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1972

THE RELATIONSHIP OF CERTAIN PERSONALITY
AND SITUATIONAL VARIABLES TO TEACHER
SUSCEPTIBILITY TO PERSUASION

A Dissertation
Presented to the
Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

by
Gloria Tyler Robertson

August, 1972

THE RELATIONSHIP OF CERTAIN PERSONALITY
AND SITUATIONAL VARIABLES TO TEACHER
SUSCEPTIBILITY TO PERSUASION

By

Gloria Tyler Robertson

APPROVED

DATE

<u>Armand J. Galy (CHAIRMAN)</u>	<u>8/7/72</u>
<u>William B. Beck</u>	<u>8/7/72</u>
<u>Robert M. Anderson</u>	<u>8.8.72</u>

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THE RELATIONSHIP OF CERTAIN PERSONALITY AND SITUATIONAL VARIABLES TO TEACHER SUSCEPTIBILITY TO PERSUASION

Gloria Tyler Robertson, Ed.D
The College of William and Mary in Virginia, 1972

Chairman: Professor Armand J. Galfo

The Problem

The purpose of the study was to determine the relationship of certain personality and situational variables to the influence acceptance behavior of teachers. It was hypothesized that the separate and joint effects of levels of dogmatism, levels of self-esteem, and the credibility of the communication source determine a teacher's susceptibility to influence by either his peer group or a group representing the administrative authority of his school system.

Research Procedure

Two experiments investigated the relative effectiveness of persuasive communications concerning the attitudes of either the peer group or the administrator group. The total high school faculties of a school system were given pretests in which high and low dogmatism samples and high and low self-esteem samples were selected, and the attitudes of these subjects were measured on nine social and educational issues. After a period of 3 to 4 weeks, the subjects received a message stating the supposedly expressed opinions of either peers or administrators on three of those issues in regard to which either the peer group, the administrator group, or neither group was considered by the subjects to be credible. Immediately thereafter, subjects' attitudes were again measured on the same three issues, and attitude change was determined.

Major Findings

Results supported hypotheses based on the learning principles of theories of social imitative behavior as well as McGuire's two-factor theory of the relationship between a personality variable and persuasibility. The experiments demonstrated a direct relationship between dogmatism and persuasion by the administrator group, an indirect relationship between self-esteem and persuasion by the peer group, and interactions in which source credibility increased the persuasibility of low dogmatism subjects and high self-esteem subjects.

Conclusions

The experimental findings indicated the necessity for considering personality and situational variables simultaneously in predicting teacher susceptibility to persuasion. Conclusions were drawn in regard to the significance of the results in providing insight into conditions that may enhance personnel motivation and productivity through the manipulation of influence acceptance behavior. Results were interpreted as further evidence that individual-group relationships play a major part in the influence processes that constitute leadership in formal organizations.

Dedication

This dissertation is dedicated to the memory of Dr. Howard K. Holland, former Dean of the School of Education of The College of William and Mary in Virginia. Dr. Holland was a brilliant scholar, a master teacher, and my first formal adviser in graduate school.

He touched the life of each of his students in a special way. As a profound influence in my educational career, he never allowed me to lose sight of the importance of excellence in scholarship, the reality of the basic goodness of man, and the essential differentiation between the potentiality and the entelechy of all students.

Dr. Holland was killed in an automobile accident in Ethiopia in 1971. The profession of education is poorer for his loss and richer for his life.

Acknowledgments

For his ever willing guidance and help during all phases of the conception and development of this research, I extend my thanks to Professor Armand J. Galfo, the chairman of my doctoral committee. I am also indebted to Professors Robert Maidment and William Bullock, Jr., for their assistance in matters of organization, style, and essential editing of the manuscript.

I wish to express my appreciation to the administrators and teachers of Virginia Beach City Public Schools, who graciously allowed me the use of their school facilities and time from their busy schedules in order that I might collect these data. Finally, I thank my husband, Clayton, and my daughter, Robin, whose faith, encouragement, and love made possible the preparation of this dissertation.

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THE RELATIONSHIP OF CERTAIN PERSONALITY
AND SITUATIONAL VARIABLES TO TEACHER
SUSCEPTIBILITY TO PERSUASION

Chapter 1

Introduction

Societal demands for effective leadership in educational administration have been both frequent and intense. Basic to the study of leadership in a complex organization is the knowledge of individual variations in persuasibility in the process of opinion change. If there is a key to the modification of attitudes through communication, it is the clarification of the pattern of interaction between personality factors and stimulus conditions under which these attitudes are altered.

Leadership is, in its very essence, an influence process. A primary concern of supervision in the human organization is acceptance of new ideas and the modification of old ones, in terms of perception, motivation, and learning. Knowledge of those variables that enhance interpersonal influence could be a powerful tool for the educational administrator in his efforts to secure the support of teachers in the achievement of educational objectives. Etzioni (1961) has maintained that power to manipulate the acceptance behavior of men is likely to be a condition that will determine the administrator's access to more comprehensive power within the organization. Through the test of controlled research there can emerge an analysis of the variables underlying influence acceptance and of the relevance of their interaction to social influence in the daily interpersonal relationships of educational

leaders.

Little is known of the personal and situational variables that predispose teachers to be influenced toward attitude maintenance and change. Reference group theory offers limited insight because it does not lead to prediction of the reference group that will be employed by the individual subjected to persuasive attempts. Social scientists view leadership as a process of influence that functions in a specific situation and involves an interpersonal relationship between the leader and his resources, the followers with their characteristics, and environmental variables which include the communication and its source. As Hollander (1960) states, "Leadership cannot be meaningfully considered independently of the followers within a particular group and of the nature of the transactions involved [p. 59]."

In explaining organizational behavior, researchers have tended to study the separate effects of personality or of situational variables but they have produced little evidence of the nature of their interaction (Vroom, 1961). The significance of the problem is nowhere more evident than in the studies of the tendency of an individual to accept or reject a communication intended to persuade. Efforts to explain persuasibility as a unitary trait have met with little success. Both theory and research indicate that susceptibility to influence does not lend itself to segmental treatment either as a feature of personality or of the communication.

It has become increasingly apparent that an explanation of influence acceptance behavior must proceed from investigations of the interactions between personality and situational determinants of that behavior.

Extensive study of the personality-influenceability relationship has demonstrated a positive relationship of persuasibility to low self-esteem and to authoritarian, intolerant attitudes. There have been a number of reports of the general efficacy of high source credibility in influencing opinion change, when source credibility is defined as the communicator's quality of being believable and reliable by virtue of experience and expertise. A demonstrated relationship between these variables and a teacher's susceptibility to persuasion by either his colleagues or a group representing corporate authority would allow prediction of the conditions under which his acceptance behavior can be manipulated. It is reasonable to believe that it could facilitate the adaptive leadership described by Likert (1958) when he stated:

Supervision is, therefore, always an adaptive process. A leader, to be effective, must always adapt his behavior to fit the expectations, values, and interpersonal skills of those with whom he is interacting [p. 327].

Despite general acceptance that a subject's behavior in attitude change is the result of the complex interaction of communication source variables and his own cognitive and affective characteristics, a survey of the literature reveals a dearth of research on

interaction between source credibility and the personality correlates of persuasibility. Also virtually unexplored is the question of the personality and situational variables that operate to predispose an individual to reference group selection. Merton (1957) stated that the ability of the group to confer prestige upon the individual and individual personality characteristics appear to be two of the factors involved.

Statement of the Problem

The problem central to the present study was whether levels of dogmatism and of self-esteem and the situational variable of the credibility of communication source predispose a high school teacher to be more readily influenced to opinion change by either a group of his colleagues or the corporate authority group of the organization. The major purpose of the investigation was to determine if the choice of reference group varied with levels of dogmatism, with levels of self-esteem, and/or with communication source credibility.

Theoretical Background

The theoretical formulation of the investigation stemmed primarily from reinforcement learning theory and its relevance to persuasion and attitude change. At the same time, it integrated compatible elements from contiguity theory and the functional approaches to attitude change, both of which address themselves to some questions different from those traditionally answered by learning theorists. The study assumed that human behavior is functionally related to stimuli from an individual's past and present environment and that certain stimulus events both prompt his behavioral

performance and are a consequence of that performance. In particular, it involved the definitions and postulates proposed by Hull (1943), developed by Miller and Dollard (1941) and by Mowrer (1950, 1960a), and adapted to the study of complex social behavior by Doob (1947). The investigation employed concepts of reinforcement as they were applied to attitude change by the Yale Studies in Attitude and Communication (Hovland, Janis & Kelley, 1953; Kelman & Hovland, 1962) and as they were employed in the research on social imitation of Bandura (1965, 1969a, 1969b) and of Bandura and Walters (1963). McGuire's (1968) multiplicative two-factor model of the relationship between personality factors and persuasibility was used as the theoretical basis for the hypotheses involving interaction between the personality variables and the intervening variable of source credibility.

In the study reported here an attitude was considered to be a response which is learned, retained, or changed through processes of perception and motivation. An attitude both mediates overt behaviors and arises out of them through response reinforcement (Doob, 1947). Reward for agreement is the critical factor in the process of attitude change and strengthens the response of change toward the advocated position, while absence of reward will tend to extinguish it. Accordingly, earlier rewarding experiences with an information source will augment a subject's acceptance behavior toward that source, while earlier nonrewarding experiences with a source will reduce acceptance behavior in a later encounter

(McGuire, 1957). In his earlier learning, an individual acquires expectations about the expertise of the communicator, and the learned response to the communicator-stimulus is elicited by similar cues to his expertness but is weakened as the cues are perceived as differing from those previously associated with expertness. Thus, through a process of generalization, is the tendency to accept a communication increased or decreased.

Among the factors leading to acceptance behavior are rewards associated with correct interpretation of environmental stimuli (Corrozi & Rosnow, 1968; Dollard & Miller, 1950; Golightly & Byrne, 1964) and the associative factors intrinsic to the contents of the communication when they are learned (Hovland, et al., 1953). It would follow logically that both attending to information received from a credible source and comprehension of those credibility cues would play an important part in opinion change.

Complexly involved in the learning factors of reinforcement are the motives of the recipient to accept or believe what the communication recommends and the incentives offered in the message. Incentives are anchored in individual motives and in reference group interactions. Reception and acceptance of a suggestion for change are more likely to occur where the suggestion maintains an individual's status as a group member and his acceptance supports the norms of his work group. Smith, Bruner, and White (1956) classified social adjustment as one of three broad functions served by opinions and attitudes. An opinion change in line with reference

group norms mediates self-other relations. Attitudes are influence-able to varying degrees depending on motivation to affiliate and identify with the reference group and on unique personality features that affect such motivation. The functional approach of Smith, et al. (1956), would explain the assumption of reference group theorists that an individual who identifies with a reference individual will seek to "approximate the behavior and values of that individual in his several roles [Merton, 1957, p. 302]."

Modern theories of social imitative behavior explain opinion change in behavioral terms while modifying and extending the learning principles. Behavior can be modified by internal self-reinforcement that takes place in the absence of external reinforcing agents. The behavior of a communication source is imitated because such behavior has been associated with inner satisfactions in the past. Imitation of the model's attitude behavior assumes the properties of an affective secondary response, and later through a mediation process, it is used instrumentally to control the behavior of the attitude change (Mowrer, 1960a). An imitative behavior response can be learned, therefore, without the subject's ever having performed the model's responses or having been reinforced for it. Reward by behavior, rather than for behavior, is assumed to be sufficient for learning.

In his description of "no-trial learning," Bandura (1965) has used a learning theory analysis of self-reinforcement to explain alterations in social behavior. Reinforcement plays an important

role in learning to attend to certain individuals as sources of information, but once the modeling response is in an individual's behavioral repertoire, the behavior of a model disinhibits or inhibits existing response patterns and serves as a discriminative or response-facilitating stimulus. Imitative behavior can be determined by an individual's administration of self-reward or self-punishment, depending on his own judgment of his behavior.

Bandura and McDonald (1963) found evidence that attitudes can be affected by imitative learning, but the literature reflects little attention to incorporating the principles of self-reinforcement and of the disinhibition and inhibition of modeling responses into a learning theory approach to attitude change. McGuire's (1968) two-factor model of the relationship between a personality variable and persuasibility offers an opportunity to explain the interaction of variables in the social imitative learning of attitude change. McGuire (1966, 1968) postulated that opinion change is the outcome of a chain of processes which include comprehension of the communication and yielding to what is comprehended of the advocated position. Opinion change occurs where a personality variable is related in opposite directions to comprehension and yielding. Maximum persuasion should result at an intermediate level of the personality variable, except where the type of influence induction serves to raise or lower the level that will produce the greatest susceptibility to influence. The optimal level of a personality variable for attitude change moves up or down in

accordance with the effect of situational factors on yielding and on reception, which involves attention and comprehension.

The hypotheses of the study reported in this paper were generated by theories of social imitative behavior as they have offered an explanation of attitude change through learning principles. Interactions were predicted by applying the McGuire model to the relationship between each personality variable and attitude change, when the reception variance was assumed to be held at a common intermediate level and the yielding properties of the message were varied. Predictions were made that the condition in which a subject received reinforcement would produce the greatest amount of imitation with the model serving as the main source of the overt behavior of an opinion change in the direction of the advocated position.

Definitions, Constructs, and Hypotheses

The term "peers" was used throughout the study to refer to the membership group of the teacher, or his colleagues. The term "administrators" was used to refer to the corporate authority group of the school system, i.e., department chairmen, subject supervisors, principals, and central office administrators. Detailed descriptions of the important constructs used in the investigation follow, and their operation is discussed within a learning theory framework. Hypotheses predicted relationships between reference group selection and level of dogmatism, relationships between reference group selection and level of self-esteem, and

certain interactions of these personality variables with source credibility. The major research hypothesis stated that levels of dogmatism and self-esteem and the situational variable of source credibility are factors predisposing a high school teacher to utilize either his peer group or the administrative authority group as a reference group when he is persuaded to attitude change.

Attitude

Doob's definition (1947) relates attitude to behavior theory and was used in the present study. He defines attitude as "an implicit, drive-producing response considered socially significant in the individual's society [p. 136]." An attitude has both cue-value and drive-value in that it acts as a stimulus to produce another response which, when rewarded, reduces the tension associated with the attitude (Miller & Dollard, 1941). In the absence of prior contact wherein the attitude could have been rewarded and thus reinforced, the attitude proceeds from a process of generalization or discrimination.

Stimulus patterns which evoke attitudes may exist in the external environment as well as within the individual. Once a bond is established between the stimulus pattern and the attitude, the attitude will persist if constantly reinforced by the behavior it later evokes in an attempt to promote reward. It will change if the behavioral act which it mediates is punishing or if other drives aroused by stimulus patterns are stronger than the drive strength of the attitude (Doob, 1947). An attitude change is negatively

reinforced when noxious discrepancy is reduced, and it is reinforced by the acts it mediates which bring about reward.

Summarily, learning theory views an attitude as a particular connection between stimuli and between stimuli and responses, or more simply as a habit. It assumes that a person is motivated to attend to information about his environment and that he incorporates new knowledge into his situational orientation. When variables of the communication and the source are manipulated, their effects on the recipient's verbal response can be measured. When the concept of attitude is related to behavior theory, predictions can be made about the reference group selections of subjects differing in levels of dogmatism and of self-esteem and about the same behavior of such individuals when they are faced with opinions on issues in regard to which they expect a source to be more or less credible.

Persuasibility

A number of concepts have been used to describe the possibility that an individual's response will be an effort toward agreement with the communicator's position. The present study used Janis' and Hovland's definition of persuasibility factor as "any variable attribute within a population that is correlated with consistent individual differences in responsiveness to one or more classes of influential communications [pp. 1-2]." The term refers to a degree of response to an attempt to bring about a predetermined response with change in the direction advocated.

McGuire (1968) considered persuasibility as one of the

processes of the generic class of influenceability, which also includes suggestibility, compliance, conformity, and indoctrination. As such, it must stem from a susceptibility to social influences that convince a person to maintain or change a previous position with respect to the truth of issues. Learning theorists would consider the newly asserted opinion a behavior mediated by an attitude which has arisen out of previous behaviors through response reinforcement. Social persuasion brings about the change in attitude, which is actually the acquisition of a new verbal habit (Hovland, et al., 1953). The opinion change is essentially a behavior modification which has been manipulated by new learning experience.

The recipient of the persuasive message will be persuasible in the direction of the advocated position if the attitude change is instrumental in either achieving reinforcement or avoiding aversive consequences. Such acceptance comes only as a final response in a series of stimulus-producing responses initiated by the communication. According to McGuire (1957) induced change on an attitude questionnaire is the ultimate response in a chain of intervening responses beginning with attention to the message and proceeding through comprehension, acceptance, and rehearsal of acceptance sufficiently to permit expression of the changed attitude on the questionnaire. These intervening responses are key internal mediating processes activated by the stimulus variables of source credibility, the issues of the communication, and the information that is given about the consensus of judgments made by members of

the source group.

The magnitude of the influence exerted by the communication situational variables depends upon the predispositional, or personality variables. Because they satisfy certain personality needs, social attitudes will resist persuasion unless persuasive messages take account of the adjustive and self-expressive function of the attitude (Katz, 1960), the power of group pressures (Crutchfield, 1955), and specific personality sensitivities and needs. Examples of this functional aspect of attitudes are evident in the maintenance of self-esteem and in the displacement of hostilities in high dogmatism. Additionally, there are personality factors predictive of low resistance to all persuasive influence, such as low self-esteem and the intolerance found to be combined with high inhibition of aggressive tendencies in high levels of dogmatism.

Persuasibility was measured by the subject's opinion change in the direction of the position advocated by the external agent to whom he had been exposed. It was operationally defined as the subject's net score change from his first session questionnaire to his second session questionnaire.

Dogmatism

The construct of dogmatism involves the convergence of a closed cognitive system, authoritarianism, and intolerance. In discussing his theoretical development of the concept of dogmatism, Rokeach (1960) described the belief-disbelief cognitive system as varying in terms of its structure and content. The total structure

varies from open to closed; the formal content varies according to absolute beliefs in the perpetuation of authority and other beliefs representing patterns of acceptance and rejection of people according to their agreement with the belief-disbelief system. Belief systems are concerned primarily with structure rather than content and, therefore, with how a person believes rather than what he believes.

The first hypothesis of the present study predicted the relationship between level of dogmatism and reference group selection. With an increase in dogmatism, there is an increasing glorification of authority figures and an increase of strength in belief in the wisdom of a bureaucratic elite (Rokeach, 1954). Individuals high on a measure of dogmatism will find deference to authority a drive stimulus competing with the drive stimulus of the previously held attitude, the expression of which is no longer rewarded. Opinion change in the direction of the position advocated by administrators will be a rewarding behavior for high dogmatism subjects.

The closed cognitive system of high dogmatism reduces freedom to act on information in terms of its inner requiredness and lessens strength in resisting external imposed requirements (Rokeach, 1960). Having learned to be attentive to authority and power figures as sources of information and to be inattentive to message cues that could indicate the probable credibility of a source, high dogmatism subjects will act on information in the way advocated by administrators

even when that group is not as experienced or knowledgeable about an issue as a group lower in the status hierarchy.

Dogmatism was operationally defined as the score obtained by the subject on Rokeach's Dogmatism Scale. The expected relationship between level of dogmatism and reference group selection is stated in Hypothesis I.

Hypothesis I. Subjects high on a measure of dogmatism will show a statistically significant opinion change in the direction of the position advocated by administrators.

Self-esteem

The construct of self-esteem involves degree of interpersonal confidence and ego-strength. For the purposes of the present investigation, self-esteem has been defined most appropriately by Rosenbaum and deCharms (1962), the psychologists who developed the test of self-esteem used here. They defined self-esteem as "the report of an individual of behavior that reflects feelings of adequacy or inadequacy in responding to social situational stimuli [p. 292]."

The second hypothesis of the present study predicted the relationship between level of self-esteem and reference group selection. As conceived within a learning theory framework, an individual high in self-esteem has been frequently reinforced for his behavioral responses to social stimuli, and an individual low in self-esteem has been either not rewarded or frequently punished for his responses in similar situations. The consistency and kind of reinforcement is assumed to account for the development of self-assurance, confidence

in one's opinions, and feelings of social adequacy. Learning theory would propose here the concept of a mediating anticipatory response (Dollard & Miller, 1950; Mowrer, 1960b; Osgood, 1956). The internal response is one of anticipation of reward or punishment for behavior, and it serves to mediate overt responses. If the overt response of opinion change is mediated by internal self-esteem responses, the relationship to persuasion can be predicted. Related negatively to feelings of inadequacy, high self-esteem will protect an individual from persuasion (Nisbett & Gordon, 1967).

The construct of self-esteem also involves attention to and comprehension of a message, in that low self-esteem is likely to interfere with accurate comprehension. Comprehension is probably limited in low self-esteem subjects by low intellectual levels, shyness and social inhibitions, and defensive reactions of inattention to message cues which may appear threatening. With a history of negatively reinforced disagreement behavior and discrepant perception, they frequently do not observe the cues of the message.

