AN EMPIRICAL ANALYSIS OF THE BELIEF REFERENTS OF PERSONS WITH OPEN AND CLOSED COGNITIVE SYSTEMS

THESIS FOR DEGREE OF Ph.D.

MICHIGAN STATE UNIVERSITY
ROBERT N. VIDULICH

1958

THESIS

This is to certify that the

thesis entitled

AN EMPIRICAL ANALYSIS OF THE BELIEF REFERENTS OF PERSONS WITH OPEN AND CLOSED COGNITIVE SYSTEMS

presented by

Robert N. Vidulich

has been accepted towards fulfillment of the requirements for

Ph.D degree in Psychology

Milton Rokeach

Milton Rokeach, Ph.D.
Major professor

Date Dec. 1, 1958

O-169

ABSTRACT

The purpose of the present investigation was to study three parameters of the social referents of persons with open and closed cognitive systems. The "reference group" concept was reformulated within a cognitive-theoretical framework. "Belief referents" were conceptualized as the authorities used by the individual to substantiate his systems of belief (positive referents) and disbeliefs (negative referents). Three dimensions on which belief referents could vary---narrowing, differentiation, and isolation---were derived from Rokeach's cognitive theory, which deals with open-to-closed cognitive (belief) systems. It was generally hypothesized that persons with relatively closed cognitive systems would manifest increased narrowing, decreased differentiation, and increased isolation of their belief referents, in comparison with individuals with relatively open cognitive systems.

One-hundred ninety-seven introductory Psychology students were given the Dogmatism scale, the index of openness-closedness of cognitive systems. The obtained split-half reliability of .76, using a signed scale with no filler items, is comparable to previously-obtained reliabilities with padded scales administered under anonymous conditions.

From the total pool, extreme groups of thirty High

and thirty low Dogmatic subjects were selected and tested with an hour-long interview schedule designed to provide measures of the three conceptual dimensions of belief referents. The topic of this schedule was public-school desegregation. Standard procedures were used for all subjects. Multiple analysis of covariance was used to remove age and intelligence variations between the two groups.

As a measure of the narrowing dimension, all subjects named, on five separate indices, all personal acquaintances, public persons, and groups who were perceived as favoring or in opposition to their own position on the integration topic. In accord with the proposed hypothesis, subjects with relatively closed cognitive systems were found to have fewer negative belief referents than subjects with relatively open cognitive systems. This discrepancy was mainly a function of reduced awareness of public persons opposing the closed subjects' beliefs.

To test the differentiation dimension, (1) All subjects were given information tests about the public persons and groups who served as positive and negative belief referents. The finding that subjects with relatively closed cognitive systems had no less knowledge about their negative belief referents relative to their positive referents than did persons with relatively open cognitive systems did not support the proposed hypothesis. (2) All subjects rated their negative belief referents on

degree of similarity. No significant differences were found between the two groups in the extent to which negative belief referents are perceived as similar, or undifferentiated. The proposed hypothesis was thus unsubstantiated.

Two indices were also obtained for the isolation dimension: (1) All subjects cited the sources of information about their negative belief referents. Three source-categories were used: "personal contact" with the negative referent or his statements, mass media, or other positive referents. There was no significant support for the hypothesis that persons with relatively closed cognitive systems should obtain less information about their negative referents directly from these referents than persons with relatively open cognitive systems. The results, however, indicated that the relatively closed subjects tended to use direct sources less for negative belief referents than for positive referents. (2) One-half of each group rated identical statements, attributed to either a positive or a negative belief referent, on an acceptance-rejection scale. It was hypothesized that persons with relatively closed cognitive systems would show greater acceptance of pronouncements of a positive referent and greater rejection of pronouncements of a negative referent than subjects with relatively open cognitive systems. Findings in the opposite direction from that anticipated were obtained. Relatively closed subjects showed greater acceptance of statements attri-

buted to both positive and negative referents.

