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Dogmatism and its Effect on Amount and Persistence of Opinion Change Induced by Active Versus Passive Participation

Jerry B. Wolfe

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DOGMATISM AND ITS EFFECT ON AMOUNT AND PERSISTENCE OF OPINION
CHANGE INDUCED BY ACTIVE VERSUS PASSIVE PARTICIPATION

by

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B.S., The Ohio State University 1962
M.S., Ohio University 1964

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Submitted to the Faculty

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for the Degree of

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1969

This dissertation submitted by Jerry B. Wolfe in partial fulfillment of the requirements for the Degree of Doctor of Philosophy from the University of North Dakota is hereby approved by the Faculty Advisory Committee under whom the work has been done.

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Dogmatism and Its Effect On Amount and Persistence of Opinion
Title Change Induced By Active Versus Passive Participation

Department Psychology

Degree Doctor of Philosophy

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Date

Sept 24, 1968

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ABSTRACT

Problem

The purpose of this study was to investigate the relation of Dogmatism to amount and persistence of opinion change induced by active versus passive participation.

Procedure

Initial measures of Dogmatism and opinions concerning two selected issues were obtained from University of North Dakota undergraduates. Females who scored within one standard deviation of the mean opinion score of at least one of the issues and who rated that issue as salient were retained for experimental treatment.

Treatment occurred eleven weeks later and consisted of either reading (Passive Induction) a persuasive communication concerning the relevant issue or improvising and writing (Active Induction) a persuasive communication concerning the relevant issue. An immediate post-treatment opinionnaire was given, followed in two weeks by a third.

Results and Conclusions

The results of this study supported the following general conclusions:

1. Significant amounts of immediate, congruent opinion change occurred over both Induction Methods.

2. There was a definite trend, including several significant differences, for the Passive Induction Method to effect more change than the Active Induction Method.

3. However, there was a definite trend, including several significant differences, for the Passively induced scores to regress toward pre-treatment levels; for scores Actively induced, there was no such trend.

4. There was a trend, including a significant difference, for the greater amount of change to occur in relation to the less salient issue.

5. Dogmatism appears not to be related to amount of persistence of change induced by persuasive communications.

CHAPTER I

INTRODUCTION

Review of Pertinent Literature

Personality and Persuasibility

To paraphrase a part of McClintock's (1958) summary, a given type of influence at the practical level may have little effect in moving an entire audience in the desired direction. What may occur is that certain types of subjects (Ss) move predominantly in a positive direction, others in a negative direction while still others may remain uninfluenced. Thus, awareness of certain personality characteristics of the audience seems necessary for devising appropriate and effective methods of opinion change.

If "personality" may be here broadly defined as individual differences along various cognitive dimensions, then research has shown that various personality factors do indeed constitute important variables to be considered when discussing the overall effectiveness of attempts at persuasion. For example, Hovland, Lumsdaine, and Sheffield (1949) found that, compared to Army recruits of relatively less intellectual ability, recruits of above-average intellectual ability were less affected by a conspicuously one-sided presentation of a persuasive radio speech. Kelman and Cohler (1959) discovered that, among Ss who had a high need for "cognitive clarity," individuals who habitually reacted to ambiguity by seeking clarification and understanding

("clarifiers") were swayed more by a persuasive message than those who typically reacted by excluding ambiguous, incongruous elements ("simplifiers"). No consistent differences were found among Ss low in the need for cognitive clarity. Katz, Sarnoff, and McClintock (1956) showed that Ss who were high in self-defensiveness were unaffected by interpretative, self-insightful appeals in favor of racial tolerance but that Ss less self-defensive were affected in a favorable direction. Several studies reported in a monograph by Janis et al. (1959) all indicate the existence of a general trait of persuasibility or readiness to accept social influence regardless of the communicator and topic, content, medium, and circumstances of the communication.

Active Versus Passive Participation

Active participation on one's part, in the form of improvising and writing persuasive essays, has been shown to be an effective technique in inducing an immediate change in opinion, even when one is instructed to support an opinion which is counter to one already held (e.g., Cohen, Brehm, & Fleming, 1958; Rabbie, Brehm, & Cohen, 1959; Harvey & Beverly, 1961; Elms & Janis, 1965; Janis & Gilmore, 1965; Rosenberg, 1965).

Passive participation in the form of merely reading persuasive messages has also been shown to effect immediate opinion change (e.g., Janis & Field, 1959; Janis & Rife, 1959; Linton & Graham, 1959; Whittaker, 1965).

Thus, it appears that both active and passive participation lead to opinion change, at least in the short run. The temporal persistence of such induced change, however, has been relatively neglected.

A few studies have investigated the persistence of the immediate change induced by such active processes as group discussion (Lewin, 1958; Mitnick & McGinnies, 1958), role playing (Janis & Mann, 1965), and essay writing (Watts, 1967). Uniformly, these studies have shown that such processes result in maintaining the induced change to a higher degree for periods lasting from seven days to a month than that of control groups who listened to a taped role-play session, observed a film, or read a persuasive message. Watts' (1967) study seems to be the sole one relating to persistence of change induced by a passive reading process. He found that after six weeks Ss who constructed persuasive arguments held a clear superiority in maintenance of induced change over those who passively read a prepared passage.

Persistence in the present study will refer to the maintenance of induced change over a two-week period.

Saliency

Saliency, which has been an elusive and ill-defined concept in psychology, will be referred to here as the degree to which one considers an issue to be important and the amount of thought one has given an issue. It has been suggested (e.g., Janis & Field, 1959; Katz, 1960) that the general factor of persuasibility may be more important in determining one's response to attempts at persuasion where the issue involved is relatively unknown or unfamiliar and so is not supported by strong intrapersonal motivational patterns as compared to an issue about which most people may be expected to have some familiarity and, consequently, established opinions, the presence of which may serve to inhibit change.

Empirical evidence will be presented below which shows that, on the basis of measures used in this study, the two issues selected do differ in relative degree of saliency. In other words, the topics vary in the extent to which predispositions toward persuasibility may be expected to be elicited.

Rokeach's Theory of Dogmatism

It has been noted above that individual differences in personality play no small role in responsiveness to persuasive communications. The presentation of a comparatively new theory of personality follows together with deductions pertaining to the effects that various degrees of a personality dimension have upon the amount and persistence of induced opinion change. There will also be offered predictions as to how the extent of individual participation in the induction process and the saliency of an issue will interact with the personality continuum in affecting the amount and persistence of opinion change.

In presenting his theory of personality, Rokeach (1954; 1956; 1960) has argued that the California Fascism (F) scale, the well-known paper-and-pencil measure of authoritarianism devised by Adorno et al. (1950), measures primarily right-wing or conservative, rather than general, authoritarianism and intolerance. Rokeach has attempted to enlarge the concept of authoritarianism as measured by the F scale by developing his concept of Dogmatism together with a paper-and-pencil gauge of individual differences in degree of the trait, the Dogmatism (D) scale. To briefly delineate his rationale, Rokeach feels that research on authoritarianism began at a time, the onset of World War II, when the problems of fascism, anti-Semitism, and ethnocentrism

were very real and immediate concerns and that, consequently, authoritarianism was "naturally" equated with intolerance, political-economic conservatism, and especially fascistic ideology. The result was, of course, that the F scale was expressly designed to measure such attitudes. But, as Rokeach correctly notes, authoritarianism is also a naturally occurring phenomenon in science, philosophy, literature, and the arts where the concepts of fascism and ethnocentrism are not necessarily relevant. Moreover, the existence of incongruous relationships which have been observed such as a person scoring high on authoritarianism but low on ethnocentrism seems to indicate that the F scale is measuring a concept that is relatively narrow in scope. Considered in this way, it is apparent that authoritarianism need not necessarily take fascistic or ethnocentric form. The conceptual problem, as Rokeach sees it, is that the total range of phenomena indicative of authoritarianism is much greater than that studied by the California researchers. To be sure, a high degree of authoritarianism tends to be associated with ideologies containing antidemocratic content but is not uniquely so related; authoritarianism cuts across specific ideological orientations and is manifested within all areas of human endeavor.

Rokeach also distinguishes Dogmatism from the concept of rigidity. Whereas both rigidity and Dogmatism are forms of resistance to change, rigidity is conceived to be a relatively less intellectualized, abstract, and organized form of resistance than Dogmatism. Rigidity refers to the description of specific task behavior where Dogmatism applies to a pervasive syndrome of personality characteristics

which are reflected in one's perceptual, cognitive, and especially interpersonal behavior. For example, a rat, the feeble-minded, or the brain-damaged can be said to behave rigidly but not dogmatically. Again, one can be described as solving a problem rigidly but a professor, theoretician, or an art critic can be said to express himself dogmatically. In sum, the range of behavior subsumed under Rokeach's concept of Dogmatism is meant to be broader than that of rigidity or authoritarianism as measured by the F scale and is therefore intrinsically more interesting to the political scientist or historian as well as the psychologist.

The following paragraphs present in a highly condensed form the latest version of the theory of Dogmatism (Rokeach, 1960, chapters 2 & 3) followed by a sampling of supportive empirical evidence.

Rokeach begins by defining a belief as an expectancy or implicit predisposition to action which is inferable from one's verbal and non-verbal behavior. Many such beliefs, when organized, form one's belief-disbelief system; the belief system being an organized set of beliefs which one accepts while one's disbelief system is actually a series of systems which one rejects, each of which is arranged along a gradient of similarity to the belief system. For example, Catholics, Unitarians, and Jews each accept one set of beliefs while rejecting several others. The belief system represents all the beliefs, sets, expectancies, or hypotheses, conscious and unconscious, that one at a given time accepts as true of the world he lives in. Conversely, the disbelief system is composed of a series of subsystems rather than merely a single one and contains all the disbeliefs, sets, expectancies,

conscious and unconscious, that, to one degree or another, a person at a given time rejects as false. The elements within such systems are not necessarily logically related. Rather, logical relationships between parts of one's belief and disbelief systems constitute a subclass of psycho-logical (i.e., nonlogical) systems. Thus, elements within a system may be interrelated without necessarily being logically interrelated. In fact, Rokeach stresses that certain parts may be isolated from each other while still retaining the potential for some kind of interrelationship. One's belief-disbelief system, therefore, is considered to be an organization of parts, the ultimate units being single beliefs and disbeliefs, which may or may not be logically interrelated. All people have belief-disbelief systems for, if logical interconnectedness were the sole criterion, then some people could be said to have them and others not. At the extreme, some belief-disbelief systems may have little or no communication among parts but the potential for such communication remains.

A belief-disbelief system is more than a religious or political or scientific system since it is doubtful that one's cognitions are neatly subdivided into such separated, mutually exclusive compartments. For example, a Catholic's belief that communism is evil is not only a religious but a political belief. Hence, it is more correct to describe one's belief-disbelief system as a political-religious-philosophical-et cetera system. In sum, a belief-disbelief system is more inclusive than what is normally meant by "ideology"; it includes such institutionalized sets of beliefs as well as some highly personalized beliefs which will be discussed shortly.

According to Rokeach, the organization of one's beliefs involves a tripartite schema. The first of these three dimensions, organization along a belief-disbelief continuum, has already been introduced but will be discussed in more detail below. The second dimension is that of a central-peripheral gradient while the third consists of a time-perspective dimension. Each of these three major cognitive dimensions will be briefly elaborated below.

As noted, all of one's beliefs can be organized into two interdependent parts; a belief system and a disbelief system. The disbelief system is assumed to be composed of several disbelief subsystems, each varying in degree of similarity to the belief system. A further assumption is that disbelief subsystems that are similar to the belief system are more acceptable to a person than less similar ones. For example, people with different beliefs often have to cooperate with each other as in coalition governments or joint-service military operations. In part at least, success of such cooperation may depend on the similarity between the different belief systems. The belief-disbelief system has additional characteristics; among the theoretically important ones are isolation of beliefs that are intrinsically related and the accentuation of differences-minimization of similarities between belief and disbelief systems. For example, isolation is apparent in the coexistence of logically contradictory beliefs within the belief system (e.g., being for democracy but also advocating government by an elite). Advocates of Catholicism and communism who both insist that the two systems have absolutely nothing in common are displaying an accentuation of differences where, by objective standards, there may be important similarities.

On the other hand, the Hearst concept of "Communzai" implies no distinction between two concepts where there may in fact be certain important divergences.

The second organizational aspect of all belief-disbelief systems is that of a central-peripheral dimension. The central belief region is comprised of a person's primitive beliefs regarding, for instance, the nature of the physical and social world, one's self, or whether or not people are to be feared or trusted. These primitive beliefs are analogous to geometric axioms; that is, beliefs that are assumed by the person to enjoy the total consensus of external referents. To illustrate, the belief that my name is so-and-so or that the object that I type with is a typewriter or that this world is basically an unfriendly place are primitive beliefs. The intermediate region is composed of beliefs about the nature of positive and negative authority where authority is defined as any source to whom one looks for information about the universe or to check information one already possesses. Persons differing in amount of Dogmatism do not differ so merely because one relies on authority and the other does not; the crucial difference, as Rokeach sees it, is that of the utterly divergent ideas each has about the nature of authority and how to use such authority as the mediating link between themselves and the world which they seek to understand. Thus, two persons may adhere to opposing ideological positions but both believe in an absolute authority, one true cause, etc. so that, while the specific content of their beliefs differ, the formal content is identical. Included also in the intermediate region are beliefs about people in general. The formal content here is that people are to be evaluated,

accepted, or rejected according to how they line up with authority and belief systems. This tie between one's acceptance of other people and of ideas derived from authority is exemplified by the use of opinionated language such as "Only a simple-minded fool would believe that . . ." or "Any intelligent person can see that . . ." or "The idea that . . . is pure hogwash." Therefore, when authority is seen as absolute, one's beliefs about people-who-have-beliefs cause him to make extreme distinctions between persons as faithful and unfaithful, loyal and subversive, or American and un-American. Those who disagree may be rejected as enemies of God, country, or the working class while those who agree may be accepted but only so long as and on condition that they continue to agree. The peripheral region contains all those non-primitive beliefs and disbeliefs which issue from positive and negative authority, regardless of whether or not such beliefs are consciously perceived as being thus derived by the person himself. The specific content of peripheral beliefs and disbeliefs is what is subsumed under the more familiar term "ideology." That is, favorable or unfavorable beliefs about birth control or the New Deal are considered peripheral beliefs because they are derivable from the formal content of one's beliefs about the Catholic Church or Roosevelt. The latter, according to Rokeach, are part of the intermediate region rather than the peripheral region. Thus, if one knew the specific nature of a person's intermediate beliefs about authority one could deduce from them the content of large numbers of many other beliefs. In other words, all a person's beliefs are not equally weighted; some are more strategically placed than others.

Since Rokeach holds the structural interrelations among the central, intermediate, and peripheral regions to be of chief importance in understanding the dynamics of Dogmatism and since the present experiment seeks to validate deductions obtained from a study of such structural interrelations, there follows a brief clarification of how such interconnections affect the normal thinking and cognitive processes. All information impinging upon a person from the outside must be processed, encoded, or thought of in such a way that it is either rejected or somehow fitted into the belief-disbelief system. This operation begins with the initial screening for compatibility with the primitive beliefs. This initial screening may lead to the rejection of this information so that nothing further need be done with it. As a case in point, the current work on extra-sensory perception is ignored by many people because it violates the primitive belief that reality can be known only through the senses. But even if the new information is consistent with primitive beliefs, it may not be so with one's intermediate (i.e., authority) beliefs. Accordingly, people often selectively avoid contact with people, events, books, etc. that threaten the validity of their belief systems or the "invalidity" of their disbelief system. Such protection may also be achieved for the person by his authority sources as, for example, by the publication of lists of taboo books or the liquidation of ideological enemies. Obviously, not all new information is handled in the above ways. Much new information does get through without being rejected outright wholly or in part by being somehow assimilated into the belief-disbelief system. This may require altering or rationalizing the new material in such ways as discovering what one's positive and

negative authority sources have to say about it. Finally, the new material, after having been screened, distorted, or otherwise made compatible with both one's primitive and intermediate beliefs, is filed into one's Weltanschauung or peripheral belief region.

This filing process is further explained by Rokeach. New material, represented psychologically in the peripheral region as a belief or disbelief, may or may not be related to or be in communication with other peripheral beliefs or disbeliefs. Therefore, the greater this isolation the less direct effect will a change in one belief have upon adjacent ones. However, there still can be indirect communication among peripheral beliefs via the intermediate (authority) region. For instance, a "party-line" change can be conceptualized as a change in a particular peripheral belief as a result of instruction coming from one's authority sources. That is, there is a relatively high degree of communication between peripheral and intermediate regions but not among particular peripheral beliefs or disbeliefs. A more "genuine" change may be conceived of as taking place if a new belief, or a change in an old belief, even though preceded by a communication from one's authority sources, sets off a sequence of autonomous activity that changes other peripheral beliefs, thereby changing the internal organization of the peripheral region and of the intermediate and primitive regions possibly as well.

This filing process just described is not necessarily to be thought of as a "coercing operation." Rather, the extent to which information about the world is coerced into the system depends upon the degree to which the total belief-disbelief system is "closed" or

"open." The precise meaning of "open" and "closed" will be given later but for now the following brief distinction will be made: at the closed extreme, the individual "tampers" with new information by altering it or isolating it from other beliefs, resulting in the preservation of his belief-disbelief system. At the open extreme, just the reverse occurs; one assimilates the new material as is. Being thus reconciled with other beliefs, the new material communicates with other peripheral, as well as intermediate, beliefs to produce "genuine" as opposed to "party-line" changes in the whole belief-disbelief system.