Behavior theory-based research on attitude change tends to emphasize the need satisfying properties of the response to a communication. Low self-esteem subjects, with unsatisfied needs for interpersonal support, are likely to be dependent on the most available source of interpersonal need satisfaction. They find peer group membership especially rewarding, will have developed a positive attitude toward colleagues, and will be highly susceptible to their influence. They will be predisposed, however, to rely on all relevant others in

deciding how to respond to relatively uncertain issues, because they are sensitive to the behavior of others and have been frequently rewarded for imitative behavior (Bandura & Walters, 1963). They are excessively fearful of any social disapproval, and their agreement with everyone may be a form of defensive behavior that guarantees that no one will be displeased (Janis, 1954). A low self-esteem subject can be expected to be influenced by the views of either of the groups to which he is exposed but more inclined to imitate the behavior of his peers.

Self-esteem was operationally defined as the score obtained by the subject on the Self-Esteem Scale developed by deCharms and Rosenbaum (1960) and partly based on an earlier scale of Janis (1954). The expected relationship between level of self-esteem and reference group selection is stated in Hypothesis II.

Hypothesis II. Subjects low on a measurement of self-esteem will show a statistically significant opinion change in the direction of the position advocated by peers.

Source Credibility

In the study reported here, source credibility was defined as the communicator's quality of being believable and reliable by virtue of experience and expertise. Expertise was defined as the skill and knowledge of a person who is highly trained in a special field and well informed on a particular issue. Two hypotheses predicted interactions between source credibility and personality variables in determining reference group selection.

The three source credibility classifications, as validated in the pilot study were defined as follows:

1. A neutral credibility issue is an issue on which a high school teacher considers neither a teacher nor an administrator to be the more credible.

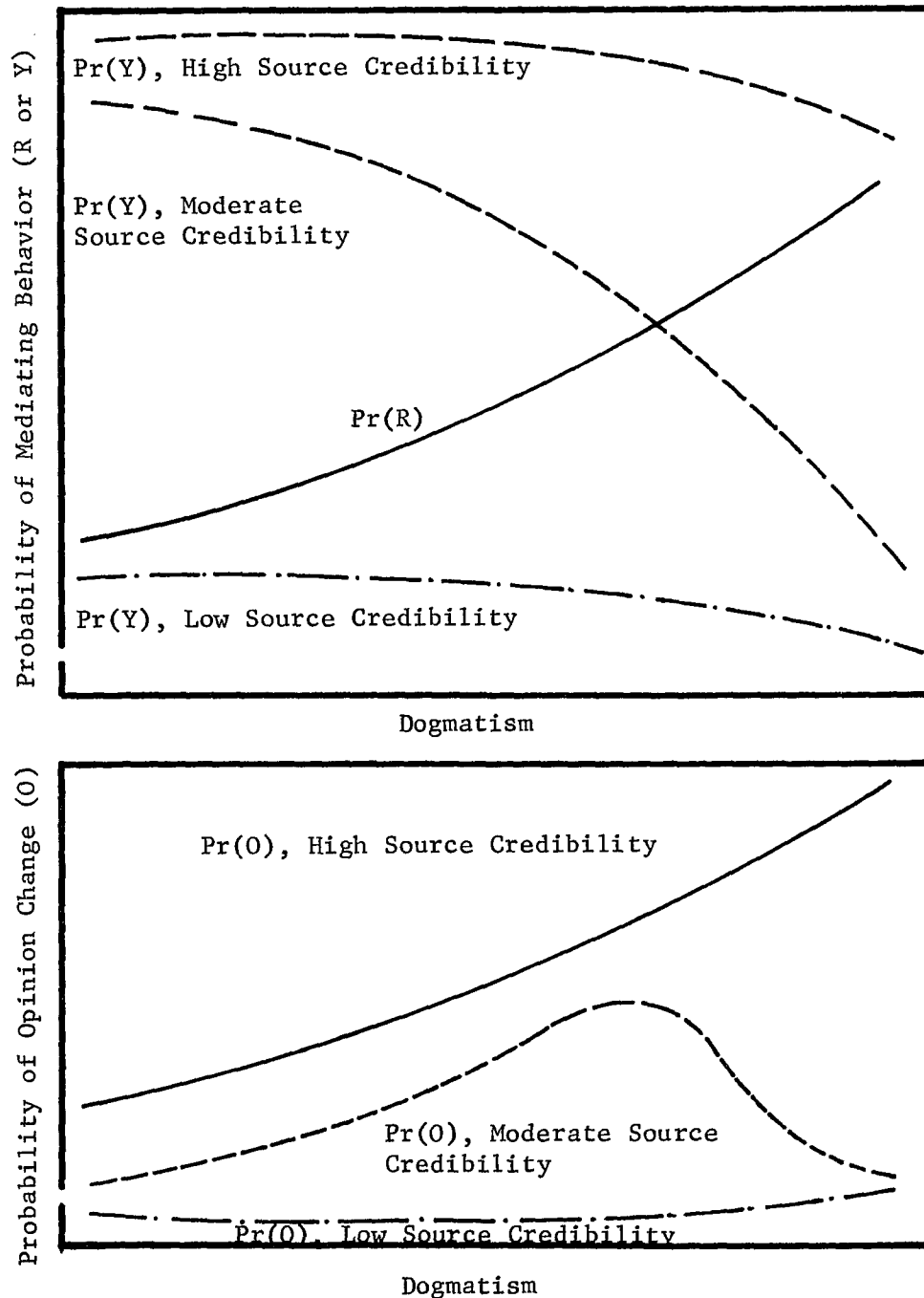
2. A peer credibility issue is an issue on which a high school teacher considers a teacher to be more credible.

3. An administrator credibility issue is an issue on which a high school teacher considers an administrator to be more credible.

The effect of communicator credibility was considered to be a mediating cue for acceptance or rejection of a message. An individual will perceive successful and competent people to have amassed reinforcers, and he will imitatively adopt from a communicator's performance those elements perceived as occasion for reinforcement (Bandura & Walters, 1963). Subjects learn verbal descriptions of a model's behavior, and their later recall can serve as cues for directing the subject through an imitative response. Verbal reactions that reduce the noxious inconsistency between the subject's opinion and the opinion of a highly credible source are negatively reinforced. Receiving information from subjects regarded as experienced and expert thus facilitates persuasion through reinforcement, and at least the initial effect of the communication on opinion change will be greatest when it is presented as the opinion of a source considered to be credible (Hovland & Weiss, 1951).

Personality variables mediate the detection and interpretation of an opinion discrepant with that of the subject. Rokeach's (1960) theory would predict that subjects high in dogmatism will be unable to differentiate the status of a source from his message and so will be restricted in ability to evaluate and act on the credibility of a communication source. This condition will lead to increased conformity to a high status authority and decreased conformity to a low status authority. Subjects low in dogmatism have not been reinforced by the imitation of the behavior of authority models and are unconcerned about the perpetuation of authority. Tolerant of members of other groups, even when they disagree with his belief system, a cognitively open subject will be capable of discriminating status from source and will attend to and comprehend credibility.

The interaction of dogmatism with source credibility can be predicted by applying McGuire's (1968) model. It is assumed in the present experiment that the relationships of dogmatism to the mediators are opposite to those of self-esteem, which was the personality variable considered by McGuire. Therefore, the adaptation of the model, as presented in Figure 1, has reversed McGuire's figure. Levels of source credibility are used as examples of situational differences in plausibility. Dogmatism is directly related to yielding and inversely related to comprehension (Peabody, 1966), and maximum persuasibility should occur where the reception and yielding gradients cross. When the intervening variable of source credibility affects yielding, the optimal level of dogmatism for attitude change will move up



Upper Graph: Levels of source credibility as they affect the reception and yielding mediators.

Lower Graph: Levels of source credibility as they affect the resultant opinion change.

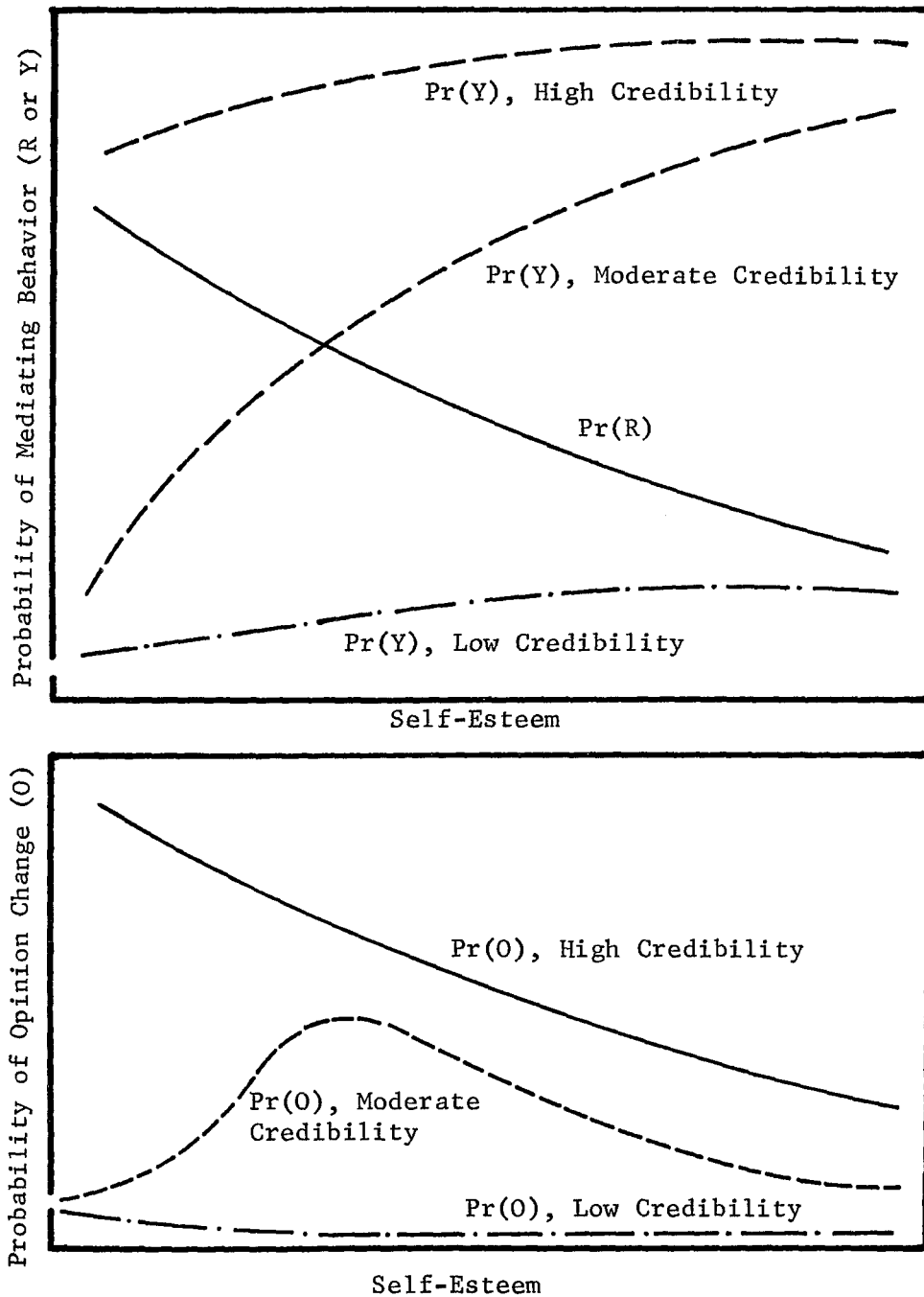
Fig. 1. Effect of Differences in Source Credibility on the Resultant Dogmatism-Persuasibility Relationship (adapted from McGuire, 1968, p. 1154).

and down. Exposure to a low credible source will lower the elevation of the yielding gradient with the result that it intersects the reception gradient at a higher level of dogmatism. Exposure to a high credible source will raise the elevation of the yielding gradient with the result that the two gradients intersect at a lower level of dogmatism.

If McGuire's assumptions are valid, variations in source credibility will not affect the high dogmatism scorer's reference group selection; his high susceptibility to the influence of the opinions of a source perceived as high in power and authority will continue to be the determining factor in his persuasion. Source credibility variations will bring about an attitude change of low dogmatism subjects in the direction of the source considered to be more credible in regard to the issue involved. Hypothesis III states the expected effect of source credibility on the relationship between level of dogmatism and reference group selection.

Hypothesis III. Subjects low on a measurement of dogmatism will show a statistically significant opinion change in the direction of the position advocated by the group that is considered to be credible in regard to the issue involved in the communication.

Again applying the McGuire model and using levels of source credibility as examples of situational differences in plausibility, predictions can be made regarding the interaction of self-esteem with source credibility as shown in Figure 2. Evidence indicates (Asch, 1958; Berkowitz & Goranson 1964; Gelfand, 1962) that self-esteem is



Upper Graph: Levels of source credibility as they affect the reception and yielding mediators.

Lower Graph: Levels of source credibility as they affect the resultant opinion change.

Fig. 2. Effect of Differences in Source Credibility on the Resultant Self-Esteem-Persuasibility Relationships (adapted from McGuire, 1968, p. 1154).

directly related to intelligent appraisal and comprehension. Since it is inversely related to feelings of inadequacy, low ego strength, and fear of disapproval for discrepancy, it is likely to be indirectly related to yielding (Berkowitz & Lundy, 1957; Janis, 1954; Lesser & Abelson, 1959). High self-esteem subjects, intelligent and aware of the implications of an inaccurate opinion, will resist conformity when there is no clear evidence to support the advocated position. Elevation of the yielding gradient by a highly credible source will result in an intersection of the comprehension and yielding gradients at a higher level of self-esteem, and high self-esteem scorers will be influenced to opinion change by a source considered to be more credible in regard to the issue on which an opinion is given. Hypothesis IV states the expected effect of source credibility on the relationship between level of self-esteem and reference group selection.

Hypothesis IV. Subjects high on a measure of self-esteem will show a statistically significant opinion change in the direction of the position advocated by the group that is considered to be credible in regard to the issue involved in the communication.

Chapter 2 will review the research related to the stated problem and to the hypotheses. In Chapter 3 the research site and methodology will be described, and there will be included descriptions of the sample, the measures, and the research designs. Chapter 4 will be an analysis of findings concerning reference group selection as it is related to the personality and situational variables of the study. Finally, the conclusions derived from the investigation and the

implications for theory and for future research will be discussed in Chapter 5.

Chapter 2

Relevant Research

Within the context of reference group theory, it is assumed that under certain conditions an individual will select associates within his membership group as a frame of reference for attitude-based behavior and that under other conditions a nonmembership group will provide a frame of reference (Sherif & Cantril, 1947; Sherif & Sherif, 1967). To predict how reference group selection will vary with levels of dogmatism and self-esteem and/or with the variable of source credibility, it was necessary to draw from the contributions of empirical research insight into the relationship of each of the assigned variables to persuasibility.

The central consideration is whether these variables act separately or in interaction to motivate a subject to affiliate with one group or the other when he is persuaded to attitude change. While early investigations focused on the basic effects of the personality correlates of persuasibility, more recent researchers have either suggested or demonstrated that the situational factors of source, message, channel, and destination operate as modifying variables on the personality-influenceability relationship (Hollander, 1960; Linton, 1963; McGuire, 1968).

Source credibility has been shown to interact with such variables as personal involvement (McGinnies, 1968) and discrepancy between the subject's initial opinion and the position of the communicator (Aronson, Turner, & Carlsmith, 1963), but a survey of the

literature reveals a dearth of research on the interaction of source credibility with the personality correlates of persuasibility. An enhancement of source differential has been found to be associated with high dogmatism (Powell, 1962) and with low self-esteem (Dittes & Kelley, 1956; Kelley & Shapiro, 1954; Kelman, 1950; Mausner, 1954). Powell's study, however, used perceptual D^2 scores rather than opinion change as the dependent variable, and all of the self-esteem studies involved manipulated acute self-esteem, rather than chronic level of self-esteem.

Dogmatism and Persuasibility

General authoritarianism, as described by Rokeach, has been among the personality variables most consistently found to underlie individual differences in yielding to influence attempts. The relationship of authoritarianism to persuasibility was first investigated during the peak of substantive interest in the F scale, as developed by Adorno and his associates (1950). Crutchfield (1955) reported a significant correlation between high F-scale scores and yielding to pressure, as well as between observer ratings of authoritarianism and yielding. Wells, Weinert, and Rubel (1956), Beloff (1958), and Linton and Graham (1959) also found high persuasibility to be associated with high mean scores on the F scale. Canning and Baker (1959) reported that their subjects with authoritarian personalities were influenced to a greater degree by group pressure than their nonauthoritarian personalities. Hovland and Janis (1959) stated that authoritarianism and excessive respect for

power were shown to promote persuasibility in a number of their studies.

More recent studies have revealed a positive relationship between dogmatism and interpersonal sensitivity (Burke, 1956) and between dogmatism and conformity (Vacchiano, Strauss, & Schiffman, 1968). The latter investigation demonstrated that three personality instruments (Edwards Personal Preference Schedule, the Sixteen Factor Questionnaire, and the Tennessee Self-Concept Scale) yielded clusters of scales which identified the "dogmatic personality." Dogmatism was found to be positively related to conformity, restraint, and conservatism.

Cognitive Structure and Belief

Acquisition and Change

The question immediately presented is how to reconcile these findings with Rokeach's basic proposition that the cognitive system of closed-minded persons is highly resistant to learning new beliefs and changing old beliefs. The proposition, itself, has been supported by a number of studies on the effects of cognitive structure on belief acquisition and change (Adams & Vidulich, 1962; Christensen, 1963; Costin, 1961; Frumkin, 1961; Restle, Andrews, & Rokeach, 1964). Ehrlich (1961a) compared the performance of 57 subjects from an original pool of 100 sociology students on precourse (t_1) and postcourse (t_2) sociology tests separated by 10 weeks and on a mail follow-up (t_3) 5 to 6 months later. At all three time periods dogmatism scores showed a significant negative relationship to

sociology test performance, and this relationship held when academic aptitude scores, as measured by the Ohio State Psychological Examination (OSPE), were controlled for t_2 and t_3 . While OSPE scores showed a significant positive relationship to sociology test performance, control for dogmatism reduced the OSPE-sociology test correlations to nonsignificant values. This result was found at all three time periods. Ehrlich concluded:

Subjects low in dogmatism entered the sociology classroom with a higher level of learning, learned more as a result of classroom exposure, and retained this information to a significantly greater degree than the more dogmatic subjects [1961a, p. 149].

Five years later Ehrlich (1961b) contacted 90 of the original subjects by mail and received 65 completed returns. In addition to dogmatism scores and sociology test scores, he obtained the subjects' reports of their final grade point averages (GPA). Again dogmatism scores showed a significant negative relationship to sociology test scores, and OSPE scores showed a significant positive relationship to sociology test scores. The GPA was positively correlated with the OSPE but nonsignificantly correlated with dogmatism. Since a subject's GPA reflected his level of learning in all of his college courses, Ehrlich concluded that course content represented the significant sources of variation.

Zagona and Zurcher (1965a) selected the 30 highest and 30 lowest dogmatism scorers from a pool of 517 freshmen in an

introductory psychology course. The high dogmatism and low dogmatism groups had significantly different scores on their midterm examinations with low dogmatism subjects performing at a higher level of learning. For the remaining 440 subjects dogmatism and examination grades correlated $-.20$ ($p < .001$).

Authority as an Intervening

Variable

Ehrlich and Lee (1969) maintained that the authority source of the new beliefs is one of five intervening variables that account for disconfirming instances and the low correlations of those studies which confirm the indirect relationship between dogmatism and belief change. The more closed a belief system, the more learning is directed by the demands of an arbitrary dependence on an authority source. The more open a belief system, the less likely is conformity to a high status source in the absence of supporting evidence of the validity of the source's opinion.

To date it has been well substantiated that the high authoritarian subject will yield more often in the direction of the position advocated by authority figures. Berkowitz and Lundy (1957) found that high authoritarianism, as measured by the F scale, predisposes an individual to be influenced by authority figures rather than by peers. Harvey and Beverley (1961) reported that status interacted significantly with authoritarianism in determining opinion change. They concluded that the high F-scale scorer is more dependent than the low F-scale scorer on such external sources of

authority as power and large scale organizations in defining reality and evaluating his environment.

Several investigators have studied the relative influence of authority figures on the interpersonal behavior of high dogmatism and low dogmatism subjects. Zagona and Zurcher (1964) observed high dogmatism and low dogmatism subjects in interpersonal interactions in an unstructured classroom situation. The high dogmatism subjects were concerned with group structure and leader selection, and when challenged by authority, they wavered in their convictions and evidenced signs of reduced group cohesion. Zippel and Norman (1966) studied political party switching in the 1964 election and noted that the affiliative needs satisfied through social class membership were less important for high dogmatism subjects than were ideological rules and principles. DiRenzo (1968) reported that in the 1964 elections commitment to party leaders and ideology was strongly linked to high dogmatism.