Thus, significant evidence was obtained for only one of the three proposed conceptual dimensions. High polarization of belief on the desegregation issue was evident in the sample used; this tended to confound variations on the cognitive dimension of openness-closedness used to isolate the experimental groups. While the lack of prior analyses of the three conceptual dimensions used also limits the generalization of these results, the investigation provides inferential evidence for the utility of the proposed reconceptualization of reference groups as cognitive belief referents.

Milton Rokeach

AN EMPIRICAL ANALYSIS OF THE BELIEF REFERENTS OF PERSONS WITH OPEN AND CLOSED COGNITIVE SYSTEMS

By

ROBERT N. VIDULICH

A THESIS

Submitted to the School for Advanced Graduate Studies
of Michigan State University of Agriculture and
Applied Science in partial fulfillment of the
requirements for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1958

ACKNOWLEDGEMENTS

Grateful thanks go to the author's committee--Drs. Milton Rokeach, M. Ray Denny, Charles Hanley, and Frank Restle--to the many other helpful staff members and fellow graduate students, to the persevering subjects, and finally to Barbara and the boys, who unknowingly provided the incentive.

TABLE OF CONTENTS

CHAPTER	PAGE
I. INTRODUCTION	1
Purpose of the Study	1
Overall Plan	2
II. THE REFERENCE GROUP CONCEPT	3
Theoretical Analyses of the Reference Group Concept	4
Review of Literature on Reference Group Research	9
An Evaluation and Reformulation of the Reference Group Concept	14
III. THE BELIEF-REFERENT CONCEPT	18
The Concept of the Belief-Disbelief System	18
Statement of the Problem: Theoretical Formulations	19
Specific Hypotheses	23
IV. METHODOLOGY	25
Population	25
Measurement of Open-Closed Belief Systems	25
Subjects	26
Measurement of Belief-Referent Dimensions	26

PAGE

The Pilot Questionnaires 26

The Interview Schedule 27

Scoring of the Belief Referent Dimensions 28

V. RESULTS 37

Composition of the Sample 37

Dogmatism, Age, and Intelligence 37

Other Variables 38

Treatment of the Data--- Statistical Methodology 46

Findings for the Hypotheses 49

VI. DISCUSSION 72

VII. SUMMARY 87

REFERENCES 91

APPENDICES 96

A. Dogmatism Scale 96

B. Interview Schedule 100

LIST OF TABLES

TABLE		PAGE
1.	Dogmatism, Age and Intelligence of the Experimental Groups	37
2.	Two Indices of Socio-Economic Status of High and Low Dogmatic Groups	41
3.	College Class and Reported College Grade Point Average of High and Low Dogmatic Groups	41
4.	Sex of High and Low Dogmatic Groups	42
5.	Marital Status of High and Low Dogmatic Groups	42
6.	Religious Affiliation of High and Low Dogmatic Groups	43
7.	Frequency of Church Attendance of High and Low Dogmatic Groups	43
8.	Presidential Political Preference of High and Low Dogmatic Groups	44
9.	Political Party Preference of High and Low Dogmatic Groups	44
10.	Intensity of Attitude Toward Desegregation of High and Low Dogmatic Groups	45
11.	Frequency of Church Attendance of High and Low Dogmatic Groups with the Catholic Subject Excluded	46
12A	"Adjusted" Total Number of Negative Referents for High and Low Dogmatic Groups	49
12B	Analysis of Covariance of the "Adjusted" Total Number of Negative Referents with Age and Intelligence Held Constant	50

TABLE		PAGE
13A.	Total Number of "Salient" Negative Referents for High and Low Dogmatic Groups	51
14A.	Total Number of "Probe" Negative Referents for High and Low Dogmatic Groups	52
14B.	Analysis of Covariance of the Total Number of "Probe" Negative Referents with Age and Intelligence Held Constant	52
15A.	Total Number of "Statement" Negative Referents for High and Low Dogmatic Groups	53
15B.	Analysis of Covariance of the Total Number of "Statement" Negative Referents with Age and Intelligence Held Constant	53
16A.	Total Number of "List" Negative Referents for High and Low Dogmatic Groups	54
16B.	Analysis of Covariance of the Total Number of "List" Negative Referents with Age and Intelligence Held Constant	54
17.	Number of Positive Referents for High and Low Dogmatic Groups	56
18.	Number of Persons Recognized on a List of 54 Names-(Half for Desegregation) (Half against Desegregation)	58
19.	Use of Three Types of Referents by High and Low Dogmatic Groups	59
20.	Mean Information Scores for High and Low Dogmatic Groups on Positive and Negative Referents.	61