To summarize, it is immaterial whether or not a belief-disbelief system is open or closed. The point is that it forms a psychological system which in turn may or may not be a logically arranged system. Thus, Rokeach claims that one's thinking may be "confused" or "disorganized" but one still has his belief-disbelief system. It is the structural interconnection among central, intermediate, and the peripheral beliefs that gives the total belief-disbelief system its integrated character. Whatever characterizes the primitive region is assumed to be reflected within the intermediate region and whatever characterizes the latter will be further reflected in the peripheral region. Therefore, the belief-disbelief system, however illogical, is still assumed to be a highly organized system possessing certain structural relations among its parts.

The third and final organizational dimension of belief-disbelief systems is the time-perspective dimension. Rokeach posits that peoples' beliefs about the past, present, and future and the relations among these beliefs vary from a narrow to a broad perspective. A broad time-

perspective is one in which the person's past, present, and future are all represented within the belief-disbelief system and the person sees them as related to each other. A narrow-time perspective is one in which the person over-emphasizes or fixates on one of the three aspects without appreciating the continuity and connections that exist among them. Some illustrations of narrow time-perspectives are as follows: in most ideological movements of the political right, the model sought is typically that of some now-past glorious or more perfect state. The reminiscences of a senile person typically express a preoccupation with the past. An infant's behavior just as typically manifests an almost total preoccupation with the immediate present as does that of a highly impulsive adult. However, it is the future-oriented variety of narrow time-perspective that is central to Rokeach's formulations. For some persons, it is primarily the future that counts. For instance, many religious and political movements have stressed the importance of working for some future Utopia or new order. To these kinds of people, the present is but a purgatory to be at best endured or perhaps even violently changed to hasten the coming of the new order. In addition to discounting the present, such people can be expected to profess an "understanding" of the future, to be more willing to make predictions about the future, and to express a greater confidence in what the future holds in store.

The preceding paragraphs have described in some detail Rokeach's ideas about the organization of personality along three major interdependent cognitive dimensions. To summarize the foregoing material into workable hypotheses, the following outline of defining characteristics of open-closed systems is presented (Rokeach, 1960, pages 55-56).

A Belief-Disbelief System IsOpenClosed

- A. to the extent that, with respect to its organization along the belief-disbelief continuum,
- | | |
|--|---|
| 1. the magnitude of rejection of disbelief subsystems is relatively low at each point along the continuum; | 1. the magnitude of rejection of disbelief subsystems is relatively high at each point along the disbelief continuum; |
| 2. there is communication of parts within and between belief and disbelief systems; | 2. there is isolation of parts within and between belief and disbelief systems; |
| 3. there is relatively little discrepancy in the degree of differentiation between belief and disbelief systems; | 3. there is relatively great discrepancy in the degree of differentiation between belief and disbelief systems; |
| 4. there is relatively high differentiation within the disbelief system; | 4. there is relatively little differentiation within the disbelief system; |
- B. to the extent that, with respect to the organization along the central-peripheral dimension,
- | | |
|--|---|
| 1. the <u>specific content</u> of primitive beliefs (central region) is to the effect that the world one lives in, or the situation one is in at a particular moment, is a friendly one; | 1. the <u>specific content</u> of primitive beliefs (central region) is to the effect that the world one lives in, or the situation one is in at a particular moment, is a threatening one; |
| 2. the <u>formal content</u> of beliefs about authority and about people who hold to systems of authority (intermediate region) is to the effect that authority is not absolute and that people are not to be evaluated (if they are to be evaluated at all) according to their agreement or disagreement with such authority; | 2. the <u>formal content</u> of beliefs about authority and about people who hold to systems of authority (intermediate region) is to the effect that authority is absolute and that people are to be accepted and rejected according to their agreement or disagreement with such authority; |

- | | |
|---|---|
| <p>3. the <u>structure</u> of beliefs and disbeliefs perceived to emanate from authority (peripheral region) is such that its substructures are in relative communication with each other, and finally;</p> | <p>3. the <u>structure</u> of beliefs and disbeliefs perceived to emanate from authority (peripheral region) is such that its substructures are in relative isolation with each other, and finally;</p> |
| <p>C. <u>to the extent that, with respect to the time-perspective dimension, there is a</u></p> | |
| <p>1. relatively broad time perspective.</p> | <p>1. relatively narrow, future oriented time-perspective.</p> |

A more basic definition is offered by Rokeach (1960, pages 57-58).

This leads us to suggest a basic characteristic that defines the extent to which a person's system is open or closed; namely, the extent to which the person can receive, evaluate, and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside. Examples of irrelevant internal pressures that interfere with the realistic reception of information are unrelated habits, beliefs, and perceptual cues, irrational ego motives, power needs, the need for self-aggrandizement, the need to allay anxiety, and so forth. By irrelevant external pressures we have in mind most particularly the pressures of reward and punishment arising from external authority; for example, as exerted by parents, peers, other authority figures, reference groups, social and institutional norms, and cultural norms.

To this definition must be added Rokeach's idea of the dual aspect of all information received from the outside. He believes that all such messages contain information about the world plus information about the source. That is, a statement by Secretary of State Rusk that North Vietnam is as stubborn as ever about the issue of negotiations contains information about the North Vietnamese which, to the extent one judges it to be factually correct, should engender or reinforce a corresponding cognitive belief about whether they are indeed as stubborn as ever over negotiations. This belief should in turn serve to

guide one's action with respect to North Vietnam. Such a statement also contains information about Secretary Rusk himself, what he believes, what he wants us to believe, and what he wants us to do about it. This aspect of the statement may give rise to or reinforce various cognitive beliefs about Rusk and serve to guide other action-- for example, to get rid of Rusk or not, to get rid of the Democrats at the next election or not, etc. Rokeach assumes that the more open the belief system, the more will the dual character of the communication received from Rusk be appreciated and responded to with discernment, each piece of information being weighed on its own merits; and that the more closed the system the less cognitive discrimination can be expected between the two sets of information, beliefs, and consequent actions. In sum, the implication here is that the more open a person's belief system, the more strength should he have to resist externally imposed rewards or punishments. These consequences should be less effective as determinants of the way information will be evaluated and acted upon. Conversely, the more closed the belief system, the more difficult it should be to distinguish between information received about the world and information received about the source of the information. What the external source says is true should become confused with what the source wants one to believe is true and wants one to do about it.

Concerning the motivational aspects of belief-disbelief systems, Rokeach assumes that all such systems serve two powerful and conflicting motives simultaneously: the need for a cognitive framework to know and to understand and the need to ward off threatening aspects of

reality. To the extent that the cognitive need to know is predominant and the need to ward off threat absent, open systems should result. But as the need to guard against threat becomes stronger, the cognitive need to know should become weaker, resulting in more closed belief systems. Under threat, information and source should become inseparable and should be evaluated arbitrarily in line with the rewards and punishments meted out by authority. For most persons in most situations, both sets of needs operate together to a certain degree. A person will be open to information insofar as possible and will reject, screen, or alter it insofar as necessary. No matter how much one's system closes up to ward off anxiety, it still serves as a cognitive framework for satisfying the need to know. Thus, one can distort the world to whatever extent necessary but simultaneously preserve the illusion of understanding it. And if the closed or dogmatic mind is extremely resistant to change, it may be so not only because it allays anxiety but also because it satisfies the need to know.

At the individual level, threat or anxiety may arise out of adverse experiences, temporary or enduring, which are shaped by and which, in turn, shape broader human conditions. To varying degrees, individuals may become disposed to accept or to form closed systems of thinking and believing in proportion to the degree to which they are made to feel alone, isolated, and helpless in the world in which they live and thus anxious of what the future holds for them. Such conditions should lead to pervasive feelings of self-inadequacy and self-hate. Attempts may be made to overcome such feelings by becoming excessively concerned with needs for power and status. Along with such an overconcern there may

be compensatory attitudes of egoism and misanthropy which feelings in turn lead to feelings of guilt and to a generally disaffected outlook on life.

Rokeach has developed an objective paper-and-pencil measure of individual differences in openness or closedness of belief systems, the D scale. Because of the way in which open and closed are defined, the D scale should also serve to measure general authoritarianism and general intolerance. His procedure in constructing the individual items was largely deductive; that is, from the working definition of open-closed systems presented above, Rokeach attempted to construct statements that would tap the characteristics of open and closed systems. Above all, each item in the D scale had to transcend specific ideological positions in order to tap the formal and structural characteristics of all positions. Thus, persons adhering dogmatically to such diverse viewpoints as Catholicism and anti-Catholicism should all score together at one end of the score continuum and should all score in a direction opposite to others having equally diverse yet undogmatic views. The final revised form of the D scale contains 40 items, each of which is answered by marking +1, +2, or +3 or -1, -2, or -3 to indicate one's degree of agreement or disagreement, respectively. In all cases, agreement with the item is scored in the closed or dogmatic direction. Each of the three major organizational dimensions of belief-disbelief systems are represented in the scale's content. For example, an item assumed to tap isolation within and between belief and disbelief systems is "The United States and Russia have just about nothing in common." An item involving the specific content of primitive beliefs is

"Man on his own is a helpless and miserable creature." Finally, an item designed to measure one's time-perspective is "The present is all too often full of unhappiness. It is only the future that counts."

In addition to presenting the latest version of his theory, Rokeach's book (1960) also includes the report of a series of validation studies. For instance, the D and F scale scores correlate moderately (+.54 to +.77) with each other. Catholics, Protestants, and religiously unaffiliated Ss rank from highest to lowest in terms of D scores, respectively. Catholics score high on both the D and F scales while English communists, who also score high on the D scale, have the lowest F scores among the groups tested. Further, Ss who score low on the D scale (i.e., in the open-minded, undogmatic direction) as compared to those scoring high on the scale (i.e., in the closed-minded, dogmatic direction) have been shown to prefer conventional (Brahms) to unconventional (Schönberg) music; to be poorer in problem solving situations where the synthesis of new information is required; and to be slower to perceive inherent contradictions within a given piece of information.

There is also a growing body of independently conducted empirical research, generally supportive in nature, concerning various aspects of Rokeach's theory. The following selected studies are meant to show the scope and direction of experimentation generated by his formulations. That high D Ss do indeed discriminate a message from its source less well than do low D Ss has been shown by several investigators. Vidulich and Kaimen (1961) found that dogmatic Ss conformed more than undogmatic Ss to prearranged estimates of autokinetic movement

given by a stooge when the unseen stooge was introduced as a high status (college professor) source. McCarty and Johnson (1962) discovered that dogmatic Ss tended to believe official police reports of a student riot to a greater extent than undogmatic Ss who tended to believe students' reports of the same event. Powell (1962) showed that high D Ss displayed a smaller difference between semantic differential profiles of presidential candidates and their campaign statements than did low D Ss.

Several studies have provided replication of some of Rokeach's early work. Plant (1960), repeating Rokeach's attempts to correlate the F, D, and E (ethnocentrism) scales, found that the relationships as reported by Rokeach did hold. Plant concluded that the D scale is indeed a purer measure of authoritarianism than the F scale and is less contaminated by items measuring prejudice and ethnocentric tendencies than is the F scale. Barker (1963) confirmed Rokeach's contention that the D and F scales measure different kinds of authoritarianism. Barker found that dogmatic right-wing activists scored higher on the F scale than did equally dogmatic, left-wing activists among Ohio State undergraduates. He also found that F scores correlated significantly ($\rho = +.50$) with measures of political-economic conservatism while D scores did not ($\rho = +.07$). Koepp (1963) confirmed Rokeach's finding that Catholics score higher on the D scale than do members of other religious groups. Zagona and Zurcher (1964; 1965a; 1965b), observing recitation classes composed entirely of either high or low D scorers over a semester, found that, compared to low D Ss, dogmatic Ss lacked spontaneity; exhibited dependence on the class instructor; preferred objective to essay exams; were intolerant of unconventional behavior; and scored lower on a "creativity" test of verbal remote associates.

Some of the researchers have applied Rokeach's formulations to the study of race prejudice and have discovered that a large part of prejudice can be explained by belief similarity rather than race or skin color. That is, studying friendship preferences and sociometric choices among both children and adults, the perceived similarity of belief between two people serves as a better predictor of such choices than the racial or ethnic make-up of the dyads (Stein, Mardyk, & Smith, 1965; Rokeach & Mezel, 1966; Stein, 1966; Smith, Williams, & Willis, 1967).

Several factor analytic studies (Rokeach & Fruchter, 1956; Fruchter, Rokeach, & Novak, 1958; Kerlinger & Rokeach, 1966) have shown that the F and D scales are factorally distinct from one another as predicted by Rokeach. That is, the D scale is loaded with factors similar to those that Rokeach hypothesized but which do not appear at all or to the same degree in the factorial composition of the F scale.

Dogmatism and Opinion Change

Although Rokeach does not explicitly discuss the relation of Dogmatism to opinion change, such a relationship might be deduced from the following considerations. It has been shown that, as hypothesized, high D Ss confuse or discriminate less well than low D Ss a source from its message. This fact, plus the theoretical differentiation between open and closed-minded Ss--the ability to independently and critically evaluate information on its own merits--suggests that dogmatic Ss tend to be more persuaded than undogmatic Ss by propagandistic messages. When such messages are presented to dogmatic Ss, such persons will be predisposed toward accepting the messages' substance by their habit of

allowing external sources to provide "pre-packaged" opinions. Open-minded Ss, however, will be less likely to be influenced, at least immediately, by persuasive communications since they are characterized by a habitual manner of detached, independent, critical evaluation of new information. That open-minded Ss do take longer to reach a decision and declare a greater need for more pre-decisional information than closed-minded Ss has been established by Long and Ziller (1965). Thus, open-minded Ss will display the effects of the message only after they have "worked through" the new material while, conversely, closed-minded Ss are more likely to exhibit immediate opinion change.

In terms of persistence of induced opinions, it may be anticipated that high D Ss will maintain their newly acquired opinions when such persistence is measured by a delayed post-treatment opinionnaire. On the other hand, low D Ss will be as persistent once the material is assimilated but the effects of such assimilation will be evident only some time after the treatment. That is, there should be no change in opinion scores among high D Ss from an immediate post-treatment (IPT) measure to a delayed post-treatment (DPT) measure. However, among low D Ss there will be a change in such scores between the two measures.

In a situation, however, where one is called upon to construct a persuasive message, one becomes in a sense both source and recipient. Such situation should allow for the maximal play of one's own inner resources--motives, cognitive habits, self-feelings, etc.--in determining how one will react to such a task. Dogmatic Ss, relatively unused to spontaneous, independent thought, might be expected to remain unmoved and uninfluenced by a self-constructed argument. The habit of

appreciating "pre-packaged" opinions over independent, creative thought should lead to no change or perhaps even a reversal of opinion about the issue. Open-minded Ss, on the other hand, should tend to be relatively more influenced by their own efforts at constructing arguments since they are more "creative," self-assured, and independent. Thus, unlike the situation where Ss passively read a persuasive message, closed-minded Ss should exhibit no immediate opinion change when asked to actively construct an argument. Open-minded Ss, in this case, should respond to their own efforts favorably by registering an immediate opinion change.

In terms of persistence of actively induced change, closed-minded Ss should remain unconvinced by such personally constructed propaganda while undogmatic Ss should persist in their actively induced opinions.

A review of pertinent literature shows only three published studies dealing with the relation between D scores and persuasive communications. Miller (1965) hypothesized that dogmatic Ss would have difficulty in synthesizing new material which was discrepant with an already held opinion and so would prefer some response other than opinion change. From a pool of over 800 high school Ss, he picked 40 which were equally divided between the extreme quartiles of the D score distribution and an opinion score distribution associated with the topic of floridation. Miller added a third dimension, involvement, so that the overall design was of the form 2 x 2 x 2 with five Ss per cell. "Involvement" was effected by administering to each S individually a 300-word "pep" speech stressing the importance of S's

participation in the study the ostensible purpose of which was to gather a national sample of opinion on the issue of floridation or increased math and science requirements in high school, depending upon which involvement group he was assigned. The experimental treatment was individually administered to each S four to ten months after the initial measure of opinion and Dogmatism and consisted of presenting to each S, after he had become involved in either the relevant or the irrelevant issue, a three-minute taped speech which was at odds with his initial position on floridation. The results of an analysis of IPT opinionnaire scores showed that the main effect of involvement was the only significant effect among the interactions and other main effect of Dogmatism in that involvement in the relevant issue of floridation alone served to inhibit the effectiveness of the speech as measured by little positive (i.e., counter-attitudinal) opinion change. Further, the least amount of positive change was exhibited under conditions of high D- involvement in relevant issue while the largest amount of such change occurred under conditions of low D-irrelevant issue involvement. Miller concluded that, compared to involvement, Dogmatism was a weak inhibitor of the message's effectiveness and, hence, opinion change.