A study of Vidulich and Kaiman (1961) directly tested Rokeach's hypothesis of a positive relationship between level of dogmatism and acceptance of the attitudinal positions of authority figures. They selected groups of 30 female high dogmatism and 30 female low dogmatism scorers from a pool of 307 introductory psychology students. Each subject was placed in an autokinetic situation in which she privately recorded her judged direction of movement of a light during 30 exposures. Later she verbally made 30 additional directional judgments after being exposed to a judgment of direction,

opposite to what he had reported in the prior condition, by either a confederate identified as being of high status or a confederate identified as being of low status. Four experimental groups were composed of the four possible pairings of level of dogmatism and source status. Conformity was determined by a score of difference in performance in the two conditions and by the number of times the subject agreed with the confederate in the second condition. Analysis of both performance criteria supported a significant interaction between source status and dogmatism, with high dogmatism subjects conforming significantly more with the high status confederate than with the low status confederate.

Investigations of Kemp (1962), McCarthy and Johnson (1962), Norris (1965), and Wilson (1964) have provided additional evidence of the intervention of authority source between level of dogmatism and opinion change.

Dogmatism and Discrimination
between Information Received
and Source Status

The proposition of Rokeach that dogmatism is indirectly related to ability to differentiate between message received and source status suggests that the high dogmatism scorer will confuse the value or veracity of the information he receives from an authority with the status of that authority. Several investigations have tested Rokeach's hypothesis.

Mikol (1960) exposed 20 high dogmatism and 20 low dogmatism

subjects to taped excerpts from conventional and unconventional music composers. The high dogmatism subjects rejected both the conventional music and the composers. Powell (1962) presented to 76 subjects 14 semantic differential scales which measured their judgments of major presidential candidates and their judgments of policy statements made by each candidate. The difference in judgment between source and source statement was found to be significantly greater for open-minded subjects than for closed-minded subjects. Kemp (1963) reported that low dogmatism subjects perceived authority figures more realistically than the high dogmatism subjects and could more accurately recognize the negative and positive characteristics of their contributions.

The concept of dogmatism as a generalized authoritarianism has been widely studied in diverse investigations of its relationship to persuasibility. Empirical research shows it to be directly related to opinion change toward the attitudinal position of communicators of high status and organizational power.

Self-Esteem and Persuasibility

The history of research investigation of the relationship of self-esteem to conformity to social influence has run a similar course to the study of the authoritarianism-influenceability relationship. Early investigators (Cohen, 1959; Janis, 1954, 1955; Janis & Rife, 1959; DiVesta, 1959; Kelman, 1950; Lesser & Abelson, 1959; Linton & Graham, 1959) reported that a person with low self-esteem and an unfavorable evaluation of his own judgments is

predisposed to be highly influenced by persuasive communications. The relationships between self-esteem and persuasibility, however, often were not very high (Janis, 1955; Janis & Field, 1959) or were found only in restricted groups (Janis & Field, 1959) and under certain conditions (Cox & Bauer, 1964; Lesser & Abelson, 1959).

Peer Group Standards as an
Intervening Variable

Increasing research in the development of group norms and degree of conformity to them by group members led to evidence that people who are strongly motivated to retain their membership in a group will be most susceptible to influence by peers and resistant to communications contrary to the standards of the group (Sherif, 1951; Kelley & Volkart, 1952). Berkowitz and Lundy (1957) explored the general hypothesis that personality characteristics predispose an individual to utilize one group rather than another as a reference group. They found a significant relationship between interpersonal confidence and opinion change when the opinions were advocated by peers, and an absence of this relationship when the identical opinions were advocated by generals. These studies marked the beginning of a consideration of the personality correlates of persuasibility in terms of the relative influence on the relationship of subject knowledge of the group advocating the viewpoint.

With more in-depth study of the motivational explanations of social behavior, the inverse relationship of persuasibility and self-esteem was most often explained in terms of gratification of central

needs (Cohen, 1959), modes of defensive behavior (Leventhal & Perloe, 1962; Silverman, 1964), defense against the possibility of being rejected by peers (Wilson, 1960), or response reinforcement effects on attitude change (Gelfand, 1962; Scott, 1957). These investigations incorporated functional and stimulus-response (S-R) learning theory approaches in their explanations.

Self-Esteem and Socially

Reinforced Matching Behavior

Measures of self-esteem were largely response inferred through personality questionnaires or global ratings until experiments began to define persuasibility in terms of socially learned matching behavior. When an investigator assumes that characteristic self-esteem is a function of reinforcement history and that matching behavior is also learned, he will explain both low self-esteem and a high incidence of matching behavior as proceeding from negatively reinforced instances of disagreement or discrepancy. Such an approach invites experimental manipulation of self-esteem level as well as prediction of the modification of the self-esteem--influenceability relationship by variables associated with membership groups and their norms.

deCharms and Rosenbaum (1960) were among the first to investigate the effect of group status variables and level of self-esteem on a group member's tendency to match the responses of his peers. They drew 73 subjects from 2 classes of naval aviation cadets and divided them into low self-esteem and high self-esteem groups on

the basis of their scores on the Self-Esteem Scale. The independent variables of status and revocability of status were manipulated, and predictions were made in regard to tendency to match for each of these variables and for personal level of self-esteem. The hypothesis that low self-esteem subjects would match to a greater extent than high self-esteem subjects was confirmed. There was also tentative evidence that revoking high status may augment matching behavior. The investigators suggested that low self-esteem leads to the anticipation of nonreward or punishment from the group and to the experiencing of anxiety in regard to the perception of being different.

In an examination of the relationship between level of self-esteem and matching behavior under conditions varying in probability of reinforcement for matching, Rosenbaum, Horne, and Chambers (1962) exposed 84 introductory psychology students, divided into pairs according to self-esteem level, to a judgment task involving the prediction of outcomes of facsimile horse races. The subject was informed of his accuracy following each response. Three experimental conditions varied the degree to which matching responses were instrumental to successful performance, and these three conditions and the two levels of self-esteem constituted a 3 X 2 factorial design. Level of self-esteem was found to be related to performance only when matching was instrumental to successful performance, with low self-esteem subjects matching more frequently than high self-esteem subjects. The absence of differential matching in other conditions suggested that matching behavior is not unalterably related to

self-esteem but that adaptation to socially reinforcing environmental contingencies occurs.

Gelfand (1962) investigated the effects of both response inferred and experimentally manipulated self-esteem upon social suggestibility, as measured by a picture preference test, involving matching behavior and verbal operant conditioning. Fifth-grade, public school children (N=60), assigned to high and low self-esteem groups, were exposed to either a success or a failure experience designed to manipulate self-esteem. Each subject then participated in the picture preference task with an experimental confederate, and his tendency to match the confederate's behavior was measured. Finally, subjects were administered a verbal conditioning task in which responsivity to verbal reinforcement was measured. A factorial design with two levels of self-esteem and three experimental conditions, including a control group, was used. Results were generally in accord with the theoretical proposition that self-esteem and persuasibility are negatively correlated, and they showed a significant interaction of the success-failure condition with initial self-esteem in determining social suggestibility.

The construct of self-esteem has not been so extensively studied as the construct of dogmatism, and results have been conflicting, probably because hypotheses have been guided by a myriad of operational definitions of the term. Research has indicated, however, that when it is defined as a report of behavior that reflects degree

of interpersonal confidence or adequacy in responding to social situational stimuli, it is found to be indirectly related to susceptibility to persuasive communication. Although meager, there is evidence that the generalized matching behavior of low self-esteem subjects will be augmented by the socially reinforcing contingencies of peer group membership, and that the opinion change of low self-esteem subjects will be in the direction of the attitudinal position advocated by peers.

Source Credibility and Persuasion

Attitude change research has consistently indicated that communicators perceived to be a source of valid assertions elicit more change than do communicators who are not so perceived. It has been frequently demonstrated that there is a positive relationship between source credibility and opinion change (Anderson & Clevenger, 1963; Aronson, Turner, & Carlsmith, 1963; Hovland & Weiss, 1952; Kelman & Hovland, 1953; Kulp, 1934).

Investigators have recognized, however, that credibility represents a judgment of credibility made by the recipient of the communication, rather than an attribute of the communicator (Sherif, Sherif, & Nebergall, 1965). A learning theory orientation leads to the assumption that a subject's reinforcement history will determine whether or not he will perceive a communication source to be credible. It is, then, perceived high credibility that acts as a facilitator of persuasion, while perceived low credibility acts, at least temporarily, as a source of interference in persuasion. Several investigations

(Kelman, 1950; Mausner, 1954; Mausner & Block, 1957) have supported the relationship of these prior reinforcements to conformity responses.

Studies of the learning of social imitation have produced evidence that learning to imitate competent models will occur more readily than learning to imitate incompetent models (Bandura, 1962; Rosenbaum & Tucker, 1962). It has been clearly indicated that an individual's social learning history generalizes to current social behavior and that learned source credibility can be expected to interact with learned personality characteristics to determine that individual's ultimate persuasion.

Source Credibility-Dogmatism

Interaction

A number of investigations have supported the prediction that high and low dogmatism will be influenced differentially by high and low source credibility. An early study by Sanford (1950) showed that authoritarian personalities consistently regard the status-laden leader as more competent than his democratic counterpart, while equalitarian personalities accept high status leadership only as the circumstances give weight to its direction. In a dyadic bargaining system high dogmatism subjects were found to be less willing than low dogmatism subjects to defect from a given position, despite evidence supporting a discrepant position, because they viewed compromise as defeat (Druckman, 1967). Rokeach's principle that low dogmatism subjects will be more likely to learn new beliefs and utilize novel responses which are reasonably presented to them has been extensively

upheld (Adams & Vidulich, 1962; Christensen, 1966; Ehrlich, 1961a; Watson, 1967).

Johnson, Torcivia, and Poprick (1968), applying the McGuire model (1968) to the nonmonotonic case of the authoritarianism-influenceability relationship, predicted that attitude change for high F-scale scorers would be relatively unaffected by a change in source credibility, while the low F-scale scorer would be most affected by source credibility changes. Their subjects were 152 students in an introductory psychology class at Loyola University in Chicago, Illinois. In the first session, subjects received a communication attributed to either a high credible or a low credible source, which argued against the use of two medically related practices toward which people almost invariably have highly favorable attitudes. They then responded to a four-item questionnaire which was designed to assess their attitudes on the issues which had been discussed by the two sources. In the final part of the first session, the subjects completed a questionnaire designed to assess recall of the communication. Seven days later they responded to the F scale, and they again indicated their attitudes on the issues used in the first session communication. Finally, they were again given the recall test of the first session. A 2 X 2 experimental design was used to show the relationship between level of authoritarianism and attitude change in each of the four treatment groups. Results supported the effects of the source manipulation in the four treatment categories. A significant

interaction appeared between F-scale scores and source credibility with respect to attitude change, indicating that the low-F scorer was most affected by source differences and the high-F scorer was least affected. Analysis of variance indicated that the main effects of source were highly significant ($F=25.70$) and the main effect of F was not significant. McGuire's general model for the relationship between a personality variable and persuasibility was considered to be supported in that F scores were inversely related to comprehension, and the interaction effect between F score and source was significant. The latter finding was interpreted as supporting the proposition that source credibility raises the elevation of the yielding gradient which, in turn, lowers the personality level that is optimal in persuasion.

Whether dogmatism, as measured by Rokeach's scale, will function in the same manner as authoritarianism, as measured by F scores, has not been tested directly (McGuire, 1968), but Powell's (1962) finding of an enhancement of source differential associated with dogmatism would imply that the dogmatism construct should interact with source credibility in a manner similar to the authoritarianism-source credibility interaction.

Source Credibility--Self-Esteem

Interaction

Cohen maintained (1959) that although high self-esteem individuals are most resistant to influence in general, they become responsive to attempts at persuasion when favorable self-evaluation

is made readily possible by the conditions of the situation. Leventhal and Perloe (1962) reported evidence of a relationship between self-esteem and attitude change that supported Cohen's interaction hypothesis rather than a generalized form of the simpler hypothesis of an inverse relationship between self-esteem and persuasibility (Janis, 1954; Janis & Field, 1959).

Gollob and Dittes (1965) reasoned that the increased persuasibility of lower self-esteem persons probably depends on quite specific characteristics of the communication, and they predicted that different types of communication would interact with self-esteem and produce different effects on persuasibility. Although the situational variables that they investigated were quite dissimilar to that of the study reported in this paper, their experiment offered two relevant conclusions:

1. low self-esteem decreased persuasibility when the experimental manipulation affected the acceptance component of opinion change, and
2. increased self-esteem may increase or decrease persuasibility, depending on how it interacts with such variables as the perceived characteristics of the source.

Nisbett and Gordon (1967) tested the McGuire (1968) model, using the nonmonotonic case of the self-esteem--persuasibility relationship. Experimentally manipulating both the reception and yielding properties of persuasive messages, they predicted an interaction between level of self-esteem and method of influence

induction, such that maximum opinion change should occur at a lower level of self-esteem for the induction that was difficult to yield to and easy to receive than for the induction that was easy to yield to and difficult to receive. At the first session two self-esteem tests and an intelligence test were completed by 152 introductory psychology students at Long Island University, Greenvale, New York. During the second session, subjects received reports indicating that they had done extremely well or extremely poorly on the intelligence test. Subjects then completed both self-esteem tests once more and read various persuasive messages. Finally, they indicated opinions on the issues with which the communications were concerned. Results confirmed the hypothesis that the negative relationship of self-esteem to persuasibility would be reversed when the induction is made more difficult to understand but highly plausible. Investigators concluded that the form of the self-esteem--influenceability relationship is determined by characteristics of the communication, which is a central proposition of McGuire's theory.

The Nisbett-Gordon Study also tested, but did not support, McGuire's suggestion that when a situation immediately threatening to self-esteem is added to the chronic level of self-esteem, there will be an interaction between chronic and acute self-esteem, such that a person with high chronic self-esteem will be made more persuasible, and subjects with chronically low self-esteem will become less persuasible. The experiment of Gelfand (1962), however, did support the proposition, and Millman (1965) investigating a

similar hypothesis involving anxiety levels, also found evidence of the additive interaction. For the purposes of the present study, it is assumed that a subject's finding his original opinion to be discrepant with the opinion of a highly credible source will threaten chronic self-esteem and the additive reaction can be expected.

Influenceability and Reference

Group Selection

There has been considerable empirical support of the proposition that the stability of an individual's attitudes and his susceptibility to change are related to the attitude norms of his reference group (DeFleur & Westie, 1958; Elbing, 1962; Hartley, 1960; Merton & Kitt, 1950; Sherif & Sherif, 1964; Siegel & Siegel, 1957). Sherif and Sherif (1965) have maintained that attitude change is an important individual aspect of group functioning and that the communications most powerful in altering attitudes are those associated with contexts of reference group interactions. When those contexts change, attitudes are altered to varying extents, depending on the motivations involved, the interests at stake, and the unique personality characteristics of the individual.

Research has provided evidence that the mere perception that the vast majority of group members accept a given norm operates as a powerful force on the individual to conform to it (Bennett, 1955; Newcomb, 1943). Members' adherence to group norms will vary with their degree of attachment to the group (Converse & Campbell, 1960;

Festinger, 1950). Friendship, identification and acceptance of status, and self-esteem contribute heavily to the internalization of group norms (Kelman, 1961; Janis & Smith, 1965).

The investigation of Siegel and Siegel (1957) demonstrated that the groups to which individuals aspire to belong are even more weighty in determining opinion change than groups in which they simply live and move. They found that opinion change among women students at a large coeducational university occurred differentially in the direction that would be predicted from knowledge of the norms of the groups to which they preferred to belong. When divergent membership groups with disparate attitude norms were socially imposed on the basis of a random event, the greatest attitude change occurred in subjects who came to take the initially nonpreferred, membership group as their reference group.

Sherif, Sherif, and Nebergall (1965) have stated that, stripped to its bare essential, attitude change results from a person's felt necessity of coping with the discrepancy between the position he upholds and the position to which he is exposed. Research has yielded abundant evidence that attitudes represent established ways of relating to relevant others in the process of living and that an individual's attitude change is never disengaged from the influence of those groups to which he psychologically relates.

Chapter 3

Methodology

Selection of the Source Credibility Issues

Several weeks prior to the pilot study, the experimenter consulted five teachers from high schools other than those to be involved in either the pilot study or the experiments. These teachers were asked to give their opinions in regard to the credibility category and the wording of 24 statements being considered for inclusion in the pilot study questionnaire. This procedure produced 15 statements, of which 5 were presumed to involve neutral credibility issues, 5 were presumed to involve peer credibility issues, and 5 were presumed to involve administrator credibility issues. The issues are listed below in categories of presumed credibility:

1. neutral credibility
 - a. guaranteed annual family income
 - b. capital punishment
 - c. electoral college procedure
 - d. reduction of the legal voting age
 - e. draft amnesty
2. peer credibility
 - a. ability grouping
 - b. educational television instruction
 - c. ethnic group instructional materials
 - d. cooperative team teaching

- e. sex education in the high schools
- 3. administrator credibility
 - a. real property tax for financing public education
 - b. school voucher system
 - c. closed private sessions for school boards
 - d. maintenance contracting for school systems
 - e. use of public funds for private schools.

The 15 selected items were randomly ordered, and in order to prevent response set bias, 8 stated a positive attitude and 7 stated a negative attitude toward the issue involved. They were preceded by a 6-point Likert-type scale, with a neutral point excluded for the purpose of forcing a positively or negatively valenced expression of attitude. The complete pilot study questionnaire appears in Appendix A.

Pilot Study

The pilot study was conducted at meetings of the faculty of Woodrow Wilson High School in Portsmouth, Virginia. It excluded the administrators, guidance counselors, and librarians of the school and involved two sessions, separated by an interval of five weeks. Both questionnaires were completed by 90 male and female teachers. The purpose of the pilot study was to determine the validity of the source credibility issues and the reliability of the attitude scale to be used in the experiments.

First Session

A simple introduction of the experimenter preceded the first

presentation of the pilot study questionnaire. It was emphasized that the administrative staff of Portsmouth Public Schools was in no way involved in a knowledge or evaluation of individual or collective responses to the attitude items. There were no instructions other than those that introduced the questionnaire and a request that individual questionnaires be identified by either name, telephone number, or social security number. When completed, questionnaires were collected by the experimenter.

The second phase of the first session began with the following instructions:

This is an entirely different phase of the study and has absolutely nothing to do with how you have already indicated your agreement or disagreement with the statements on the questionnaire. It is an attempt to assess your opinion about the group that is likely to be most knowledgeable and experienced in regard to the issues involved in the statements.

This questionnaire is a duplicate of the first one presented to you. The 15 items were constructed with the premise that some involve issues on which high school teachers, as a group, are at least as knowledgeable and probably more experienced than public school administrators. Some of the items were constructed to measure attitudes toward issues on which administrators, as a group, would be generally considered to be the most expert authority. Some of the statements, we think, are likely to be considered neutral as far as authority and expertise are concerned;

in other words, neither a teacher nor an administrator would be more knowledgeable, experienced--or "credible" is the word we have used--in regard to the subject involved in the statement.

Before you classify each statement according to credibility, consider expertise on the issue in terms of training, experience, exposure, and knowledge. Then write in the right margin of your questionnaire the word "neutral," "teachers," or "administrators."

Finally, be certain that you count the responses in the right margin. There should be a total of 15.

Second Session

The second session questionnaire, identical to the first, was introduced with the statement:

This is another part of the study in which you participated last month. You may notice that some of the issues are similar to those involved in the statements of your previous questionnaire but read each statement carefully, so that you will not miss possible differences.

The comments of the subjects indicated that they noticed first session--second session item similarities, but there was no indication that they realized the questionnaires were identical or that they consciously tried to recall or match their responses to the first session questionnaire. The fact that there was nothing to suggest, in the first session, that similar issues would be involved in a second session probably was important, in that there was no real reason for the subjects to try to remember previous responses.

The second phase of the second session began with distributing identical, but unmarked, questionnaires and the following statements:

You will remember that, during the first session, you were asked to indicate your opinion about the group that you consider to be the most knowledgeable and experienced in regard to the issues involved in each statement. Again today, you are being asked to evaluate expertise on each issue, in terms of training, experience, exposure, and knowledge and to indicate in the left margin, beside each statement, whether you consider an administrator, a high school teacher, or neither to be more credible in regard to the specific issue involved.

At the conclusion of the second session, the teachers were informed that the first and second session questionnaires had been identical and that the Woodrow Wilson High School study had been a pilot study to determine the reliability of an attitude scale to be used in an experiment in another school system.

Results

The results of the pilot study supported the validity of the source credibility issues. From the 15 items labeled by the teachers according to source credibility, 9 were selected which most highly correlated with perceived expertise and experience of the indicated source. Since 93 subjects completed the first session questionnaire and only 90 completed the second session questionnaire, three of the first session questionnaires were thrown out randomly, and a first session--second session mean was computed for each issue category.

This procedure resulted in the contingency table presented as Table 1. The three items in each credibility category shown to be most valid were included in the experimenter's attitude scale which is shown in Appendix B.