TABLE		PAGE
21.	Analysis of Covariance of Information Indices with Age and Intelligence Held Constant	63
22.	Similarity Rating of Positive and Negative Referents for High and Low Dogmatic Groups	64
23.	Analysis of Covariance of the Negative Referent Similarity Ratings with Age and Intelligence Held Constant	65
24.	Source of Information about Positive and Negative Referents for High and Low Dogmatic Groups	66
25.	Response to Statements Attributed to a Positive Referent (Marshall) by High and Low Dogmatic Groups	69
26.	Response to Statements Attributed to a Negative Referent (Faubus) by High and Low Dogmatic Groups	69
27.	Analysis of Covariance of Response to Statements Attributed to a Positive Referent (Marshall with Age and Intelligence Held Constant)	70
28.	Analysis of Covariance of Response to Statements Attributed to a Negative Referent (Faubus) with Age and Intelligence Held Constant	71

CHAPTER 1

INTRODUCTION

Purpose of the Study

The purpose of the present investigation is to attempt to empirically test some theoretical notions about the ways in which other persons and groups are used as the referents for an individual's beliefs. There are two distinct aspects to this endeavor.

We shall first propose a way of thinking about the individual-social referent relationship which is dissimilar from prior theoretical formulations in this area. Previously, the concept of the "reference group" has served as the explanatory variable in the processes of attitude formation and maintenance. We shall analyze this attitudinal behavior in terms of another concept--that of the "belief referent"--which is based on a cognitive interpretation of personality. Belief referents will be conceived to be those persons and groups which serve as the positive and negative authorities for the beliefs which the individual holds.

The second portion of the study will consist of an attempt to empirically test some propositions about these belief referents. The theoretical framework in which the empirical investigation is cast is that of Rokeach (36,38, 39,), who has analyzed the individual belief structure on a dimension ranging from open to closed.

It will be hypothesized that individuals' belief referents will vary on several dimensions, all derived from the Rokeach model, according to the degree to which their personality organization is open or closed.

Overall Plan

In Chapter II, a summary review of the empirical and theoretical material on the reference group concept is presented, followed by an evaluation and reformulation of this concept. Chapter III presents a brief analysis of Rokeach's model of open-to-closed-belief-disbelief systems, the theoretical deductions from this model, and the specific hypotheses of the present study. Chapter IV outlines the methodology of this investigation. The results are presented in Chapter V, and Chapter VI contains the discussion of these findings. The investigation is summarized in Chapter VII.

CHAPTER II

THE REFERENCE GROUP CONCEPT

One of the most extensively-used concepts to account for the processes of attitude formation and self-evaluation is that of the reference group. The theoretical connotations of this term will be elaborated later in this chapter. The reference group concept usually refers to those groups with which the individual compares himself, or the groups from which he obtains his attitudes, beliefs, and values and which he uses to uphold these. Hyman (14) seems to have been the first to use this term, naming the concept in 1942 in a study of individual perception of self-status. This experimental analysis demonstrated that persons shifted their own status evaluations according to the group with which they compared themselves.

It is possible to trace important roots for this concept in two fairly divergent realms of social science. The first of these lies in the thinking of such theorists as G. H. Mead (27), who early noted that the individual experienced himself as a person only through the communicated evaluations of the other members of the groups to which he belonged. Mead failed to realize, however, that groups and individuals other than these "membership groups" were important reference points for the individual.