Norris (1965) hypothesized that dogmatic Ss, because of their inability to distinguish source from message, should display a greater amount of opinion change than undogmatic Ss when a high status source proclaims a view that is highly dissonant with a generally held cultural truism. Each of 101 college Ss was given one of four page-long messages in a "news-story" form, each of which was attributed to a high status source (the United States Public Health Service) and which

attacked the validity of a cultural truism (e.g., the efficacy of having an annual chest X-ray, brushing one's teeth regularly, etc.) Six weeks prior to this treatment, the Ss were divided into two groups on the basis of a median split of D scores. Ten days prior to the treatment, initial opinion scores toward the truisms were obtained. Corroborating previous independently conducted research, Norris found that the truisms enjoyed a very high level of favorableness. Treatment consisted of distributing to an intact class the four "news stories," then presenting an IPT opinionnaire. Analysis of the change scores in the 2 x 4 design revealed that, across all four truisms, high D scorers changed more than low D scorers toward the position advocated in the stories but that only on one issue (the inadvisability of an annual chest X-ray) was the difference statistically significant. Norris offered the post hoc suggestion that stories carried in the mass media at approximately the same time as the treatment administration to the effect that lack of precautions in X-ray procedures may indeed be injurious had differentially affected high and low D Ss.

Miller and Lobe (1967) predicted that closed-minded Ss would be more influenced than open-minded Ss by a persuasive message couched in opinionated language (e.g., Any intelligent person can see that . . .) than in unopinionated language. Eighty college Ss were divided into two groups on the basis of a median split of D scores obtained from an abridged D scale two weeks before the administration of the treatment. Initial opinion scores toward a series of topics were also collected at this time. The ultimately selected target topic had a moderate to highly unfavorable degree of acceptance among the Ss. A

persuasive message, the content of which was counter to the opinion held by the majority of Ss concerning the target topic, was constructed in two versions, one containing opinionated language, the other not. The message was attributed to a source (an American astronaut) that, according to Ss' ratings, had high status. Each S received one of the two forms of the persuasive message during a regularly scheduled class meeting. Immediately after reading the message, each S completed a second opinionnaire. Analysis of the change scores in the 2 x 2 design showed that, first, a significant amount of change occurred in all four treatment combinations and, second, that Dogmatism did not have an effect on the amount of change while the presence of the opinionated language resulted in a larger positive (i.e., counter-attitudinal) change relative to the use of unopinionated language.

Problem and Hypotheses

The aim of this dissertation is to investigate the relation of individual differences in levels of Dogmatism to the amount and persistence of opinion change induced by active versus passive participation on S's part. While each of the three studies detailed above dealt with additional variables such as counter-attitudinal change and the effect of source status (legitimate topics for research in their own right), from the standpoint of the present experiment, these studies shed little light upon its basic aim. That aim, specifically, is to create a "pure" situation as free as possible from confounding artifacts such as sex differences in persuasibility and regression effects due to focusing on extremes of opinions plus the irrelevant (at least to this study) variable of counter-attitudinal change. None of the

trio of studies reviewed above made provisions for an analysis of sex differences in degree of persuasibility. Since it has been found that, with treatments consisting of the reading of persuasive messages, females are swayed to a greater extent than males (e.g., Janis & Field, 1959; King, 1959; Whittaker, 1965), any such differential persuasibility on the females' parts may have been counteracted and masked by the males' performance. In addition, all three studies dealing with D focused only on counter-attitudinal opinion change. Perhaps attempting to induce incongruent opinion change is qualitatively different from beginning with moderate opinions and seeking to effect change in one direction or another. All three also included as part of their design the variable of source status. What happens when the source's status is muted or becomes in effect a reflection of one's self-esteem?

The results of a pilot study designed to investigate some of the variables and procedures to be used in this dissertation may here be presented. During the latter half of the Fall semester of the 1967-68 school year eight recitation sections of introductory psychology Ss were randomly selected to participate. Using two of the issues, the active and passive induction processes, and the opinionnaire described by Watts (1967), a pair of recitation sections were randomly assigned to each of the four (two issues x two induction processes) treatment combinations. Within each recitation section, all Ss completed an initial opinionnaire, the assigned treatment combination, then completed an IPT opinionnaire identical to the initial one. All three such phases were completed within a 15-minute period of a single class hour. In the active process, each S was instructed to construct

within eight minutes a persuasive argument supporting either the admission of Puerto Rico into the Union or the more lenient court treatment of juvenile delinquents. The passive process consisted of allotting eight minutes to Ss for reading and underlining parts of a 600-word message arguing for Puerto Rico's admission or more lenient court treatment of delinquents. Since intact groups were used, each recitation section's mean pre-treatment and post-treatment opinion scores on the assigned topic were treated as individual scores; in the 2 x 2 table of treatment combinations, each cell thus contained two initial scores and two post-treatment scores. In the first analysis, initial scores were used as the covariant in an analysis of covariance of post-treatment opinion scores for all Ss within each recitation section. Neither the issues effect, the induction effect, nor the interaction between the two was significant (all F's <1). However, when a second analysis of covariance was conducted using only the scores of females located within one standard deviation (SD) of the mean opinion score of the relevant issue, only the induction method effect was found to be significant (F=12.11, df= 1/3, p <.05). The mean adjusted scores of the passive (reading) treatment were significantly larger than those of the active (writing) treatment. Perhaps the effects of the active process required time to manifest themselves. In any event, selection of females possessing relatively neutral mean opinion scores seemed to tap a set of conditions the effects of which would otherwise perhaps not have been suspected.

In view of the foregoing material, including derivations from Rokeach's theory, relevant studies dealing with D and opinion change, and the pilot study, formal hypotheses were formulated.

1. There will be significant main effects for Induction Methods favoring the Passive Method in terms of mean amount of congruent opinion change displayed on IPT measures of both issues.
2. For the IPT measures of both issues, there will be a significant interaction between D and Induction methods reflecting a reversal of the magnitude of mean scores within Induction Methods. That is, in the Active treatment, low D Ss will have a significantly higher mean score than high D Ss while in the Passive treatment, the reverse situation will hold with high D Ss having the significantly higher mean score.
3. In terms of persistence of change Actively induced, Ss at each level of D will maintain their position with respect to size of mean score over the IPT-DPT interval such that, while there will be no interaction between D and the interval, the significant main effect for D present at the IPT point will be maintained over the interval with low D Ss possessing a significantly higher mean score than the high D Ss.
4. In terms of persistence of change Passively induced, there will be a significant interaction between D and the IPT-DPT interval caused by an increase in magnitude of mean scores for low D Ss over the interval while Ss at the other two levels maintain their relative order in terms of mean score size over the interval.

As a secondary point of interest, it is also predicted that there will be a significantly greater amount of opinion change associated with the less salient issue than with the more salient issue.

In all cases above, Ss at medium levels of D will occupy intermediate positions relative to Ss located at the extremes of the D continuum.

CHAPTER II

METHOD

Subjects

The Ss consisted of 146 females of American citizenship who were enrolled in introductory and educational psychology courses taught at the University of North Dakota during the Spring semester of the 1967-68 school year. Students enrolled in each of these courses were required to participate in a minimum of three hours of departmental research. The initial and DPT measures were taken during regular class meetings while the treatment and IPT opinionnaires were administered in an evening session voluntarily attended by selected Ss.

Since a repeated-measurements design was used in which each S was measured three times, there were a few Ss who were absent on these occasions and whose scores, consequently, could not be included in the data analyses. Of 146 Ss attending the treatment session, 117 were also available for the final DPT measure.

Materials

The forty items of the Form E (Rokeach, 1960, pages 73-80) D scale were randomly interspersed among filler items which included the fifteen-item L scale of the Minnesota Multiphasic Personality Inventory (Hathaway & Meehl, 1951) plus thirty-five items selected from Rokeach's Opinionation scale (Rokeach, 1960, pages 83-84). Scores on the D scale

could range from zero to forty with high scores indicating closed-mindedness and low scores indicating open-mindedness. The manifest content of the D and Opinionation items served to give face validity to the title "Social-Political Opinion Survey" which was attached to the collection of 90 items. Separate answer sheets were used by Ss to record their answers to all items. The D items were scored in a dichotomous manner (i.e., true or false). Several studies (Peabody, 1962; Korn & Gidden, 1964; Shupe & Wolfer, 1966) have shown that with such a scoring system total score test-retest reliabilities are at least as high as those reported by Rokeach while such scores have a generally high (i.e., +.69 to +.94) correlation with total scores attained by means of the original six-point scoring system. Thus, for administrative convenience and scoring ease, the dichotomous scoring method was used here.

The initial opinionnaire, similar to the one used by Watts (1967), consisted of four series of three statements each with each tirad pertaining to an issue. The three Juvenile Delinquency (JD) items were: (1) Courts should deal more leniently with juvenile delinquents; (2) Special consideration and lenient treatment should not be given to juvenile delinquents since it is the function of our legal institutions to protect the innocent citizen; (3) Understanding and guidance are the best techniques for dealing with juvenile delinquents. The trio of items dealing with the Puerto Rico (PR) issue included: (1) Puerto Rico should be admitted to the Union as the 51st state; (2) It would be premature at this point to consider admitting Puerto Rico as a state; (3) It would be to our advantage in many ways to welcome Puerto Rico as the 51st state in the immediate future. Over all three opinion measures, this order of items was maintained for both issues. Opinion was measured

by having S check her degree of agreement with each statement on a fifteen-point graphic scale positioned below the statement. The left end of each scale was labeled "Definitely disagree" (scored as 1) and the right end labeled "Definitely agree" (scored as 15). Two of the three statements pertaining to each issue were worded so that "Definitely agree" responses indicated extreme agreement with the position advocated in the statement while the third statement was worded in reverse with extreme disagreement with the statement corresponding to the position advocated. For each issue the three item scores were summed, with appropriate reflection of items keyed in reverse, so as to provide an opinion score for each S on each of the issues. Opinion scores could range from three to 45 about a theoretical neutral point of 24 with high scores indicating support of the issue and low scores indicating opposition to the issue. These items were not presented in triads but were intermixed throughout the opinionnaire. Also, the initial opinionnaire contained below the first statement introducing each issue a pair of seven-point graphic scales for ascertaining the saliency of that particular issue. The first such substatement read "How important do you think this issue is?" Underneath was a scale with the words, "Very important" (scored as 7) located at the left end and the words "Not at all important" (scored as 1) at the right end. The second substatement read "How much thought have you given this issue?" At the left end were the words "None at all" (scored as 1) while at the right end was the phrase "A great deal" (scored as 7). A "yes-no" item was also included by which Ss indicated whether or not they had served in the pilot study the previous semester.

For purposes of dissociation from the initial opinionnaire, the first part of the IPT measure asked the S for biographical data irrelevant to the purposes of this study. Then followed instructions concerning completion of semantic differential profiles together with a few concepts, also irrelevant to this study's purposes, to be judged along various semantic dimensions. Finally, the graphic rating scale opinionnaire appeared containing the same six items pertaining to the JD and PR issues that were included in the initial opinionnaire. More and different filler items were mixed in with the selected issue items, however.

The DPT opinionnaire was identical to the initial measure with the exception that the pair of subscales which had appeared beneath the first item introducing each issue were omitted.

Procedure

Initial Measures

The D scale and initial opinionnaire were administered to all recitation sections of both introductory and educational psychology courses during the first week of the semester. Both forms were given as a matter of course without special instructions or explanations being given by the recitation instructors.

After eliminating approximately 70 Ss on the basis of incomplete or invalidly marked scales, foreign citizenship status, or participation in the pilot study, a total of 643 pairs of scales were retained and scored. The mean D scores for the introductory and educational psychology Ss were found to be 17.28 (SD = 5.14) and 16.76 (SD = 5.05), respectively. This difference was not statistically significant ($t = 1.10$,

$df = 641$). The mean opinion score for the JD issue was 26.00 ($SD = 7.92$) for the introductory Ss and 26.66 ($SD = 7.52$) for the educational psychology Ss. This difference was not significant ($t = 0.94$, $df = 641$). The mean opinion score for the PR issue was found to be 22.57 ($SD = 8.18$) for the introductory Ss and 22.73 ($SD = 7.59$) for the educational psychology Ss. This difference was also found to be non-significant ($t = 0.22$, $df = 641$). Thus, since Ss from introductory and educational psychology courses were found not to differ significantly in terms of either D or opinionnaire mean scores for either issue, scores from the two groups were combined in all later analyses. The mean opinion score for the JD issue formed by combining the scores of Ss from introductory and educational psychology courses was found to be 26.16 ($SD = 7.83$) while the similarly formed combined score for the PR issue was found to be 22.61 ($SD = 8.04$). The difference between these two mean scores was significant ($t = 8.03$, $df = 641$, $p < .01$), indicating that the JD issue was viewed in a slightly more positive light than the PR issue.

Unlike the D and opinion score distributions, however, the subscale score distributions were not uniformly normal in shape. The distribution of responses to the question of "importance" for the JD issue was quite skewed toward the "very important" end-point for scores of Ss from both psychology courses. The median score for each of the two distributions was included in the score interval of 6. As indicated by the median test (Siegel, 1956, pages 111-116), there was no significant difference between the central tendencies of the two groups of scores ($\chi^2 = 0.002$, $df = 1$). The distribution of responses to the question of "thought" for the JD issue, however, appeared normal in shape for each of the two groups. For each group of Ss, the median score was included

in the score interval of 4. The difference between the central tendencies of the two groups' scores was not significant as measured by the median test ($\chi^2 = 0.60$, $df = 1$). As for the subscale response distributions associated with the PR issue, the situation was reversed. That is, the "thought" responses for both groups of Ss were extremely skewed toward the "none at all" end-point rather than falling about the theoretically neutral or average point of 4 in a roughly normal distribution as was the case above with the JD issue. For each group, the median score was included in the score interval of 2. The difference between the groups' central tendencies as indicated by the median test was not significant ($\chi^2 = 0.80$, $df = 1$). The distribution of "importance" responses for the PR issue for each of the two groups of Ss was essentially normal in shape rather than skewed as was the corresponding case above concerning the JD issue. The median score was included in the score interval of 4 for each of the two groups' distributions. The difference between the two groups' central tendencies was not significant as measured by the median test ($\chi^2 = 0.05$, $df = 1$). Therefore, since Ss from introductory and educational psychology courses were found not to differ significantly from each other in terms of rated "importance" of either issue or the amount of thought given to each, scores from the two groups of Ss were combined in all later treatment of this data. Such combined data was analyzed by a two-sample, one-tail Kolmogorov-Smirnov test (Siegel, 1956, pages 127-136) in order to determine whether or not the JD issue was rated as being significantly more "important" than the PR issue. The χ^2 value of 381.94 ($df = 2$, $p < .001$) indicated that the JD issue was indeed judged significantly

more "important" than the PR issue. A similar analysis of the combined data to determine whether or not Ss indicated giving significantly more thought to the JD issue than to the PR issue yielded a χ^2 value of 230.01 (df = 2, $p < .001$). This result indicated that significantly more thought was indeed given to the JD issue. Therefore, both in terms of judged importance and of amount of thought given it, the JD issue was found to be more salient than the PR issue.

In keeping with the plan to create a relatively "pure" opinion change situation and considering the results of the pilot study, the only Ss considered for inclusion in this study were those females who scored within one SD of the mean opinion score of at least one of the issues and who scored in the "salient" direction on the sub-scale continua. To provide for normal S attrition in this repeated-measurements design and so insure adequate cell frequencies, it was decided to over-sample by selecting at least 100 Ss who fit the above criteria for each of the two issues. Attainment of this minimum of Ss eligible in terms of the JD issue required inclusion of all those scoring 4 and above on both subscale continua. For those eligible in terms of opinion scores on the PR issue, it was necessary to include all those scoring 2 and above on both subscales. In this way, 106 Ss were chosen for each issue and so constituted the initial pool of 212 Ss eligible for participation in this study.

The D score distribution of Ss associated with the JD issue was trichotomized as follows. Beginning simultaneously at the end-points of the distribution and working toward the middle, scores were accumulated until a total of at least 34 was reached. This procedure resulted in the following groupings of Ss into one of three D levels: 31-19

(High); 18-15 (Medium); 14-6 (Low). One S with a D score of 19, two with scores of 18, and one with a score of 15 were eliminated from the formal analyses by use of a table of random numbers in order to achieve a frequency of 34 for all D levels.

A similar procedure was followed in the case of Ss associated with the PR issue. The groupings into D levels were as follows: 27-19 (High); 18-16 (Medium); 15-8 (Low). Two Ss with D scores of 15 and two with scores of 19 were randomly eliminated from the formal analyses. In addition, in order to achieve a frequency of 34 for all the D levels, two Ss with scores of 19 were randomly selected to be included in the Medium D level.

Treatment and Immediate Post-treatment Opinionnaire Administration

Each S within each D level of the two issue groups was placed in one of two categories -- Active or Passive -- by means of an odd-even designation of each number within sequences of random permutations of 16 numbers. Thus, the cell frequency (n) of each treatment category of each D level within each issue group was 17.

Nine weeks after administration of the initial measures, names of the 212 selected Ss were posted in addition to being read aloud in the course lecture and recitation sections in an attempt to maximize attendance at the treatment sessions which were scheduled for a mid-week evening two weeks later. Other than as a routine means of fulfilling course requirements for participation in departmental research, nothing as to the nature of the experiment or its relation to the initial measures was indicated. Subjects were notified only that they were

assigned to one of four rooms in the building where most of the recitation sections met.