The reliability of the attitude scale was also supported by the results of the pilot study. The first session--second session attitude scores on the nine selected items were treated with a Pearson Product Moment correlation. The coefficient of reliability was .9648 with 88 df ($p < .01$).

Description of the Research Site and the Experimental Population

The experiments were conducted from March to May, 1972, during faculty meetings of the six senior high schools of the public schools of Virginia Beach, Virginia. Virginia Beach is a sprawling city of 310 square miles in the Tidewater section of Virginia. The median annual family income of the city is approximately \$10,100., the highest in the metropolitan area.¹

The total student population of the public schools numbers 46,808, including 17,383 students in grades 9 to 12. Testing included the entire high school teaching faculties, with the exception of eighth-grade teachers assigned to four of the high schools.

Description of the Measures

The measures used in the study included the attitude scale derived from the pilot study, Form E of Rokeach's Dogmatism Scale (1960), and the Self-Esteem Scale of deCharms and Rosenbaum (1960). The nine items of the attitude scale were inserted into the Dogmatism

TABLE 1
 Frequency of Credibility Classification
 of the Selected Pilot Study
 Questionnaire Statements

Classification	Credibility Issues								
	Family Income	Capital Punishment	Draft Ancestry	Ability Grouping	Ethnic Groups	Team Teaching	Voucher Systems	Boards of Education	Maintenance Contracts
Neutral	<u>83</u> ^a	<u>83</u>	<u>87</u>	7	18	2	38	21	11
Teachers	4	2	1	<u>74</u>	<u>53</u>	<u>79</u>	2	5	1
Administrators	3	5	2	9	19	9	<u>50</u>	<u>64</u>	<u>78</u>

^aAll of the underlined frequencies evidence the validity of the classification of the source credibility issues included in the experimenter's attitude scale.

Scale and into the Self-Esteem Scale in the same order in which they had been included in the original pilot study questionnaire. Thus were built two pretest questionnaires, hereafter referred to as the dogmatism-attitude pretest and the self-esteem--attitude pretest. The pretests are presented in Appendix C.

Dogmatism scale. Degree of dogmatism was measured by the items comprising Form E (fifth revision) of the Dogmatism Scale and described by Rokeach (1960) as the best 40 items taken from Form D (fourth revision). Combination of the experimenter's attitude scale with the Dogmatism Scale was functionally appropriate, because each is scored by a -3 to +3 range of degree of disagreement-agreement on each item. For all statements on the scale, agreement was scored as closed, and disagreement was scored as open. The total score of the subject on the Dogmatism Scale was the sum of scores obtained on the 40 items.

Research findings have generally supported the validity of Rokeach's concept of dogmatism as a generalized theory of authoritarianism, independent of ideological content (Hanson, 1968; Kerlinger & Rokeach, 1966; Plant, 1960; Zagona & Zurcher, 1965b). Shown to measure patterns of attitude commitment (Barker, 1963; DiRenzo, 1967b), rather than particular political or social attitudes, the Dogmatism Scale was considered appropriate for a study of educator's attitudes on educational issues. Factor analysis on the items of the Dogmatism Scale (Kerlinger & Rokeach, 1966; Vacchiano, Schiffman, & Strauss, 1967) have noted that factors tend to group

around Rokeach's conceptualizations. Studies of response set (Becker & Delio, 1967; Wolfer, 1967) have found no evidence that responses are significantly affected by social desirability sets, although several investigators have raised the question of response bias (Katz & Katz, 1967; Peabody, 1961; Roberts, 1962).

Rokeach (1960, pp. 89-90) reports test-retest reliability coefficients ranging from .68 to .93, with a median of .74, for intervals ranging from 1 to 6 months. Other reported test-retest data (Ehrlich, 1961a; Kemp & Kohler, 1965; Lichtenstein, Quinn & Hover, 1961) have been high, ranging from .69 to .92 for 12-day to 15-week intervals. Ehrlich (1961b) reported the stability of the scale over five years to be .55, and he found a corrected split-half reliability of .88.

Extensive reviews of the literature (Rokeach, 1967; Vacchiano, Strauss & Hochman, 1967) have concluded that, even though a response set may be operative, the Dogmatism Scale has been shown to be a generally valid and reliable instrument.

Self-Esteem Scale. The ten items of the Self-Esteem Scale are also scored by a -3 to +3 range of degree of disagreement-agreement with each item; therefore, combination with the experimenter's attitude scale was, again, functionally suitable. The Self-Esteem Scale is a questionnaire method, composed of a series of statements that report behavior indicative of adequacy or inadequacy in social situations; hence, it taps level of self-esteem as it has been defined in this study. The total self-esteem score for each

individual was the sum of his responses to the 10 items of the scale.

deCharms and Rosenbaum developed the instrument to meet assumptions drawn from a learning theory concept of self-esteem as developed through reinforcement of responses to social situational stimuli and acting to mediate differing overt responses. They state their assumptions as follows:

Each questionnaire item acts as a stimulus which communicates to the subject a miniature social situation similar enough to the situations actually experienced by him to elicit the mediating anticipatory response. In this situation it must further be assumed that following the mediating response subjects give a verbal response similar to their typical response in social situations [1962, p. 293].

There have been no reported results of the validity or the reliability of deCharms' and Rosenbaum's test of self-esteem.² Using the scores of the study reported here, the experimenter found a split-half reliability coefficient of .3506 with 298 df ($p < .01$).

Administration and Utilization of the

First Session Questionnaire

The first session questionnaire was administered during March and April faculty meetings in each of the six high schools.

Initial Experimental Instructions

When the faculty was assembled, the principal introduced the experimenter as a doctoral candidate, whose research study was being carried out in Virginia Beach high schools with the approval of the

district superintendent and the cooperation of total high school faculties. As in the pilot study, it was emphasized that principals and central office personnel were in no way involved in knowledge of individual or collective responses to the questionnaires, which would be seen only by the experimenter, who knew no faculty member personally. Distribution of the questionnaires was preceded by a request that each be identified by either name, telephone number, or social security number.

One other instruction introduced the questionnaire:

If you are a department chairman, please indicate this at the top of your questionnaire. The reason for my asking you to do this is that your questionnaire will be considered with those of other administrators in the school district when the scoring is done. The school administrators, as a group, are also taking part in the study.

One purpose of this instruction was to include department chairmen in the teachers' concept of "administrators of Virginia Beach schools" when the treatment involving administrators was administered in the second session questionnaire. A second purpose was to make the administrator treatment a credible experimental situation. The dogmatism-attitude pretest and the self-esteem--attitude pretest were each distributed to half of the members of each faculty.

Selection of the Final

Experimental Group

The dogmatism-attitude pretest was completed, without error

or omission, by 214 teachers. Of these, 14% were labeled High Dogmatism (Hi D), and 14% were labeled Low Dogmatism (Lo D); i.e., Hi D by definition was the upper 14% of the dogmatism scores, and Lo D by definition was the lower 14% of the dogmatism scores.

From the 232 teachers who completed the self-esteem--attitude pretest, 13% were labeled High Self-Esteem (Hi S-E), and 13% were labeled Low Self-Esteem (Lo S-E); i.e., Hi S-E by definition was the upper 13% of the self-esteem scores, and Lo S-E by definition was the lower 13% of the self-esteem scores. This procedure yielded 30 Hi D subjects, 30 Lo D subjects, 30 Hi S-E subjects, and 30 Lo S-E subjects. In this manner, 60 subjects were selected to determine the relationships involving dogmatism, and 60 subjects were selected to determine the relationships involving self-esteem.

Administration of the Second

Session Questionnaire

Four weeks after the first session, 12 alternate forms of the second session questionnaire were administered to the 60 dogmatism subjects and to the 60 self-esteem subjects. In each case, the 60 subjects were assigned randomly to experimental treatments I and II.

Treatment I (30 D Subjects, 30 S-E Subjects)

Opinions on each of the three issue categories were described as being expressed by peers. For each of the issue categories, half of the questionnaires stated that opinions of the teachers of

Virginia Beach high schools were very favorable, and half of the questionnaires stated that opinions of the teachers of Virginia Beach high schools were very unfavorable. There followed a statement that there was no consensus of the teachers on the remaining six issues.

Treatment II (30 D Subjects, 30 S-E Subjects)

Opinions on each of the issue categories were described as being expressed by administrators. For each of the issue categories, half of the questionnaires stated that opinions of administrators of Virginia Beach high schools were very favorable, and half of the questionnaires stated that opinions of the administrators of Virginia Beach high schools were very unfavorable. There followed a statement that there was no consensus of the administrators on the remaining six issues.

The 9-item attitude scale followed the treatment introduction to which subjects had been assigned and is shown in Appendix B. A diagram of the 12 alternate forms of the second session questionnaire is presented in Table 2.

Distribution of the second session questionnaire was preceded by the experimenter's comments:

Your cooperation during our first meeting was sincerely appreciated. Only a few of you will be asked to complete today's questionnaire. These teachers were randomly selected from all of you who took part in the first session.

Those of you who receive a questionnaire today will notice,

TABLE 2
The Twelve Alternate Forms of the
Second Session Questionnaire

Source Credibility	Peer Source			Administrator Source		
	Neu- tral	Peer	Admin- istra- tor	Neu- tral	Peer	Admin- istra- tor
Favorable Opinion	1	2	3	4	5	6
Unfavorable Opinion	7	8	9	10	11	12

in the introduction, that there was much variation, and some consensus, in the opinions expressed during the first session; that is the nature of attitudes expressed by a large group. If your questionnaire includes a reference to administrators, consider the group of administrators as including department chairmen, subject matter supervisors, principals, and central office administrators. The attitudes of that group were assessed with the same scale that was administered to you.

Please don't consult anyone else while marking your paper, as we are only concerned with your own personal opinion on each item. You identified your first questionnaire by name, telephone number, or social security number. These identifications have been written on the top margin of the questionnaires to be distributed today, and when I announce them you will know if you have been selected to participate in this part of the study.

The second session was concluded with a careful explanation of the purpose of the investigation and the necessary misinterpretation of peer and administrator attitudes.

Description of the Statistical Procedures

Two experiments were performed. The first involved the assigned variable of dogmatism, and the second involved the assigned variable of self-esteem.

Each subject's persuasibility score was determined by his opinion change in the direction of the position advocated by the

source to which he had been exposed in the treatment assigned to him. This involved determining his net opinion change score on the three attitude items described as being highly favored or highly disfavored by his treatment source. Since attitude scores on three items could only vary from 3 to 21, net change scores could range from -18 to +18. A constant of 18 was added to each net change score in order to establish a zero change point and to avoid dealing with negative numbers.

The data were treated with a factorial analysis of variance and with a t test for significance difference between means of two samples. Since the direction of results was specified in the hypotheses, one-tailed tests of significance were performed. The research designs are presented in Table 3 and Table 4.

Analysis of the Data:

Analysis of Variance

Hypothesis I and Hypothesis II were tested by determining how the dependent variable of persuasibility varied with the interaction between the personality variable and treatment. Hypothesis III and Hypothesis IV were tested by determining how persuasibility varied with the interactions between the three independent variables.

Analysis of the Data: t test

Hypothesis I was tested by determining if there was a significance difference between the mean persuasibility scores of the high dogmatism sample under peer source treatment and under administrator source treatment. Hypothesis II was tested by

TABLE 3

Research Design: Experiment I

Source Credibility	Peer Source			Administrator Source		
	Neu- tral	Peer	Admin- istrator	Neu- tral	Peer	Admin- istrator
High Dogmatism						
			Persuasibility as measured by opinion change			
Low Dogmatism						

TABLE 4

Research Design: Experiment II

Source Credibility	Peer Source			Administrator Source		
	Neu- tral	Peer	Admin- istrator	Neu- tral	Peer	Admin- istrator
High Self-Esteem						
			Persuasibility as measured by opinion change			
Low Self-Esteem						

determining if there was a significant difference between the mean persuasibility scores of the low self-esteem sample under administrator source treatment and under peer source treatment.

Hypothesis III was tested by determining if there was a significance difference between the mean persuasibility scores of the low dogmatism sample under treatment from a low credible source and treatment from a high credible source. Hypothesis IV was tested by determining if there was a significance difference between the mean persuasibility scores of the high self-esteem sample under treatment from a low credible source and treatment from a high credible source.

Chapter 4

Results

Each experiment was based upon a similar set of two hypotheses. The data relevant to the testing of the hypotheses concerning the reference group selection of high dogmatism subjects (HDs) and of low dogmatism subjects (LDs) will be presented first. Findings concerning the reference group selection of low self-esteem subjects (L S-Es) and of high self-esteem subjects (H S-Es) will then be examined. The data relevant to the interaction of source credibility and treatment will be presented in the third section. Finally, the reported results will be summarized.

Experiment I: Level of Dogmatism and

Reference Group Selection

Experiment I tested Hypothesis I and Hypothesis III. These hypotheses predicted the reference group selection of the high and the low dogmatism samples.

High Dogmatism (HD) and Reference Group Selection

Hypothesis I states that HDs will show a statistically significant opinion change in the direction of the position advocated by administrators. A significant dogmatism--treatment interaction would provide evidence of persuasive influence of administrator treatment on HDs.

As shown in Table 5, the opinions of HDs changed significantly in the direction of administrator treatment, and the opinions of LDs showed an almost identical change under the peer

Table 5
Mean Persuasibility Scores as Related to
Dogmatism (D) and Treatment (T)

	Peer T	Adminis- trator T	Mean
Hi D	18.8	21.5	20.2
Lo D	19.5	19.3	19.4
Mean	19.2	20.4	
			M_t 19.8

treatment condition as under the administrator treatment condition. The treatment effect resulted in an F ratio of 4.05 with 1 df ($p < .05$), indicating that administrator treatment brought about significantly greater opinion change than did peer treatment on the total dogmatism sample ($N=60$).

The interaction between dogmatism and treatment, as illustrated in Figure 3, resulted in an F ratio of 4.95 with 1 df ($p < .05$). Figure 3 also demonstrates the magnitude of the opinion change of LDs in the direction of administrator treatment. It was apparently this latter result that was largely responsible for the significant treatment effect.

The t-test data in Table 6 also support Hypothesis I. The difference between the mean of the HD sample under the condition of peer treatment ($N=15$) and the mean of the HD sample under the condition of administrator treatment ($N=15$) resulted in a t value of 3.0927 with 28 df ($p < .01$).

Low Dogmatism (LD) and

Reference Group Selection

Hypothesis III states that LDs will show a statistically significant opinion change in the direction of the position advocated by the group considered to be more credible in regard to the issue involved in the communication. Successful influence on LDs by the treatment group perceived to be more credible would be indicated by a significant interaction between dogmatism, credibility, and treatment.

The Dogmatism X Credibility X Treatment interaction was not

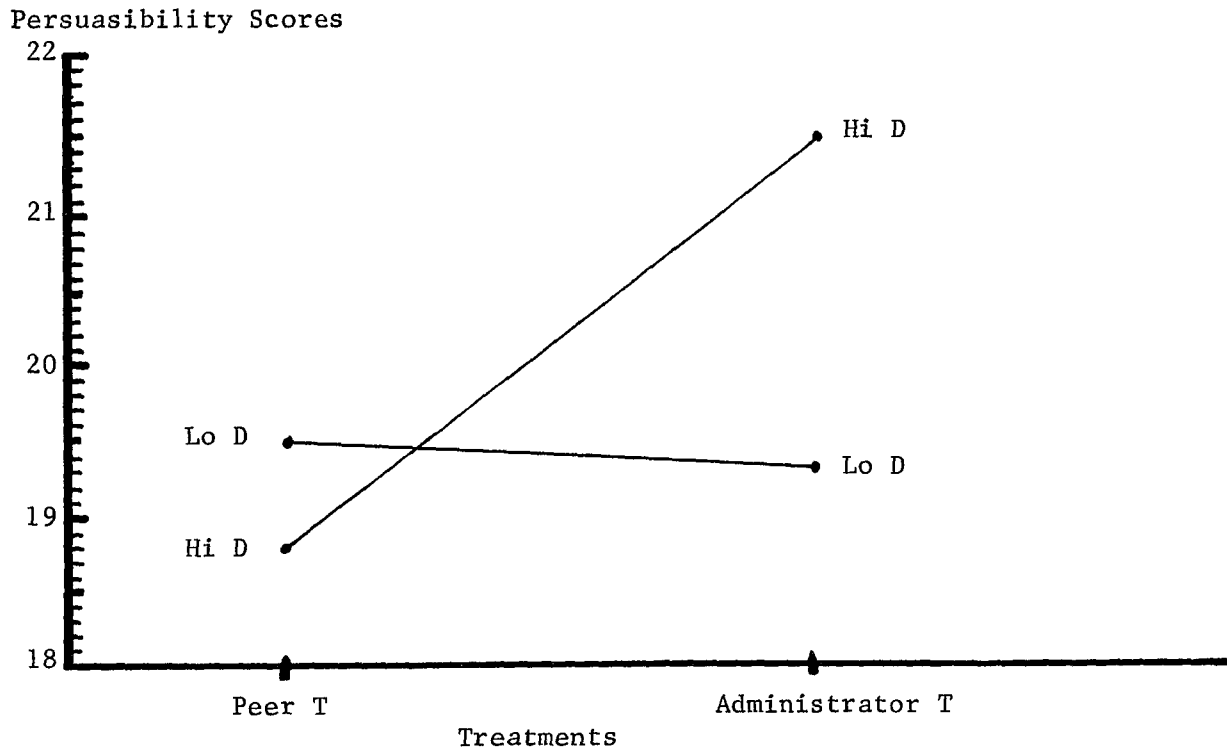


Fig. 3. Dogmatism (D) X Treatment (T)

TABLE 6
 Persuasibility Scores of High Dogmatism
 Subjects (HDs) under Peer Treatment
 and Administrator Treatment

Peer Treatment			Administrator Treatment		
20.0	17.0	20.0	26.0	23.0	19.0
17.0	18.0	19.0	20.0	20.0	17.0
16.0	22.0	21.0	24.0	17.0	24.0
17.0	19.0	18.0	22.0	24.0	25.0
20.0	19.0	19.0	21.0	22.0	18.0
	M_t	18.8		M_t	21.4

significant. However, credibility and treatment do interact significantly ($F=3.57$ with 2 df, $p < .05$), and a look at these data and the data of the Dogmatism X Credibility interaction helps to clarify the relationship of the three independent variables. Table 7 shows the relationship between credibility and treatment as it is reflected in mean persuasibility scores, and Figure 4 illustrates the Credibility X Treatment interaction. It appears that the total dogmatism sample ($N=60$) was persuaded to opinion change in the direction advocated by the source perceived to be credible, but there was more positive opinion change in this total sample when treated by administrators on administrator credibility issues than when treated by peers on peer credibility issues. There is also evidence that the total dogmatism sample changed opinions in the direction advocated by administrators on the neutral credibility issues, with the result that there was no interaction under the conditions of neutral credibility and administrator credibility. These results indicate that even when administrators sought to persuade on neutral credibility issues, they were more successful than peers.

