change among these groups and subgroups are indicated in Table 6.

The F's obtained in the analysis of the mean attitude change differences among the behavioral compliance treatment groups, subdivided into those Ss initially "favorable" and those initially "unfavorable" toward the Red Cross blood program, and reported in Table 6 indicated that for this sample of Ss:

1. Significantly greater mean attitude change was

Table 5. Mean attitude change scores of the behavioral compliance treatment groups.

| Prior Attitude | Voluntary Compliance | | Forced Compliance | |
|---|---|---|---|---|
| | High credible | Low credible | High credible | Low credible |
| Favorable | 4.500 | 6.000 | 1.667 | 1.083 |
| (n) | (4) | (10) | (12) | (12) |
| Unfavorable | 7.000 | 8.200 | 1.750 | 2.538 |
| (n) | (8) | (5) | (12) | (13) |

Table 6. Analysis of variance of mean attitude change scores of the behavioral compliance treatment groups.

| Source | df | SS | F | P |
|---|---|---|---|---|
| Compliance | 1 | 43.5337 | 100.308 | .01 |
| Credibility | 1 | 1.0539 | 2.428 | n.s. |
| Prior Attitude | 1 | 4.8641 | 11.208 | .01 |
| Compliance x Credibility | 1 | .2805 | .646 | n.s. |
| Compliance x Prior Attitude | 1 | .6248 | 1.440 | n.s. |
| Credibility x Prior Attitude | 1 | .0718 | .165 | n.s. |
| Compliance x Credibility x Prior Attitude | 1 | 1.5448 | 3.559 | n.s. |
| Error | (68) | (MS= .4340) | | |
| TOTAL | 7 | 51.9736 | | |

effected in the voluntary compliance than in the forced compliance treatment groups ($p < .01$);

2. The mean attitude change effected in the high credibility treatment groups was not significantly different from that effected in the low credibility treatment groups ($p > .05$);

3. Significantly greater mean attitude change was effected in the initially "unfavorable" than in the initially "favorable" treatment groups ($p < .01$).

## No Compliance Hypotheses

Two theoretic hypotheses were constructed concerning attitude change effects in those treatment groups who either did not or were not required to behaviorally comply with the recommendations or requests of high and low credibility sources. Ss in these groups were, in the voluntary noncompliance groups, those who were asked to comply with the request of the source, but elected not to do so, and in the no compliance or message only groups, those Ss who were not exposed to the compliance manipulations. The two no compliance hypotheses state that:

> 1. High credibility sources are more effective in effecting attitude change toward positions both consistent and inconsistent with the receiver's initial attitude than are low credibility sources. Low credibility sources tend to effect attitude change counter to the position advocated by the source.

This hypothesis suggests that, irrespective of the receiver's initial attitude toward the attitude object, high credibility sources will effect greater attitude change in the direction of the source's request than will low credibility sources, and that low credibility sources will, in fact, be more likely to produce negative attitude change -- attitude change counter to the request of the source.

> 2. High credibility sources are more effective in effecting attitude change toward positions inconsistent with the receiver's initial attitude than toward positions consistent with that attitude. Low credibility sources are more effective in inducing attitude change counter to positions consistent with the receiver's initial attitude than counter to positions inconsistent with that attitude.

The expectation set forth in this hypothesis is that high credibility sources are more effective in producing positive attitude change (in the direction advocated by the source) when the receiver is initially "unfavorable" toward the attitude object and request of the source than when he is "favorably" predisposed toward the source's request and that attitude object. On the other hand, it was expected that the extent of the attitude change counter to the request of the source effected by a low credibility source would be positively related to the degree of the receiver's initial "favorability"

toward the attitude object and the request of the source.

Empirical evidence supporting or failing to support each of these hypotheses was obtained by testing the significance of mean attitude change score differences among the four treatment groups. Mean attitude change scores of these groups, again subdivided into subgroups of Ss "favorable" and "unfavorable" at the outset toward the position of the source, are reported in Table 7.

Table 7. Mean attitude change scores of the no compliance treatment groups.

| Prior Attitude | Voluntary Noncompliance | | No compliance | |
|---|---|---|---|---|
| | High credible | Low credible | High credible | Low credible |
| Favorable | .333 | 4.333 | 1.667 | -4.809 |
| (n) | (9) | (3) | (15) | (14) |
| Unfavorable | 1.000 | 4.462 | 5.714 | -1.100 |
| (n) | (7) | (13) | (14) | (10) |

Table 8 presents the results of the statistical analysis of differences in mean attitude change scores among the groups and subgroups. The procedures suggested by Snedecor for analysis of differences among group means were again employed.

The F's obtained in the analysis of differences in mean attitude change scores among the no compliance treatment

C40 ____ 32. The Red Cross blood research program is a very necessary thing.

C41 ____ 33. The Red Cross really charges for the blood they "give" people.

C42 ____ 34. Those people who condemn the Red Cross really don't know the facts.

C43 ____ 35. Giving blood is like buying insurance -- we should give just in case we ever need blood ourselves.

C44 ____ 36. The Red Cross is <u>always</u> asking for money.

C45 ____ 37. It is essential that as many people as possible donate their blood to the Red Cross.

C46 ____ 38. The Red Cross should pay people for giving blood.

C47 ____ 39. The Red Cross blood donor program is really unnecessary.

C48 ____ 40. The Red Cross grossly over-exaggerates the need for blood.

C49 ____ 41. Everyone should find out as much as he possibly can about the Red Cross blood program.

C50 ____ 42. The Red Cross blood donor program is just a lot of nonsense.

C51 ____ 43. Everyone who is physically able certainly should give blood to the Red Cross.

C52 ____ 44. The Red Cross never does anything for people who <u>really</u> need help.

C53 ____ 45. The Red Cross blood donor program is an essential part of our Nation's overall health.

C54 ____ 46. The Red Cross is <u>always</u> asking for blood donors.

C55 ____ 47. It is <u>every</u> person's duty to donate blood to the Red Cross, if he is able to.

C56 ____ 48. The Red Cross blood donor program is a very worthwhile project.

C57 ____ 49. The Red Cross has <u>never</u> done anything for <u>me</u>.

C58 ____ 50. A blood research program is important to the health of our Nation's people.

C59 ____ 51. The Red Cross blood research program offers our <u>only</u> chance to combat some dangerous diseases.

C60 ____ 52. A person who donates blood to the Red Cross is really just a "do-gooder."

C61 ____ 53. The Red Cross blood research program is contributing much to the field of medicine.

C62 ____ 54. There is always some sort of cost involved when the Red Cross does something for you.

C63 ____ 55. The Red Cross "preys" upon the poor and the unfortunate.

AGREEMENT-DISAGREEMENT RESPONSES

4 . . . I strongly agree with this statement.

3 . . . I agree with this statement.

2 . . . I don't know how I feel about this statement.

1 . . . I disagree with this statement.

0 . . . I strongly disagree with this statement.

# APPENDIX C

## Involuntary Compliance Message

Forced Compliance

WHY A BLOOD DONOR PROGRAM?

I am here today for two very good reasons. First, the American Red Cross is vitally concerned with the public's acceptance of its blood donor program. Red Cross officials are keenly aware of the fact that many people are strongly opposed to the blood program. Others are plainly apathetic and disinterested. This opposition and disinterest in the blood donor program is well illustrated by the frequent poor turnout at MSU blood drives. Quite naturally, the Red Cross is very much interested in increasing public acceptance of the program.

We feel that if we can discuss the goals and benefits of the Red Cross blood program with people like you, we might be able to dispel some of the public opposition and misunderstanding which now exists. That is why I am here today -- to talk about the Red Cross blood donor program.

The goals of the blood program are to provide whole blood to hospitals, to provide blood for national emergencies, to supply blood derivatives to physicians and hospitals and to encourage continuing research to find new derivatives and new uses for blood products.

The blood collected by the Red Cross is used primarily as "whole blood." Whole blood is fresh blood, just as it is taken from the donor. Whole blood transfusions are

necessary whenever large amounts of blood have been lost as a result of accident, injury, childbirth complications, surgery, shock or burns. Whole blood may also be used in the treatment of hemorrhagic diseases, infection and anemia.

The plasma or liquid portion of the blood which is not used for whole blood transfusions is used in the production of plasma and blood derivatives. Fresh frozen plasma is used in the treatment of hemophilia (chronic bleeding). Liquid plasma is used in some hospitals in emergency cases but most of it is converted into fractions. The proteins contained in plasma can be individually separated and from them several blood derivatives are now available for medical use. New derivatives and new uses for present derivatives are constantly being sought in the Red Cross' program of blood research.

Serum albumin, about half of the protein content of plasma, is used in the treatment of kidney and liver diseases, in cases of severe malnutrition and in emergency accident and shock cases where the administration of whole blood is impractical. Gamma globulin is a plasma fraction capable of modifying or preventing measles or hepatitis.

Vaccinia immune globulin, a special form of gamma globulin, is used to control complications arising from

smallpox vaccination. Fibrinogen is one of the plasma proteins essential to blood clotting and is used to treat cases of hemorrhage. Anti-hemophilic globulin, as its name implies, is used to control and treat hemophiliacs -- chronic bleeders.

In addition to whole blood, plasma and its fractions, packed red cells are used in medical therapy, their chief use being the treatment of anemia conditions. Other blood products are constantly being developed and new uses for them determined.

Having pointed out some of the purposes and products of the Red Cross blood program, there is a second reason that I am here today. That other reason is to ask you to help the American Red Cross in its continuing program of blood research.

One of the projects of the Red Cross blood research program is the creation and maintenance of a rare blood donor file. For the past year, the Red Cross has been systematically sampling some 10 percent of the donors at each of its regional blood centers and sending these samples to the Orange County Regional Blood Center near Los Angeles. There the blood samples are examined with the purpose of discovering various combinations of blood antigens or factors which can make incompatible the blood of persons

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# APPENDIX A

## Instrument -- Credibility Pilot Study

ARC SPEAKER STUDY
Department of Communication
Michigan State University

Project Number _____ C1-3

Phase Number _____ C4-5

Subject Number _____ C6-8

The American Red Cross is considering a new public information program in which local business, professional and Red Cross representatives will present to groups short talks explaining the purposes and problems of the ten Red Cross service programs. We are interested now in your evaluations of a number of persons who might be called upon to present such talks. We are asking you to judge each of these persons on a series of descriptive scales. Please judge each person in terms of his or her being a possible source of a Red Cross message.