Eleven weeks after the initial measures were collected, Ss arrived in their designated rooms to receive one of four relevant treatment-issue combinations: Active-JD; Passive-JD; Active-PR; Passive-PR. That is, Ss who previously were identified as having met the criteria for inclusion into an issue group were given either the Active or Passive treatment in relation to that issue. For example, an S whose opinion score on the JD issue was located within one SD of the mean JD opinion score and who scored 4 or above on both of the saliency subscale continua entered a room in which she was to receive either the Active or the Passive treatment, the exact treatment having been determined randomly beforehand as mentioned above.

Administration of materials in each of these simultaneously meeting groups was handled by one of four graduate student experimenters (Es), none of whom was the senior E. Instructions for the Active treatment were to the effect that the study was an attempt to measure the kinds and quality of arguments that college students were able to improvise supporting a given topic. The Ss were then given three unlined sheets of paper, blank but for the statement of the topic at the top of the first sheet which statement was the first item in the trio of opinionnaire items. Eight minutes were then given over to the writing of supportive arguments. After the improvised arguments were collected, the IPT opinionnaire was handed out with the declared purpose of discovering if the task just completed as well as certain other factors were related to Ss opinions on various topics. After completing the IPT, Ss were dismissed without mention of the planned third opinion

measure. For Ss in the Passive treatment, the preliminary instructions were to the effect that the study was an attempt to develop some instruments to measure how college students think critically. They were to read a passage and underline the shortest clause in each paragraph which summed up the whole point of the paragraph. The Ss were then given a single page containing a 600-word passage which included purported facts incorporated into arguments in support of the title statement. As with the Active treatment, the title was also the first item in the trio of opinionnaire items. Eight minutes were allowed for the reading and underlining, then the passages were collected. The IPT opinionnaires were distributed, filled out, and collected. In all respects, save the preliminary instructions and treatments subsequently administered, Active and Passive Ss were handled alike. Of the Ss eligible for inclusions in this study, 146 were present at the treatment sessions.

Delayed Post-treatment Opinionnaire Administration

Two weeks after the treatment and IPT opinionnaire administration, all recitation sections of both psychology courses were given the DPT measure. Recitation instructors prefaced this unannounced in-class administration with remarks to the effect that the stability of opinions expressed at the semester's beginning was being investigated. Only the DPT forms of Ss present at the treatment two weeks earlier were scored. Of the 146 Ss who received the treatments, 117 were also present in recitation class to receive the DPT opinionnaire.

CHAPTER III

RESULTS

Introduction

It was discovered that there was a lack of a practical degree of inter-item correlation of scores for each of the issues. Watts (1967) made no mention of this lack of strong correlation among these same items. For the trio of JD item scores of the 212 Ss included within the initial pool, the inter-item Pearson correlations (r's) were as follows: items 1 and 2, +.12; items 1 and 3, +.11; items 2 and 3, +.14. Although the latter r was found to be statistically significant ($p < .05$, df = 210), in practical terms such low intercorrelations suggested that opinions concerning three relatively distinct aspects of the issue were being measured. Thus, using the summed score to measure opinion change, as originally planned, could have masked differential treatment effects upon the individual items. The same reasoning applies to the PR issue scores. There, the intercorrelations were as follows: items 1 and 2, +.30; items 1 and 3, +.51; items 2 and 3 +.19. Again, although all these correlations were significant ($p < .01$, df = 210), in practical terms the three items were not measuring the same central theme. Therefore, use of the summed score could have resulted in the masking of measurable opinion change. Since the use of the summed score as a measure of opinion change was

shown to be less suitable, it was decided to use the individual item scores for each of the issues as indices of change. The hypotheses and analyses then were applied in terms of the individual item scores and not in relation to the summed scores.

An estimate of the individual item score test-retest reliability was obtained by correlating the IPT scores of Ss who did not receive treatment on the relevant issue with their initial scores. That is, JD IPT item scores of 73 Ss who received treatment on the PR issue were correlated with initial JD item scores and, likewise, PR IPT item scores of 73 Ss who received treatment on the JD issue were correlated with the initial PR items. The item score reliabilities over an eleven-week period for the JD items were as follows: item 1, +.55; item 2, +.25; item 3, +.59. Correlations similarly calculated for the PR item scores were as follows: item 1, +.64; item 2, +.56; item 3, +.56. With the exception of JD item 2 scores, there appeared to be an acceptable degree of item score reliability.

Treatment Effects

Before discussing the effects of prime importance, it should be established that opinion change initially occurred in each of the treatments or Induction Methods. This was done by conducting for each item an analysis of covariance analyzing scores for three levels of D and the Treatment versus Control condition. Initial scores were used as the covariant and IPT scores as the criterion. Hereafter, these analyses will be referred to collectively as Design 1. The number (N) of Ss included at each of the three levels of D for any item ranged from 11 to 14 for a total N of 146. But to facilitate machine

computation and interpretation of the data, random elimination of Ss at some D levels resulted in an individual cell frequency (n) of 11 for each of the 12 cells comprising each of the covariance designs for a reduced total N of 132. Specifically, in the Design 1 analyses, pairs of initial and IPT scores of Ss who received either the Active or Passive treatment constituted the Treatment scores while pairs of scores of Ss who responded to the same items but received treatment on the other issue formed the relevant Control scores.

No attempt will be made here in Design 1 analyses to interpret theoretically any significant main effects for D for the following reasons: (1) the D dimension was added to serve primarily as a statistical device to increase the precision of testing for the presence of Treatment effects, (2) the inclusion of Control Ss indeterminately inflated the overall error term by which the effect of D in relation to Treatment scores (i.e., Hypothesis 2) could be analyzed. Instead, a more appropriate analysis of Hypothesis 2 follows immediately the Design 1 analyses.

Tables 1 through 3 display the results of Design 1 analyses and adjusted mean IPT scores for JD items 1, 2, and 3, respectively. Table 1 contains only the expected significant main effect for the Treatment v. Control dimension for JD item 1. Contrasts (Winer, pages 65-68) among the adjusted column means indicated that the mean Active Treatment total score was significantly ($F = 19.00$, $df = 1/119$, $p < .001$) greater than the combined average total scores of the two Control groups, as was the mean Passive Treatment total score ($F = 36.62$, $df = 1/119$, $p < .001$). Both Induction Methods, therefore, did

Table 1

Adjusted Immediate Post-treatment Mean Scores of the Treatment and Control Groups for Item 1 of the Juvenile Delinquency Issue

Levels of Dogmatism	Experimental Conditions				Mean Total
	Treatment		Control		
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	7.54	9.83	2.66	4.93	6.24
Medium	6.63	7.35	4.04	4.15	5.54
Low	7.33	7.84	4.96	4.12	6.06
Mean Total	7.17	8.34	3.89	4.40	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	11.36	2	5.68	<1	N.S.
Treatment v. Control (TC)	443.21	3	147.73	13.96	<.001
D x TC	65.22	6	10.87	1.02	N.S.
Error	1,259.21	119	10.58		

effect significant amounts of congruent opinion change. Table 2 contains both a significant D main effect and the expected significant Treatment v. Control main effect. As indicated above, the significant D effect is interpreted as representing an irrelevant source of variance that has been successfully "blocked out" of the analysis. Perhaps the low reliability of JD item 2 scores noted above in the Method section contributed an undue amount of variability to the opinion scores such that this finding is a statistically spurious one. Concerning the significant overall Treatment v. Control effect, contrasts showed that the mean Active Treatment total score was not significantly greater than the

Table 2

Adjusted Immediate Post-treatment Mean Scores of the Treatment and Control Groups for Item 2 of the Juvenile Delinquency Issue

Levels of Dogmatism	Experimental Conditions				
	Treatment		Control		Mean Total
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	7.46	9.08	4.60	8.76	
Medium	7.92	8.74	7.94	6.71	7.83
Low	11.19	10.12	7.45	9.97	9.68
Mean Total	8.86	9.31	6.66	8.48	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	123.89	2	61.94	4.10	<.025
Treatment v. Control (TC)	133.39	3	44.46	2.94	<.05
D x TC	108.67	6	18.11	1.19	N.S.
Error	1,797.57	119	15.10		

combined average total scores of the two Control groups ($F = 2.41$, $df = 1/119$, $p < .20$). The mean Passive Treatment total score was, however, significantly greater than the combined average total scores of the two Control groups ($F = 4.42$, $df = 1/119$, $p < .05$). Perhaps here also the low item score reliability attenuated the Treatment effects. At any event, the Passive Treatment appeared to have been of sufficient strength to have been able to display its effects in spite of the likely dilution caused by low score reliability. Table 3 shows a complete lack of significant results of any type in relation to Design 1 analysis of opinion scores of JD item 3. Inspection of the Control \bar{S}_s ' mean scores gives

Table 3

Adjusted Immediate Post-treatment Mean Scores of the Treatment and Control Groups for Item 3 of the Juvenile Delinquency Issue

Levels of Dogmatism	Experimental Conditions				Mean Total
	Treatment		Control		
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	12.76	12.15	12.19	12.41	12.38
Medium	12.67	13.00	12.61	11.41	12.42
Low	12.82	13.72	11.82	12.20	12.64
Mean Total	12.75	12.96	12.21	12.00	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	1.70	2	0.85	<1	N.S.
Treatment v. Control (TC)	18.90	3	6.30	<1	N.S.
D x TC	21.49	6	3.58	<1	N.S.
Error	789.20	119	6.63		

the most probable cause for this lack of positive results, that of a "ceiling effect." That is, since JD item 3 enjoyed a near-maximal level of positive endorsement without treatment and since 15 was the highest score obtainable, there was not enough room for the Treatment effects to display themselves relative to the scores of the untreated Ss. Contrasts confirmed in a more intimate manner the lack of significant Treatment effects. Neither the mean Active nor the mean Passive Treatment total scores were significantly greater than the combined average total scores of the two Control groups ($F = 1.36$, $df = 1/119$, $p < .25$ and $F = 2.41$, $df = 1/119$, $p < .20$, respectively).

Tables 4 through 6 exhibit the Design 1 analyses and the adjusted mean IPT scores for PR items 1, 2, and 3, respectively. Table 4 indicates that both a significant D main effect as well as the expected significant Treatment v. Control main effect was obtained. This significant

Table 4

Adjusted Immediate Post-treatment Mean Scores of the Treatment and Control Groups for Item 1 of the Puerto Rico Issue

Levels of Dogmatism	Experimental Conditions				
	Treatment		Control		Mean Total
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	9.72	11.59	9.68	8.73	
Medium	10.59	10.57	7.03	7.91	9.02
Low	9.22	10.66	7.81	6.17	8.46
Mean Total	9.84	10.94	8.17	7.60	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	46.98	2	23.49	4.38	<.025
Treatment v. Control (TC)	231.32	3	77.10	14.40	<.001
D x TC	47.44	6	7.90	1.47	N.S.
Error	637.01	119	5.35		

D effect indicates that the precision of the test for the Treatment v. Control effect was thereby increased. Contrasts among the column means indicated that the mean Active Treatment total score was significantly ($F = 15.71$, $df = 1/119$, $p < .001$) greater than the combined average total scores of the two Control groups as was the mean Passive Treatment total score ($F = 38.24$, $df = 1/119$, $p < .001$). Table 5 reveals essentially

Table 5

Adjusted Immediate Post-treatment Mean Scores of the Treatment and Control Groups for Item 2 of the Puerto Rico Issue

Levels of Dogmatism	Experimental Conditions				
	Treatment		Control		Mean Total
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	8.12	8.27	8.50	7.62	8.13
Medium	9.36	9.40	6.10	8.27	8.28
Low	7.97	8.02	6.28	5.40	6.92
Mean Total	8.48	8.56	6.96	7.10	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	48.18	2	24.09	4.04	<.025
Treatment v. Control (TC)	72.70	3	24.23	4.07	<.01
D x TC	63.31	6	10.55	1.77	N.S.
Error	708.62	119	5.95		

the same results for PR item 2 scores; namely, a significant D main effect and the expected significant Treatment v. Control main effect. Contrasts among the column means in Table 5 found that both the mean Active and mean Passive Treatment total scores were significantly greater than the combined average total scores of the two Control groups ($F = 7.81$, $df = 1/119$, $p < .01$ and $F = 8.68$, $df = 1/119$, $p < .005$, respectively). Because of the significant D main effect, these two contrasts were more precise and therefore significant at a higher level than would otherwise have been the case had the D effect been non-significant. Table 6 contains only a significant Treatment v. Control

Table 6

Adjusted Immediate Post-treatment Mean Scores of the Treatment and Control Groups for Item 3 of the Puerto Rico Issue

Levels of Dogmatism	Experimental Conditions				Mean Total
	Treatment		Control		
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	9.16	11.13	9.04	8.60	9.48
Medium	9.82	10.36	7.28	8.61	9.02
Low	9.59	10.69	8.49	7.44	9.05
Mean Total	9.52	10.73	8.27	8.22	

Summary of Analysis of Covariance					
Source	SS	df	MS	F	p
Dogmatism (D)	5.80	2	2.90	<1	N.S.
Treatment v. Control (TC)	140.54	3	46.84	11.41	<.001
D x TC	27.47	6	4.57	1.11	N.S.
Error	488.56	119	4.10		

main effect. The two contrasts among the column means indicated that, once again, both the mean Active and mean Passive Treatment scores were significantly larger than the combined average total mean scores of the Control groups ($F = 8.76$, $df = 1/119$, $p < .005$ and $F = 33.04$, $df = 1/119$, $p < .001$, respectively).

Summarizing the results pertaining to the establishment of Treatment effects over all six items, the following points can be made. For the JD items: (1) Treatment effects were clearly shown for item 1 scores, (2) item 2 scores increased only under the Passive Treatment condition, (3) there were no Treatment effects for item 3 scores. Low item score

reliability and a ceiling effect were the most likely reasons for the failure to achieve Treatment effects in items 2 and 3, respectively. For the PR issue, Treatment effects were clearly exhibited over both Induction Methods for all items. Finally, for all items the differences between the mean total scores of the Passive Treatment and the mean combined total Control scores were larger than the corresponding differences between the mean combined total Control scores and the mean total Active scores. A more thorough analysis of this latter point follows when Hypothesis 1 is tested.

The Testing of Hypotheses 1 and 2

Hypothesis 1 stated that there will be a significant main effect favoring the Passive Treatment when IPT scores are analyzed over both issues. Hypothesis 2 stated that there will be a significant interaction between D and the Induction Methods when IPT scores are analyzed. Further, Hypothesis 2 stated that this significant interaction would result from Low D Ss having a significantly larger mean score than High D Ss within the Active Treatment while Low D Ss possessed a significantly lower mean score than High D Ss within the Passive Treatment. Meanwhile, Medium D Ss would have an intermediate position between the two extreme groups within both Treatments. To test simultaneously these two hypotheses for each of the six items, an analysis of covariance analyzing scores for 3 levels of D and the two Induction Methods was performed on IPT scores of the same Ss who were included in each of the Treatment conditions in Design 1 above. Initial scores again served as the covariant. Thus, for each of the six cells in any of these analyses, hereafter referred to collectively as Design 2, $n = 11$ and the total $N = 66$. For

ease of exposition, Hypothesis 1 will be considered together with Hypothesis 2 in the following paragraphs.

Tables 7 through 9 present the results of Design 2 analysis and adjusted mean IPT scores of JD items 1, 2, and 3, respectively. Table 7 contains no significant results of any kind although the difference

Table 7

Adjusted Immediate Post-treatment Mean Scores of the Treatment Group for Item 1 of the Juvenile Delinquency Issue

Levels of Dogmatism	Induction Method		
	Active	Passive	Mean Total
High	7.21	9.67	8.44
Medium	6.30	7.27	6.78
Low	7.01	7.79	7.40
Mean Total	6.84	8.24	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	30.66	2	15.33	1.01	N.S.
Induction Method (IM)	29.60	1	29.60	1.95	N.S.
D x IM	9.31	2	4.65	<1	N.S.
Error	892.24	59	15.12		

between the two mean Induction Method total scores clearly favors the Passive Treatment as hypothesized. Consideration of the size of the error term suggests that, even with the increased precision of a covariance analysis, the experimental error associated with item 1 was still too great in size to allow such a difference between the two Induction Methods to attain statistical significance. When the hypothesized order of mean scores within each treatment is considered,

it is evident that such order is not maintained in either Treatment condition since, in the Active Treatment, High and Low D Ss' means are reversed in terms of size and the Medium D mean score does not occupy an intermediate position while in the Passive Treatment, although the scores of High and Low D Ss' means are arranged as predicted, the score of the Medium D Ss again does not occupy the intermediate position. When compared (Winer, page 598), the difference between High and Low D scores in both the Active and Passive Treatment were found not to be significantly different from each other as predicted ($F = <1$, $df = 1/59$, and $F = 1.28$, $df = 1/59$, respectively). Thus, for JD item 1 Hypothesis 1 and 2 both fail of support. Table 8 likewise shows a total lack of significant results

Table 8

Adjusted Immediate Post-treatment Mean Scores of the Treatment Group for Item 2 of the Juvenile Delinquency Issue

Levels of Dogmatism	Induction Method		
	Active	Passive	Mean Total
High	7.52	9.14	8.33
Medium	7.98	8.80	8.39
Low	11.25	10.19	10.72
Mean Total	8.92	9.34	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	81.55	2	40.77	2.37	N.S.
Induction Method (IM)	3.43	1	3.43	<1	N.S.
D x IM	20.90	2	10.45	<1	N.S.
Error	1,012.79	59	17.16		

for the item 2 analysis although the Passive Treatment again enjoys an hypothesized but nonsignificant advantage in size of mean total score over the Active Treatment. Considering the cell entries, the hypothesized order of mean scores within the Active Treatment is completely maintained with the difference between High and Low D scores significant beyond the .05 level ($F = 4.43$, $df = 1/59$). The predicted order of means within the Passive Treatment, however, is reversed. The Medium D score does not hold an intermediate position and the difference between High and Low D scores is not significant ($F = <1$, $df = 1/59$). Therefore Hypothesis 1 again fails of support while Hypothesis 2 finds only minimal support. Table 9 also exhibits a complete lack of

Table 9

Adjusted Immediate Post-treatment Mean Scores of the Treatment Group for Item 3 of the Juvenile Delinquency Issue

Levels of Dogmatism	Induction Method		
	Active	Passive	Mean Total
High	12.97	12.42	12.69
Medium	12.59	13.39	12.99
Low	13.28	13.94	13.61
Mean Total	12.95	13.25	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	9.38	2	4.69	<1	N.S.
Induction Method (IM)	1.45	1	1.45	<1	N.S.
D x IM	5.93	2	2.96	<1	N.S.
Error	381.58	59	6.46		

significant findings for item 3. The column means, however, show another nonsignificant favoring of the Passive Treatment in terms of mean total score as hypothesized. Although it can be seen that, within the Active Treatment High and Low D scores are arranged according to Hypothesis 2, the Medium D score is not. The difference between High and Low D scores is nonsignificant ($F = <1$, $df = 1/59$). Within the Passive Treatment, the hypothesized order of mean scores is arranged contrary to Hypothesis 2. Here the difference between High and Low D scores is again nonsignificant ($F = 1.97$, $df = 1/59$). Hence, for JD item 3 scores both Hypotheses 1 and 2 fail of support.