The data in Table 8 and Figure 5 illustrate the Dogmatism X Credibility interaction which, even though it is nonsignificant, provides some explanation of the effect of the relationship between dogmatism level and credibility level on opinion change. The data demonstrate that both LDs and HDs were persuaded to greater opinion change on those issues on which administrators were perceived to be credible than on those issues on which peers were perceived to be

TABLE 7
 Mean Persuasibility Scores of the Total
 Dogmatism Sample as Related to
 Credibility (C) and
 Treatment (T)

	Peer T	Adminis- trator T	Mean
Neutral C	18.3	19.8	19.1
Peer C	20.0	19.1	19.6
Administrator C	19.0	22.3	20.7
Mean	19.1	20.4	
			M_t 19.8

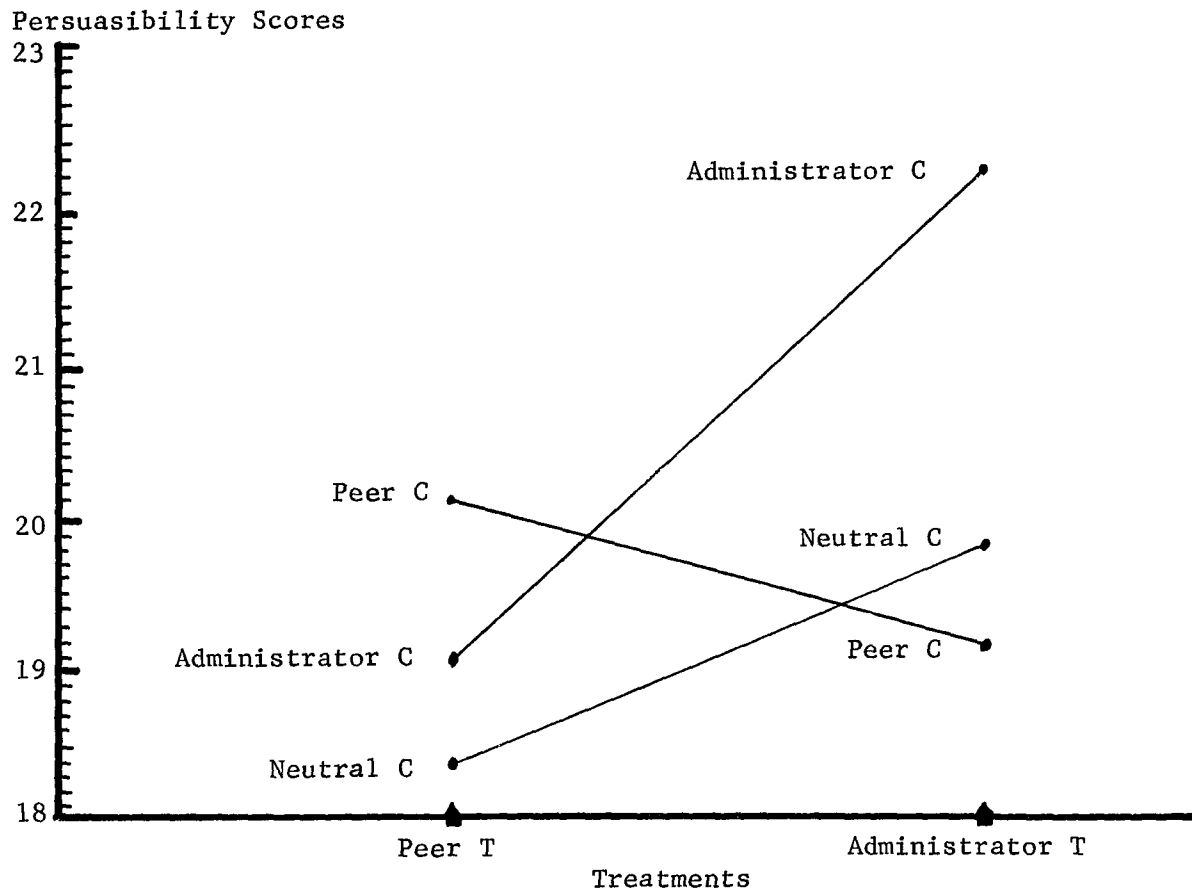


Fig. 4. Credibility (C) X Treatment (T). (Total Dogmatism Sample.)

TABLE 8
 Mean Persuasibility Scores as Related to
 Dogmatism (D) and Credibility (C)

	Neutral C	Peer C	Adminis- trator C	Mean
Hi D	20.0	19.9	20.5	20.1
Lo D	18.1	19.2	20.9	19.4
Mean	19.1	19.6	20.7	
				M_t 19.8

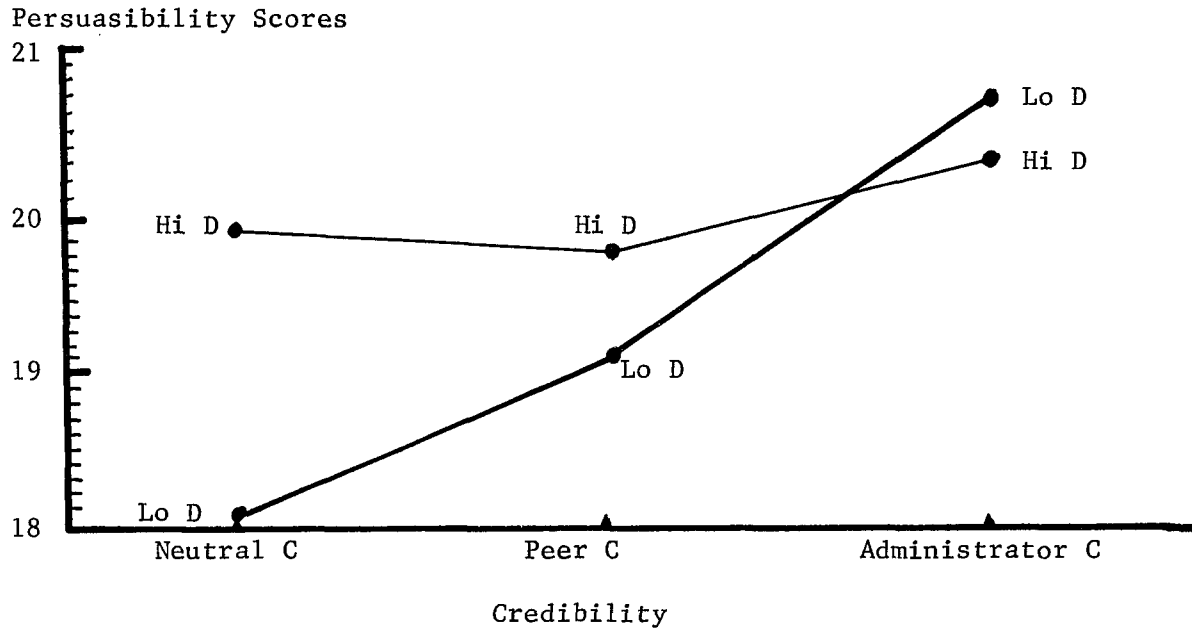


Fig. 5. Dogmatism (D) X Credibility (C)

credible. LDs showed no opinion change in the neutral credibility condition, were persuaded to opinion change on the peer credibility issues, and showed increased change on the administrator credibility issues. HDs were persuasible under all three credibility conditions, but there was no greater change on peer credibility issues than on neutral credibility issues.

Table 9 presents the data of the relationship between dogmatism, credibility, and treatment. Although LDs were persuaded to change by administrators on administrator credibility issues and by peers on peer credibility issues, HDs were influenced to a greater extent by administrators than by peers on all three credibility issues. It appears that the HDs susceptibility to influence by administrators augmented their more generalized persuasibility, evident here as it was in Figure 5.

Figure 6 illustrates the nonsignificant Dogmatism X Credibility X Treatment interaction, and the failure of that interaction to support Hypothesis III can now be better understood. HDs were persuaded to opinion change by the administrator treatment whether the administrators were credible or not. LDs did not change their opinions under either treatment when the issues were of neutral credibility. LDs changed their opinions in the direction of the credibility of the treatment source and showed their greatest change when administrators attempted to persuade on those issues on which they were perceived to be credible.

The data in Figure 6 support the McGuire (1968) model of the

TABLE 9
 Mean Persuasibility Scores as Related to
 Dogmatism (D), Credibility (C), and
 Treatment (T)

	Peer T			Administrator T			Mean
	Neu- tral C	Peer C	Adminis- trator C	Neu- tral C	Peer C	Adminis- trator C	
Hi D	18.4	19.0	19.0	21.6	20.8	22.0	20.1
Lo D	18.2	21.0	19.2	18.0	17.4	22.6	19.4
Mean	18.3	20.0	19.1	19.8	19.1	22.3	
							M_t 19.8

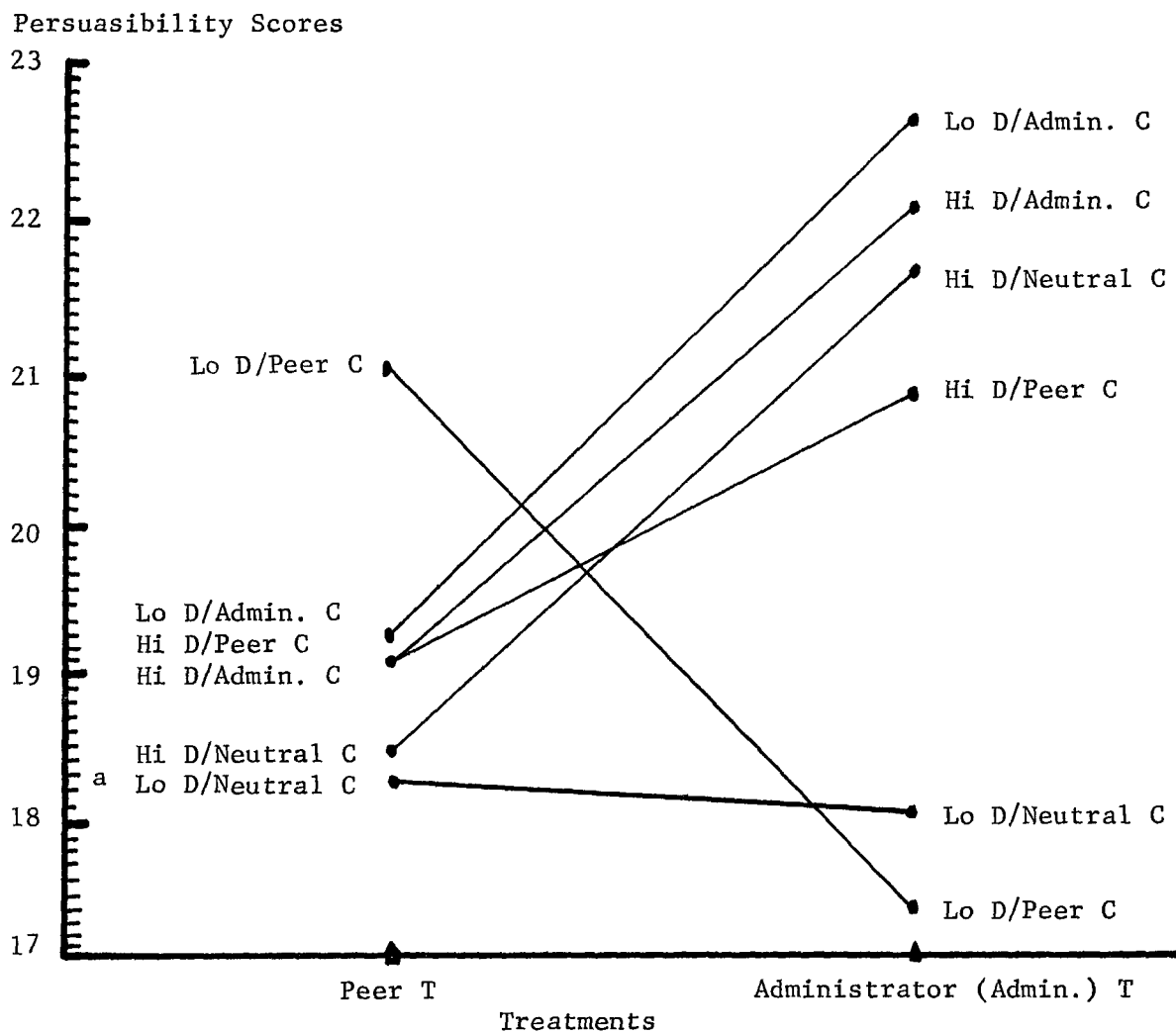


Fig. 6. Dogmatism (D) X Credibility (C) X Treatment (T)

relationship of a personality variable to persuasibility in a nonmonotonic case, such as dogmatism. HDs showed greater opinion change with neutral credibility under both treatments than did LDs, and they were more generally persuasible across treatments. Only when the treatment source was perceived to be credible were LDs more persuasible than HDs.

The t -test data in Table 10 further support Hypothesis III. The difference between the mean of the LD sample under the condition of Administrator Treatment/Peer Credibility (N=5) and the mean of the LD sample under the condition of Peer Treatment/Peer Credibility (N=5) resulted in a t value of 1.9354 with 8 df ($p < .05$). The difference between the mean of the LD sample under the condition of Peer Treatment/Administrator Credibility (N=5) and the mean of the LD sample under the condition of Administrator Treatment/Administrator Credibility (N=5) resulted in a t value of 2.5342 with 8 df ($p < .05$). These data support the prediction that LDs will be more susceptible to persuasion by a source perceived to be credible.

Experiment II: Level of Self-Esteem and Reference Group Selection

Experiment II tested Hypothesis II and Hypothesis IV. These hypotheses predicted the reference group selection of the low and the high self-esteem samples.

Low Self-Esteem (L S-E) and Reference Group Selection

Hypothesis II states that L S-Es will show a statistically significant opinion change in the direction of the position advocated

TABLE 10
 Persuasibility Scores of Low Dogmatism Subjects (LDs)
 as Related to Treatment (T)/Credibility (C)
 Conditions

Peer C		Administrator C	
Adminis- trator T	Peer T	Peer T	Adminis- trator T
21.0	14.0	20.0	25.0
17.0	20.0	18.0	18.0
24.0	14.0	21.0	24.0
20.0	20.0	19.0	23.0
23.0	19.0	18.0	23.0
M_t 21.0	M_t 17.4	M_t 19.2	M_t 22.6

by peers. A significant interaction between self-esteem and treatment would provide evidence of the persuasive influence of peer treatment on L S-Es.

As shown by the data in Table 11, L S-Es were no more persuasible across treatments than H S-Es ($F=0.00$ with 1 df); in fact, L S-Es demonstrated the only negative change, and it was made under administrator treatment. A significant treatment effect was evidenced by an F ratio of 9.32 with 1 df ($p < .01$).

Figure 7 illustrates the magnitude of L S-Es opinion change in the direction of peer treatment. It also presents the significant Self-Esteem X Treatment interaction which resulted in an F ratio of 20.16 with 1 df ($p < .01$).

In addition to the analysis of variance data, the t-test data in Table 12 support Hypothesis II. The difference between the means of the L S-E sample under the condition of administrator treatment ($N=15$) and the mean of the L S-E sample under the condition of peer treatment ($N=15$) resulted in a t value of 5.4222 with 28 df ($p < .01$).

High Self-Esteem (H S-E) and

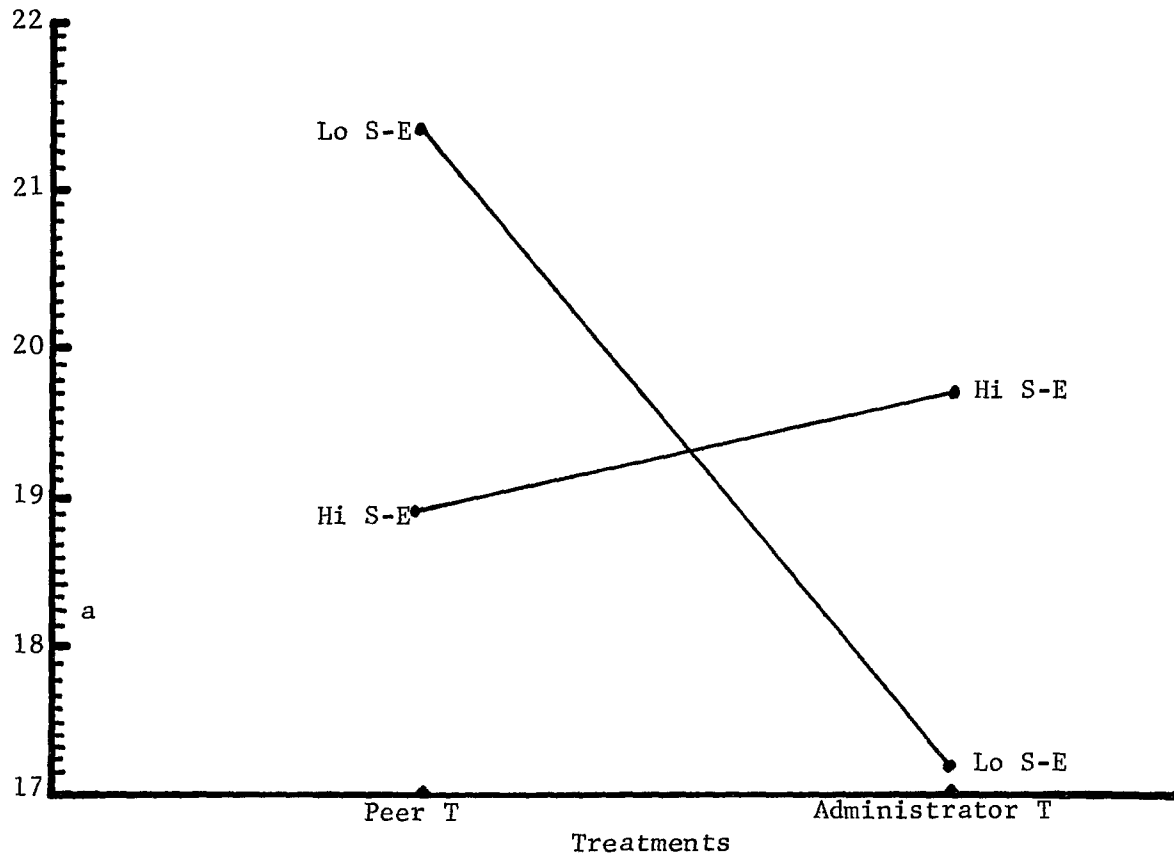
Reference Group Selection

Hypothesis IV states that H S-Es will show a statistically significant opinion change in the direction of the position advocated by the group considered to be more credible in regard to the issue involved in the communication. Successful influence on H S-Es by the treatment group perceived to be more credible would be indicated

TABLE 11
 Mean Persuasibility Scores as Related to
 Self-Esteem (S-E) and Treatment (T)

	Peer T	Adminis- trator T	Mean
Hi S-E	18.9	19.7	19.3
Lo S-E	21.4	17.2	19.3
Mean	20.2	18.5	
			M_t 19.3

Persuasibility Scores



^aZero change point below which opinion change is in the direction opposite to the position advocated by the treatment group.

Fig. 7. Self-Esteem (S-E) X Treatment (T)

TABLE 12
 Persuasibility Scores of Low Self-Esteem
 Subjects (L S-Es) under Administrator
 Treatment and Peer Treatment

Administrator Treatment			Peer Treatment		
16.0	19.0	20.0	16.0	19.0	18.0
17.0	15.0	18.0	20.0	18.0	20.0
23.0	22.0	24.0	20.0	17.0	18.0
20.0	20.0	18.0	15.0	24.0	23.0
17.0	20.0	15.0	19.0	24.0	25.0
	M_t	18.9		M_t	19.7

by a significant interaction between self-esteem, credibility, and treatment.

A significant Self-Esteem X Credibility X Treatment interaction resulted in an F ratio of 5.20 with 2 df ($p < .01$). These data are presented in Table 13.

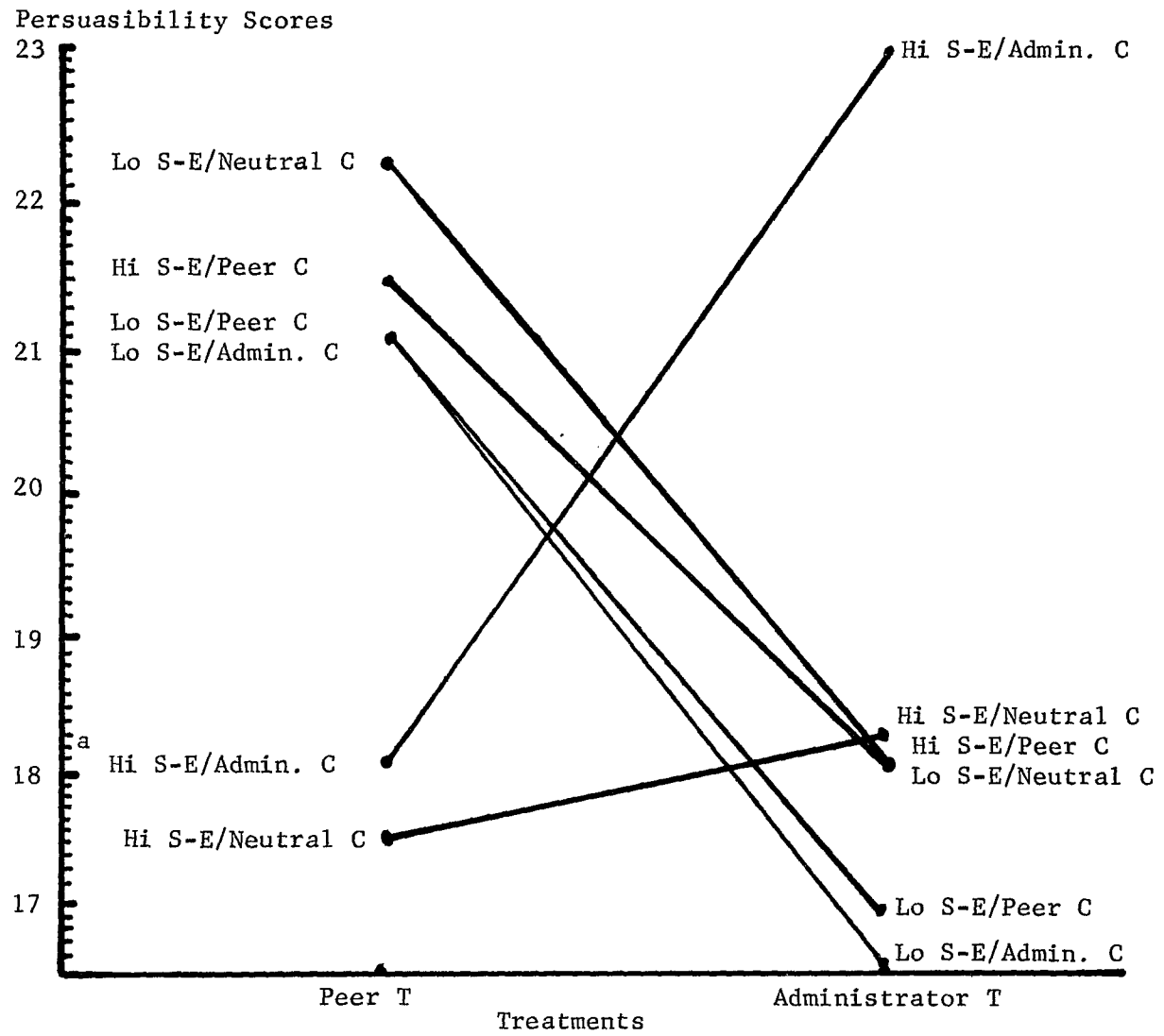
Figure 8 illustrates the Self-Esteem X Credibility X Treatment interaction. It demonstrates the opinion change of H S-Es in the direction of the position advocated by the group perceived to be more credible, as well as the absence of opinion change of H S-Es in the direction of either treatment group under the condition of neutral credibility.