## Instructions

At the top of each of the following pages you will find a short description of each person to be judged. Below each description is a series of descriptive scales. Here's how to use the scales . . .

As you come to each scale, look at the words at each end of it and decide which of these words you feel best describes the person you are judging. Let's take the first scale as an example:

BEN CASEY, M.D.

uneducated ___:___:___:___:___:___:___ educated

Suppose you feel that BEN CASEY is educated rather than uneducated. This means that you should place a checkmark in one of the three spaces between the word educated and the box in the middle of the scale. You can show how educated you feel BEN CASEY is by how close you place your mark to the word educated. The closer the mark, the more educated you say you think BEN CASEY is.

If you feel that BEN CASEY is uneducated, rather than educated, you should place your mark in one of the three spaces between the word uneducated and the box in the middle of the scale. Again, you can show how uneducated you feel he is by how close you place your checkmark to the word uneducated.

Or if you just can't decide which of the two words at the ends of a scale best describes BEN CASEY, place your mark in the box in the middle of the scale.

Remember . . . place a checkmark somewhere between each pair of words on each page and be sure to make only one mark between each pair of words. Remember that you are judging each of the persons as a possible source of a Red Cross message. We're interested in your first impressions, so work as rapidly as you can.

VOLUNTEER WORKER
Ingham County Red Cross Chapter 01

| | | |
|---|---|---|
| uneducated | ___:___:___:  :___:___:___ | educated |
| extroverted | ___:___:___:  :___:___:___ | introverted |
| informed | ___:___:___:  :___:___:___ | uninformed |
| subjective | ___:___:___:  :___:___:___ | objective |
| experienced | ___:___:___:  :___:___:___ | inexperienced |
| dangerous | ___:___:___:  :___:___:___ | safe |
| bold | ___:___:___:  :___:___:___ | timid |
| closedminded | ___:___:___:  :___:___:___ | openminded |
| reserved | ___:___:___:  :___:___:___ | frank |
| honest | ___:___:___:  :___:___:___ | dishonest |
| untrained | ___:___:___::___:___:___ | trained |
| colorful | ___:___:___::___:___:___ | dull |

PRESIDENT
Oakland County Medical Association 02

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| untrained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

RESEARCH ASSISTANT
D. P. Brothers Advertising Agency, Detroit 03

| | | |
|---|---|---|
| uneducated | ___:___:___:▱:___:___:___ | educated |
| extroverted | ___:___:___:▱:___:___:___ | introverted |
| informed | ___:___:___:▱:___:___:___ | uninformed |
| subjective | ___:___:___:▱:___:___:___ | objective |
| experienced | ___:___:___:▱:___:___:___ | inexperienced |
| dangerous | ___:___:___:▱:___:___:___ | safe |
| bold | ___:___:___:▱:___:___:___ | timid |
| closedminded | ___:___:___:▱:___:___:___ | openminded |
| reserved | ___:___:___:▱:___:___:___ | frank |
| honest | ___:___:___:▱:___:___:___ | dishonest |
| untrained | ___:___:___:▱:___:___:___ | trained |
| colorful | ___:___:___:▱:___:___:___ | dull |

**DIRECTOR**
Ingham County Red Cross Chapter 04

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

PUBLIC RELATIONS COUNSEL
American National Red Cross, Washington, D. C. 05

uneducated ___:___:___:  :___:___:___ educated

extroverted ___:___:___::___:___:___ introverted

informed ___:___:___::___:___:___ uninformed

subjective ___:___:___::___:___:___ objective

experienced ___:___:___::___:___:___ inexperienced

dangerous ___:___:___::___:___:___ safe

bold ___:___:___::___:___:___ timid

closedminded ___:___:___::___:___:___ openminded

reserved ___:___:___::___:___:___ frank

honest ___:___:___::___:___:___ dishonest

untrained ___:___:___::___:___:___ trained

colorful ___:___:___::___:___:___ dull

RESEARCH TECHNOLOGIST
Michigan Department of Health 06

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

BLOOD DONOR RECRUITING CHAIRMAN
Ingham County Red Cross Chapter 07

| | | |
|---|---|---|
| uneducated | ___:___:___:▱:___:___:___ | educated |
| extroverted | ___:___:___:▱:___:___:___ | intorverted |
| informed | ___:___:___:▱:___:___:___ | uninformed |
| subjective | ___:___:___:▱:___:___:___ | objective |
| experienced | ___:___:___:▱:___:___:___ | inexperienced |
| dangerous | ___:___:___:▱:___:___:___ | safe |
| bold | ___:___:___:▱:___:___:___ | timid |
| closedminded | ___:___:___:▱:___:___:___ | openminded |
| reserved | ___:___:___:▱:___:___:___ | frank |
| honest | ___:___:___:▱:___:___:___ | dishonest |
| untrained | ___:___:___:▱:___:___:___ | trained |
| colorful | ___:___:___:▱:___:___:___ | dull |

YOUR FAMILY DOCTOR

08

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

ASSOCIATE PROFESSOR
University of Michigan Medical School 09

uneducated ___:___:___:  :___:___:___ educated

extroverted ___:___:___:  :___:___:___ introverted

informed ___:___:___:  :___:___:___ uninformed

subjective ___:___:___:  :___:___:___ objective

experienced ___:___:___:  :___:___:___ inexperienced

dangerous ___:___:___:  :___:___:___ safe

bold ___:___:___:  :___:___:___ timid

closedminded ___:___:___:  :___:___:___ openminded

reserved ___:___:___::___:___:___ frank

honest ___:___:___::___:___:___ dishonest

untrained ___:___:___:  :___:___:___ trained

colorful ___:___:___::___:___:___ dull

LABORATORY TECHNICIAN
Ingham County Regional Blood Center 10

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | educated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

CHIEF NURSE
Ingham County Regional Blood Center 11

| | | |
|---|---|---|
| uneducated | ___:___:___:▱:___:___:___ | educated |
| extroverted | ___:___:___:▱:___:___:___ | introverted |
| informed | ___:___:___:▱:___:___:___ | uninformed |
| subjective | ___:___:___:▱:___:___:___ | objective |
| experienced | ___:___:___:▱:___:___:___ | inexperienced |
| dangerous | ___:___:___:▱:___:___:___ | safe |
| bold | ___:___:___:▱:___:___:___ | timid |
| closedminded | ___:___:___:▱:___:___:___ | openminded |
| reserved | ___:___:___:▱:___:___:___ | frank |
| honest | ___:___:___:▱:___:___:___ | dishonest |
| untrained | ___:___:___:▱:___:___:___ | trained |
| colorful | ___:___:___:▱:___:___:___ | dull |

PUBLIC HEALTH OFFICER
U. S. Public Health Service, Chicago Area 12

educated ___:___:___:▱:___:___:___ uneducated

introverted ___:___:___:▱:___:___:___ extroverted

uninformed ___:___:___:▱:___:___:___ informed

objective ___:___:___:▱:___:___:___ subjective

inexperienced ___:___:___:▱:___:___:___ experienced

safe ___:___:___:▱:___:___:___ dangerous

timid ___:___:___:▱:___:___:___ bold

openminded ___:___:___:▱:___:___:___ closedminded

frank ___:___:___:▱:___:___:___ reserved

dishonest ___:___:___:▱:___:___:___ honest

trained ___:___:___:▱:___:___:___ untrained

dull ___:___:___:▱:___:___:___ colorful

ASSISTANT PATHOLOGIST
E. W. Sparrow Hospital, Lansing 13

| | | |
|---|---|---|
| uneducated | ___:___:___:▱:___:___:___ | educated |
| extroverted | ___:___:___:▱:___:___:___ | introverted |
| informed | ___:___:___:▱:___:___:___ | uninformed |
| subjective | ___:___:___:▱:___:___:___ | objective |
| experienced | ___:___:___:▱:___:___:___ | inexperienced |
| dangerous | ___:___:___:▱:___:___:___ | safe |
| bold | ___:___:___:▱:___:___:___ | timid |
| closedminded | ___:___:___:▱:___:___:___ | openminded |
| reserved | ___:___:___:▱:___:___:___ | frank |
| honest | ___:___:___:▱:___:___:___ | dishonest |
| untrained | ___:___:___:▱:___:___:___ | trained |
| colorful | ___:___:___:▱:___:___:___ | dull |

# APPENDIX B

Instrument -- Attitude Item Pilot Study

ARC MEDIA EFFECTS STUDY
Department of Communication
Michigan State University

Project Number _____ C1-3

Phase Number _____ C4-5

Subject Number _____ C6-8

Much has been said and written about the American Red Cross and its blood donor program in recent years. Our national news media -- newspapers, magazines, radio and television -- have devoted a great amount of time and space to discussions and criticisms of the Red Cross blood donor program.

The American Red Cross is vitally interested in the effects which some of these comments and arguments carried by the national news media have had on the opinions of the general public. Many of these arguments and comments are listed on the following pages. We are asking you to give us your own reaction to each of them.

## Instructions

As you read each of the statements on the following pages, you will find yourself agreeing strongly with some of them . . . disagreeing just as strongly with others . . . and perhaps not so certain of your reaction to other statements. In the left hand margin of each page is a short line. You are to place on that line a number -- 0 through 4 -- which best indicates your own personal reaction to the statement . . . whether or not you agree or disagree with the statement, and how strongly you agree or disagree.

The numbers you are to use to indicate your agreement or disagreement with each statement, and how strongly you agree or disagree, are provided for you on the attached card. Using this card, let's take an example:

_____ The Red Cross is a very large organization.

If you strongly agree with the statement, "The Red Cross is a very large organization," you would place the number 4 in the blank to the left of the statement. If, on the other hand, you disagree with the statement, but not too strongly, you would place the number 1 in the blank.

Whether you agree or disagree with a particular statement, you can be sure that many other people feel the same as you.

Remember, we want your personal reaction to each of the to each of the statements.

THANK YOU VERY MUCH FOR ASSISTING US -- YOUR OPINIONS ARE VERY IMPORTANT TO US.

C09 ____ 1. It is the responsibility of every American to give blood if he possibly can.

C10 ____ 2. Red Cross blood drives are simply a waste of time and energy.

C11 ____ 3. The American Red Cross has done much for the people of this country.

C12 ____ 4. Red Cross volunteers are really just pompous "do-gooders."

C13 ____ 5. I can't understand why anybody would want to give their blood to the Red Cross.