To summarize results for the JD issue, Hypothesis 1 completely lacks support although for all three items the Passive Treatment did possess the larger mean total score as hypothesized. Hypothesis 2 fared little better since there were no significant interaction effects between D and the Induction Methods, the order of means within each Treatment condition was not consistently maintained, and in only one case did the difference between High and Low D mean scores attain predicted significance within a Treatment condition.

Tables 10 through 12 present the results of Design 2 analysis and adjusted mean IPT scores of PR items 1, 2, and 3, respectively. Table 10 contains as its only significant result that of an Induction Method main effect. Inspection of the mean total scores for each Treatment indicates that the significant difference favors the Passive Treatment as forecasted. Observation of cell entries within each Treatment condition reveals that Hypothesis 2 is not supported since the D scores under the Active Treatment are not order as anticipated

Table 10

Adjusted Immediate Post-treatment Mean Scores of the Treatment Group for Item 1 of the Puerto Rico Issue

Levels of Dogmatism	Induction Method		
	Active	Passive	Mean Total
High	10.14	11.77	10.95
Medium	10.50	10.83	10.66
Low	8.93	10.45	9.69
Mean Total	9.85	11.01	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	17.78	2	8.89	1.75	N.S.
Induction Method (IM)	22.12	1	22.12	4.37	<.05
D x IM	5.58	2	2.79	<1	N.S.
Error	298.75	59	5.06		

nor is the difference between High and Low D scores significant ($F = 1.55$, $df = 1/59$). Additionally, although the cell means under the Passive Treatment are in the predicted order, the difference between them is not significant ($F = 1.87$, $df = 1/59$). Hypothesis 1 thus survives disconfirmation while Hypothesis 2 does not for PR item 1. Table 11 displays the results for Design 2 analysis of PR item 2, none of which are significant. However, once again the Passive Treatment possesses the larger mean total score. Examination shows that for the Passive Treatment the cell means for the D levels are not maintained in the predicted order. Also, the difference between the extreme groups' scores is not significant ($F = <1$, $df = 1/59$). The same criticism holds for scores under the Active Treatment. Again, the

Table 11

Adjusted Immediate Post-treatment Mean Scores of the Treatment Group for Item 2 of the Puerto Rico Issue

Levels of Dogmatism	Induction Method		
	Active	Passive	Mean Total
High	8.25	8.36	8.30
Medium	9.56	9.58	9.57
Low	7.99	8.31	8.15
Mean Total	8.60	8.75	

Summary of Analysis of Covariance

Source	SS	df	MS	F	p
Dogmatism (D)	26.59	2	13.29	2.09	N.S.
Induction Method (IM)	0.38	1	0.38	<1	N.S.
D x IM	0.22	2	0.11	<1	N.S.
Error	374.71	59	6.35		

difference between High and Low D scores was not significant ($F = <1$, $df = 1/59$). Hence, both hypotheses fail of support when PR item 2 scores are considered. Table 12 presents the Design 2 analysis of PR item 3 scores which shows only a significant main effect for Induction Methods favoring the Passive Treatment as forecasted. Observation of cell entries within the Active Treatment condition indicates that, although the High and Low D scores are in the anticipated order, the Medium D score does not lie between the two scores. Also, the hypothesized difference between the High and Low scores is not significant ($F <1$, $df = 1/59$). Identical criticism holds for the scores under the Passive Condition. The difference between High and Low D scores is not significant ($F <1$, $df = 1/59$). Therefore, for PR item 3 scores Hypothesis 1 survives disconfirmation while Hypothesis 2 does not.

Table 12

Adjusted Immediate Post-treatment Mean Scores of the Treatment Group for Item 3 of the Puerto Rico Issue

Levels of Dogmatism	Induction Method		
	Active	Passive	Mean Total
High	9.40	11.22	10.31
Medium	9.92	10.43	10.18
Low	9.53	10.65	10.09
Mean Total	9.62	10.77	

Summary of Analysis of Covariance

	SS	df	MS	F	p
Dogmatism (D)	0.49	2	0.24	<1	N.S.
Induction Method (IM)	21.88	1	21.88	5.07	<.05
D x IM	4.74	2	2.37	<1	N.S.
Error	254.50	59	4.31		

To summarize results for the PR issue, Hypothesis 1 withstood disproof on two of the three items while on the third the predicted difference was not great enough to attain statistical significance. Hypothesis 2 did not manage such a degree of support since there was a total lack of significant interaction between D and the Induction Methods, the hypothesized order of means within each Treatment condition was not consistently sustained, and in none of the six cases was the expected significant difference between High and Low D scores obtained within a Treatment condition.

The Testing of Hypotheses 3 and 4

Hypothesis 3 stated that over the IPT-DPT interval Ss at all levels of D within the Active Treatment will maintain their relative

positions in terms of size of mean scores without a significant interaction between D and the interval but that there will be a significant main effect for D since it was predicted in Hypothesis 2 that for Ss in the Active Treatment High D mean scores should be significantly smaller than Low D mean scores at the IPT measuring point. To test Hypothesis 3, a factorial design analyzing scores for three levels of D at the IPT and DPT measuring points with repeated measures was conducted for each Actively treated group of Ss over all six opinion items. Such analyses are hereafter referred to collectively as Design 3. Since normal S "shrinkage" resulted in a reduced N at the final DPT measuring point, the n's and N's for Design 3 were correspondingly reduced. For the JD treatments, n ranged from 8 to 12 for each D level of DPT measures while for the PR Treatments n ranged from 7 to 12. That is, these n's represent those Ss who were present at all three points of opinion measure. It was decided to randomly eliminate some Ss at certain levels of D in order to achieve equal n's to facilitate machine computation and interpretation of results. Thus, for the JD issue n = 8 for all levels of D over all three items in Design 3 while for the PR issue n = 7. In sum, for the JD issue n = 8 and N = 48 while for the PR issue n = 7 and N = 42.

Tables 13 through 18 present the results of Design 3 analysis and mean scores by D level and IPT-DPT measuring point for the Actively treated scores of JD and PR items 1, 2, and 3, respectively. Table 13 presents the results of Design 3 analysis of Actively treated JD item 1 scores. As can be seen, none of the results are significant. The failure to find the significant D main effect as hypothesized is

Table 13

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Active Treatment Group for Item 1 of the Juvenile Delinquency Issue

Levels of Dogmatism	Opinion Measuring Point		
	Immediate Post-treatment	Delayed Post-treatment	Mean Total
High	8.12	7.00	7.56
Medium	8.25	7.62	7.93
Low	8.87	8.25	8.56
Mean Total	8.41	7.62	

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	709.48	23			
Dogmatism (D)	8.16	2	4.08	<1	N.S.
<u>Ss</u> w/in Groups	701.31	21	33.39		
Within Subjects	107.50	24			
IPT-DPT Interval (I)	7.52	1	7.52	1.59	N.S.
D x I	0.66	2	0.33	<1	
I x <u>Ss</u> w/in Groups	99.31	21	4.72		

primarily caused by the earlier disconfirmation of that part of Hypothesis 2 which predicted significant differences between High and Low D scores at the IPT point. Cell entries show that the relative position with respect to size, however, was maintained over the interval by scores at all D levels. Incidental is the drop, though nonsignificant, in scores over the interval at all levels of D. Hypothesis 3 thus fails to be confirmed. Table 14 contains the Design 3 analysis of Actively treated JD item 2 scores. None of the results are significant. Although earlier in testing Hypothesis 2 at the IPT point High D mean

Table 14

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Active Treatment Group for Item 2 of the Juvenile Delinquency Issue

Levels of Dogmatism	Opinion Measuring Point		
	Immediate Post-treatment	Delayed Post-treatment	Mean Total
High	7.87	8.37	8.12
Medium	9.25	10.00	9.62
Low	10.25	9.37	9.81
Mean Total	9.12	9.25	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Between Subjects	770.81	23			
Dogmatism (D)	27.37	2	13.68	<1	N.S.
<u>Ss</u> w/in Groups	743.43	21	35.40		
Within Subjects	92.50	24			
IPT-DPT Interval (I)	0.18	1	0.18	<1	N.S.
D x I	6.12	2	3.06	<1	N.S.
I x <u>Ss</u> w/in Groups	86.18	21	4.10		

scores were found to be significantly larger than Low D mean scores, this advantage in size was not maintained over the two-week long IPT-DPT interval since the High D mean score increases over the interval while the mean score of the Low D Ss drops, thus reducing the difference between them to a nonsignificant level. Perhaps this finding is an artifact caused by the low item 2 score reliability. There is a slight nonsignificant rise in mean total scores over the interval. Hypothesis 3 thus fails again of confirmation. Table 15 shows that there are no significant results to be found in the analysis of JD

Table 15

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Active Treatment Group for Item 3 of the Juvenile Delinquency Issue

Levels of Dogmatism	Opinion Measuring Point			Mean Total
	Immediate Post-treatment	Delayed Post-treatment		
High	12.62	12.00		12.31
Medium	11.50	12.50		12.00
Low	13.75	13.37		13.56
Mean Total	12.62	12.62		

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	185.25	23			
Dogmatism (D)	21.87	2	10.93	1.40	N.S.
<u>Ss</u> w/in Groups	163.37	21	7.77		
Within Subjects	70.00	24			
IPT-DPT Interval (I)	0.00	1	0.00	0.00	N.S.
D x I	6.12	2	3.06	1.00	N.S.
I x <u>Ss</u> w/in Groups	63.87	21	3.04		

item 3 Actively treated scores. Again, the lack of a D main effect is due largely to the earlier disconfirmation of Hypothesis 2. In this case, the mean total IPT and DPT scores are identical. Hypothesis 3 is again found to be lacking support. Table 16 contains the Design 3 analysis of Actively treated PR item 1 scores. As can be observed, none of the results are significant, although the IPT-DPT interval main effect approaches significance. This trend indicates a near-significant drop in mean total scores over the interval. Hypothesis

Table 16

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Active Treatment Group for Item 1 of the Puerto Rico Issue

Levels of Dogmatism	Opinion Measuring Point			Mean Total
	Immediate Post-treatment	Delayed Post-treatment		
High	10.71	10.00		10.35
Medium	11.57	10.71		11.14
Low	9.28	8.00		8.64
Mean Total	10.52	9.57		

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	246.90	20			
Dogmatism (D)	45.76	2	22.88	2.04	N.S.
<u>Ss</u> w/in Groups	201.14	18	11.17		
Within Subjects	51.00	21			
IPT-DPT Interval (I)	9.52	1	9.52	4.19	N.S.
D x I	0.61	2	0.30	<1	N.S.
I x <u>Ss</u> w/in Groups	40.85	18	2.26		

3 is not confirmed in this analysis. Table 17 exhibits the results of the Design 3 analysis of Actively treated PR item 2 scores. Here the hypothesized D main effect is obtained but inspection of cell entries indicate that the order of the means of the two extreme groups is the reverse of that hypothesized earlier by Hypothesis 2. In this case, the High D Ss instead of the Low D Ss as predicted possess and maintain the larger mean score over the interval. Thus, Hypothesis 3

Table 17

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Active Treatment Group for Item 2 of the Puerto Rico Issue

Levels of Dogmatism	Opinion Measuring Point		Mean Total
	Immediate Post-treatment	Delayed Post-treatment	
High	9.42	10.71	10.07
Medium	10.71	10.57	10.64
Low	6.85	6.42	6.64
Mean Total	9.00	9.23	

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	372.90	20			
Dogmatism (D)	131.04	2	65.52	4.87	<.025
<u>Ss</u> w/in Groups	241.85	18	13.43		
Within Subjects	61.50	21			
IPT-DPT Interval (I)	0.59	1	0.59	<1	N.S.
D x I	5.90	2	2.95	<1	N.S.
I x <u>Ss</u> w/in Groups	55.00	18	3.05		

cannot be said to be supported by this analysis. Table 18 contains the results of the analysis of Actively treated PR item 3 scores, none of which are significant. Inspection of the means suggests that the failure to obtain the hypothesized D main effect here is due primarily to the earlier failure to confirm Hypothesis 2 in terms of significant IPT differences between the means of the two extreme groups. Hence, Hypothesis 3 fails of support in relation to PR item 3 scores.

Table 18

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Active Treatment Group for Item 3 of the Puerto Rico Issue

Levels of Dogmatism	Opinion Measuring Point		Mean Total
	Immediate Post-treatment	Delayed Post-treatment	
High	10.42	11.57	11.00
Medium	10.71	11.14	10.92
Low	9.57	9.00	9.28
Mean Total	10.23	10.57	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Between Subjects	207.62	20			
Dogmatism (D)	26.33	2	13.16	1.30	N.S.
<u>Ss</u> w/in Groups	181.28	18	10.07		
Within Subjects	20.50	21			
IPT-DPT Interval (I)	1.16	1	1.16	1.48	N.S.
D x I	5.19	2	2.59	3.30	N.S.
I x <u>Ss</u> w/in Groups	14.14	18	0.78		

Summarizing the results of Design 3, the following points can be made: (1) in only one case of six was there an hypothesized significant difference between High and Low D mean scores; unfortunately, the order of size was contrary to an earlier hypothesis, (2) the failure to confirm this earlier Hypothesis is the prime reason why Hypothesis 3 also failed of support since, even though different Ss are analyzed here in Design 3 than were in Design 2, the predicted D main effect would be very difficult statistically to obtain without the prior significant IPT main effect, (3) there is no consistent pattern of change of the

mean total scores over the interval; increase appears to be as likely as decrease.