The data in Figure 8 also support the McGuire (1968) model of the relationship of a personality variable to persuasibility in a nonmonotonic case such as self-esteem. L S-Es showed a generalized persuasibility, at least under peer treatment. H S-Es showed no opinion change except when the treatment group was perceived to be credible. It appears that source credibility will raise the elevation of the yielding gradient, as McGuire predicted. This is interpreted as substantiation of Hypothesis IV.

Table 14 shows the mean persuasibility scores as related to credibility or treatment. A significant Credibility X Treatment interaction resulted in an F ratio of 4.30 with 2 df ($p < .05$). Figure 9 illustrates this interaction and the opinion change of L S-Es in the direction advocated by peers, even under the conditions of neutral or administrator credibility. Thus its data give additional

TABLE 13
 Mean Persuasibility Scores as Related to
 Self-Esteem (S-E), Credibility (C),
 and Treatment (T)

		Peer T		Administrator T			Mean
	Neu- tral C	Peer C	Adminis- trator C	Neu- tral C	Peer C	Adminis- trator C	
Hi S-E	17.4	21.4	18.0	18.2	18.0	23.0	19.3
Lo S-E	22.2	21.0	21.0	18.0	17.0	16.6	19.3
Mean	19.8	21.2	19.5	18.1	17.5	19.8	
							M_t 19.3

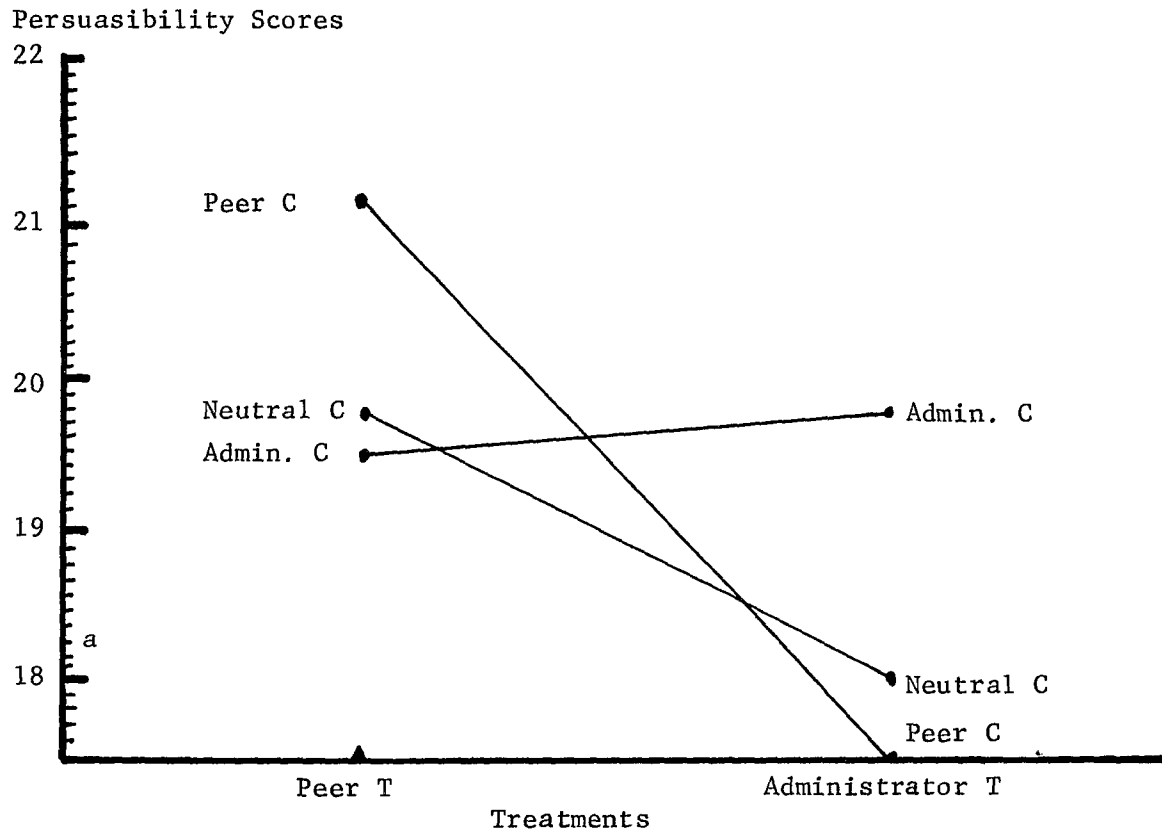


^aZero change point below which change is in the direction opposite to the position advocated by the treatment group.

Fig. 8. Self-Esteem (S-E) X Credibility (C) X Treatment (T)

TABLE 14
 Mean Persuasibility Scores of the Total
 Self-Esteem Sample as Related to
 Credibility (C) and
 Treatment (T)

	Peer T	Adminis- trator T	Mean
Neutral C	19.8	18.1	19.0
Peer C	21.2	17.5	19.3
Administrator C	19.5	19.8	19.7
Mean	20.2	18.7	
			M_t 19.3



^aZero change point below which opinion change is in the direction opposite to the position advocated by the treatment group.

Fig. 9. Credibility (C) X Treatment (T). (Total Self-Esteem Sample.)

support to Hypothesis II.

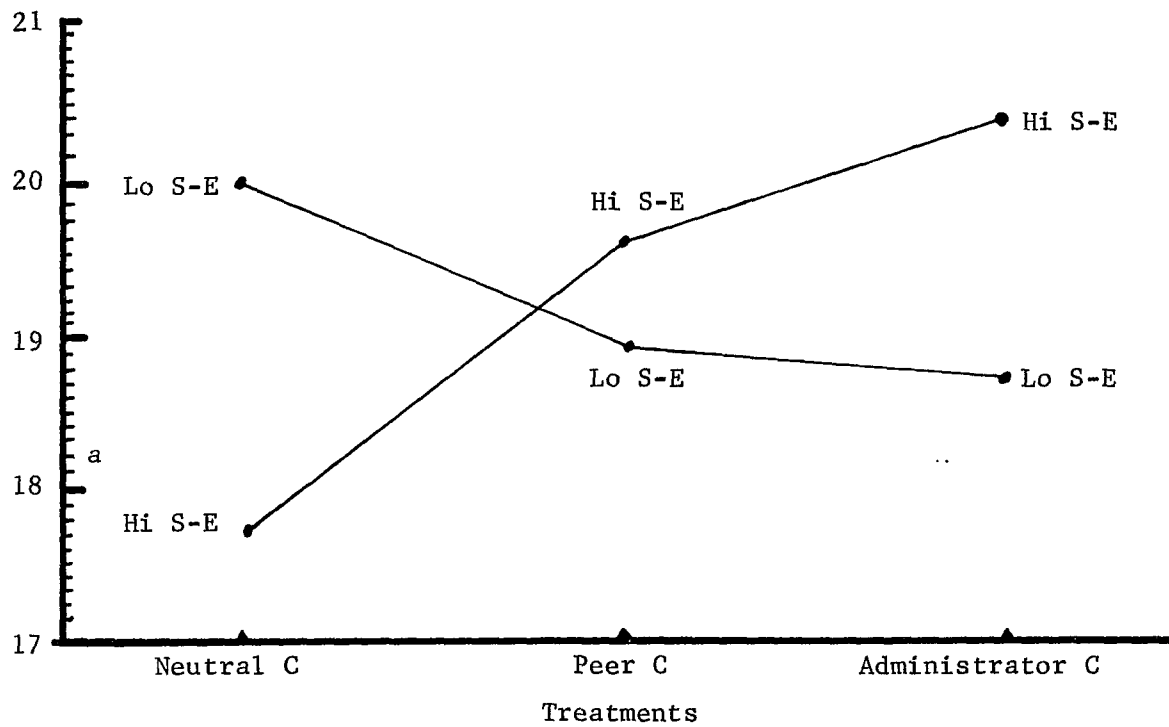
A significant Self-Esteem X Credibility interaction resulted in a F ratio of 4.66 with 2 df ($p < .05$). The data presented in Table 15 show the relationship of the mean persuasibility scores of H S-Es and L S-Es to the interaction between self-esteem and credibility.

Figure 10 illustrates the Self-Esteem X Credibility interaction. It indicates that H S-Es were not persuasible on neutral credibility issues, were influenced to change their opinions on peer credibility issues, and showed greater change on administrator credibility issues. L S-Es were persuasible on all three credibility issues, but showed the greatest change on neutral credibility issues.

The t-test data presented in Table 16 further support Hypothesis IV. The difference between the mean of the H S-E sample under the condition of administrator treatment/peer credibility ($N=5$) and the mean of the H S-E sample under the condition of peer treatment/peer credibility ($N=5$) resulted in a t value of 2.3689 with 8 df ($p < .05$). The difference between the mean of the H S-E sample under the condition of peer treatment/administrator credibility ($N=5$) and the mean of the H S-E sample under the condition of administrator treatment/administrator credibility ($N=5$) resulted in a t value of 3.5355 with 8 df ($p < .01$). The t-test data indicate the responsiveness of H S-Es to the persuasive influence of the more credible group, and especially to the administrator group when it was

TABLE 15
 Mean Persuasibility Scores as Related to
 Self-Esteem (S-E) and Credibility (C)

	Neu- tral C	Peer C	Adminis- trator C	Mean
Hi S-E	17.8	19.7	20.5	19.3
Lo S-E	20.1	19.0	18.8	19.3
Mean	18.9	19.3	19.7	
				M_t 19.3



^aZero change point below which opinion change is in the direction opposite to the position advocated by the treatment group.

Fig. 10. Self-Esteem (S-E) X Credibility (C)

TABLE 16
 Persuasibility Scores of High Self-Esteem
 Subjects (H S-Es) as Related to
 Treatment (T)/Credibility (C)
 Conditions

Peer C		Administrator C	
Adminis- trator T	Peer T	Peer T	Adminis- trator T
20.0	18.0	20.0	24.0
20.0	23.0	18.0	23.0
17.0	22.0	17.0	19.0
18.0	24.0	20.0	24.0
15.0	20.0	15.0	25.0
M_t 18.0	M_t 21.4	M_t 18.0	M_t 23.0

perceived to be credible.

Source Credibility and Reference

Group Selection

Both Experiment I and Experiment II indicated the influence of a credible communication source in bringing about opinion change in the direction of that source. As reported in Experiment I (Dogmatism and Reference Group Selection) a significant Credibility X Treatment interaction ($F=3.57$ with 2 df, $p < .05$) indicated that the total dogmatism sample ($N=60$) was persuaded to opinion change by the source perceived to be credible. In Experiment II (Self-Esteem and Reference Group Selection) the Credibility X Treatment interaction resulted in an F ratio of 4.30 with 2 df ($p < .05$), showing the persuasive influence of source credibility on the total self-esteem sample ($N=60$).

This finding in the case of both personality variables is consistent with previous research which has indicated a positive relationship between source credibility and persuasibility. In the study reported here, a source perceived to be credible by the recipient of a communication was persuasive with both high and low levels of two personality variables.

Summary

The findings in Experiment I (Dogmatism and Reference Group Selection) are summarized as follows:

1. There was a significant interaction between dogmatism and treatment. This result was regarded as giving support to the

hypothesis that a highly dogmatic teacher will be susceptible to persuasion by school administrators (Hypothesis I).

2. There was a significant difference between the opinion change means of high dogmatism subjects under the conditions of the two treatments. This finding was interpreted as evidence that a persuasive message from a group of school administrators has a greater positive effect on the opinion change of highly dogmatic teachers than a persuasive message from a group of peers. The significant difference in sample means was in the direction predicted in Hypothesis I and was interpreted as giving support to the hypothesis.

3. The Dogmatism X Credibility X Treatment interaction was nonsignificant and could not be interpreted as supporting Hypothesis III. However, the data of the several relationships between these three independent variables and mean persuasibility scores were considered to indicate that teachers low in dogmatism were persuaded to yield by the source considered to be credible on the issue involved in the communication. The findings were interpreted as evidence that dogmatism is directly related to yielding and that source credibility variations will affect the attitude change of low dogmatism subjects in the direction of the source considered to be credible (Hypothesis III).

4. There were significant differences between the means of low dogmatism subjects under the two treatments when each treatment was combined or not combined with credibility of the treatment source.

These differences between sample means were in the directions predicted in Hypothesis III and were considered to provide additional evidence that teachers low in dogmatism are more susceptible to persuasion by a source perceived to be credible than by a source which is not perceived to be credible on the issues involved in the communication.

5. There was a significant treatment effect. This result was considered to indicate greater persuasive influence by school administrators than by peers on teachers both high and low in dogmatism.

6. There was a significant interaction between credibility and treatment. The data of this interaction were interpreted as indicating that teachers both high and low in dogmatism were persuaded to change their opinions by a source perceived to be credible. The data also were considered to provide evidence that teachers are more susceptible to influence on issues on which administrators are credible than on issues on which peers are credible.

The findings in Experiment II (Self-esteem and Reference Group Selection) are summarized as follows:

1. There was a significant interaction between self-esteem and treatment. This finding was regarded as giving support to the hypothesis that teachers low in self-esteem will be susceptible to persuasion by a group of peers (Hypothesis II).

2. There was a significant difference between the attitude

change means of low self-esteem subjects under the conditions of the two treatments. This result was considered to indicate that a persuasive communication from a group of peers had a greater positive effect on the opinion change of teachers low in self-esteem than a persuasive communication from a group of school administrators. The difference between sample means was in the direction predicted in Hypothesis II and was interpreted as giving support to the hypothesis.

3. There was a significant interaction between self-esteem, credibility, and treatment. This result was regarded as supporting the hypothesis that teachers high in self-esteem will be susceptible to persuasion in the direction of the position advocated by the group perceived to be credible in regard to the issue involved in the communication (Hypothesis IV). The data of the interaction was interpreted as evidence that self-esteem is indirectly related to yielding and that source credibility variations will bring about attitude change of high self-esteem subjects in the direction of the source considered to be credible.

4. The data of the relationships between self-esteem, credibility, and treatment indicated opinion change of low self-esteem subjects toward the position advocated by peers even under the conditions of neutral credibility and of administrator credibility. This finding was considered to provide additional support for Hypothesis II.

5. There were significant differences between the means

of high self-esteem subjects under the two treatments when each treatment was combined or not combined with credibility of the treatment source. These differences between sample means were in the directions predicted in Hypothesis IV and were considered to provide additional evidence that teachers high in self-esteem are more susceptible to persuasion by a source perceived to be credible than by a source which is not perceived to be credible on the issue involved in the communication.

6. There was a significant interaction between self-esteem and credibility. The data were interpreted as providing evidence that teachers high in self-esteem are more susceptible than teachers low in self-esteem to influence on issues involving credibility. Additionally, the data indicated that teachers low in self-esteem showed their greatest persuasibility on issues on which neither peers nor administrators were considered to be credible.

7. There was a significant treatment effect. This result was considered to indicate greater persuasive influence by peers than school administrators on a group of teachers both high and low in self-esteem.

8. There was a significant interaction between credibility and treatment. The data of this result was interpreted as evidence that school administrators successfully influence a group of teachers, high and low in dogmatism, only on issues on which administrators are considered to be credible, while peers are successful in influencing those teachers on issues on which peers

are considered to be both credible or not credible.

A significant interaction was found between credibility and treatment in both experiments. This result was considered to be consistent with previous attitude change research which had indicated a positive relationship between source credibility and opinion change. The data of the study indicate, however, that this is not a simple linear relationship and that teachers are differentially influenced by source credibility according to its joint effects with certain personality characteristics.

Chapter 5

Discussion and Conclusions

The two experiments reported in this thesis were investigations of the relative effectiveness of persuasive communications of an authority group and a peer group in changing attitudes. It was hypothesized that the separate and joint effects of certain personality characteristics and the credibility of the communication source determine a high school teacher's susceptibility to influence by a reference group.

In this chapter the findings of the experiments will be discussed and conclusions will be drawn in regard to the significance of the results for insight into the relationship of personality and environmental variables to the influenceability of teachers. The implications of the study for theory, for research, and for the practice of educational leadership will be presented in the final sections.

Dogmatism, Source Credibility, and Persuasibility

The study demonstrated a direct relationship between dogmatism and persuasion by an authority source. This result contradicts the findings of previous researchers who have reported a simple positive relationship between general authoritarianism and yielding. Highly dogmatic subjects were not significantly more persuasible across treatments than subjects low in dogmatism. The persuasibility of

highly dogmatic teachers is apparently more a function of susceptibility to the influence of authority figures than a generalized persuasibility.

Administrators were generally more effective than peers in persuading the total dogmatism sample to attitude change. The evidence suggests that peers are consistently unsuccessful in persuading highly dogmatic teachers and are successful with teachers low in dogmatism only when perceived as credible on the issues involved.

The findings further demonstrated greater persuasibility of the total dogmatism sample on issues on which they considered administrators to be credible than on issues on which they considered peers to be credible. It appears that teachers are more resistant to attitude change on those issues on which they consider themselves to be expert and knowledgeable.

The efficacy of source credibility in raising the elevation of the yielding gradient is viewed as one of the more important findings of the study, especially since McGuire states (1968) that, although the dogmatism syndrome might be expected to function in the manner hypothesized for authoritarianism, there has been no previous application of the McGuire model to dogmatism. Results of the study reported here indicated that source credibility increased the persuasibility of subjects low in dogmatism, but highly dogmatic subjects were persuaded by administrators even on issues on which peers were considered to be credible. As predicted by McGuire, the interacting effect is such

that dogmatism is positively correlated with influenceability when the message is from positively valenced sources and negatively when from negatively valenced sources. Subjects low in dogmatism were more susceptible than highs to differences in source credibility. It is concluded that attempts at persuasion by a teacher group are not likely to lead to opinion change in highly dogmatic teachers, even when teachers are considered to be expert and experienced in regard to those issues on which they seek to persuade. The credibility of a communication source can be expected to lead increasingly to success in influence attempts as the level of dogmatism decreases.

In this experiment there was neither a direct dogmatism-persuasibility relationship nor a significant interaction between dogmatism and credibility. The only significant effects involved treatment, either in separate effect or in interaction with each of the other independent variables. The findings are evidence that there are complex relationships of treatment with both personality and situational variables which must be considered in any predictions of persuasibility.

Self-Esteem, Source Credibility,
and Persuasibility

The findings of Experiment II indicated an inverse relationship between self-esteem and persuasion by a peer group. This result is contrary to research reports of a simple inverse relationship between self-esteem and persuasibility. Subjects low in self-esteem were no more persuasible across treatments than subjects high in self-esteem.

The highs yielded more to the persuasion of administrators than of peers, while the lows actually changed their opinions in the direction opposite to that advocated by administrators. According to these data, the persuasibility of a teacher low in self-esteem is a function of his susceptibility to peer group influence rather than a generalized persuasibility.

Peers were more effective than administrators in persuading the total self-esteem sample to attitude change. It appears that administrators are persuasive only when they are considered to be credible, and then only with teachers high in self-esteem.

The experiment showed the total self-esteem sample to be somewhat susceptible to persuasion, despite the nature of the credibility of the source. As in Experiment I, however, the evidence is that teachers are less inclined to change their attitudes on those issues on which they consider themselves to be credible.

The data add additional support to McGuire's hypothesis that source credibility raises the elevation of the yielding gradient, with the result that it intersects the reception gradient at a higher level of self-esteem. Self-esteem was positively correlated with influenceability when the message was from a credible source and negatively when the message was from a source not perceived to be credible. It is concluded that high self-esteem teachers can be expected to be more susceptible to persuasion by a communicator considered to be expert and knowledgeable in regard to the issue on which he seeks to persuade, while low self-esteem teachers are

likely to yield to persuasion by peers on all issues, despite the credibility of the communication source. The magnitude of the susceptibility of teachers low in self-esteem to the persuasive influence of their peers was a salient finding of the study.

Persuasibility and the Interaction of
Personality and Situational
Variables

The results indicated that the independent variables acted separately and in interaction to motivate teachers to yield to the influence of one reference group or another. There was demonstrated a direct relationship between dogmatism and persuasion by administrators, and an indirect relationship between self-esteem and persuasion by peers. There were interactions in which source credibility increased the yielding of low dogmatic and high self-esteem subjects, did not increase the yielding of high dogmatics, and actually decreased the yielding of low self-esteem subjects.