C14 ____ 6. The Red Cross blood program is a worthy undertaking.

C15 ____ 7. I would never donate my blood to the Red Cross.

C16 ____ 8. I'll never need any blood myself, so why should I donate any to the Red Cross?

C17 ____ 9. Most people feel that the Red Cross is doing a fine job.

C18 ____ 10. The Red Cross is always interfering with people's private affairs.

C19 ____ 11. The Red Cross never does something for nothing -- they always get their share.

C20 ____ 12. I've always had great admiration for the American Red Cross.

C21 ____ 13. Most people could donate blood to the Red Cross if they really wanted to.

C22 ____ 14. In the eyes of God, blood transfusions are immoral.

C23 ____ 15. The Red Cross is always asking for blood.

C24 ____ 16. The Red Cross blood donor program definitely should have everybody's full support.

C25 ____ 17. Red Cross volunteers are generally very poorly trained.

C26 ____ 18. The Red Cross blood donor program is saving many lives in this country.

C27 ____ 19. Tax money should be used to support the Red Cross blood research program.

C28 ____ 20. I just have no use for the American Red Cross.

C29 ____ 21. Most of the Red Cross workers are highly skilled people.

C30 ____ 22. If I were able to, I definitely would donate blood to the Red Cross.

C31 ____ 23. Giving blood is wrong in the eyes of God.

C32 ____ 24. A nationwide blood donor program is essential to our Nation's security and health.

C33 ____ 25. Those people who support the Red Cross are showing a "socialist" attitude.

C34 ____ 26. The Red Cross should place even more emphasis on its blood donor program.

C35 ____ 27. The Red Cross helps only those people who can't help themselves.

C36 ____ 28. The Red Cross blood research program helps ensure a healthier, stronger America.

C37 ____ 29. Most of the full-time Red Cross workers are very highly trained people.

C38 ____ 30. Most people's opinion of the Red Cross is not very high.

C39 ____ 31. Everyone's life is in the hands of God -- therefore, I can't support any blood donor program.

Table 8. Analysis of variance of mean attitude change scores of the no compliance treatment groups.

| Source | df | SS | F | P |
|---|---|---|---|---|
| No Compliance | 1 | 7.4189 | 33.239 | .01 |
| Credibility | 1 | 2.9726 | 13.318 | .01 |
| Prior Attitude | 1 | 7.2200 | 32.348 | .01 |
| No Compliance x Credibility | 1 | 12.2166 | 54.734 | .01 |
| No Compliance x Prior Attitude | 1 | .1420 | .636 | n.s. |
| Credibility x Prior Attitude | 1 | 8.0135 | 35.903 | .01 |
| No Compliance x Credibility x Prior Attitude | 1 | .4598 | 2.060 | n.s. |
| Error | (77) | (MS= .2232) | | |
| TOTAL | 7 | 39.4434 | | |

groups and subgroups, and reported in Table 8, indicated that:

1. Significantly greater positive attitude change was effected in the high credibility treatment groups than in the low credibility treatment groups ($p < .01$). The significant interaction ($p < .01$) between the attitude change effects of credibility and mode of noncompliance

indicated, however, that the significant credibility main effect was due, at least in part, to directional differences in the attitude change effects of high and low credibility between the voluntary noncompliance and message only treatment groups. That is, inspection of mean attitude change scores within the voluntary noncompliance and no compliance treatment groups revealed that only for the latter groups was the mean attitude change effected in the high credibility condition positive (in the direction of the source's request), while the mean attitude change effected in the low credibility condition was negative (counter to the request of the source). This expectation was not borne out in the voluntary noncompliance treatment groups; rather, positive attitude change was effected in both high and low credibility treatment groups.

The interaction of source credibility and prior attitude position effects was also significant ($p < .01$). Examination of mean attitude change scores within the "favorable" and "unfavorable" treatment subgroups indicated that the attitude change effects of high and low source credibility were not the same in the two subgroups. Among Ss initially "favorable" toward the attitude object, the high credibility source effected positive change, while the low credibility source effected negative attitude

change. This was in line with the theoretic hypothesis. Counter to the hypothesis, however, both high and low credibility sources effected, in the treatment subgroups initially "unfavorable," positive attitude change. This result was in part due to the fact that the low credibility source effected high positive attitude change in the voluntary noncompliance-initially "unfavorable" treatment subgroup.

2. Significantly greater positive attitude change was effected in the treatment groups initially "unfavorable" toward the attitude object than in the treatment groups initially "favorable" ($p < .01$). The interaction noted above between the effects of source credibility and prior attitude position indicates, however, that within the high and low credibility treatment groups, the attitude change effects of prior attitude variations were differentially operative. Inspection of the mean attitude change scores within the high and low credibility treatment groups, together with supplemental $t$-tests of the differences in mean attitude change scores within these groups, indicated that in the high credibility treatment groups, significantly greater ($t=9.61$, $p < .01$) attitude change was effected in the initially "favorable" than in the initially "unfavorable" treatment subgroup. That

the interaction of the effects of the credibility and prior position variables is significant ($p < .01$) is shown in Table 8.

3. Although not specifically hypothesized, significantly greater attitude change was effected in the voluntary noncompliance treatment groups than in the no compliance (message only) treatment groups ($p < .01$). This significant main effect must be considered, however, in the light of the significant interaction in the attitude change effects of source credibility and mode of noncompliance noted above. Within the high credibility treatment groups, positive attitude change was observed in both the voluntary noncompliance and no compliance groups; within the low credibility treatment groups, however, positive attitude change was effected only in the voluntary noncompliance groups. Negative attitude change was noted in the low credibility-no compliance treatment group.

## Credibility Change and Attitude Discrepancy Hypotheses

The remaining theoretic hypotheses suggest that, irrespective of the receiver's compliance or noncompliance, either voluntary or involuntary, with the requests of high and low credibility sources:

1. Source credibility changes will be such that consonance is maintained between the receiver's evaluation of the source and his attitude (after experimental manipulation) toward that attitude object or issue.

2. The greater the discrepancy between the position advocated by the source and the receiver's initial attitude, the greater will be the attitude change effected.

The first of these theoretic hypotheses postulates that positive attitude change (in the direction of the source's request) will be accompanied by positive changes in the receiver's evaluations of the source, while negative attitude change will be accompanied by negative changes in source evaluation.

The second hypothesis asserts that the magnitude of discrepancy between the receiver's initial attitude toward the attitude object and the source's position (taken to be maximally favorable toward the attitude object) is positively related to the magnitude of attitude change effected as a consequence of the experimental manipulations. That is, the more unfavorable the receiver is toward the attitude object, the greater will be the attitude change effected.

## Credibility Change and Attitude Change

Mean credibility change scores for each of the eight treatment groups were obtained on each of the three

credibility dimensions -- competence, trustworthiness and dynamism. Mean credibility change scores representing a composite or total of the three dimensions were also obtained. These scores are recorded in Table 9.

Correlations between attitude change and credibility change scores were computed for each of the treatment groups, as well as for the total sample. Correlations were obtained between attitude change and total credibility change, as were correlations between attitude change score and changes in scores on each of the three credibility dimensions. These correlations are presented in Table 10. The attitude change-credibility change correlations obtained for the total sample were tested for significance with the following results: (a) the correlation between attitude change and competence change was significant ($t=2.36$, $p < .05$); (b) the correlation between attitude change and trustworthiness change was significant ($t=7.46$, $p < .01$); (c) attitude change and dynamism change were not significantly correlated ($t=.99$, $p > .05$); and (d) attitude change was significantly correlated with total credibility change ($t=7.31$, $p < .01$).

Attitude Discrepancy and Attitude Change

In order to test the hypothesis that the magnitude of attitude change effected by the experimental treatments

Table 9. Mean credibility change scores by treatment groups and subgroups.

| Group[a] | Credibility Dimensions | | | Total Credibility Change |
|---|---|---|---|---|
| | Competence | Trustworthiness | Dynamism | |
| VC-HC | .750 | 3.750 | -2.833 | 1.667 |
| VC-LC | 3.125 | 3.812 | 3.625 | 9.938 |
| FC-HC | - .375 | 2.292 | -1.167 | .750 |
| FC-LC | 2.600 | 2.880 | 1.400 | 6.360 |
| VN-HC | .500 | 3.812 | -2.875 | 1.188 |
| VN-LC | 3.533 | 3.867 | 2.600 | 10.000 |
| NC-HC | .586 | 2.483 | - .966 | 1.828 |
| NC-LC | -1.041 | - .458 | - .708 | -2.333 |
| Total Sample | 1.210 | 2.805 | - .116 | 3.675 |

[a]As in Figure 1, the treatment groups are identified in this and the following table:

VC-HC Voluntary compliance, high credibility
VC-LC Voluntary compliance, low credibility
FC-HC Forced compliance, high credibility
FC-LC Forced compliance, low credibility
VN-HC Voluntary noncompliance, high credibility
VN-LC Voluntary noncompliance, low credibility
NC-HC No compliance (message-only), high credibility
NC-LC No compliance (message-only), low credibility

Table 10. Correlation of attitude change scores with credibility change scores.

| Group | Credibility Dimensions | | | Total Credibility Change |
|---|---|---|---|---|
| | Competence | Trustworthiness | Dynamism | |
| VC-HC | .071 | .269 | .044 | .161 |
| VC-LC | .330 | .642 | .215 | .347 |
| FC-HC | .493 | .800 | -.456 | .331 |
| FC-LC | .112 | .144 | .076 | .340 |
| VN-HC | -.628 | -.298 | .090 | .430 |
| VN-LC | -.533 | -.392 | -.300 | -.631 |
| NC-HC | .064 | .948 | .072 | .553 |
| NC-LC | -.073 | -.031 | .120 | .058 |
| Total Sample | .185 | .372 | .073 | .367 |

was positively related to the discrepancy between Ss' initial attitude toward the attitude object and the source's position, the correlation between initial attitude scores obtained in the pretest phase of the experiment and attitude change scores was computed. A negative correlation coefficient was expected, indicating that the more unfavorable the S's initial attitude (and the greater the discrepancy between the receiver's initial position and that of the source), the greater is the consequent attitude change effected by the experimental treatments.

It was assumed that the attitude position advocated by the source was maximally favorable toward the Red Cross blood program. Such an attitude position would be reflected in the maximum possible attitude score of +40. Table 11 is a tabulation of the attitude change scores associated with each level of prior attitude and attitude discrepancy from the theoretical attitude position of the source.