Hypothesis 4 states that for Passively treated scores there will be significant interaction between D and the IPT-DPT interval caused by an increase in mean score of Low D Ss while the High and Medium D Ss' scores maintain their IPT levels over the interval. To test Hypothesis 4, the same kind of analyses that was used to test Hypothesis 3 was employed. Collectively, these will be labeled Design 4 analyses. For the JD issue, $n = 8$ and $N = 48$ while for the PR issue $n = 7$ and $N = 42$ for all three items. Table 19 contains the Design 4

Table 19

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Passive Treatment Group for Item 1 of the Juvenile Delinquency Issue

Levels of Dogmatism	Opinion Measuring Point		Mean Total
	Immediate Post-treatment	Delayed Post-treatment	
High	9.12	8.00	8.56
Medium	6.62	6.25	6.43
Low	6.87	5.87	6.37
Mean Total	7.54	6.70	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Between Subjects	538.25	23			
Dogmatism (D)	49.62	2	24.81	1.06	N.S.
<u>Ss</u> w/in Groups	488.62	21	23.26		
Within Subjects	113.00	24			
IPT-DPT Interval (I)	8.33	1	8.33	1.69	N.S.
D x I	1.29	2	0.64	<1	
I x <u>Ss</u> w/in Groups	103.37	21	4.92		

analysis of JD item 1 scores which were Passively treated. As can be seen, none of the results are significant. Instead of increasing as predicted, the mean scores of the Low D Ss decrease over the interval as in fact do the scores of the other two groups of Ss. Hypothesis 4 is thus not confirmed. Table 20 contains no significant results for

Table 20

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Passive Treatment Group for Item 2 of the Juvenile Delinquency Issue

Levels of Dogmatism	Opinion Measuring Point			Mean Total
	Immediate Post-treatment	Delayed Post-treatment		
High	10.25	9.50		9.87
Medium	9.62	9.50		9.56
Low	10.75	10.12		10.43
Mean Total	10.20	9.70		

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	420.91	23			
Dogmatism (D)	6.29	2	3.16	<1	N.S.
<u>Ss</u> w/in Groups	414.62	21	19.74		
Within Subjects	115.00	24			
IPT-DPT Interval (I)	3.00	1	3.00	<1	N.S.
D x I	0.87	2	0.43	<1	N.S.
I x <u>Ss</u> w/in Groups	111.12	21	5.29		

the Design 4 analysis of JD item 2 scores. Inspection of the cell entries indicates that, as before, all three groups' mean scores actually decrease over the interval. Hypothesis 4 is again not

supported. Table 21, however, does contain a significant interaction as hypothesized between D and the interval for JD item 3 scores. Unfortunately, inspection of the cell means reveals that the Low D group contributes primarily to the significant interaction by exhibiting a

Table 21

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Passive Treatment Group for Item 3 of the Juvenile Delinquency Issue

Levels of Dogmatism	Opinion Measuring Point		Mean Total
	Immediate Post-treatment	Delayed Post-treatment	
High	13.50	13.62	13.56
Medium	13.50	12.50	13.50
Low	13.87	11.25	12.56
Mean Total	13.62	12.79	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Between Subjects	172.91	23			
Dogmatism (D)	10.04	2	5.02	<1	N.S.
<u>SS</u> w/in Groups	162.87	21	7.75		
Within Subjects	85.00	24			
IPT-DPT Interval (I)	8.33	1	8.33	3.05	N.S.
D x I	19.29	2	9.64	3.53	<.05
I x <u>SS</u> w/in Groups	57.37	21	2.73		

decrease over the interval in direct contradiction to the hypothesis. Thus Hypothesis 4 is not supported. Table 22 contains only a non-hypothesized significant IPT-DPT interval main effect in the Design 4 analysis of PR item 1 scores. Observation of the cell means indicates

Table 22

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Passive Treatment Group for Item 1 of the Puerto Rico Issue

Levels of Dogmatism	Opinion Measuring Point			Mean Total
	Immediate Post-treatment	Delayed Post-treatment		
High	11.28	9.57		10.42
Medium	10.57	9.14		9.85
Low	10.28	8.14		9.21
Mean Total	10.71	8.95		

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	182.33	20			
Dogmatism (D)	10.33	2	5.16	<1	N.S.
<u>Ss</u> w/in Groups	172.00	18	9.55		
Within Subjects	119.50	21			
IPT-DPT Interval (I)	32.59	1	32.59	6.82	<.025
D x I	0.90	2	0.45	<1	N.S.
I x <u>Ss</u> w/in groups	86.00	18	4.77		

that this result signifies a significant decrease in mean scores over the interval for all D levels. Again, Hypothesis 4 fails of support. Table 23 shows another significant Interval main effect in Design 4 analysis of PR item 2 scores. It can be seen that this result reflects a significant decrease of scores over the interval over all levels of D contrary to hypothesis 4. Table 24 shows the nonsignificant results of Design 4 analysis of PR item 3 scores. Observation of the cell means shows that, contrary to Hypothesis 4, Low D scores decrease enough over

Table 23

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Passive Treatment Group for Item 2 of the Puerto Rico Issue

Levels of Dogmatism	Opinion Measuring Point			Mean Total
	Immediate Post-treatment	Delayed Post-treatment		
High	9.14	8.57		8.85
Medium	9.71	8.57		9.14
Low	8.42	5.85		7.14
Mean Total	9.09	7.66		

Summary of Analysis of Variance					
Source	SS	df	MS	F	p
Between Subjects	201.90	20			
Dogmatism (D)	32.76	2	16.38	1.74	N.S.
<u>Ss w/in Groups</u>	169.14	18	9.39		
Within Subjects	108.00	21			
IPT-DPT Interval (I)	21.42	1	21.42	4.87	<.05
D x I	7.42	2	3.71	<1	N.S.
I x <u>Ss w/in Groups</u>	79.14	18	4.39		

the IPT-DPT interval to offset increases by the other two groups.

Hypothesis 4 thus again fails of support.

The following points can be made with regard to Design 4 analysis of Passively treated JD and PR item scores: (1) in only one of six cases was a significant D by IPT-DPT Interval interaction obtained; however, such result was in the opposite direction from that hypothesized, (2) in two of six cases, there was an unpredicted significant decrease in mean total scores over the interval; in the other four cases, there was a decrease in such scores over the interval.

Table 24

Immediate Post-treatment and Delayed Post-treatment Mean Scores of the Passive Treatment Group for Item 3 of the Puerto Rico Issue

Levels of Dogmatism	Opinion Measuring Point			Mean Total
	Immediate Post-treatment	Delayed Post-treatment		
High	10.28	10.71		10.50
Medium	10.71	10.85		10.78
Low	10.42	8.85		9.64
Mean Total	10.47	10.14		

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Between Subjects	114.47	20			
Dogmatism (D)	9.90	2	4.95	<1	N.S.
<u>Ss</u> w/in Groups	104.57	18	5.80		
Within Subjects	66.50	21			
IPT-DPT Interval (I)	1.16	1	1.16	<1	N.S.
D x I	8.19	2	4.09	1.29	N.S.
I x <u>Ss</u> w/in Groups	57.14	18	3.17		

The Analysis of Issue Saliency

To investigate the effects of issue saliency upon amount of opinion changes, Ss' IPT scores were converted to standard T scores using initial scores as a basis for such conversion. In this way, IPT item score distributions for the two issues were made comparable. A factorial analysis analyzing scores for three levels of D over each Induction Method for both issues was conducted for items 1, 2, and 3 using as cell entries IPT scores which had been converted into T

scores. Scores of those Ss who had been included in Design 2 above were used here so that $n = 11$ and $N = 132$ for each of the $3 \times 2 \times 2$ factorial designs. Tables 25, 26 and 27 display the mean standardized IPT scores and the results of the analysis of IPT scores of items 1, 2, and 3, respectively.

Table 25

Mean Standardized Immediate Post-treatment Scores of
Item 1 of Both Issues

Levels of Dogmatism	Issues				Mean Total
	Juvenile Delinquency		Puerto Rico		
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	60.70	67.04	60.33	66.80	63.72
Medium	57.37	57.03	61.09	62.99	59.62
Low	59.70	58.37	54.23	60.71	58.25
Mean Total	59.26	60.82	58.55	63.50	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Dogmatism (D)	711.99	2	355.99	2.18	N.S.
Induction Method (IM)	349.51	1	349.51	2.14	N.S.
Issues (I)	32.29	1	32.29	<1	N.S.
D x IM	181.55	2	90.77	<1	N.S.
D x I	253.48	2	126.74	<1	N.S.
IM x I	95.08	1	95.08	<1	N.S.
D x IM x I	86.48	2	43.24	<1	N.S.
Within cell	19,531.15	120	162.75		
Total	21,241.52	131			

Table 25 contains no significant results, indicating that there was not a reliable difference between mean IPT scores of the two issues as a result of the Treatment although there appears to have been congruent opinion change for most Ss since all the scores are above 50.00. It should also be noted that the Passive Induction Methods have the higher mean total scores. This lack of the predicted effect of issue saliency on item 1 of both issues is puzzling since this item for each issue was the title of the passage read in the Passive treatment and was the theme about which Ss were instructed to write in the Active condition. Therefore, if issue saliency were a relevant variable as supposed, differential effects should be obtained when the central themes of two different issues are directly compared. Perhaps in view of the lack of strong inter-item correlation for each issue, item 1 is not necessarily perceived as representing a global, unifying theme subsuming more particular points mentioned in items 2 and 3 for each issue. In other words, all three items are relatively independent from each other so that each item is affected or not by the treatments without such effect, or lack of it, being automatically transmitted to other items pertaining generally to the same topic. Each of the three items for each issue thus seems to be perceived cognitively as a distinct, almost unrelated aspect of the same general topic. Table 26 contains both a significant Issues effect as hypothesized and a significant D x Issues interaction. Inspection of the cell means reveals that the higher mean IPT standard score is uniformly associated with the PR issue while scores for the JD issue seem to indicate a negative reaction to the treatment or "boomerang

Table 26

Mean Standardized Immediate Post-treatment Scores of
Item 2 of Both Issues

Levels of Dogmatism	Issues				Mean Total
	Juvenile Delinquency		Puerto Rico		
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	45.53	49.25	54.69	54.69	51.04
Medium	46.63	48.60	60.10	60.10	53.86
Low	54.51	51.88	52.46	56.60	53.87
Mean Total	48.89	49.91	55.75	57.13	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Dogmatism (D)	233.07	2	116.53	1.24	N.S.
Induction Method (IM)	47.57	1	47.57	<1	N.S.
Issues (I)	1,636.10	1	1,636.10	17.43	<.001
D x IM	7.52	2	3.76	<1	N.S.
D x I	685.48	2	342.74	3.65	<.05
IM x I	1.04	1	1.04	<1	N.S.
D x IM x I	173.67	2	86.83	<1	N.S.
Within cell	11,259.28	120	93.82		
Total	14,043.73	131			

effect." That is, compared to their initial scores, Ss who received treatment on the JD issue responded on the IPT opinionnaire with scores generally lower than those that they had initially recorded. Perhaps the most likely explanation of this unusual result is it simply reflects again the low item score reliability of JD item 2 and points out how misleading results can be if the measuring instrument is not reasonably reliable or consistent over measuring times. The D x Issues interaction

is probably also due to the poor psychometric characteristics of JD item 2 scores and should be considered spurious. Thus, "true" effects of issue saliency as well as Active versus Passive Induction Methods are here confounded with an indeterminate amount of error caused by lack of score reliability so that clear statements as to the differential effect of each upon amounts of opinion change cannot be made. Table 27 contains

Table 27

Mean Standardized Immediate Post-treatment Scores of
Item 3 of Both Issues

Levels of Dogmatism	Issues				Mean Total
	Juvenile Delinquency		Puerto Rico		
	Induction Method		Induction Method		
	Active	Passive	Active	Passive	
High	52.86	51.52	54.84	60.70	54.98
Medium	50.44	55.00	55.88	57.60	54.73
Low	55.00	55.81	53.12	57.60	55.38
Mean Total	52.77	54.11	54.61	58.63	

Summary of Analysis of Variance

Source	SS	df	MS	F	p
Dogmatism (D)	9.53	2	4.76	<1	N.S.
Induction Method (IM)	237.08	1	237.08	3.70	N.S.
Issues (I)	334.48	1	334.48	5.22	<.025
D x IM	4.30	2	2.15	<1	N.S.
D x I	185.69	2	92.84	1.45	N.S.
IM x I	59.19	1	59.19	<1	N.S.
D x IM x I	142.55	2	71.27	1.11	N.S.
Within cell	7,680.89	120	64.00		
Total	8,653.71	131			

only the hypothesized significant Issues main effect. Inspection of the cell means and mean totals indicates that, for either Induction Method, the higher score is almost always associated with the PR issue. Thus, since item 3 scores for each issue have been previously shown to have an acceptable degree of reliability, issue saliency may here be said to be fairly tested. The results clearly point out that there is more opinion change with a less salient issue. It also should be noted that the Passive Induction Method once again has the higher mean total scores.

In summary, low item score reliability may have served to obscure or prevent a clear test of the effects of issue saliency over two of the three opinion items. Where such a confounding factor is eliminated, however, the effect displays itself as hypothesized. Also, the trend consisting of larger amounts of change occurring under the Passive process is again evident in this analysis.

CHAPTER IV

SUMMARY AND DISCUSSION

The overall findings of this study can be summarized as follows:

(1) significant amounts of immediate, congruent opinion change did occur over four of the six items with both Active and Passive Induction Methods; (2) over several different kinds of data analyses there was a definite trend, including several significant differences, for the Passive treatment to effect larger amounts of immediate, congruent change than the Active process; (3) however, there was a definite trend, including several significant differences, for Passively induced scores not to persist but to regress toward their pre-treatment level; (4) there was no such trend for scores Actively induced to regress after the treatment; (5) there was a trend, including a significant difference, for the greater amount of change to occur in relation to the less salient PR issue; (6) different levels of D did not appear to be systematically related to either differential amounts or persistence of opinion change.

Concerning points 1 and 2, it is a truism that people change their opinions about things, ideas, and people, including themselves. Reasons why opinions change are nearly beyond numbering. However, of prime concern here is the basis for the superior effectiveness of the Passive process in achieving immediate opinion change. Watts (1967), using summed scores, found no difference in amount of IPT change between

the two Induction Methods. However, he claimed to have purposely constructed the issues to insure this equality of IPT change. What were the causes of the differential treatment effects? For one thing, the Passive process involved a one-sided presentation of "facts" -- a process which has been shown to evoke change toward the side advocated, even among Ss initially opposed (Hovland, Lumsdaine, & Sheffield, 1949). In contrast, the Active process was quite unstructured. Subjects supplied their own "facts" based on whatever prior material their memory and prejudices allowed them in eight minutes' time, yet opinion scores increased significantly under this free-form treatment also. Perhaps, too, the edge given the Passive process in amount of immediate change was based on a kind of mental inertia or law of least cognitive effort. That is, people may very well prefer to deal with or at least be more familiar in dealing with a prepared message that delivers a particular set of "facts" and draws an explicit conclusion rather than having to improvise and set down persuasive reasons for supporting a given topic. But even when faced with improvising an argument, Ss manage to display the immediate effects of self-proselytization. In brief, the Passive process was superior to the Active process in terms of amount of immediate change because the Passive treatment provided a more concrete, ready-made, reference/information point than did the Active treatment.

Concerning points 3 and 4, the finding that, in general, Actively induced change persists to a higher degree than Passively induced change replicated that of Watts (1967). The same reasoning offered by Watts for his results very likely applies here also. That is, while Ss in the Active treatment condition had no opportunity to gain new information,

a sense of personal involvement in the task was evoked in each of them which led them to engage in such post-treatment behavior as rehearsal of relevant arguments, subsequent reading and discussion of the topic, and other acts designed to obtain evaluative feedback about their performance and/or remedy their own perceived informational deficiency on the subject. This subsequent behavior thus kept the treatment issue in focus for each S which fact was indicated by relatively higher DPT scores as compared to those of Passively treated Ss.

Concerning point 5, it will be recalled that the two issues did differ significantly on two measures of saliency with the PR issue being the less salient of the two on both measures. It will be argued here that this pair of indices gauged the relative degree of intellectual as opposed to emotional saliency of the topics. Emotional saliency is defined here as the degree to which a topic is integrated into and supported by one's motivational/self-esteem/personality patterns. High saliency inhibits persuasive efforts (e.g., Janis & Field, 1959; Katz, 1960). Likewise, intellectual saliency or general familiarity with an issue may affect the success of attempts to change opinions concerning that issue. Given the current national Zeitgeist of controversial court rulings and violence involving largely youth, most people may be assumed to have had at least minimal exposure to and consequently to have formed opinions about court treatment of juvenile delinquents. However, statehood for Puerto Rico may be assumed to be a relatively less intellectually salient issue with a resultant lack of familiarity among people in general. Thus, opinions about Puerto Rican statehood showed less resistance to persuasive attempts here than lenient court treatment of juvenile delinquents.

Concerning the final point, it will be recalled that this study employed several methodological improvements over earlier investigations in the same area. In spite of this fact, D still was found not to be a relevant variable. Incidentally, strictly speaking, the Hypotheses relating to D and persistence of induced change should be ignored here since, as worded, their testing depended upon prior attainment of significant D effects at the IPT measuring point which were not obtained. There are several alternate explanations for the failure to achieve positive results in this study. One is that the dependent measure -- the opinion item scales -- was psychometrically inadequate, especially in terms of reliability. Opinion scores may have been so variable from measuring point to measuring point that "true" effects due to any of the factors used here were masked by an undue amount of score fluctuation. But the general presence of Treatment effects, differential Induction Method effects, and differential persistence measures suggests that the item scores were not lacking in this respect. Another possible reason is that the two issues were not sufficiently polarized in terms of intellectual saliency to allow the effects of D to display themselves. An issue even less salient than statehood for Puerto Rico, comparable attitudinally to the autokinetic situation where D is a significant factor (Vidulich & Kaimen, 1961), may have provided the opportunity for a more pronounced D effect. A third reason, the one which is advanced here as the most plausible, is that D simply is not an important or relevant personality dimension in relation to the type of social influence situation studied here. Kelman (1961) trichotomizes the area of research on social influences into three specific categories: (1) the study of social influences on judgments, (2) the study of social

influence arising from small-group interaction, (3) the study of social influence arising from persuasive communications. As has been noted by Vidulich and Kaimen (1961), D is a relevant variable in a situation that is included in Kelman's category (1). The present study's concern, as well as that of the trio cited above (Miller, 1965; Norris, 1965; Miller & Lobe, 1967), pertained to category (3). In view of the fact that, over these four studies which have used different tasks, analyses, response measures, plus additional variables, D has been shown to be only of occasional marginal importance in terms of amount of opinion change, confidence is increased in the verdict that D lacks importance in studies dealing with persuasive communications.

APPENDIX A

11. If a government such as Red China exists it should be recognized.

_____:	_____:	_____:	_____:	_____:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

12. It would be to our advantage in many ways to welcome Puerto Rico as the 51st state in the immediate future.

_____:	_____:	_____:	_____:	_____:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

The following item is to be answered ONLY if you were enrolled in Introductory Psychology last semester (i.e., Fall Semester '67-'68).

Did you fill out an opinionnaire similar to this one in late November-early December?