In both experiments the most highly significant interaction is between the personality variable and treatment. Indeed, it appears that it is the very high F ratio of Self-Esteem X Treatment that primarily accounts for the triple interaction of the independent variables in Experiment II. Additionally, the second-order interaction effect is elevated by a significant interaction between self-esteem and credibility which does not occur between dogmatism and credibility. Subjects low in self-esteem were as highly persuasible by peers when credible as when not, while subjects high in

dogmatism were highly persuasible by administrators, but even more highly when administrators were considered credible. It is concluded that the credibility of a communication source cannot be expected to play a part in the susceptibility of low self-esteem teachers to efforts at persuasion.

Summary and Implications

The results of this study have been interpreted as supporting the general hypothesis that levels of dogmatism and self-esteem and the situational variable of source credibility are factors predisposing a high school teacher to utilize either his peer group or the administrative authority group as a reference group when he is persuaded to attitude change. The findings indicated that, within the type of population that was sampled, a teacher's susceptibility to persuasion by either reference group depends on certain personality characteristics and that these personality characteristics interact with the credibility of the communication source in determining persuasibility.

Implications for Theory

The experimental results offer a number of implications for a variety of theoretical considerations as well as for learning theory and for reference group theory as they are applied to attitude change.

Persuasibility as a general trait. There is no support for the assumption of a general trait of persuasibility to each of a

series of discrete topics in different communications, as was proposed by Hovland, Janis, and Kelley (1953). The experiments highlight the necessity for considering personality and situational variables simultaneously in predicting susceptibility to social influence. The findings lend empirical support to McGuire's (1968) statement that "any valid theory of personality-influenceability relations must, therefore, hypothesize relations that are complex and situational interacting, or else be of very narrow generalizability [p. 1172]."

Ego-involvement and attitude change. There is supporting evidence in both experiments for the social judgment-involvement approach to attitude change as described by Sherif and Hovland (1961) and Sherif, Sherif, and Nebergall (1965). This theoretical orientation assumes that a respondent's stand on an issue serves as an internal anchor for judging persuasive communications and that when a respondent is ego-involved in an issue, his own stand produces even stronger anchoring effects. An ego-involving attitude is a social value with which an individual strongly identifies and which he comes to incorporate as part of himself (Sherif & Cantril, 1947). It is strongly rooted in a reference group with a known stand on the issue (Sherif & Hovland, 1961).

With high ego-involvement on an attitude dimension, there is a broader latitude of rejection, or band of positions, which one judges to be unacceptable (Sherif, Sherif, & Nebergall, 1965). The consequence is intrusion of distortion into the judgment process and absence of opinion change, with less opinion change as the

discrepancy between the respondent's stand and the position advocated by the communication increases.

Although not hypothesized, in both experiments reported here there was resistance to attitude change on issues on which the teachers considered themselves to be credible. These issues were team teaching, ability grouping, and the introduction of minor ethnic group materials into the curriculum. It appears that the teachers may have felt a high degree of ego involvement in issues which are tied to their reference groups and which are likely to engage their value systems.

The findings also are consistent with Sherif and Hovland's (1961) description of the functional value of judgment processes in maintaining personal integration by fostering dissociation from negatively valued positions and exaggerating the self-similarity of acceptable positions or persons. When faced with an extreme attitudinal position (i.e., the external agent was described as "very strongly" favorable or unfavorable to the issues) and when highly ego-involved in issues of immediate importance to them, the teachers were not susceptible to short-term attempts to change their attitudes in the direction advocated in the communication. They were more inclined to retrench in their own stand or change their attitudes away from the communication, as Sherif and Sherif (1967) have predicted. The behavior of the teachers in ignoring the reality of the source's credibility on these ego-involved issues suggests that attitudes have an ego-defensive function, as described

by Katz (1960).

Learning theory. The study supported the constructs of dogmatism and self-esteem as conceived within a learning theory framework and measured by instruments that meet assumptions that the construct is developed through response reinforcement and acts to mediate overt responses. Theories of social imitative behavior, offering an explanation of attitude change through learning principles, generated hypotheses that were supported by the results, as were predictions proceeding from McGuire's (1968) multiplicative two-factor model.

Both experiments allowed acceptance of hypotheses that the condition in which a subject received reinforcement will produce the greatest amount of imitation, with the model serving as the main source of an attitude change which mediates the overt behavior of opinion change in the direction of the advocated position. Attitude change, as it was described by Doob (1947), was predicted to be a function of decreased habit strength of the attitude and conflict of the drive strength with competing drives. Within the samples studied, opinions changed in the directions predicted by hypotheses generated by behavioral learning theory.

Reference group theory. The study supports empirically the proposition that an individual's susceptibility to persuasion is related to the values and attitude norms of his reference group. It has provided evidence that attitude change decreases with increased commitment to and involvement in one's stand on an attitude issue. It

has contributed to reference group theory not only by supporting these predictions which have been made by its theorists, but also by showing empirically that reference group selection is a function of a complex interaction of cognitive and affective personal characteristics which play a part in determining both the appeal and the impact of credibility, and hence the influence, of a given source.

Briefly, the investigation has allowed prediction of the reference group that will be employed by certain individuals when they are subjected to persuasive attempts. Hopefully, it has helped to clarify the processes through which men relate themselves to groups and refer their behavior to the values of these groups.

Implications for Educational Leadership

The results of the study have been interpreted as supporting the hypothesis that the effectiveness of an influence attempt by school administrators depends on certain personality characteristics of the teachers to whom it is directed. It has indicated that administrators are more effective in persuasion with closed-minded teachers who believe in the perpetuation of authority and in the wisdom of a bureaucratic elite. It has been further suggested that administrators can expect to exert more influence with both open-minded teachers and teachers high in self-esteem if they will give these teachers reason to perceive them as expert and knowledgeable on the issues on which they seek to persuade. Clearly, the implication is that educational leaders should know whereof they speak and should

present a clear and detailed message in order to increase both yielding and comprehension.

It has also been demonstrated that the peer group was more effective in changing the attitudes of teachers with limited self-confidence and with feelings of inadequacy in responding to social situational stimuli. This suggests that, in seeking to influence teachers to support educational innovations and objects, it would be wise to enlist certain well-accepted teachers as leaders in the influence attempt.

There was no evidence of greater general effectiveness of either administrators or peers when all subjects in both experiments were considered. Administrators were more effective in persuading the total dogmatism sample while the total self-esteem sample yielded more to the influence of peers. Close examination of the data revealed that it was the marked susceptibility of the highly dogmatic subjects to administrator influence and of low self-esteem subjects to peer influence that accounted for these findings. The fact that authority figures were not more influential testifies to the necessity of clarifying the concepts of power and authority in an organizational context. The study suggests that power, as it has been described by Jacobs (1971), is an aspect of interpersonal relationships rather than a personal attribute, and that it implies the capacity to move an individual toward behavior that he would otherwise not perform.

Similarly, the efficacy of source credibility corroborates Peabody's (1964) distinction between formal and functional authority.

Formal authority, as vested in school administrators, is based upon the legitimacy of the control attempt by the position incumbent and on the capacity for sanctions inherent in the formal position. Functional authority is derived from the recognition of professional competence and experience (e.g., source credibility) which may compete with the formal authority, as in these experiments where it serves to increase the yielding of individuals who would otherwise not yield.

The results imply that leadership training should emphasize the importance of adaptive supervision. Administrators should be educated in the knowledge that, when goals are to be attained through people, leaders must adapt their practices and approaches to individuals with different personality characteristics and interpersonal skills. This could be presented as a primary key to personnel motivation and productivity as well as to successful influence with members of the community. Educators of these administrators should also appreciate the effectiveness of different methods of training and altering the attitudes of students with different personalities and values.

A foremost implication of the study reported here is that the behavior of teachers can be moved toward organizational goals if their leaders are wise in the ways of influence. The results indicate that such wisdom is likely to proceed from a dual focus such as Lewin's (1951) when he described behavior as a function of the person and of his environment.

Implications for Further

Research

Only with great care should inferences be made beyond the experimental situation as it has been studied and controlled. No generalizations are made beyond the behavior and learning of the extreme levels of the personality variables, nor to the behavior of other than high school teachers in a similar environmental situation. There should be no attempt to generalize to more deep-seated attitudes than those studied here, for they are the products of extensive reinforcement histories in an individual's natural environment.

It cannot be assumed that a teacher's responses on an attitude scale will necessarily correspond to his performance in a social setting. Complexly interwoven situational factors intimately control attitudinal behavior in a field setting, and the testing situation of this study may not have evoked the identical performance that would occur in direct interpersonal confrontation.

These limitations, however, suggest directions for future research that could have significant consequences for educational leadership. The study has investigated only a limited range of variables, but it has indicated the importance of simultaneous consideration of situational and personality variables in any attempts to influence the attitudes of teachers. Future research should consider other receiver variables and other characteristics of the source, the message, and the channel of influence. These variables could be studied in their relationships with attitudes and

populations and in settings other than those selected here. This kind of research could be expected to broaden the field of personnel administration to include a consideration of the personality characteristics of teachers and of their potential for motivation. It could lead to predictions of the best methods for gaining increased morale and support for educational objectives.

The findings also imply the necessity for a reevaluation of the statistical needs of the behavioral sciences, as suggested by McGuire (1968). It has been shown that relationships between the personality variables are neither direct nor monotonic. By analysis of variance it has been shown only that the independent variables departed from a straight horizontal line in the direction specified. As McGuire noted, there is an apparent need for incorporating trend analysis into inferential statistics and to deal with complex hypotheses that use data to fit a variety of relationships (e.g., inverted U) and to estimate the parameters involved (1968, p. 1179).

Summary

This investigation yielded empirical evidence that truth is rarely simple. It has shown that two personality variables are positively or negatively related to the persuasive impact of a given message, depending on the source to whom the message is attributed. It has also supported a theoretical position that attitude change, requiring both comprehension of a message and yielding to the message, can be accomplished by manipulating these variables. It has implied that an understanding of influence

acceptance behavior requires insight into the complex relationships of situational variables to an individual's cognitive and affective characteristics.

For the practice of personnel administration it has demonstrated the importance of seeking teachers who are keenly aware of evidences of valid assertions, interested in new experiences, confident in their own worth, tolerant, and cognitively open. For school administrators it has suggested that they be tuned to personality differences, knowledgeable in regard to the issues on which they seek acceptance, and clear and justifiably confident in their presentations of those issues. For the educators of administrators it has indicated that training methods must vary according to the individual needs and values of their students. Primarily, it has offered evidence that individual-group relationships play an important part in the influence process of leadership.

An awareness of these implications could contribute to a school administrator's insight into the development of operational procedures which successfully modify the influence acceptance behavior of teachers. It is to be hoped that such power would be used in the service of those educational goals which best serve the needs of all men.

Notes to Chapter 3

¹Department of Economic Development, City of Virginia Beach, Virginia, personal communication, May 18, 1972.

²Richard deCharms, personal communication, May 15, 1972 and May 24, 1972.

Appendix A

The Pilot Study Questionnaire

The following is a study of what public secondary school teachers and administrators think and feel about a number of important social, political, and educational issues. The best answer to each statement is your personal opinion. We have tried to cover issues that would generate many different and opposing points of view. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any of the statements, you can be sure that many people feel the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I AGREE A LITTLE	-1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE	-2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH	-3: I DISAGREE VERY MUCH

_____ Ability grouping is detrimental to the overall development of students and should be discarded.

_____ The general well-being of the United States would be improved by a guaranteed family income.

_____ The real property tax should be discarded as the primary basis for financing public education.

- _____ The money spent on educational television instruction could be better spent on improved educational materials.
- _____ An increase in the effectiveness of the public schools would result if the state made direct appropriations in the form of vouchers to parents and, thereby, allowed them to "shop" for the school that they think will provide the best education for their children.
- _____ Minor ethnic group instructional materials should receive equal emphasis with majority ethnic group materials in the curriculum.
- _____ Capital punishment should be abolished by law.
- _____ Boards of education should be allowed to hold private sessions, closed to the public, wherein their members can discuss certain selected information.
- _____ The electoral college procedure for choosing the President of the United States is archaic and should be replaced with another procedure.
- _____ Cooperative team teaching effectively uses the diverse abilities of teachers and should be introduced into each subject area.
- _____ The recent reduction in the legal voting age to 18 years will prove to be a decision detrimental to this country's welfare.
- _____ School systems should contract their maintenance requirements to private firms rather than employ their own tradesmen and

engineers.

_____ The healthy emotional development of teen-agers requires
the introduction of sex education into the high schools.

_____ The judicial and statutory restrictions on the use of public
funds for sharing facilities with private and parochial
schools should be abolished.

_____ Individuals who have left this country in order to evade
the draft should be granted amnesty.

Appendix B

Experimenter's Attitude Scale

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

- | | |
|--------------------------|-----------------------------|
| +1: I AGREE A LITTLE | -1: I DISAGREE A LITTLE |
| +2: I AGREE ON THE WHOLE | -2: I DISAGREE ON THE WHOLE |
| +3: I AGREE VERY MUCH | -3: I DISAGREE VERY MUCH |

_____ Ability grouping is detrimental to the overall development of students and should be discarded.

_____ The general well-being of the United States would be improved by a guaranteed annual family income.

_____ An increase in the effectiveness of the public schools would result if the state made direct appropriations in the form of vouchers to parents and thereby allowed them to "shop" for the school that they think will provide the best education for their children.

_____ Minority ethnic group materials should receive equal emphasis with majority ethnic group materials in the curriculum.

_____ Capital punishment should be abolished by law.

_____ Boards of education should be allowed to hold private sessions, closed to the public, wherein members could discuss certain selected information.

_____ Cooperative team teaching effectively uses the diverse abilities of teachers and should be introduced into each subject area.

_____ School systems should contract their maintenance requirements to private firms rather than employ their own tradesmen and engineers.

_____ Individuals who have left this country to evade the draft should be granted amnesty.

Appendix C

The Pretest Questionnaires

Dogmatism Attitude Pretest

The following is a study of what public secondary school teachers and administrators think and feel about a number of social, political, and educational issues. The best answer to each statement is your personal opinion or usual reaction. We have tried to cover issues that would generate many different and opposing points of view. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statements, you can be sure that many people feel just the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I AGREE A LITTLE	-1: I DISAGREE A LITTLE
+2: I AGREE ON THE WHOLE	-2: I DISAGREE ON THE WHOLE
+3: I AGREE VERY MUCH	-3: I DISAGREE VERY MUCH

_____ Ability grouping is detrimental to the overall development of the student and should be abolished.

_____ The United States and Russia have just about nothing in common.

_____ The highest form of government is a democracy, and the highest form of a democracy is a government run by those who

are most intelligent.

_____ Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.

_____ It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.

_____ Man on his own is a helpless and miserable creature.

_____ The general well-being of the United States would be improved by a guaranteed family income.

_____ Fundamentally, the world we live in is a pretty lonesome place.

_____ Most people just don't give a "damn" for others.

_____ I'd like it if I could get someone to tell me how to solve my personal problems.

_____ It is only natural for a person to be rather fearful of the future.

_____ There is so much to be done and so little time to do it in.

_____ An increase in the effectiveness of the public schools would result if the state made direct appropriations in the form of vouchers to parents and, thereby, allowed them to "shop" for the school that they think will provide the best education for their children.

_____ Once I get wound up in a heated discussion, I just can't stop.

_____ In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.

_____ In a heated discussion I generally become so absorbed in what I am going to say that I forget to listen to what the others are saying.

_____ It is better to be a dead hero than to be a live coward.

_____ While I don't like to admit this even to myself, my secret ambition is to be a great man like Einstein, or Beethoven, or Shakespeare.

_____ Minor ethnic group instructional materials should receive equal emphasis with majority ethnic group materials in the curriculum.

_____ The main thing in life is for a person to want to do something important.

_____ If given a chance I would do something of great benefit to the world.

_____ In the history of mankind there have probably been just a handful of really great thinkers.

_____ There are a number of people I have come to hate because of the things they stand for.

_____ A man who does not believe in some great cause has not really lived.

_____ Capital punishment should be abolished by law.

_____ It is only when a person devotes himself to an ideal or cause that life becomes meaningful.

_____ Of all the different philosophies which exist in this world there is probably only one which is correct.

_____ A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.

_____ To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

_____ When it comes to differences of opinion in religion, we must be careful not to compromise with those who believe differently from the way we do.

_____ Boards of education should be allowed to hold private sessions, closed to the public, wherein their members can discuss certain selected information.

_____ In times like these a person must be pretty selfish if he considers primarily his own happiness.

_____ The worst crime a person could commit is to attack publicly the people who believe in the same thing he does.

_____ In times like these it is often necessary to be more on guard against ideas put out by people or groups in one's own camp than by those in the opposing camp.

_____ A group which tolerates too much difference of opinion among its members cannot exist for long.

_____ There are two kinds of people in this world: those who are for the truth and those who are against the truth.

_____ Cooperative team teaching effectively uses the diverse abilities of the teachers and should be introduced into each

subject area.

_____ My blood boils whenever a person stubbornly refuses to admit he is wrong.

_____ A person who thinks primarily of his own happiness is beneath contempt.

_____ Most of the ideas which get printed nowadays aren't worth the paper they are printed on.

_____ In this complicated world of ours the only way we can know what's going on is to rely on leaders or experts who can be trusted.

_____ It is often desirable to reserve judgment about what's going on until one has had a chance to hear the opinions of those one respects.

_____ School systems should contract their maintenance requirements to private firms rather than employ their own tradesmen and engineers.

_____ In the long run the best way to live is to pick friends and associates whose tastes and beliefs are the same as one's own.

_____ The present is all too often full of unhappiness. It is only the future that counts.

_____ If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."

_____ Unfortunately, a good many people with whom I have discussed important social and moral problems don't really

understand what's going on.

_____ Most people just don't know what's good for them.

_____ Individuals who have left this country to avoid the draft
should be granted amnesty.

It is not necessary that you sign your name to this paper. It is of critical importance, however, that this questionnaire be matched with another that will be administered to you later. Please sign either your name, your telephone number, or your social security number below.

Self-Esteem--Attitude Pretest

The following is a study of what public secondary school teachers and administrators think and feel about a number of social, political, and educational issues. The best answer to each statement is your personal opinion or usual reaction. We have tried to cover issues that would generate many different and opposing points of view. You may find yourself agreeing strongly with some of the statements, disagreeing just as strongly with others, and perhaps uncertain about others. Whether you agree or disagree with any statements, you can be sure that many people feel just the same as you do.

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Write +1, +2, +3, or -1, -2, -3, depending on how you feel in each case.

+1: I AGREE A LITTLE -1: I DISAGREE A LITTLE

+2: I AGREE ON THE WHOLE -2: I DISAGREE ON THE WHOLE

+3: I AGREE VERY MUCH -3: I DISAGREE VERY MUCH

_____ I feel capable of handling myself in most social situations.

_____ Ability grouping is detrimental to the overall development
of the student and should be abolished.

_____ I sometimes fear my actions will cause others to have a low
opinion of me.

_____ The general well-being of the United States would be improved
by a guaranteed family income.

_____ It doesn't bother me to have to enter a room where other
people have gathered and are talking.

_____ An increase in the effectiveness of the public schools would
result if the state made direct appropriations in the form
of vouchers to parents and, thereby, allowed them to "shop"
for the school that they think will provide the best educa-
tion for their children.

_____ In group discussions I usually feel that my opinions are
inferior.

_____ Minor ethnic group instructional materials should receive
equal emphasis with majority ethnic group materials in the
curriculum.

_____ I don't make a very favorable first impression on people.

_____ Capital punishment should be abolished by law.

_____ When confronted by a group of strangers, my first reaction

is always one of shyness and inferiority.

_____ Boards of education should be allowed to hold private sessions, closed to the public, wherein their members can discuss certain selected information.

_____ It is extremely uncomfortable to accidentally go to a formal party in street clothes.

_____ Cooperative team teaching effectively uses the diverse abilities of teachers and should be introduced into each subject area.

_____ I don't spend much time worrying about what people think of me.

_____ School systems should contract their maintenance requirements to private firms rather than employ their own tradesmen and engineers.

_____ When in a group I rarely express an opinion for fear of being thought ridiculous.

_____ Individuals who have left this country to evade the draft should be granted amnesty.

_____ I am never at a loss for words when I am introduced to someone.

It is not necessary that you sign your name to this paper. It is of critical importance, however, that this questionnaire be matched with another that will be administered to you later. Please sign either your name, your telephone number, or your social security

number below.