The correlation obtained between prior attitude score and attitude change score ($r=-.327$) was significant ($t=4.37$, $p < .01$), lending support to the statistical hypothesis of a negative relationship between attitude change and prior attitude position.

Table 11. Distribution of attitude change scores by prior attitude position.

| Prior Attitude Score | Source-Receiver Discrepancy | Attitude Change Score | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 | Total |
| 34 | 6 | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 |
| 33 | 7 | | | | | | | | | | | 1 | | | 1 | | | 1 | | | | | | | | 3 |
| 32 | 8 | | | | | | | | 1 | | | 1 | 1 | 1 | | 2 | 1 | 1 | | | | | | | | 8 |
| 31 | 9 | | | | | | | | | 1 | 1 | | 1 | 5 | 2 | | | | | 2 | 1 | | | | | 13 |
| 30 | 10 | | | | | | | | | | 2 | | | 3 | 2 | 3 | 2 | 3 | 1 | 1 | | | | | | 17 |
| 29 | 11 | | | | | | | | | 2 | 2 | 1 | 1 | 3 | 3 | 3 | | 2 | 1 | 2 | | | | | 1 | 21 |
| 28 | 12 | | | | | | | | | 1 | 2 | 1 | 3 | 2 | 3 | 3 | | 1 | 2 | | | | | | | 18 |
| 27 | 13 | | | | | | | | | 2 | 1 | 2 | 1 | 3 | 1 | 5 | 1 | 1 | | | | | | | | 17 |
| 26 | 14 | | | | | | | | 1 | | | | 1 | 2 | 1 | 1 | | 2 | 1 | | | | | | | 9 |
| 25 | 15 | | | 1 | | 1 | | 1 | 1 | 1 | | 3 | | 2 | 5 | | | 2 | | | | | | | | 17 |
| 24 | 16 | | | | | 1 | 2 | | | | | | 2 | 1 | 1 | | | | 1 | | | | | | | 8 |
| 23 | 17 | | | | | | | 2 | | 1 | | | | 1 | | 2 | | 1 | | | | | | | | 7 |
| 22 | 18 | | | | | | 1 | | | | 1 | 1 | 1 | | | | | | | | | | | | | 4 |
| 21 | 19 | | 1 | | 1 | | | | | | 1 | | 1 | 2 | | | | | | | | | | | | 6 |
| 20 | 20 | | | | | | | | | | 1 | | | | 1 | 2 | | | | | | | | | | 4 |
| 19 | 21 | | | | | | | 1 | | | | | | | | 1 | | | | | | | | | | 2 |
| 18 | 22 | | | | | | | | | | | | | | | | 1 | | | | | | | | | 1 |
| 17 | 23 | | | | | | 1 | | | | | | | | | | | | | | | | | | | 1 |
| 16 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 25 | | | | | | | | | | 1 | | | | | | | | | | | | | | | 1 |
| 14 | 26 | | | | | | | | | | | | 1 | 1 | | | | | | | | | | | | 2 |

## Additional Analyses

Two factors, other than the experimental variables, were recognized as possibly being associated with attitude change in the direction of greater favorability toward the Red Cross blood program: (a) Ss' interest in the blood program and (b) Ss' prior experience with the blood program. Consequently, the associations of these two factors and attitude change were examined.

Each S was asked, "How interested would you be in learning more about the Red Cross and its Blood Donor Program?" From Ss' responses to this question, an "interest index" was obtained indicating, for each S, whether he was "very much interested," "slightly interested," "slightly uninterested" or "very much uninterested" in learning more. Table 12 presents the distributions of attitude change scores for each level of professed interest. The significant negative correlation of interest and attitude change scores ($r=-.156$, $t=1.99$, $p < .05$) indicated an inverse relationship between professed interest in the blood program and attitude change.

A "prior experience index" was also constructed from Ss' responses to five questions concerning their own prior experience with the Red Cross blood donor program, as well as the prior experience of family and friends (see

Table 12. Distribution of attitude change scores by interest in the Red Cross blood program.

| Attitude Change Score | Professed Interest | | | |
|---|---|---|---|---|
| | Very Much Interested | Slightly Interested | Slightly Uninterested | Very Much Uninterested |
| 14 | | | 1 | |
| 13 | | | | |
| 12 | | 1 | | |
| 11 | | 1 | | |
| 10 | | 1 | 1 | |
| 9 | 1 | 1 | 2 | |
| 8 | | 4 | | |
| 7 | | 2 | | 1 |
| 6 | 1 | 6 | 1 | |
| 5 | | 10 | 2 | |
| 4 | 1 | 7 | 1 | 1 |
| 3 | 2 | 5 | 3 | 2 |
| 2 | 3 | 18 | 6 | |
| 1 | 3 | 11 | 5 | 1 |
| 0 | 3 | 17 | 2 | 1 |
| -1 | | 4 | 1 | |
| -2 | 3 | 6 | 5 | |
| -3 | | 4 | 1 | 1 |
| -4 | | 4 | 1 | |
| -5 | | 1 | 1 | |
| -6 | | | | |
| -7 | | | | |
| -8 | | | | |
| -9 | | 1 | | |
| Totals | 17 | 104 | 33 | 7 |

Appendix E). Ss were cast into one of four experience categories: (a) self-and-others (both the S and his family or friends had had experience with the Red Cross blood program), (b) self-only, (c) others-only, and (d) neither (neither the S nor his family or friends had had prior experience with the program). The distributions of attitude change scores for each of the four prior experience categories are indicated in Table 13.

Prior experience with the blood program was found to be negatively correlated (r=.095) with attitude change. The negative correlation was not, however, significant ($t=1.20$, $p > .05$), indicating that the two variables were not significantly associated for the Ss employed in this study.

## Conclusions

Analysis of the data obtained in this study provided evidence in support of some of the theoretic hypotheses, partially supported others and failed to support at least one. In general, in the behavioral compliance treatment groups, the hypotheses concerned with the attitude change effects of variations in behavioral compliance and prior attitude were supported; the hypothesis dealing with the attitude change effects of differential source credibility was not supported. In the noncompliance treatment conditions,

Table 13. Distribution of attitude change scores by prior experience with the Red Cross blood donor program.

| Attitude Change Scores | Self-and-others | Self-only | Others-only | Neither |
|---|---|---|---|---|
| 14 | | | 1 | |
| 13 | | | | |
| 12 | | | 1 | |
| 11 | 1 | | | |
| 10 | 1 | | | 1 |
| 9 | 1 | 1 | 2 | |
| 8 | 1 | | 3 | |
| 7 | 1 | | 2 | |
| 6 | 4 | 1 | 1 | 2 |
| 5 | 3 | 1 | 7 | 1 |
| 4 | 2 | | 6 | 2 |
| 3 | 2 | 2 | 5 | 3 |
| 2 | 9 | 3 | 11 | 4 |
| 1 | 10 | 2 | 5 | 2 |
| 0 | 10 | 2 | 6 | 5 |
| -1 | 4 | | 2 | |
| -2 | 2 | 2 | 9 | 1 |
| -3 | 4 | | 1 | 1 |
| -4 | 2 | | 3 | |
| -5 | | 1 | 1 | |
| -6 | | | | |
| -7 | | | | |
| -8 | | | | |
| -9 | 1 | | | |
| Totals | 58 | 15 | 66 | 22 |

the hypotheses concerned with the attitude change effects of differential source credibility and of variations in prior attitude were only partially supported.

Attitude Change Hypotheses

Assuming reliable and valid measures of the attitude change variable, it was inferred on the basis of the results of the statistical analysis that attitude change was differentially influenced by behavioral compliance (voluntary and forced) and noncompliance (voluntary and involuntary). It was observed that Ss in the voluntary compliance conditions manifested greater positive attitude change than did those in the voluntary noncompliance, forced compliance and no compliance (message only) conditions, in that order. Comparing only the mean attitude change scores of the behavioral compliance treatment groups, the greater attitude change effects of voluntary compliance were found to hold irrespective of source credibility differences and differences in the prior attitudes of the receivers. That is, no interaction between compliance and credibility, and between compliance and prior attitude was noted. It was concluded, therefore, that greater attitude change is effected when the receiver voluntarily complies with the request of the source than when he has no choice but to comply.

It was further hypothesized that, in the behavioral compliance conditions, low credibility sources would effect greater attitude change than would high credibility sources. Although low credibility sources generally did induce greater attitude change than did high credibility sources (this effect was reversed in the forced compliance-initially "favorable" treatment subgroups), the difference in mean attitude change between the high and low credibility treatment groups was not significant. Hence, the theoretic hypothesis of greater attitude change in the low credibility conditions than in the high credibility conditions was not supported, making untenable any conclusion about the attitude change effects of source credibility in situations of behavioral compliance.

The hypothesis of greater attitude change, in the compliance conditions, in the treatment subgroups initially "unfavorable" toward the Red Cross blood program than in the subgroups initially "favorable" was supported by the results of the analysis. Irrespective of source credibility and the nature of Ss' behavioral compliance, significantly greater attitude change was effected in the initially "unfavorable" than in the initially "favorable" treatment subgroups. It was concluded, then, that, given that the receiver has complied with the request of the

source, greater positive attitude change will be effected when the receiver is initially opposed to the position of the source than when he is originally in sympathy with that position.

The conclusions which may be drawn from the statistical analysis, in those treatment conditions in which the receiver has not complied with the source's request, are not as straightforward as those above. This is largely due to the significance of the interactions in the attitude change effects of the experimental variables.

Although not specifically hypothesized, it was found that greater attitude change was effected in the voluntary noncompliance than in the no compliance (message only) treatment groups. This suggests that the variable of choice in complying or not complying with the source's request may play an important role in effecting attitude change. The difference in attitude change effects between the voluntary noncompliance and no compliance treatment groups was, however, significantly influenced by the attitude change effects of differential source credibility. In the voluntary noncompliance condition, greater positive attitude change was effected by the low credibility source than by the high credibility source; while in the no compliance condition, the high credibility source effected

positive attitude change and the low credibility source effected slight negative attitude change. Although the evidence is not conclusive, the data suggest that greater positive attitude change may be effected when the receiver elects not to comply with the request of the source than when he is given no opportunity to make that decision.