CIRCLE ONE
YES NO

ROKEACH'S D SCALE ITEMS, FORM E

SOCIAL-POLITICAL OPINION SURVEY-REV. FORM 67

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. We have tried to cover 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 statement, you can be sure that many people feel the same as you do.

First, supply the information requested on the answer sheet. Then, read each statement carefully and indicate your answer on the form provided. If you agree more than you disagree with an item, mark it TRUE but if you disagree more than you agree with a statement, mark it FALSE. Remember, we are looking for your personal opinion on these items. Work quickly and do not worry or puzzle over individual items. Try to make an answer to each item; do not omit any. Be sure that the number of the statement agrees with the number on the answer sheet. Make your marks heavy and black. Erase completely any answer you wish to change. Make no marks on this booklet.

- * 1. A person who gets enthusiastic about too many causes is likely to be a pretty "wishy-washy" sort of person.
- * 2. While I do not like to admit this even to myself, my secret ambition is to become a great person like Einstein, or Beethoven or Shakespeare.
- * 3. In times like these, a person must be pretty selfish if he considers primarily his own happiness.
- 4. It's mostly those who are itching for a fight who want a universal military training law.
- 5. History clearly shows that it is the private enterprise system which is at the root of depressions and wars.
- * 6. The United States and Russia have just about nothing in common.
- 7. I do not always tell the truth.
- 8. Plain common sense tells you that prejudice can be removed by education, not legislation.
- 9. I gossip a little at times.
- 10. This much is certain! The only way to defeat tyranny in China is to support Chiang Kai-Shek.

- * 11. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.
- * 12. I would like it if I could find someone who would tell me how to solve my personal problems.
- 13. Once in a while I put off until tomorrow what I ought to do today.
- 14. Once in a while I laugh at a dirty joke.
- * 15. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary to restrict the freedom of certain political groups.
- 16. It's usually the trouble-makers who talk about government ownership of public utilities.
- 17. A person must be pretty shortsighted if he believes that college professors should be forced to take a special loyalty oath.
- * 18. Man on his own is a helpless and miserable creature.
- 19. Make no mistake about it! The best way to achieve security is for the government to guarantee jobs for all.
- 20. It's perfectly clear to all decent Americans that Congressional committees which investigate communism do more harm than good.
- 21. The truth of the matter is this! It is big business which wants to continue the cold war.
- * 22. 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.
- 23. I would rather win than lose in a game.
- 24. It's simply incredible that anyone should believe that socialized medicine will actually help solve our health problems.
- * 25. In the history of mankind there have probably been just a handful of really great thinkers.
- * 26. The present is all too full of unhappiness. It is only the future that counts.
- * 27. Of all the different philosophies which exist in this world, there is probably only one which is correct.
- * 28. 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.

- * 29. It is better to be a dead hero than a live coward.
- 30. Sometimes when I am not feeling well I am cross.
- * 31. The main thing in life is for a person to want to do something important.
- * 32. A person who thinks primarily of his own happiness is beneath contempt.
- * 33. Most people just do not know what's good for them.
- 34. The American rearmament program is clear and positive proof that we are willing to sacrifice to preserve our freedom.
- 35. I sometimes have a tendency to be too critical of the ideas of others.
- * 36. Unfortunately, a good many people with whom I have discussed important social and moral problems do not really understand what's going on.
- * 37. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.
- 38. I get angry sometimes.
- * 39. There are two kinds of people in this world: those who are for the truth and those who are against the truth.
- 40. You just can't help but feel sorry for a person who thinks the world could exist without a Creator.
- 41. It is foolish to think that the Democratic Party is really the party of the common man.
- * 42. There are a number of people I have come to hate because of the things they stand for.
- * 43. 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.
- 44. A person must be pretty ignorant if he thinks that the President is going to let the "big boys" run this country.
- * 45. Once I get wound up in a heated discussion, I just can not stop.
- * 46. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing."

- * 47. 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.
- 48. It is very foolish to advocate government support of religion.
- * 49. There is so much to be done and so little time to do it in.
- 50. Sometimes at elections I vote for men about whom I know very little.
- * 51. If given a chance I would do something of great benefit to the world.
- 52. It's all too true that the rich are getting richer and the poor are getting poorer.
- 53. A study of American history clearly shows that it is the American businessman who has contributed most to our society.
- 54. A person must be pretty stupid if he still believes in differences between the races.
- * 55. My blood boils whenever a person stubbornly refuses to admit he's wrong.
- 56. It's the agitators and left-wingers who are trying to get Red China into the United Nations.
- * 57. 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.
- * 58. In a discussion I often find it necessary to repeat myself several times to make sure I am being understood.
- 59. It is just plain stupid to say that it was Franklin Roosevelt who got us into World War II.
- 60. My table manners are not quite as good at home as when I am out in company.
- * 61. It is only when a person devotes himself to an ideal or cause that life becomes meaningful.
- 62. Once in a while I think of things too bad to talk about.
- * 63. Most of the ideas which get printed nowadays are not worth the paper they are printed on.
- 64. Even a person of average intelligence knows that to defend ourselves against aggression we should welcome all help, including General Franco's Spain.

65. Anyone who is really for democracy knows very well that the only way for America to head off revolution and civil war in backward countries is to send military aid.
66. Only a misguided idealist would believe that the United States is an imperialist warmonger.
67. It is the radicals and labor racketeers who yell the loudest about labor's right to strike.
- * 68. 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.
69. Thoughtful persons know that the American Legion is not really interested in democracy.
- * 70. It is only natural that a person would have a much better acquaintance with ideas he believes in than with ideas he opposes.
- * 71. Most persons just do not give a "damn" for others.
72. I like to know some important people because it makes me feel important.
73. If I could get into a movie without paying and be sure I was not seen, I would probably do it.
74. A person must be pretty gullible if he really believes that the communists have actually infiltrated into government and education.
75. Any intelligent person can plainly see that the real reason America is rearming is to stop aggression.
76. It's mostly the noisy liberals who try to tell us that we will be better off under socialism.
77. At times I feel like swearing.
78. It's already crystal-clear that the United Nations is a failure.
- * 79. The worst crime a person could commit is to attack publicly people who believe in the same thing he does.
80. I do not read every editorial in the newspaper every day.
81. It is the people who believe everything they read in the papers who are convinced that Russia is pursuing a ruthless policy of imperialist aggression.
- * 82. It is only natural for a person to be rather fearful of the future.

83. I do not like everyone I know.
- * 84. Fundamentally, the world we live in is a pretty lonesome place.
- * 85. A man who does not believe in some great cause has not really lived.
- * 86. A group which tolerates too much difference of opinion among its own members can not exist for long.
87. It's perfectly clear to all thinking persons that the way to solve our financial problems is by a "soak-the-rich" tax program.
88. It's the fellow-travelers or Reds who keep yelling all the time about civil rights.
89. Anyone who's old enough to remember the Hoover days will tell you that it's a lucky thing Hoover was never re-elected president.
90. It's mainly those who believe the propaganda put out by the real estate interests who are against a federal slum clearance program.

* D Scale Items

APPENDIX B

MATERIAL USED IN THE IMMEDIATE POST-TREATMENT MEASURE

Active Treatment Instructions

1. Pass out the blank sheets FACE DOWN. Direct Ss to keep them FACE DOWN until instructions have been given. After each S has a set of blank sheets, say:

"This study is an attempt to measure the kinds and quality of arguments that college students are able to improvise about a given topic. You will find on the first page a statement concerning a controversial issue. Your task is to organize your thoughts and write a strong convincing argument supporting the side of the issue indicated. Your task, no matter how you feel about it personally, is to write the most convincing argument possible pointing out the reasons you can think of in support of the issue. At this point, are there any questions? Now when I say begin, turn over the sheet, PRINT your name in the upper right hand corner, and begin thinking. All right, begin."
2. At the end of 8 minutes, say:

"Stop! Now make sure your name is printed in the upper right hand corner then pass your arguments in to me."
3. After all arguments are in, pass out the surveys FACE DOWN and direct Ss to keep them FACE DOWN until instructions have been given. After each S has a survey, say:

"As a minor point of interest in this study, we would like to see whether or not the task you have just completed as well as certain other factors may be related to your opinions on various topics. It may be that people differing in the kinds and quality of arguments they write or freshmen and seniors or Democrats and Republicans may also have different opinions toward the same topic. In order to see if any such relationship does exist, we would like you to complete this survey. Now when I tell you to turn the survey over, be sure to PRINT all the information asked for. When you have finished, please remain seated for final instructions. All right, turn to page 3, item 7. There is a typographical omission in item 7. Insert the word vote between the words popular and total. Now go back to page 1 and begin filling out this survey."

Passive Treatment Instructions

1. Pass out the messages FACE DOWN. Direct Ss to keep the message FACE DOWN until instructions have been given. After each S has a copy of the message, say:

"This study is an attempt to develop some instruments to measure how college students think critically. You will be asked to read a brief message dealing with a controversial issue and then to

underline within each paragraph the shortest clause which you think sums up the point of that paragraph. You will have 8 minutes to read the message and underline the clauses. At this point, are there any questions? Now when I say to begin, turn over the sheet, PRINT your name in the upper right hand corner, and begin reading and underlining. All right, begin."

2. At the end of 8 minutes, say:
"Stop! Now make sure your name is printed in the upper right hand corner then pass the message in to me."
3. After all messages are in, pass out the surveys FACE DOWN and direct Ss to keep them FACE DOWN until instructions have been given. After each S has a survey, say:
"As a minor point of interest in this study, we would like to see whether or not the task you have just completed as well as certain other factors may be related to your opinions on various topics. It may be that people who are different in the way in which they think critically or freshman and seniors or Democrats and Republicans may also have different opinions toward the same topic. In order to see if any such relationship does exist, we would like you to complete this survey. Now when I tell you to turn the survey over, be sure to PRINT all the information asked for. When you have finished, please remain seated for final instructions. All right, turn to page 3, item 7. There is a typographical omission in item 7. Insert the word vote between the words popular and total. Now go back to page 1 and begin filling out this survey."

Juvenile Delinquency Issue--Passive Treatment

COURTS SHOULD DEAL MORE LENIENTLY WITH JUVENILE DELINQUENTS

The last quarter of a century has witnessed a vast amount of research on the problem of juvenile delinquency. The studies have largely dealt with the causes of delinquency and the means of guiding the delinquent into a more satisfactory role in society. One of the conclusions reached is that the courts should deal more leniently with juvenile delinquents. This view is based on the following evidence. The environment, not the child, is usually to blame for delinquency. If the delinquent is placed in a reform school, it leaves a stigma on his record that will later prevent him from obtaining a responsible job and assuming a position as a useful member of society. The typical reform school would be more appropriately called a crime school.

It is a well-established fact that environment is the most powerful factor influencing personality development. The vast majority of all juvenile delinquents come from very inferior environments. Slum neighborhoods and broken homes or homes with both parents working are the common background factors in delinquency. Children raised under these conditions lack the attention and guidance they need while growing up. They must form their friendships and attachments among their peer

group in the neighborhood. In doing this they are exposed to a disease as much as someone who has been exposed to smallpox, a disease for which we have no simple immunization. This disease is the values held by the neighborhood gangs--disrespect for the laws and values of our society. It is a natural tendency to conform to and imitate the values of one's group. If it were not for this conformity, and imitation, our culture would not be transmitted, our children would not value democracy, honesty, freedom of speech, etc. The identical process is at work in the juvenile delinquent and in the college professor's son; the basic difference is the set of values that they learn to conform to. They have accepted the values of their neighborhoods and friends which are different than the standards of our society as a whole. Harsh treatment cannot help the juvenile delinquent; only understanding and education can do that.

When a court commits a juvenile delinquent to a reform school, it is doubtful if they realize the full consequences of their act. At the moment the youth has violated the law and the main concern is to teach him respect for it. On the surface the punishment is loss of freedom for a period of time. In reality this is only the beginning. After being released from the reform school, the person will find it impossible to obtain a responsible job. Employers frown upon hiring a person with a "prison record." The stigma of having served time in a reform school remains with the person permanently, preventing him from assuming his position as a useful member of society. He will probably grow out of the period of delinquency but cannot outgrow the black mark on his record.

A juvenile delinquent is committed to a reform school to "reform" or correct his behavior. However, statistics show that 87 per cent of all people who have served a sentence in a reform school or a prison are imprisoned again within ten years after their release. It is obvious that our penal institutions fail to establish the desired change in behavior. The reason for this failure is that our reform schools are in reality crime schools. Here a first offender is put in with a group of people ranging from novices like himself to hardened criminals. For the period of time of his sentence he intimately associates with this group, he works with them and makes friends among them. He serves an apprenticeship in crime and comes out a more clever criminal rather than a law-abiding citizen.

Puerto Rico Issue--Passive Treatment

PUERTO RICO SHOULD BE ADMITTED TO THE UNION AS THE 51ST STATE

The U. S. recently admitted Alaska and Hawaii as the 49th and 50th states to the Union. It is time to follow this practice and welcome Puerto Rico as the 51st state. There are numerous compelling reasons for taking this action without further waste of time. In the near future, it may be vital to our defenses to establish large military bases on the island. In the present world situation of propaganda and power

politics, it would strengthen our position by spreading democracy and showing the world that the U. S. does not have racial antipathy. Admitting Puerto Rico as a state would be economically advantageous to both countries.

In regards to the first point mentioned, the U. S. is now in grave danger of losing its large military base in Cuba. Guantanamo is in a precarious position located in complete isolation on the island and surrounded by a government that we do not recognize. The situation has progressively deteriorated since Castro came into power until the continued existence of the base is endangered. While it is true that should a showdown concerning the base occur the U. S. has sufficient might to crush opposition, the world would disclaim such action as shocking aggression. Nevertheless, we must have bases in the Carribean to maintain our nation's defenses. Puerto Rico offers an equally good location for these vital Carribean bases. Admitting Puerto Rico as a state would make it one of us and bind it to us more closely, preventing any future hostilities as in the case of Cuba. We could then feel free to develop our military bases without fear of future difficulties and at the same time establish a stronghold of democracy in the Carribean to help stem the infiltration of Latin America by the Castro Regime.

In the present struggle of world power, communism is pitted against democracy for supremacy. Communist propaganda has seized upon the recent U. S. integration problem as an opportunity to attack us. The real situation has been exaggerated and distorted. U. S. democracy has been attacked as being unable to solve our problems at home and on the grounds of racial prejudice. The present opportunity of admitting Puerto Rico as a state would be a strong blow against such propaganda. It would show the world our sincerity in wanting to spread democracy and that charges of racial antipathy are not true.

Admitting Puerto Rico as a state would be economically advantageous to both countries. We import many products from Puerto Rico which have high tariffs and quotas imposed on them. This results in a hardship on both the American consumer and the exporter. The consumer must pay high prices for the product to absorb the import duties. For example, a pair of sandals that Puerto Rico manufactures and sells for one dollar costs the American consumer three dollars. The largest part of this difference goes for the import-duties; it does not find its way to Puerto Rico raising their standard of living. For the exporter in Puerto Rico, the quotas set upon the products rigidly limit the amount that he can ship to the U. S. Tariffs and quotas may be desirable with countries that manufacture products in competition with our manufacturing companies, but with Puerto Rico this is not the case. The products they produce in quantity and export are not in competition with our own products. Welcoming Puerto Rico as a state would remove these tariffs and quotas opening the door to free trade and resulting in economic advantages to both countries.

Student Opinion Survey--Immediate Post-treatment

Name _____ Age _____ Sex M F Date _____
 First (please print) last

Psychology course currently enrolled in intro educ. Room _____
 Class rank- Fr. Soph. Jr. Sr. American Citizen- Yes No Major _____
 Minor _____. Do you plan graduate work- Yes No Is North Dakota
 your home state- Yes No Political preference- Dem Repub Indepen't
 Fraternity/Sorority member- Yes No

The first part of this opinionnaire requires that you judge certain concepts, people, or events against a series of descriptive scales. For each concept, simply place your mark (X) at that point along each scale that most closely corresponds to your opinion about that concept. Thus, in the example below, the concept ICE CREAM is to be judged against a series of descriptive scales.

ICE CREAM

unpleasant: _____:_____:_____:_____:_____:_____:_____:_____ : pleasant
 sincere: _____:_____:_____:_____:_____:_____:_____:_____ : insincere

Your mark (X) should be placed at that point along each scale that corresponds most closely with your opinion about the concept. Thus, you would probably put your X near the pleasant end of the first scale above. However, you may think that the second scale, sincere-insecure is irrelevant to the concept of ICE CREAM. In this case, you would probably place your X in the middle space. This middle space may also be used to register your opinion that a concept is equally associated or neutral with respect to both sides of the scale. Remember in making your answers to the first part of this opinionnaire to follow these rules:

- (1) Place your mark in the middle of the space, not on the boundaries.

THIS NOT THIS
 :_____ : _____ : _____ : _____ X _____

- (2) Mark every scale for every concept--do not omit any.
- (3) Never put more than one X on a single scale.

Now turn the page and begin the first part of this opinionnaire.