References

References

- Adams, H. E., & Vidulich, R. N. Dogmatism and belief congruence in paired-associate learning. Psychological Reports, 1962, 10, 91-94.
- Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. The authoritarian personality. New York: Harper, 1950.
- Anderson, K. E., & Clevenger, T., Jr. A summary of experimental research in ethos. Speech Monographs, 1963, 30, 59-78.
- Aronson, E., Turner, J. A., & Carlsmith, N. M. Communicator credibility and communication discrepancy as determinants of opinion change. Journal of Abnormal and Social Psychology, 1963, 67, 31-36.
- Asch, S. E. Effects of group pressure upon the modification and distortion of judgments. In E. E. Maccoby, T. M. Newcomb, & E. L. Hartley (Eds.), Readings in social psychology. New York: Holt, 1958.
- Bandura, A. Social learning through imitation. In M. R. Jones (Ed.), Symposium on motivation. Lincoln, Nebraska: University of Nebraska Press, 1962.
- Bandura, A. Influence of models' reinforcement contingencies on the acquisition of imitative responses. Journal of Personality and Social Psychology, 1965, 1, 589-595.
- Bandura, A. Vicarious processes: A case of no-trial learning. In H. Berkowitz (Ed.), Advances in experimental social psychology, Vol. 2. New York: Academic Press, 1965.

- Bandura, A. Social learning theory of identificatory processes. In D. A. Goslin (Ed.), Handbook of socialization theory and research. Chicago: Rand-McNally, 1969. (a)
- Bandura, A. Principles of behavior modification. New York: Holt, Rinehart, and Winston, 1969. (b)
- Bandura, A., & McDonald, F. J. The influence of social reinforcement and the behavior of models in shaping children's moral judgments. Journal of Abnormal and Social Psychology, 1963, 67, 274-281.
- Bandura, A., & Walters, R. N. Social learning and personality development. New York: Holt, Rinehart, and Winston, 1963.
- Barker, E. N. Authoritarianism of the political right, center, and left. Journal of Social Issues, 1963, 19, 63-74.
- Becker, G., & DiLeo, D. T. Scores on Rokeach's Dogmatism Scale and the response set to present a positive social and personal image. Journal of Social Psychology, 1967, 71, 287-293.
- Beloff, H. Two forms of social conformity: Acquiescence and conventionality. Journal of Abnormal and Social Psychology, 1958, 56, 99-104.
- Bennett, E. B. Discussion, decision, commitment, and consensus in "group decision." Human Relations, 1955, 8, 251-273.
- Berkowitz, L., & Lundy, R. M. Personality correlates related to susceptibility to influence by peers, or authority figures. Journal of Personality, 1957, 25, 306-316.
- Burke, W. W. Social perception as a function of dogmatism. Perceptual and Motor Skills, 1966, 23, 863-868.

- Canning, R. R., & Baker, J. M. Effect of the group on authoritarian and non-authoritarian persons. American Journal of Sociology, 1959, 64, 579-581.
- Cohen, A. R. Some implications of self-esteem for social influence. In C. I. Hovland & I. L. Janis (Eds.), Personality and persuasibility. New Haven, Connecticut: Yale University Press, 1959.
- Converse, P., & Campbell, A. Political standards in secondary groups. In D. Cartwright & A. Zander (Eds.), Group dynamics: Research and theory (2nd ed.) New York: Harper, 1960.
- Corrozi, J. F., & Rosnow, R. L. Consonant and dissonant communications as positive and negative reinforcements in opinion change. Journal of Personality and Social Psychology, 1968, 8, 27-30.
- Costin, F. Dogmatism and learning: A follow-up of contradictory findings. Journal of Educational Research, 1965, 59, 186-188.
- Cox, D. F., & Bauer, R. A. Self-confidence and persuasibility in women. Public Opinion Quarterly, 1964, 28, 453-466.
- Christensen, C. M. A note on "dogmatism and learning." Journal of Abnormal and Social Psychology, 1963, 66, 75-76.
- Crutchfield, R. S. Correlates of individual behavior in a controlled group situation. American Psychologist, 1953, 8, 338. (Abstract)
- Crutchfield, R. S. Conformity and character. American Psychologist, 1955, 10, 191-198.
- deCharms, R., & Rosenbaum, M. E. Status variables and matching behavior. Journal of Personality, 1960, 28, 492-502.

- De Fleur, M. L., & Westie, F. R. Verbal attitudes and overt acts: An experiment on the salience of attitudes. American Sociological Review, 1958, 23, 667-673.
- Di Renzo, G. J. Professional politicians and personality structures. American Journal of Sociology, 1967, 73, 217-225.
- Di Renzo, G. J. Dogmatism and presidential preference in the 1964 elections. Psychological Reports, 1968, 22, 1197-1202.
- Di Vesta, F. J. Effects of confidence and motivation on susceptibility to informational social influence. Journal of Abnormal and Social Psychology, 1959, 59, 205-209.
- Dollard, J., & Miller, N. E. Personality and psychotherapy. New York: McGraw-Hill, 1950.
- Doob, L. The behavior of attitudes. Psychological Review, 1947, 54, 135-156.
- Druckman, D. Dogmatism, prenegotiation experience, and simulated group representation as determinants of dyadic behavior in a bargaining situation. Journal of Personality and Social Psychology, 1967, 6, 279-290.
- Ehrlich, H. J. Dogmatism and learning. Journal of Abnormal and Social Psychology, 1961, 62, 148-149. (a)
- Ehrlich, H. J. Dogmatism and learning: A five year follow-up. Psychological Reports, 1961, 9, 283-286. (b)
- Ehrlich, H. J., & Lee, D. Dogmatism, learning, and resistance to change. Psychological Bulletin, 1969, 71, 249-260.

- Elbing, A. O. An experimental investigation of the influence of reference group identification on role playing as applied to business. Unpublished doctoral dissertation, University of Washington, 1962.
- Etzioni, A. Complex organizations. New York: Free Press of Glencoe, 1961.
- Festinger, L. Informal social communication. Psychological Review, 1950, 57, 271-282.
- Frumkin, R. M. Dogmatism, social class values, and academic achievement in sociology. Journal of Educational Sociology, 1961, 34, 398-403.
- Gelfand, D. M. The influence of self-esteem on rate of verbal conditioning and social matching behavior. Journal of Abnormal and Social Psychology, 1962, 65, 259-265.
- Golightly, C., & Byrne, D. Attitude statements as positive and negative reinforcements. Science, 1964, 146, 789-799.
- Gollob, H. F., & Dittes, T. E. Effects of manipulated self-esteem on persuasibility depending upon threat and complexity of communication. Journal of Personality and Social Psychology, 1965, 2, 195-201.
- Hanson, D. J. Dogmatism and authoritarianism. Journal of Social Psychology, 1968, 76, 89-95.
- Hartley, R. E. Norm compatibility, norm preference, and the acceptance of new reference groups. Journal of Social Psychology, 1960, 52, 87-95.

- Harvey, O. J., & Beverley, G. D. Some personality correlates of concept change through role playing. Journal of Abnormal and Social Psychology, 1961, 63, 125-130.
- Hoffman, M. L. Some psychodynamic factors in compulsive conformity. Journal of Abnormal and Social Psychology, 1953, 48, 383-393.
- Hollander, E. P. Reconsidering the issue of conformity in personality. In H. P. David & J. C. Brengelmann (Eds.), Perspectives in personality research. New York: Springer, 1960.
- Hollander, E. P. Principles and methods of social psychology. New York: Oxford University Press, 1971.
- Hovland, C. I., & Janis, I. L. (Eds.), Personality and persuasibility. New Haven, Connecticut: Yale University Press, 1959.
- Hovland, C. I., & Janis, I. L. Summary and implications for further research. In C. I. Hovland & I. L. Janis (Eds.), Personality and persuasibility. New Haven, Connecticut: Yale University Press, 1959.
- Hovland, C. I., Janis I. L., & Kelley, H. H. Communication and persuasion. New Haven, Connecticut: Yale University Press, 1953.
- Hovland, C. I., & Weiss, W. The influence of source credibility on communication effectiveness. Public Opinion Quarterly, 1951, 15, 635-650.
- Hull, C. Principles of behavior. New York: Appleton-Century-Crofts, 1943.

- Jacobs, T. O. Leadership and exchange in formal organizations.
Alexandria, Virginia: Human Resources Research Organization,
1971.
- Janis, I. L. Personality correlates of susceptibility to
persuasion. Journal of Personality, 1954, 22, 504-518.
- Janis, I. L. Anxiety indices related to susceptibility to
persuasion. Journal of Abnormal and Social Psychology, 1955,
51, 663-667.
- Janis, I. L., & Field, P. B. Sex differences and personality
factors related to persuasibility. In C. I. Hovland & I. L.
Janis (Eds.), Personality and persuasibility. New Haven,
Connecticut: Yale University Press, 1959.
- Janis, I. L., & Hovland, C. I. An overview of persuasibility
research. In C. I. Hovland & I. L. Janis (Eds.), Personality
and persuasibility. New Haven, Connecticut: Yale University
Press, 1959.
- Janis, I. L., & Rife, D. Persuasibility and emotional disorder. In
C. I. Hovland & I. L. Janis (Eds.), Personality and
persuasibility. New Haven, Connecticut: Yale University Press,
1959.
- Janis, I. L., & Smith, M. D. Effects of education and persuasion on
national and international images. In H. C. Kelman (Ed.),
International behavior: A social-psychological analysis. New
York: Holt, Rinehart, and Winston, 1965.

- Johnson, H. H., Torcivia, J. M., & Poprick, M. A. Effects of source credibility on the relationship between authoritarianism and attitude change. Journal of Personality and Social Psychology, 1968, 9, 179-183.
- Katz, D. The functional approach to the study of attitudes. Public Opinion Quarterly, 1960, 24, 163-204.
- Katz, C. N., & Katz, F. M. Panel studies and response set. Psychological Reports, 1967, 20, 803-806.
- Kelley, H. H., & Volkart, E. H. The resistance to change of group-anchored attitudes. American Sociological Review, 1952, 17, 453-465.
- Kelman, H. C. Effects of success and failure on "suggestibility" in the autokinetic situation. Journal of Abnormal and Social Psychology, 1950, 45, 267-285.
- Kelman, H. C. Processes of opinion change. Public Opinion Quarterly, 1961, 25, 57-78.
- Kelman, H. C., & Hovland, C. I. "Reinstatement" of the communicator in delayed measurement of opinion change. Journal of Abnormal and Social Psychology, 1953, 48, 327-335.
- Kemp, C. G. Influence of dogmatism on the training of counselors. Journal of Counseling Psychology, 1962, 9, 155-157.
- Kemp, C. G., & Kohler, E. W. Suitability of the Rokeach Dogmatism Scale for high school use. Journal of Experimental Education, 1965, 33, 383-385.

- Kulp, D. H. Prestige as measured by single-experience changes and their permanency. Journal of Educational Research, 1934, 27, 663-672.
- Kerlinger, F., & Rokeach, M. The factorial nature of the F and D scales. Journal of Personality and Social Psychology, 1966, 4, 391-399.
- Lesser, G. S., & Abelson, R. P. Personality correlates of persuasibility in children. In C. I. Hovland & I. L. Janis (Eds.), Personality and persuasibility. New Haven, Connecticut: Yale University Press, 1959.
- Leventhal, H., & Perloe, S. I. A relationship between self-esteem and persuasibility. Journal of Abnormal and Social Psychology, 1962, 64, 385-388.
- Lewin, K. Frontiers in group dynamics. In D. Cartwright (Ed.), Field theory in social science. New York: Harper, 1951.
- Lichtenstein, E., Quinn, R., & Hover, G. Dogmatism and acquiescent response set. Journal of Abnormal and Social Psychology, 1961, 63, 636-638.
- Likert, R. Effective supervision: An adaptive and relative process. Personnel Psychology, 1958, 11, 317-332.
- Linton, H. B. Dependence on external factors: Correlates in perception, attitudes, and judgment. In M. T. Mednick & S. A. Mednick (Eds.), Research in Personality. New York: Holt, Rinehart, and Winston, 1963.

- Linton, H. B., & Graham, E. Personality correlates of persuasibility. In C. I. Hovland & I. L. Janis (Eds.), Personality and persuasibility. New Haven, Connecticut: Yale University Press, 1959.
- Mausner, B. The effect of prior reinforcement on the interaction of observer pairs. Journal of Abnormal and Social Psychology, 1954, 49, 65-68.
- Mausner, B., & Block, B. L. A Study of the additivity of variables affecting social interaction. Journal of Abnormal and Social Psychology, 1957, 54, 250-256.
- McCarthy, J., & Johnson, R. C. Interpretation of the "city hall riots" as a function of general dogmatism. Psychological Reports, 1962, 11, 243-245.
- McGinnies, E. Studies in persuasion: IV, Source credibility and involvement as factors in persuasion with students in Taiwan. Journal of Social Psychology, 1968, 74, 171-180.
- McGuire, W. J. Order of presentation as a factor in "conditioning" persuasiveness. In C. I. Hovland (Ed.), The order of presentation in persuasion. New Haven, Connecticut: Yale University Press, 1957.
- McGuire, W. J. Attitudes and opinions. Annual Review of Psychology, 1966, 17, 475-514.
- McGuire, W. J. Personality and susceptibility to social influence. In E. F. Borgatta & W. W. Lambert (Eds.), Handbook of personality theory and research. Chicago: Rand McNally, 1968.

- Merton, R. K. Social theory and social structure. Glencoe, Illinois: The Free Press, 1957.
- Merton, R. K., & Kitt, A. S. Contributions to the theory of reference group behavior. In R. K. Merton & P. F. Lazarsfeld (Eds.), Continuities in social research: Studies in the scope and method of "The American Soldier." Glencoe, Illinois: University of Illinois Press, 1950.
- Mikol, B. The enjoyment of new musical systems. In M. Rokeach, The open and closed mind. New York: Basic Books, 1960.
- Miller, N. & Dollard, J. Social learning and imitation. New York: Yale University Press, 1941.
- Millman, S. The relationship between anxiety, learning, and opinion change. Unpublished doctoral dissertation, Columbia University, 1965.
- Mowrer, O. H. Learning theory and personality dynamics. New York: Ronald Press, 1950.
- Mowrer, O. H. Learning theory and the symbolic process. New York: Wiley, 1960. (a)
- Mowrer, O. H. Learning theory and behavior. New York: Wiley, 1960. (b)
- Newcomb, T. M. Personality and social change: Attitude formation in a student community. New York: Dryden, 1943.
- Nisbett, R. E., & Gordon, A. Self-esteem and susceptibility to social influence. Journal of Personality and Social Psychology, 1967, 5, 268-276.

- Norris, E. L. Attitude change as a function of open- or closed-mindedness. Journalism Quarterly, 1965, 42, 571-575.
- Osgood, C. E. Behavior theory and the social sciences. Behavioral Science, 1956, 1, 167-185.
- Peabody, D. Attitude content and agreement set in scales of authoritarianism, dogmatism, anti-semitism, and economic conservatism. Journal of Abnormal and Social Psychology, 1961, 63, 1-11.
- Peabody, D. Authoritarian scales and response to bias. Psychological Bulletin, 1966, 65, 11-23.
- Peabody, R. L. Organizational authority: Superior-subordinate relationships in three public service organizations. New York: Altherton Press, 1964.
- Plant, W. T. Rokeach's Dogmatism Scale as a measure of general authoritarianism. Psychological Reports, 1960, 6, 164.
- Powell, F. A. Open- and closed-mindedness and the ability to differentiate source and message. Journal of Abnormal and Social Psychology, 1962, 65, 61-64.
- Restle, F., Andrews, M., & Rokeach, M. Differences between open- and closed-mindedness subjects on learning set and oddity problems. Journal of Abnormal and Social Psychology, 1964, 68, 648-654.
- Roberts, A. H. Intra-test variability as a measure of generalized response set. Psychological Reports, 1962, 11, 793-799.
- Rokeach, M. The nature and meaning of dogmatism. Psychological Review, 1954, 61, 194-205.

- Rokeach, M. The open and closed mind. New York: Basic Books, 1960.
- Rokeach, M. Authoritarianism scale and response bias: Comment on Peabody's paper. Psychological Bulletin, 1967, 67, 349-355.
- Rosenbaum, M. E., & deCharms, R. Self-esteem and overt expressions of aggression. In N. F. Washburne (Ed.), Decisions, values, and groups. Vol. 2. New York: Macmillan, 1962.
- Rosenbaum, M. E., Horne, W. C., & Chambers, D. K. Level of self-esteem and the learning of imitation and nonimitation. Journal of Personality, 1962, 30, 147-156.
- Rosenbaum, M. E., & Tucker, I. F. The competence of the model and the learning of imitation and nonimitation. Journal of Experimental Psychology, 1962, 63, 183-190.
- Sanford, F. H. Authoritarianism and leadership. Philadelphia: Institute for Research in Human Relations, 1950.
- Scott, W. A. Attitude change through reward of verbal behavior. Journal of Abnormal and Social Psychology, 1957, 55, 72-75.
- Siegel, A. E., & Siegel, S. Reference groups, membership groups, and attitude change. Journal of Abnormal and Social Psychology, 1957, 55, 360-364.
- Sherif, M. A preliminary study of intergroup relations. In T. H. Rohrer & M. Sherif (Eds.), Social psychology at the crossroads. New York: Harper, 1951.
- Sherif, M., & Cantril, H. The psychology of ego involvements. New York: Wiley, 1947.

- Sherif, M., & Hovland, C. I. Social judgment: Assimilation and contrast effects in communication and attitude change. New Haven, Connecticut: Yale University Press, 1961.
- Sherif, M., & Sherif, C. W. Reference groups: Explorations into conformity and deviation of adolescents. New York: Harper & Row, 1964.
- Sherif, M., & Sherif, C. W. Attitudes as the individual's own categories: The social judgment-involvement approach to attitude and attitude change. In C. W. Sherif & M. Sherif (Eds.), Attitude, ego-involvement, and change. New York: Wiley, 1967.
- Sherif, M., Sherif, C. W., & Nebergall, R. E. Attitude and attitude change. Philadelphia: Saunders, 1965.
- Silverman, I. Differential effects of ego threat upon persuasibility for high and low self-esteem subjects. Journal of Abnormal and Social Psychology, 1964, 69, 567-572.
- Smith, M. B., Bruner, J. S., & White, R. W. Opinions and personality. New York: Wiley, 1956.
- Vacchiano, R. B., Schiffman, D. C., & Strauss, P. S. Factor structure of the Dogmatism Scale. Psychological Reports, 1967, 20, 847-852.
- Vacchiano, R. B., Strauss, P. S., & Hochman, L. The open and closed mind: A review of dogmatism. Psychological Bulletin, 1969, 71, 261-273.

- Vacchiano, R. B., Strauss, P. S., & Schiffman, D. C. Personality correlates of dogmatism. Journal of Consulting and Clinical Psychology, 1968, 32, 83-85.
- Vidulich, R. N., & Kaiman, I. P. The effects of information source status and dogmatism upon conformity behavior. Journal of Abnormal and Social Psychology, 1961, 63, 639-642.
- Vroom, V. H. Some personality determinants of the effects of participation. Englewood Cliffs, New Jersey: Prentice-Hall, 1961.
- Watson, D. L. Introversion, neuroticism, rigidity, and dogmatism. Journal of Consulting Psychology, 1967, 31, 105.
- Wells, W. D., Weinert, G., & Rubel, M. Conformity pressure and authoritarian personality. Journal of Psychology, 1956, 42, 133-136.
- Wilson, C. R. The relationship of conformity to dogmatism as measured by Rokeach's scale. Unpublished doctoral dissertation, Catholic University of America, 1964.
- Wilson, R. S. Personality patterns, source attractiveness and conformity. Journal of Personality, 1960, 28, 186-199.
- Wolfer, J. A. Changes in dogmatism scores of high and low dogmatics as a function of instructions. Psychological Reports, 1967, 20, 947-950.
- Zagona, S. V., & Zurcher, L. A. Participation, interaction, and role behavior in groups selected from the extremes of the open-closed cognitive continuum. Journal of Psychology, 1964, 58, 225-264.

- Zagona, S. V., & Zurcher, L. A. Notes on the reliability and validity of the Dogmatism Scale. Psychological Reports, 1965, 16, 1234-1236.
- Zippel, B., & Norman, R. D. Party switching, authoritarianism, & dogmatism in the 1964 election. Psychological Reports, 1966, 19, 667-670.

Vita

Gloria Tyler Robertson

Born in Richmond, Virginia, June 25, 1923. Attended College of William and Mary, 1940-1941. A.B., Westhampton College, 1944. Graduate study, Columbia University and Duke University.

Instructor in psychology, Medical College of Virginia, 1944-1946. Clinical psychologist, Medical College of Virginia, Hospital Division, 1944-1948; Westbrook Psychiatric Hospital, Richmond, Virginia, 1949-1950; Childrens' Hospital, Boston, Massachusetts, 1950-1951. School psychologist, Portsmouth City Public Schools, Portsmouth, Virginia, 1963-1968.

Licensed as clinical psychologist, Virginia Board of Medical Examiners. Licensed as psychologist, Virginia Board of Psychologists Examiners.

Enrolled in the graduate program of the School of Education, College of William and Mary, January, 1964. Awarded MEd., with a concentration in counseling and guidance, 1966; Certificate of Advanced Study in Educational Administration, 1970. Admitted to Doctor of Education degree program in education administration, 1969. Attained status of Candidate for Doctor of Education degree, February, 1972.