It was hypothesized that, in the noncompliance treatment groups, positive attitude change would be effected by the high credibility source, while the low credibility source was expected to effect negative attitude change. This hypothesis was supported only for the no compliance (message-only) treatment groups. In the voluntary noncompliance condition, both the high and low credibility sources effected positive attitude change; the low credibility source effecting greater attitude change than the high credibility source. It may be concluded, then, that the attitude change effects of source credibility were influenced by the mode of noncompliance induced. In those cases in which the receiver has not complied with the request of the source, the attitude change effects of high and low source credibility would seem to be significantly influenced by the receiver's freedom in making the decision not to comply.

It was further hypothesized that, in the noncompliance

treatment groups, greater positive attitude change would be effected by a high credibility cource among those Ss initially "unfavorable" toward the attitude object than among Ss initially "favorable," while low credibility sources would effect greater negative attitude change among the Ss initially "favorable" than among Ss initially "unfavorable" toward the attitude object. The results of the statistical analysis only partially supported this prediction. Although mean attitude change scores were significantly different between treatment subgroups initially "favorable" and "unfavorable" toward the attitude object, attitude change differences in the directions hypothesized were observed only in the no compliance (message only) treatment groups. In the voluntary non-compliance treatment groups, both high and low credibility sources effected positive attitude change among Ss both "favorable" and "unfavorable" toward the attitude object. It was concluded, on the basis of these results, that given that the receiver has not complied with the request of the source, high credibility sources tend to effect positive attitude change, that change being greatest when the receiver is initally "unfavorable" toward the critical attitude object. The attitude change effects of low credibility, on the other hand, appear to be

contingent upon whether or not the receiver has voluntarily elected not to comply. If so, a low credibility source also tends to effect positive attitude change; slightly greater attitude change being produced in those individuals initially opposed to the attitude object. If, however, the receiver has not been afforded the opportunity to comply but has only been exposed to the persuasive message, it may be concluded that low credibility sources tend to effect negative attitude change; that change being greater for those individuals initially "favorable" to the attitude object.

Credibility Change and Attitude Discrepancy Hypotheses

The results of the statistical analyses provided evidence in support of both the credibility change and the attitude discrepancy hypotheses. On the basis of those results, it was inferred that (a) changes in source credibility estimates tend to accompany attitude changes in order that consonance is maintained between the receivers' evaluations of a source and attitudes with which the source has been associated and in which he has caused change; and (b) the greater the discrepancy between the receiver's initial attitude and that expressed or implied by the source, the greater is the attitude change effected by that source.

# Chapter IV

## SUMMARY AND DISCUSSION

This study was intended to examine the relative attitude change effects of high and low source credibility when the receiver has and has not behaviorally complied with the recommendations or requests of the source. It was hypothesized that:

1. In those cases in which the receiver complies with the source's request, low credibility sources will effect greater positive attitude change than will high credibility sources. This is contrasted with the case in which the receiver does not comply, high credibility sources being expected to induce greater positive attitude change than low credibility sources.

2. Greater attitude change will be effected, in cases of behavioral compliance, when the receiver is initially unfavorable to the attitude object and position advocated by the source than when the receiver is initially favorable to them. In the case of noncompliance (either voluntary or involuntary), an interaction between source credibility and initial attitude was predicted; high credibility sources were expected to effect greater positive attitude change among Ss initially unfavorable than

those favorable and low credibility sources to effect greater negative attitude change among Ss initially favorable than those unfavorable toward the attitude object.

3. Greater attitude change will be effected when the receiver has voluntarily chosen to comply with the source's request than when the receiver has been forced to comply with that request.

## Summary of the Results

In order to test these predictions, Ss were exposed to one of six experimental treatments: high credibility-voluntary compliance (or noncompliance), low credibility-voluntary compliance (or noncompliance), high credibility-forced compliance, low crediblity-forced compliance, high credibility-no compliance (message-only) and low credibility-no compliance (message-only). Ss' attitudes toward the Red Cross blood donor program were measured both before and following the experimental manipulations, permitting comparison of the attitude change scores obtained for each experimental treatment group. Before-and-after estimates of the credibility of the sources of the experimental message were also obtained, as were measures of the Ss' interest in learning more about the blood program and of their prior experience with the blood program.

Taking each of the attitude change hypotheses posited in Chapter I in order, it was found that:

1. Given the receiver's behavioral compliance with the request of the source, the low credibility source was not significantly more influential in effecting attitude change than was the high credibility source. Inspection of the mean attitude change scores of the high and low credibility treatment groups revealed a tendency for the low credibility source to effect greater attitude change than the high credibility source, but the difference between groups was not significant. Consequently, it was not possible to make any tenable conclusion concerning the relative attitude change effects of high and low source credibility, given the receiver's behavioral compliance.

2. Given the receiver's behavioral compliance, both high and low credibility sources effected significantly greater attitude change among those Ss initially unfavorable to the attitude object and the request of the source than among Ss initially favorable to the attitude object.

3. Given the receiver's behavioral compliance, significantly greater attitude change was effected by both high and low credibility sources when the receiver had voluntarily complied with the request of the source than when he had done so involuntarily.

4. Only for Ss in the no compliance (message only) treatment groups did the high credibility source effect more positive attitude change than did the low credibility source; the low credibility source being more likely to effect negative attitude change (counter to the position of the source) than was the high credibility source. The hypothesized attitude change effects were not observed in the voluntary noncompliance treatment groups.

5. Only for Ss in the no compliance treatment groups did the high credibility source effect significantly greater positive attitude change among Ss initially "unfavorable" toward the attitude object than among those initially "favorable"; the low credibility source effecting, on the other hand, greater negative attitude change among Ss initially "favorable" toward the attitude object than among Ss initially "unfavorable." Again, the hypothesized attitude change effects were not obtained in the voluntary noncompliance treatment groups.

The attitude change effects noted in the noncompliance conditions were found to be due, at least in part, and to be tempered by the implicit variable of choice. That is, greater positive attitude change was effected when Ss were given the opportunity to comply with the source's request but elected not to do so than when Ss were not given the

opportunity to comply but were simply exposed to the experimental message devoid of compliance manipulations. The influence of the implicit choice variable appears to be at least partially the cause for the unexpected results in the voluntary noncompliance treatment groups.

Also supported by the results of the data analysis were the credibility change and attitude discrepancy hypotheses. Ss, when induced by a high or low credibility source to change their attitudes in the direction advocated by the source, tended to change their attitudes, not only toward the attitude object, but also toward the source. Changes in perceived source credibility were, in general, such that cognitive consistency was maintained between Ss' evaluations of the source and attitudes toward the Red Cross blood program which he had induced. Significant changes in perceived source credibility were found to accompany attitude change when total credibility change scores were examined, as well as upon examination of changes in perceived competence and trustworthiness of the source. Changes in the sources' perceived dynamism did not accompany changes in Ss' attitudes toward the attitude object.

Additionally, the magnitude of the attitude changes effected by high and low credibility sources tended to

increase with increasing discrepancy between Ss' initial attitude toward the Red Cross blood program and the position advocated by the source.

Finally, attitude change in the direction of greater favorability toward the blood program was negatively associated, although not particularly strongly, both with increased interest in the blood program and with the extent of Ss prior experience with the Red Cross and other blood donor programs.

## Discussion of the Results

The attitude change results and conclusions drawn from the data analysis will be discussed separately for each of the three experimental variables -- source credibility, behavioral compliance (including the implicit variable of choice in complying or not complying) and prior attitude. The attitude change effects of variations in these variables were not, of course, independent, but can most concisely be discussed independently.

### Effects of Source Credibility Variations

As noted above, the data analysis failed to provide conclusive evidence of the relative attitude change effects of high and low source credibility in the conditions of behavioral compliance. Although the results bearing on

this specific question were not significant, they were suggestive of the relationships and interaction of behavioral compliance and source credibility. Because the attitude change data obtained in the behavioral compliance treatment groups were in the direction hypothesized, and taking into consideration the limitations and inadequacies of the present study discussed below, it seems advisable that the hypothesis that low credibility sources will effect greater positive attitude change than high credibility sources in those cases in which the receiver has complied with the source's request should again be tested in another investigation.

Several factors which may have contributed to the failure of this study to obtain significant results relative to the source credibility hypothesis, given behavioral compliance, might be suggested. First, examination of pilot study and pretest credibility ratings of the high and low credibility sources employed in this study reveals that the two sources were not greatly different in the credibility attributed to them. The sources differed, in initial mean credibility ratings, by only eight scale points on a credibility scale ranging from zero to 72 scale points. Furthermore, not only was the initial credibility rating given the high credibility source comparatively high (55.86);

the initial credibility rating afforded the low credibility source was also relatively high (46.55). Consequently, it might be argued that the source credibility manipulations were not effected; that Ss in the primary study did not perceive the two experimental sources to be of differential credibility, but rather viewed them as nearly equal in credibility.

A second possibility is that the attitude change effects of behavioral compliance were so overpowering as to nullify the effects of source credibility variations. It is possible that, once the receiver had complied with the request of the source (for reasons known only to the receiver, but not directly attributable to the effects of source credibility), the attitude change effects of high and low credibility were overshadowed by those of behavioral compliance. This is not to argue that differences in source credibility had no effect; the attitude change effects of variations in source credibility in the noncompliance conditions refute this conclusion. Rather, it is to say that the attitude change effects of behavioral compliance may be more "powerful" than those of differential source credibility.

It was also hypothesized that, given the receiver's behavioral compliance, the greater attitude change effects

of low credibility sources would be most evident when the receivers were initially unfavorable toward the attitude object. However, examination of the attitude scores obtained in the pretest phase of the study revealed that most Ss were slightly favorable to highly favorable toward the Red Cross blood donor program; few were genuinely unfavorable toward the attitude object. Hence, differential attitude change effects of high and low source credibility may have been obscured by Ss' initial favorability toward the attitude object.

While the hypothesis concerning the attitude change effects of high and low source credibility, given the receiver's behavioral compliance, was not supported; the hypothesis of differential attitude change effects of high and low source credibility sources was partially supported in the behavioral noncompliance conditions. The high credibility source was found, in the no compliance or message only conditions, to effect positive attitude change; the low credibility source more likely to effect negative attitude change. In the voluntary noncompliance conditions, on the other hand, the observed attitude change effects closely paralleled those in the behavioral compliance conditions; both high and low credibility sources effected positive attitude change with greater attitude

change being effected among Ss initially "unfavorable" toward the attitude object than among those initially "favorable." Thus, in the message only conditions, the attitude change effects of high and low source credibility appear consistent with the immediate attitude change effects of differential source credibility reported in the Hovland, et. al., studies of source credibility effects.