MARTIN LUTHER KING

approve : _____:_____:_____:_____:_____:_____:_____ : disapprove
 honest : _____:_____:_____:_____:_____:_____:_____ : dishonest
 foolish : _____:_____:_____:_____:_____:_____:_____ : wise
 valuable : _____:_____:_____:_____:_____:_____:_____ : worthless
 soft : _____:_____:_____:_____:_____:_____:_____ : hard
 sincere : _____:_____:_____:_____:_____:_____:_____ : insincere

5. The courts should deal more leniently with juvenile delinquents.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree disagree
6. The use of drugs such as LSD and marijuana should be strictly regulated.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
7. The Electoral College results are an accurate reflection of a candidate's popular total.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
8. Single women make better primary teachers than married women since single women have more time for at-home preparation.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
9. It would be premature at this point to consider admitting Puerto Rico as a state.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
10. Special consideration and lenient treatment should not be given to juvenile delinquents since it is the function of our legal institutions to protect the innocent citizen.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
11. The dollar should be devalued now to prevent further slumps in the U.S. economy.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
12. LSD and marijuana are no more harmful than liquor or tobacco and therefore their use should not be regulated.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree
13. The Electoral College system does not allow all citizens an equal share in the election of a president.
 :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_: :_:_:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree

14. Married women make better primary teachers than single women since married women usually have more experience with children.

:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree

15. It would be to our advantage in many ways to welcome Puerto Rico as the 51st state in the immediate future.

:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree

16. Devaluation of the dollar now would result in a worsening of the US's domestic economic situation.

:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree

17. The use of LSD or marijuana leads to dangerous and undesirable side effects and for this reason should be strictly regulated.

:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree

18. Understanding and guidance are the best techniques for dealing with juvenile delinquents.

:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:___:
 definitely mildly neutral mildly definitely
 disagree disagree agree agree

APPENDIX C

6. The Secretary of State should be appointed by our President.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

7. It would be premature at this point to consider admitting Puerto Rico as a state.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

8. U.S. recognition of governments such as Red China would deal a serious blow to the morale of our allies who are struggling to maintain democracy.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

9. Understanding and guidance are the best techniques for dealing with juvenile delinquents.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

10. Popular election is the best system for selecting the Secretary of State.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

11. If a government such as Red China exists it should be recognized.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

12. It would be to our advantage in many ways to welcome Puerto Rico as the 51st state in the immediate future.

:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:	:_:_:_:_:
definitely	mildly	neutral	mildly	definitely
disagree	disagree		agree	agree

APPENDIX D

INITIAL AND IMMEDIATE POST-TREATMENT OPINION SCORES OF HIGH, MEDIUM
AND LOW DOGMATIC SUBJECTS WHO WERE INCLUDED IN DESIGNS 1 AND 2

Juvenile Delinquency Issue--Active Treatment

DOGMATISM SCORES		INITIAL MEASURE						IMMEDIATE POST-TREATMENT MEASURE					
		Items						Items					
		1		2		3		1		2		3	
		JD	PR	JD	PR	JD	PR	JD	PR	JD	PR	JD	PR
High	22	5	8	10	8	14	8	15	14	15	11	15	11
	22	4	8	4	1	12	8	5	10	3	8	15	10
	22	4	8	5	4	15	6	10	8	14	9	15	9
	20	2	8	12	12	11	11	5	13	6	13	11	14
	19	6	9	12	10	15	10	10	9	10	9	12	8
	19	5	8	14	8	14	8	6	8	4	8	15	8
	26	3	8	11	5	14	10	12	8	11	6	15	8
	24	8	7	8	8	11	7	11	8	6	8	13	8
	23	5	8	12	8	8	8	5	11	5	8	9	8
	22	5	11	11	10	10	11	2	12	5	10	11	9
	31	7	8	10	5	15	8	4	8	4	5	11	8
Medium	18	5	8	14	3	14	8	13	8	13	8	15	8
	16	4	7	10	8	5	8	1	5	5	5	5	5
	18	6	8	10	8	13	12	4	6	4	6	14	5
	17	6	12	6	10	14	11	5	7	5	5	11	7
	16	2	7	11	8	15	8	3	6	5	8	15	9
	17	7	8	10	6	3	8	15	8	15	3	15	8
	16	5	8	13	8	11	8	8	8	8	8	8	8
	16	8	5	2	7	13	8	12	8	13	8	11	8
	18	4	13	5	13	15	14	2	15	4	14	11	15
	18	3	2	15	2	1	8	11	1	14	1	13	8
	16	4	1	13	2	15	5	1	1	2	1	15	2
Low	14	11	8	6	8	15	10	15	11	11	8	13	8
	10	6	6	11	4	15	1	11	2	15	5	15	6
	9	4	8	5	8	15	9	8	8	11	8	12	8
	12	5	8	11	1	15	14	3	8	15	1	15	11
	14	5	8	12	3	14	8	12	8	14	6	15	11
	13	4	8	14	8	15	8	4	8	14	8	11	8
	13	5	8	11	5	11	9	7	9	10	5	13	8
	14	3	12	5	6	13	9	3	10	5	5	12	9
	13	3	8	4	8	15	8	4	8	6	8	15	8
	14	4	10	15	9	14	9	11	9	10	4	15	9
	7	3	8	15	8	15	8	4	8	13	8	14	8

Juvenile Delinquency Issue--Passive Treatment

DOGMATISM SCORES		INITIAL MEASURE						IMMEDIATE POST-TREATMENT MEASURE						
		Items						Items						
		1		2		3		1		2		3		
		JD	PR	JD	PR	JD	PR	JD	PR	JD	PR	JD	PR	
High	24	5	11	10	10	14	10	6	10	5	11	1	11	
		20	5	8	11	8	11	8	12	8	15	8	15	8
		23	2	13	3	8	15	12	15	13	4	9	15	13
		21	1	8	15	3	15	7	3	8	9	7	15	8
		19	5	5	13	3	11	8	12	5	11	2	14	3
		23	10	8	6	1	15	11	8	8	8	1	15	10
		19	4	8	9	5	11	8	11	11	13	11	12	10
		24	2	10	14	11	15	13	10	11	12	10	13	13
		23	4	6	7	6	13	6	11	5	13	5	15	6
		22	5	5	13	8	11	8	11	8	8	8	9	8
		20	2	8	5	3	12	8	5	11	2	8	13	8
	Medium	18	3	11	3	11	15	13	8	13	6	11	15	12
			17	3	7	14	8	15	7	5	13	13	13	15
		17	3	10	14	8	12	10	3	9	11	8	13	8
		15	5	2	13	3	14	2	12	1	12	8	15	3
		17	2	4	15	4	12	3	1	5	2	8	12	8
		16	4	8	4	8	13	8	4	8	4	8	10	8
		15	6	11	5	12	13	11	10	8	11	8	12	8
		17	5	8	11	8	14	8	2	8	4	8	15	8
		18	4	8	14	8	15	8	11	8	15	8	15	8
		16	2	8	11	10	15	6	4	8	4	10	13	8
Low	18	4	1	5	5	14	1	14	1	15	5	15	5	
		12	4	8	6	5	12	8	11	5	13	4	14	7
		13	4	5	12	3	8	5	8	8	8	8	11	5
		13	2	7	13	3	13	4	2	4	14	3	15	5
		11	5	8	11	8	15	8	10	10	11	8	15	10
		9	5	8	10	2	10	11	8	8	8	8	12	8
		13	2	5	4	3	13	4	10	5	12	2	13	8
		12	2	11	13	11	14	10	3	8	10	5	15	8
		9	4	7	13	1	15	2	12	1	9	1	15	1
		9	4	11	11	11	12	11	5	5	15	2	15	8
		9	3	7	13	6	14	8	4	8	11	5	13	8
	13	4	8	2	2	14	8	5	5	1	5	15	8	

Puerto Rico Issue--Active Treatment

DOGMATISM SCORES		INITIAL MEASURE						IMMEDIATE POST-TREATMENT MEASURE					
		Items						Items					
		1		2		3		1		2		3	
		JD	PR	JD	PR	JD	PR	JD	PR	JD	PR	JD	PR
High	19	11	8	11	6	12	9	6	8	6	8	15	8
	26	1	8	15	8	8	8	1	15	1	15	8	15
	24	11	8	13	8	13	10	3	11	3	8	14	11
	24	8	11	11	8	12	9	6	8	8	8	10	9
	20	2	8	4	8	11	11	3	11	8	8	13	8
	25	5	9	5	8	11	8	9	9	9	5	13	9
	19	12	8	11	8	15	8	3	8	4	8	13	8
	25	3	11	13	3	15	11	2	11	3	5	11	11
	22	10	8	14	5	15	11	6	8	6	5	15	9
	21	4	10	5	6	8	11	1	13	2	14	6	13
20	1	8	5	9	12	9	1	11	1	6	15	6	
Medium	18	6	8	12	4	11	10	3	9	13	8	12	10
	16	5	8	2	7	4	8	2	14	5	14	11	14
	16	3	7	14	9	13	7	3	10	12	10	12	9
	17	3	7	15	8	13	11	4	13	11	14	13	13
	19	4	10	15	11	14	8	1	14	6	13	12	10
	16	1	8	1	8	5	8	1	10	1	8	11	8
	18	6	5	13	5	15	8	5	8	5	8	14	8
	16	3	8	5	11	14	8	4	8	3	11	15	10
	18	12	7	12	8	14	12	11	11	10	8	13	11
	16	5	8	11	5	13	14	5	8	11	5	10	8
	17	11	8	12	9	12	12	11	10	12	8	13	9
Low	9	1	5	1	2	11	11	1	11	6	5	14	11
	14	5	8	8	7	11	8	6	8	9	8	10	9
	13	6	8	10	5	10	6	4	11	6	7	12	11
	14	5	8	13	3	13	5	4	9	7	5	13	9
	11	3	8	3	8	11	8	4	10	5	7	10	11
	10	5	5	14	2	11	8	5	8	11	8	11	8
	14	7	4	11	10	15	6	11	10	5	11	11	9
	10	5	8	5	6	9	8	2	11	2	11	6	13
	12	4	7	12	8	10	7	4	7	9	9	11	8
	8	4	7	11	8	11	5	4	4	8	4	13	5
	12	11	11	10	5	3	12	13	8	12	8	11	8

Puerto Rico Issue--Passive Treatment

DOGMATISM SCORES		INITIAL MEASURE						IMMEDIATE POST-TREATMENT MEASURE					
		Items						Items					
		1		2		3		1		2		3	
		JD	PR	JD	PR	JD	PR	JD	PR	JD	PR	JD	PR
High	20	4	8	15	2	15	8	6	8	5	5	15	9
	20	4	8	6	8	12	8	11	15	12	11	5	12
	22	5	8	14	5	14	2	3	8	13	5	11	8
	21	5	8	15	2	15	15	5	11	14	9	15	15
	21	4	10	3	8	11	8	4	12	2	8	11	8
	21	1	11	9	8	5	8	1	15	10	8	10	13
	20	9	8	15	11	12	10	5	13	13	12	15	12
	22	2	3	15	8	15	4	1	13	15	8	15	11
	24	5	8	3	6	15	8	4	13	4	9	15	11
	20	11	9	13	8	15	13	11	12	4	5	15	15
	20	5	10	4	7	12	11	6	10	6	10	12	10
	Medium	18	3	8	10	8	11	8	1	11	2	7	15
16		6	11	10	8	11	8	7	8	7	8	10	9
16		3	9	4	6	12	6	5	14	11	13	14	13
17		1	8	2	8	15	8	1	8	10	8	15	8
16		2	7	2	9	11	7	1	13	3	12	7	12
18		5	8	10	5	12	11	5	8	6	6	12	8
18		5	13	12	5	15	11	1	15	11	11	15	14
19		3	8	4	11	13	11	8	11	11	11	15	11
18		3	4	4	5	13	11	1	8	2	8	3	8
16		5	8	14	11	14	5	5	11	5	11	11	11
18		1	9	15	8	14	8	1	13	1	12	11	10
Low		12	1	8	3	8	2	10	1	8	10	8	4
	13	5	8	13	8	8	8	5	11	12	11	11	11
	14	5	11	5	5	13	10	5	11	11	11	12	13
	14	4	3	12	11	15	5	6	12	10	10	15	8
	9	3	8	12	6	10	8	3	11	14	11	11	12
	11	7	5	8	8	11	8	1	8	2	8	13	8
	13	5	8	10	8	10	8	3	11	12	6	13	11
	13	10	5	13	10	14	5	4	11	10	10	13	10
	9	5	8	5	8	5	8	5	8	6	8	5	8
	14	2	10	11	11	15	8	5	11	15	6	15	11
	10	5	7	11	11	9	8	8	12	7	7	13	11

APPENDIX E

IMMEDIATE POST-TREATMENT AND DELAYED POST-TREATMENT OPINION SCORES
OF HIGH, MEDIUM, AND LOW DOGMATIC SUBJECTS WHO WERE
INCLUDED IN DESIGNS 3 AND 4

Juvenile Delinquency Issue--Active Treatment

DOGMATISM SCORES		IMMEDIATE POST-TREATMENT MEASURES			DELAYED POST-TREATMENT MEASURES		
		Items			Items		
		<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>
High	22	15	15	15	15	15	15
	22	5	3	15	1	5	11
	22	10	14	15	10	15	15
	20	5	6	11	2	6	7
	19	10	10	12	11	11	12
	24	11	6	13	6	7	10
	23	5	5	9	6	6	14
	31	4	4	11	5	2	12
Medium	18	13	13	15	11	13	15
	17	2	2	11	3	4	10
	16	1	5	5	2	4	11
	18	4	4	14	11	11	12
	17	15	15	15	8	12	14
	16	8	8	8	8	8	11
	16	12	13	11	12	14	13
	18	11	14	13	6	14	14
	Low	14	15	11	13	13	2
10		11	15	15	11	15	15
9		8	11	12	12	11	11
14		12	14	15	10	13	12
13		7	10	13	6	10	12
14		3	5	12	3	4	14
13		4	6	15	2	11	15
14		11	10	15	9	9	14

Juvenile Delinquency Issue--Passive Treatment

DOGMATISM SCORES		IMMEDIATE POST TREATMENT MEASURES			DELAYED POST TREATMENT MEASURES		
		Items			Items		
		<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>
High	23	5	11	15	3	11	14
	21	3	9	15	3	4	12
	19	12	11	14	11	11	15
	23	8	8	15	11	13	14
	19	11	13	12	11	13	12
	24	10	12	13	11	12	14
	22	11	8	9	6	7	13
	21	13	10	15	8	5	15
	Medium	17	3	11	13	3	5
18		12	12	12	12	13	13
15		12	12	15	12	13	15
16		5	15	15	4	13	14
16		4	4	10	4	4	10
17		2	4	15	3	3	14
18		11	15	15	8	14	15
16		4	4	13	4	11	13
Low		13	2	14	15	2	14
	11	10	11	15	11	13	15
	9	8	8	12	7	8	10
	13	10	12	13	3	5	8
	12	3	10	15	3	12	13
	9	12	9	15	5	7	15
	9	4	11	13	11	11	3
	8	6	11	13	5	11	11

Puerto Rico Issue--Active Treatment

DOGMATISM SCORES		IMMEDIATE POST-TREATMENT MEASURES			DELAYED POST-TREATMENT MEASURES		
		Item			Item		
		<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>
High	19	8	8	8	8	8	9
	26	15	15	15	15	12	15
	24	11	8	11	8	11	13
	24	8	8	9	10	9	10
	20	11	8	8	7	12	11
	25	9	5	9	8	8	8
	21	13	14	13	14	15	15
Medium	18	9	8	10	8	8	9
	16	14	14	14	14	13	13
	16	10	10	9	11	11	12
	17	13	14	13	13	14	14
	19	14	13	10	11	10	11
	16	10	8	8	8	8	8
	18	11	8	11	10	10	11
Low	9	11	5	11	5	3	10
	14	8	8	9	9	10	9
	13	11	7	11	10	6	10
	14	9	5	9	10	4	10
	9	12	12	11	8	6	10
	11	10	7	11	10	11	9
	8	4	4	5	4	5	5

Puerto Rico Issue--Passive Treatment

DOGMATISM SCORES		IMMEDIATE POST-TREATMENT MEASURES			DELAYED POST-TREATMENT MEASURES		
		Item			Item		
		<u>1</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>3</u>
High	20	8	5	9	9	11	9
	21	12	8	8	9	8	10
	19	15	13	14	12	11	11
	22	8	8	8	11	5	13
	20	13	12	12	12	12	12
	22	13	8	11	4	3	11
	20	10	10	10	10	10	9
Medium	18	11	7	11	8	6	11
	16	5	8	8	7	6	7
	16	13	12	12	7	7	9
	18	15	11	14	13	12	13
	19	11	11	11	13	13	12
	18	8	8	8	5	5	13
	16	11	11	11	11	11	11
Low	12	8	8	12	6	6	8
	14	11	11	13	6	3	12
	14	12	10	8	8	8	5
	13	11	6	11	10	6	6
	13	11	10	10	12	6	11
	9	8	8	8	8	8	10
	14	11	6	11	7	4	10

APPENDIX F

ITEM SCORE MEANS AND STANDARD DEVIATIONS USED AS A BASIS FOR
 CONVERTING IMMEDIATE POST-TREATMENT SCORES INTO
 STANDARD T SCORES FOR DESIGN 5

Juvenile Delinquency Issue

	Item		
	<u>1</u>	<u>2</u>	<u>3</u>
Mean	4.80	9.40	11.95
Standard Deviation	2.72	4.15	3.39

Puerto Rico Issue

	Item		
	<u>1</u>	<u>2</u>	<u>3</u>
Mean	7.79	6.83	8.45
Standard Deviation	2.38	2.85	2.64

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