In the no compliance or message only treatment groups, the predicted differential attitude change effects of high and low source credibility were observed. Why, then, should the differences in attitude change effected by high and low credibility sources not be significant in the voluntary noncompliance treatment groups? The dissonance creating and consequent attitude change effects of the implicit variable of choice would seem to provide an answer. Ss in these treatment groups may have felt compelled, in order to justify and defend their decision not to comply, to resist changing their attitudes in the direction advocated by the source. In the case of high credibility, the need to do so would be stronger, thus accounting for the slightly greater positive attitude change effected by the low credibility source than by the high credibility source. In sum, the, the pressures to resist attitude change may have outweighed the attitude

change effects of high and low source credibility, those pressures simultaneously "equalizing" that attitude change which was effected by the high and low credibility sources.

Similarly, when the hypotheses of significant differences in the attitude change effects of differential source credibility were at least partially supported in the experimental treatments not involving behavioral compliance, why should the differences in attitude change effected by high and low credibility sources not be significant in the behavioral compliance treatment groups? The relative attitude change effects of behavioral compliance and noncompliance may provide the answer. In the compliance treatments, the attitude change effects of source credibility may have been obscured by the more powerful attitude change effects of compliance. In the noncompliance treatment groups, however, the attitude change effects of behavioral compliance were absent, allowing the detection of significant differences in the attitude change effects of high and low source credibility.

Parenthetically, the fact that significant differences were observed in the attitude change effects of high and low source credibility in the noncompliance conditions argues against the notion that ceiling effects were responsible for the nonsignificant differences observed in the behavioral compliance conditions.

Effects of Compliance Variations

It was hypothesized that greater positive attitude change would be induced when the receiver voluntarily complied with the source's request than when he involuntarily complied. This expectation was supported by the results of the study. Although not specifically hypothesized, significantly greater attitude change was also found, in the behavioral noncompliance treatment groups, when Ss had voluntarily chosen not to comply with the source's request than when they had not been given the chance to either comply or not comply.

One of the more obvious influences tempering the relative attitude change effects of behavioral compliance and noncompliance, as well as those of high and low source credibility, was that of the receiver's centrality of choice in complying or not complying with the source's recommendation. The importance of choice in complying or not complying can be seen in several facets of this study's results. First, significantly greater attitude change was effected in the voluntary than in the involuntary compliance treatment groups. This difference was independent of the influence of source credibility and the receivers' prior attitude upon attitude change. Second, greater attitude change was observed in the

voluntary than in the involuntary noncompliance treatment groups; Ss who chose not to comply in general manifested more attitude change than those in the no compliance (message only) treatment group. In this case, however, the attitude change effects of choice in not complying were influenced by the effects of differential source credibility. The low credibility source effected greater attitude change in the voluntary noncompliance condition; the high credibility source induced more positive attitude change in the involuntary noncompliance condition.

Furthermore, the importance of choice was emphasized by the greater attitude change effected in the voluntary noncompliance than in the forced compliance treatment groups. Despite the fact that they had not complied with the source's recommendation, Ss in the former treatment group manifested greater attitude change in the direction advocated by the source than did those who had voluntarily complied.

## Effects of Prior Attitude

It was hypothesized that greater attitude change would be effected, in the behavioral compliance conditions, when Ss were initially unfavorable toward the attitude object (and the source's request) than when they were initially favorable toward the attitude object. This

hypothesis was supported; significantly greater mean attitude change was observed in the initially unfavorable treatment subgroups than in those initially favorable.

In the noncompliance conditions, interaction of the attitude change effects of differential source credibility and differences in the receiver's prior attitude was predicted. It was predicted that high credibility sources would induce greater positive attitude change among Ss initially opposed to the attitude object than among those initially favorable. Low credibility sources were, on the other hand, expected to effect greater negative attitude change in the initially favorable treatment subgroups than in the subgroups initially unfavorable toward the attitude object. The results of the present study also supported this hypothesis.

Changes in Perceived Source Credibility

That changes in attitude toward the attitude object and position advocated by the source are generally accompanied by changes in the perceived credibility of the source was demonstrated by the results of this study. Attitude change was found positively correlated with credibility change upon examination of total credibility change scores, competence change scores and trustworthiness change scores. Changes in the perceived dynamism of the

sources were not significantly associated with attitude change scores.

The most noteworthy credibility changes were observed on the trustworthiness dimension of source credibility. Ss, upon changing their attitudes toward the Red Cross blood program, were most likely to realign their evaluations of the source in the direction of increased perceived trustworthiness, rather than to elevate their estimates of the source's competence and dynamism. Changes in total perceived source credibility, either positive or negative, were largely a consequence of changes in the perceived trustworthiness of the source.

It would appear, from the results of this study, that the competence dimension of credibility is the most stable of the three dimensions posited by Berlo and Lemert. In general, changes in perceived competence were smaller than those in trustworthiness and dynamism appeared to be the least stable of the credibility dimensions. Changes in perceived dynamism varied greatly; sometimes positively, other times negatively; but in no discernible relationship to the experimental manipulations or to attitude change. Brief reflection upon the characteristics of a source which contribute to perceptions of his competence, trustworthiness and dynamism might reveal a myriad of reasons

for the relative stability of competence evaluations and the relative instability of dynamism evaluations. In the simplest terms, the competence of a source can be more easily assessed and is not so dependent upon the immediate and momentary judgments of the receiver. A source's competence is more a function of what he knows, rather than of what he is. The perceived dynamism of a source, on the other hand, is less easily assessed, is subject to momentary variations and perceptions of a source's dynamism are more apt to be influenced by the predilections of the receiver.

The positive correlation of attitude change and credibility change was predicted on the grounds that Ss would strive to maintain cognitive consistency or consonance between attitudes induced by the source and their evaluations of that source. That is, it would be cognitively inconsistent for Ss to become more favorable toward the attitude object as a result, say, of the persuasive efforts of a low credibility source. In order to justify such attitude change, and reduce cognitive dissonance, Ss tended to elevate their estimates of the source's credibility, bringing them into greater cognitive consistency with the attitude induced by the source.

Attitude Discrepancy and Attitude Change

As hypothesized, it was found that the magnitude of attitude change in the direction advocated by the source increased as the discrepancy between the source's position and the receiver's initial attitude increased. Attitude change was negatively correlated with Ss' initial attitude toward the Red Cross blood donor program, this supporting the hypothesis.

The positive association of attitude change with the size of the discrepancy between the source's position and the receiver's initial position was expected on the grounds that greater cognitive dissonance would be experienced by Ss exposed to a message opposing their attitude toward the blood program than by Ss exposed to the same message, but supporting their own opinion of the Red Cross blood program. That is, Ss initially unfavorable were expected to experience greater dissonance than those initially favorable to the attitude object, resulting in greater positive attitude change on the part of the former Ss in order to reduce that dissonance.

Interest and Prior Experience

It was incidentally noted that Ss' expressed interest in the Red Cross blood program was not closely associated with positive attitude change. In fact, attitude change

in the direction of greater acceptance of the blood program tended to be negatively (albeit slightly) correlated with professed interest. This result seems consistent with Feather's (1962, 1963) observation that evaluation of an attitude object or issue is independent of interest in that object or issue. An individual can be interested in an idea, and desirous of learning more about the idea, without necessarily embracing that idea himself.

Ss' prior experience with the Red Cross blood program was negatively, although slightly, associated with the degree of attitude change effected by the experimental manipulations. It might be suggested that some sizable portion of the attitude change effects noted in this study is due to differences in prior experience with the blood program, rather than to the experimental manipulations. This suggestion, however, is refuted (a) by the nonsignificance of the correlation between prior experience and attitude change and (b) by the lack of significant differences, across experimental groups, in prior experience. This is not to deny the possibility that prior experience exerted some influence upon the attitude change effects obtained in this study; it is simply to argue that such influences were, at most, negligible.

## The Results in Light of Dissonance Theory

In Chapter I, cognitive dissonance was redefined as the drive to defend and justify one's decisions and actions. It was seen as a postdecisional drive, aroused by one's selection between behavioral and cognitive alternatives -- each alternative having a certain implied consequence for maintenance and enhancement of one's self concept. The decision to behaviorally comply with the request of a source, the decision not to comply, or the decision to accept or reject the position advocated by a source -- all arouse cognitive dissonance, requiring the justification and/or defense of that decision.

The attitude change effects observed in the present study may be examined in the light of this conceptualization of cognitive dissonance. In those treatment conditions in which the receivers complied with the recommendation of a low credibility source, in which compliance behavior was discrepant with the receiver's initial attitude, or in which the receiver was given a choice in complying or not complying with the source's request, the receiver could muster fewer cognitions in justification of his compliance behavior. The receiver therefore experienced greater cognitive dissonance and consequently manifested greater attitude change in the direction advocated by the source.

Thus, greater positive attitude change was effected in the behavioral compliance than in the noncompliance treatment groups; in the low credibility than in the high credibility treatment groups, given behavioral compliance (although the difference in mean attitude change between the two treatment conditions was not significant); in the voluntary compliance and noncompliance treatment groups than in the involuntary compliance and noncompliance treatment groups; and in those treatment subgroups in which compliance was discrepant with Ss' initial attitude than in the subgroups in which compliance was consistent with Ss' attitudes.

On the other hand, Ss in the noncompliance treatment groups were "spared" the dissonance occasioned by behavioral compliance with the recommendation of the source. In the case of the voluntary noncompliance treatment groups, however, dissonance may have been aroused by the implicit variable of choice in complying or not complying -- these Ss feeling compelled to justify their decision not to comply with the request of the source. Consequently, greater positive attitude change was effected in the voluntary noncompliance groups than in the no compliance (message only) treatment groups. The greater positive attitude change noted in the voluntary noncompliance treatment groups than in the forced compliance groups testifies to the dissonance

arousing pressures of the choice variable.

In the no compliance or message-only treatment groups, on the other hand, the dissonance experienced was aroused by perceived inconsistencies between Ss' evaluations of the source and their attitudes toward the position advocated by that source. Source credibility is, in part, a function of what the source knows and believes -- his expertness and trustworthiness. Thus, it is cognitively inconsistent for the receiver to adhere to a belief or attitude which is in conflict with the attitude or belief expressed by a source for whom he holds a high regard. Conversely, it is cognitively inconsistent -- dissonant -- for the receiver to hold an attitude which is espoused by a low credibility source -- a source for whom the receiver holds a low opinion. Therefore, Ss, perceiving a discrepancy between their attitude toward the attitude object and the attitude implied by the source's recommendation, were faced with a dilemma. They could either change their evaluations of the source or change their attitude toward the Red Cross blood program. The second alternative was selected by most of the no compliance Ss. Thus, greater positive attitude change was effected by the high credibility source in the treatment subgroup initially "unfavorable" toward the attitude object, while greater negative attitude

change was effected by the low credibility source in the treatment subgroup initially "favorable" toward the attitude object.

## Suggestions for Further Study

The theoretic expectations posited in this study were only partially borne out by the results. The major concern of the study was that of the differential attitude change effects of high and low source credibility under conditions of behavioral compliance and noncompliance. However, for one or several of a number of possible reasons, the results of the data analysis did not permit drawing any conclusions relative to the attitude change effects of differential source credibility, given a receiver's behavioral compliance with the source's request, or relative to the attitude change effects of the interaction of differential credibility and compliance or noncompliance.

Several possible reasons for the failure to obtain a significant difference in the attitude change effects of high and low credibility sources, given behavioral compliance, were suggested -- the two experimental sources may not have been perceived by Ss to be of differing credibility (both were afforded relatively high initial credibility ratings), the attitude change

effects of behavioral compliance may have overshadowed those of differential source credibility, or the Ss' relatively favorable initial attitude toward the Red Cross blood program may have contributed to the failure to obtain significant differences.

These possible causes of the nonsignificant difference in source credibility effect each suggest ways in which the present study might be modified and improved in future investigations designed to test the hypotheses of this study. First, future studies should ensure that the high and low credibility sources used to induce behavioral compliance and attitude change are, in fact, so perceived by Ss. It is suggested that, of the three credibility dimensions upon which sources may be differentially perceived, the competence dimension is perhaps most important. Thus, in future experiments, sources who differ greatly in their perceived competence should be employed.

It might be possible that, by increasing in this way the initial credibility differences between the high and low credibility sources, the attitude change effects of differential credibility will be sufficiently enhanced that they will be detected despite the apparent overwhelming attitude change effect of behavioral compliance.

It is also suggested that in future investigations designed to test the hypotheses of this study, an attitude object or issue be selected toward which greater differences in Ss' initial attitudes might be obtained. In the present study, most Ss were relatively favorable toward the Red Cross blood program at the outset, thereby minimizing the attitude change effects which might have been obtained for Ss unfavorable toward the attitude object. The hypotheses of this study might better have been tested by employing an attitude object toward which some Ss were strongly favorable, while others were strongly opposed to the attitude object or issue.

Whereas initial attitudes toward the attitude object used in this study were relatively favorable, it might further by suggested that a future study employ an attitude object or issue toward which all Ss are neutral. It might be predicted that the relative attitude change effects of high and low source credibility under conditions of behavioral compliance and noncompliance will be more evident when Ss initially are relatively neutral toward the attitude object than when they hold strong positive or negative initial attitudes.

Turning to the attributes of Ss which might be used in future studies, the personality variables of

persuasibility or suggestibility, dogmatism or rigidity and tolerance of dissonance might be included as experimental variables in such studies. Each of these variables might be expected to mediate the relative attitude change effects of source credibility and behavioral compliance. These effects should be accentuated when receivers are high in persuasibility, minimized among those low in persuasibility or suggestibility. Receivers more tolerant of dissonance should manifest less attitude change as a result of behavioral compliance with a discrepant request; they should similarly manifest less attitude change when induced by a low credibility source to comply. On the other hand, receivers low in dissonance tolerance should be more susceptible to dissonance created by variations in source credibility, compliance and initial attitude such as those in this study.

High credibility sources, irrespective of the receivers' compliance or noncompliance and irrespective of the receivers' initial attitude, should effect greater positive attitude change than low credibility sources among receivers high in dogmatism or authoritarianism. In the case of dogmatic receivers, the credibility of the source may be the primary influence in effecting attitude change; hence a high credibility source may

be highly effective in inducing attitude change while a low credibility source may effect little, if any, attitude change. On the other hand, the receivers' attitudes should, for those low in dogmatism or authoritarianism, wield a stronger influence than that of source credibility. In the case of such receivers, then, it is possible that high and low credibility sources will be little different in the extent of positive attitude change which they effect. Attitude change will be largely dependent upon the low dogmatic receivers' initial evaluation of the position advocated by the source, independent of their evaluation of the source and his perceived credibility. It might be predicted, further, that the credibility of the source takes on importance, for receivers low in dogmatism, only when the receiver is initially undecided or unable to evaluate the position advocated by the source.

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with seemingly identical blood types.

You are probably familiar with the common "garden varieties" of blood -- types A, B, AB, and O. These four common blood types are based on the presence or absence of the A and B antigens in the blood. Furthermore, a person may be RH positive or RH negative, depending on whether or not his blood possesses the RH antigen.

We have long known that the blood of persons with different blood types as identified by the ABO classification system may be incompatible, possibly leading to severe transfusion reactions and even death. Until recently, however, it was assumed that the blood of persons with the same ABO and RH blood type could be interchanged with no ill effects. Unfortunately, this is not so. We now know that there are other antigenic substances in the blood which can cause the blood of two persons to be incompatible. Like the A, B, and RH antigens, the presence of one or a combination of these other factors can cause a severe transfusion reaction if a person's blood is given to another whose blood does not contain that particular antigen or combination of antigens.

There may be some 100 of these different antigens in the blood, and there are countless different combinations of two or more of these 100. Some of these combinations

are relatively common; others are so rare as to be found only in members of the same family, and then sometimes even members of the same family do not possess the same antigenic combinations. Consequently, finding two persons with the same rare combination of antigens could become an almost impossible task if time were limited.

The purpose of the rare blood file is to locate, ahead of time, persons whose blood contains the rarer combinations of blood antigens. This program is now being accelerated and there is a need for a large number of blood samples. That is the second reason that I am here today.

You are being asked to donate a minute portion of your blood -- only about 10 c.c. -- which will be sent to the central collection agency for the rare blood file. This sample of your blood will be analyzed for its antigenic composition. If your blood should happen to be one of the rarer types, your name will be placed on file as a donor, should blood of your particular type with its rare combination of antigens, ever be needed.

Because the Red Cross needs as many samples of blood as it can get, I am asking each and every one of you to take part in the program. However, let me assure you

that we will take only a small portion of your blood. Let me further assure you that your name will not be placed in the rare donor file until the Red Cross has first obtained your written consent.

The blood samples are being collected in room 113 of this building. In just a minute, we will all go to room 113 where a registered technologist will draw a small sample of your blood.

# APPENDIX D

Pretest Instrument

HEALTH INFORMATION INVENTORY
Michigan State University

Project Number _____ C-1-3

Phase Number _____ C4-5

Subject Number _____ C6-8

We are interested in your reactions to a number of ideas and people in the field of health and medicine. Part I of this inventory is concerned with your personal reactions to some comments frequently expressed in discussions of health and medicine. Part II calls for your personal evaluations of a number of people working in this field. We are concerned, in Part II, with your judgments of these people as reliable sources of information on a specific health or medical topic.

## Part I

### Instructions

As you read each of the statements on the following pages, you will find yourself agreeing strongly with some, disagreeing just as strongly with others, and perhaps not certain of your reaction to other statements. Beside each statement is a short line. You are to place on that line a number which indicates your personal feelings about that statement . . ..whether you agree or disagree with the statement, and how strongly you agree or disagree. The numbers which you are to use to indicate your agreement or disagreement with each statement are provided at the top of each page.

Let's take an example:

_____ Sleeping with the windows open is unhealthy.

Using the numbers at the top of the next page, if you agree with this statement, you would place the number 3 in the blank; if you strongly agree, you would place the number 4 in the blank. If you disagree with the statement, you would place a 1 in the blank; if you strongly disagree, you would place the number 0 in the blank.

Whether or not you agree or disagree with a particular statement, you can be sure that many other people feel the same as you. Remember, we want your personal reaction to each of the statements.

Please turn to the next page and begin.

4 . . . I agree strongly with this statement.

3 . . . I agree with this statement.

2 . . . I don't know how I feel about this statement.

1 . . . I disagree with this statement.

0 . . . I strongly disagree with this statement.

____ 1. Most people just don't like to face up to the mental health problems facing our country today.

____ 2. Many doctors are getting rich from hospitalization insurance plans like Blue Cross.

____ 3. The Red Cross blood program is a worthy undertaking.

____ 4. The American Cancer Society is trying to scare people into believing that lung cancer is caused by cigarette smoking.

____ 5. I would never donate my blood to the Red Cross.

____ 6. Heart disease is one of the most important medical problems facing our nation today.

____ 7. The Red Cross is always asking for blood.

____ 8. The Red Cross blood donor program definitely should have everybody's full support.

____ 9. It's just common sense that smoking leads to lung cancer.

____ 10. Hospitalization and medical insurance plans are an integral part of our national health program.

____ 11. The mental health problems facing our doctors today will someday be overcome by medical research.

____ 12. The Red Cross blood donor program is saving many lives in this country every year.

4 . . . I agree strongly with this statement.

3 . . . I agree with this statement.

2 . . . I don't know how I feel about this statement.

1 . . . I disagree with this statement.

0 . . . I strongly disagree with this statement.

____ 13. Everyone should learn as much about our mental health problems as he possibly can.

____ 14. Everyone's life is in the hands of God -- therefore, I can't support any blood donor program.

____ 15. We know just about all there is to know about the prevention and cure of childhood diseases.

____ 16. Most of the Red Cross workers are highly skilled people.

____ 17. Everyone should have a chest X-ray at least once each year.

____ 18. It is essential that as many people as possible donate their blood to the Red Cross.

____ 19. Community Chest fund drives do much to further medical research in the United States.

____ 20. The health of our nation's people would be greatly improved if everyone had periodic physical check-ups.

____ 21. The Red Cross blood donor program is just a lot of nonsense.

____ 22. The money collected in the March of Dimes is largely wasted in administrative costs.

____ 23. Medical researchers never will find a real cure for leukemia.

4 . . . I agree strongly with this statement.

3 . . . I agree with this statement.

2 . . . I don't know how I feel about this statement.

1 . . . I disagree with this statement.

0 . . . I strongly disagree with this statement.

____ 24. The Red Cross never does anything for people who really need help.

____ 25. Every person should find out as much about the prevention of heart disease as he possibly can.

Part II

Instructions

At the top of each of the following pages you will find a short description of a person whom you are to evaluate as a source of health and medical information. The specific health or medical topic associated with each person is also indicated. Please judge each person in terms of his or her being a source of information on this particular topic.

Below each description is a series of descriptive scales. As you come to each scale, look at the words at each end of it and decide which of these words you feel best describes the person you are judging. Let's take the first scale as an example:

BEN CASEY, M.D.

speaking on

Psychosomatic Medicine

uneducated ___:___:___:/___/:___:___:___ educated

Suppose you feel that BEN CASEY is educated rather than uneducated. This means that you should place a checkmark in one of the three spaces between the word educated and the box in the middle of the scale. You can show how educated you feel BEN CASEY is by how close you place your mark to the word educated. The closer the mark, the more educated you say you think BEN CASEY is.

If you feel that BEN CASEY is uneducated, rather than educated, you should place your mark in one of the three spaces between the word uneducated and the box in the middle of the scale. Again, you can show how uneducated you feel he is by how close you place your checkmark to the word uneducated.

If you just can't decide which of the two words at the ends of a scale best describes BEN CASEY, place your mark in the box in the middle of the scale.

Remember . . . place a checkmark somewhere between each pair of words on each page and be sure to make only one mark between each pair of words. Remember that you are judging each person as a source of a particular message. We're interested in your first impressions, so work as rapidly as you can.

ASSISTANT PATHOLOGIST
E. W. Sparrow Hospital, Lansing

speaking on

Heart Disease Research

uneducated ___:___:___:▱:___:___:___ educated

extroverted ___:___:___:▱:___:___:___ introverted

informed ___:___:___:▱:___:___:___ uninformed

subjective ___:___:___:▱:___:___:___ objective

experienced ___:___:___:▱:___:___:___ inexperienced

dangerous ___:___:___:▱:___:___:___ safe

bold ___:___:___:▱:___:___:___ timid

closedminded ___:___:___:▱:___:___:___ openminded

reserved ___:___:___:▱:___:___:___ frank

honest ___:___:___:▱:___:___:___ dishonest

untrained ___:___:___:▱:___:___:___ trained

colorful ___:___:___:▱:___:___:___ dull

VOLUNTEER WORKER
Ingham County Red Cross Chapter

speaking on

The Red Cross Blood Program

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

ASSOCIATE PROFESSOR
University of Michigan Medical School

speaking on

Smoking and Lung Cancer

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

YOUR FAMILY DOCTOR

speaking on

Mental Health Problems

| | | |
|---|---|---|
| educated | ___:___:___:▱:___:___:___ | uneducated |
| introverted | ___:___:___:▱:___:___:___ | extroverted |
| uninformed | ___:___:___:▱:___:___:___ | informed |
| objective | ___:___:___:▱:___:___:___ | subjective |
| inexperienced | ___:___:___:▱:___:___:___ | experienced |
| safe | ___:___:___:▱:___:___:___ | dangerous |
| timid | ___:___:___:▱:___:___:___ | bold |
| openminded | ___:___:___:▱:___:___:___ | closedminded |
| frank | ___:___:___:▱:___:___:___ | reserved |
| dishonest | ___:___:___:▱:___:___:___ | honest |
| trained | ___:___:___:▱:___:___:___ | untrained |
| dull | ___:___:___:▱:___:___:___ | colorful |

PUBLIC RELATIONS COUNSEL
American National Red Cross, Washington, D. C.

speaking on

The Red Cross Blood Program

| | | |
|---|---|---|
| uneducated | ___:___:___:▱:___:___:___ | educated |
| extroverted | ___:___:___:▱:___:___:___ | introverted |
| informed | ___:___:___:▱:___:___:___ | uninformed |
| subjective | ___:___:___:▱:___:___:___ | objective |
| experienced | ___:___:___:▱:___:___:___ | inexperienced |
| dangerous | ___:___:___:▱:___:___:___ | safe |
| bold | ___:___:___:▱:___:___:___ | timid |
| closedminded | ___:___:___:▱:___:___:___ | openminded |
| reserved | ___:___:___:▱:___:___:___ | frank |
| honest | ___:___:___:▱:___:___:___ | dishonest |
| untrained | ___:___:___:▱:___:___:___ | trained |
| colorful | ___:___:___:▱:___:___:___ | dull |

PRESIDENT
Oakland County Medical Association

speaking on

Smoking and Lung Cancer

| | | |
|---|---|---|
| uneducated | ___:___:___:▱:___:___:___ | educated |
| extroverted | ___:___:___:▱:___:___:___ | introverted |
| informed | ___:___:___:▱:___:___:___ | uninformed |
| subjective | ___:___:___:▱:___:___:___ | objective |
| experienced | ___:___:___:▱:___:___:___ | inexperienced |
| dangerous | ___:___:___:▱:___:___:___ | safe |
| bold | ___:___:___:▱:___:___:___ | timid |
| closedminded | ___:___:___:▱:___:___:___ | openminded |
| reserved | ___:___:___:▱:___:___:___ | frank |
| honest | ___:___:___:▱:___:___:___ | dishonest |
| untrained | ___:___:___:▱:___:___:___ | trained |
| colorful | ___:___:___:▱:___:___:___ | dull |

# APPENDIX E

Posttest Instrument

Project Number ____ C1-3 STUDENT NUMBER _____

Phase Number ____ C4-5 Subject Number ____ C6-8

MSU Dept. of Communication

ARC BLOOD PROGRAM QUESTIONNAIRE

We are interested in (1) your reactions toward the speaker you have just heard and (2) your opinion of the Red Cross Blood Donor Program. First, we would like you to evaluate the speaker . . .

I

On the following page is a series of rating scales which you are to use to evaluate the speaker. Taking the first scale -- educated - uneducated -- as an example, here is how to use the scales:

If you feel that the speaker is very well described by one end of the scale, place your mark as follows:

educated _X_:___:___:___:___:___:___ uneducated

or

educated ___:___:___:___:___:___:_X_ uneducated

If you feel that the speaker is quite well described by one of the words at the end of the scale, place your mark nearer the end of the scale as follows:

educated ___:_X_:___:___:___:___:___ uneducated

or

educated ___:___:___:___:___:_X_:___ uneducated

If you feel that the speaker is only slightly described by one or the other end of the scale, place your mark as follows:

educated ___:___:_X_:___:___:___:___ uneducated

or

educated ___:___:___:___:_X_:___:___ uneducated

If you feel that the speaker is not at all described by one or the other end of the scale, place your mark in the middle of the scale.

Remember -- place a mark somewhere on each scale and make only one mark on a scale. We're interested in your first impressions of the speaker, so please work as rapidly as possible.

2 i

Mr. Frederick Allen

VOLUNTEER WORKER
Ingham County Red Cross Chapter

| | | |
|---|---|---|
| educated | ___:___:___:___:___:___:___ | uneducated |
| introverted | ___:___:___:___:___:___:___ | extroverted |
| uninformed | ___:___:___:___:___:___:___ | informed |
| objective | ___:___:___:___:___:___:___ | subjective |
| inexperienced | ___:___:___:___:___:___:___ | experienced |
| safe | ___:___:___:___:___:___:___ | dangerous |
| timid | ___:___:___:___:___:___:___ | bold |
| openminded | ___:___:___:___:___:___:___ | closedminded |
| frank | ___:___:___:___:___:___:___ | reserved |
| dishonest | ___:___:___:___:___:___:___ | honest |
| trained | ___:___:___:___:___:___:___ | untrained |
| dull | ___:___:___:___:___:___:___ | colorful |

C ____

T ____

D ____

Total ____

II

Now we are concerned with your opinion of the Red Cross Blood Donor Program. We would like you to indicate your agreement or disagreement, and the extent to which you agree or disagree, with the statements which follow. For example:

Most people could donate blood to the Red Cross if they really wanted to.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

If you agree strongly with the statement, place a mark in the first blank; if you agree, but not very strongly, place a mark in the second blank. The same procedure applies if you disagree or disagree strongly with the statement. If you don't know how you feel or are neutral toward the statement, place a mark next to the "don't know" response.

Whether or not you agree with a statement, you can be sure that others feel the same as you. Remember, we want your personal reaction to each statement.

Here's the first statement . . .

1. The Red Cross blood program is a worthy undertaking.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

2. I would never donate my blood to the Red Cross.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

3. The Red Cross is always asking for blood.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

4. The Red Cross blood donor program definitely should have everybody's full support.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

5. The Red Cross blood donor program is saving many lives in this country every year.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

6. Everyone's life is in the hands of God -- therefore, I can't support any blood donor program.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

7. Most of the Red Cross workers are highly skilled people.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

8. It is essential that as many people as possible donate their blood to the Red Cross.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

9. The Red Cross blood donor program is just a lot of nonsense.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

10. The Red Cross never does anything for people who really need help.

____ agree strongly

____ agree

____ don't know

____ disagree

____ disagree strongly

III

In order that we may properly evaluate your responses in the preceding pages, we need some information about you. Please answer the questions below as accurately as you can. Your answers will be kept strictly confidential.

Your age: _____

Your sex (check one)

Male ( )
Female ( )

College class (check one)

Freshman ( )
Sophomore ( )
Junior ( )
Senior ( )
Graduate ( )
Special ( )

Your major: _____

Have you ever donated blood to the Red Cross? Yes __ No __ (check one)

Have you ever donated blood to any agency, hospital or person (other than the Red Cross)? Yes __ No __ (check one)

Have any members of your family or any of your close friends ever donated blood to the Red Cross or to any other agency?

Yes ___

No ___

Don't know ___
(check one)

Have you ever received blood from the Red Cross?

Yes __ No __
(check one)

Have any members of your family or any of your close friends ever received blood from the Red Cross?

Yes __ No __
(check one)

How interested would you be in learning more about the Red Cross and its Blood Donor Program?

Very much interested ___

Somewhat interested ___

Somewhat uninterested ___

Very much uninterested ___
(check one)

Your name:_____

THANK YOU VERY MUCH FOR ASSISTING US IN THIS STUDY -- YOUR OPINIONS ARE VERY IMPORTANT TO US.