Another, and possibly more significant, basis for the reference group concept as later elaborated by Hyman and others, lies in the research on frames of reference. As an example of this trend, the investigation of Chapman and

Vollman (5) is important, for it seems to have served as the impetus for the Hyman study. These workers showed that an individual's level of aspiration attitudes could be changed by experimentally manipulating the social referent which he used as a frame of reference or judgmental point in his self-comparisons. The important experimental work of Sherif(45) on the social variables in autokinetic effect, and of Asch (2) on social influences on judgment are also relevant to this area.

Theoretical Analyses of the Reference Group Concept

While reports of the use of the reference group concept as an independent or dependent variable in experimental studies are extremely scarce, as will be evidenced by the succeeding section, there is no shortage of theoretical analyses of the term.

Three theoretical artisans have recently put forward independent analyses of the concept, all of which present highly-similar interpretations of the manner in which "reference group" is used in contemporary social science.

Shibutani (51) sees three main usages of the reference group concept which are important. A reference group may mean a group with which a person compares himself in making a self-judgment or self-evaluation. This comparative function of reference groups is the one prevailing in the recent re-analysis of The American Soldier data by Merton and Kitt, These writers, in attempting to

incorporate divergent findings into a theory of reference groups, state that "reference group theory aims to systematize the determinants and consequences of those processes of self-evaluation and self-appraisal in which the individual takes the values and standards of other individuals and groups as a comparative frame of reference (28, p.432)."

Another usage of reference group signifies any group which is the source of a person's values, attitudes, beliefs, or as Shibutani terms them, "perspectives." In this usage, the reference group serves as the perceptual frame of reference for the individual. Sherif (46, 47, 48, 50), the foremost proponent of the reference group concept in its early years of development, defines reference groups as "groups whose norms are used as anchoring points in structuring the perceptual field (50, p.))." Shibutani's own definition of reference group in this context is"that group whose perspective constitutes the frame of reference of the actor," and he argues that "through direct or vicarious participation in a group, one comes to perceive the world from its standpoint...the reference group becomes a collectivity, real or imagined...whose perspective is assumed by the actor (51, p. 562)."

In its third usage, according to Shibutani, the reference group is a group to which an individual aspires to be a member or a recognized participant. "The re-

reference group concept is used to point to an association of human beings among whom one seeks to gain, maintain, or enhance his status...a reference group is that group in which one desires to participate...a group whose claims are paramount in situations requiring choice (51, p. 563)". Sherif (50) uses the studies of social class identification, such as that of Centers, to illustrate this function. Here, the reference group for a given individual may be another social class than the one to which he objectively belongs.

Turner argues that this third usage is really not a usage at all, citing literature in which "the desire to be accepted is depicted as the mechanism which leads to the adoption of the values and perspectives of the reference group (57, p. 327)." He would rather retain the first two usages as "definitions" of the concept in terms of the effects of reference group on behavior, and use the third function noted above as the mechanism by which the reference group acts on the individual.

A breakdown quite similar to that of Shibutani has been furnished by Kelley (18). In its evaluation function, "the reference group is merely a standard or check-point which the individual uses in making judgments" of himself and others (18, p. 412). Secondly, the reference group is the source of an individual's "values". And in Kelley's third usage, a reference group is "a group in which the individual is motivated to gain or maintain <u>acceptance</u>. To promote this acceptance, he holds his attitudes in conformity with what he perceives to be the concensus among

the group members. Implicit here is the idea that the members of the reference group observe the person and evaluate him, "and that the reference group" is in a position to award recognition or withhold it (18, p.411, 412)."

Turner (57) has attempted to integrate the first two functions of reference groups of Shibutani and Kelley with the sociological concept of "role taking." When a reference group is the source of a person's values or perspectives, Turner sees an immediate identity of meaning with the role-taking concept: "One takes the role of a member of the group, which is synonymous with having a 'psychologically functioning membership' (Newcomb's term) in the group, and one adopts the group's standpoint as one's own (57, p. 327)." According to Turner, a reference group as a point of comparison corresponds only partially to "certain meanings" of role-taking, namely, taking the role of another from a "third-party standpoint (57, p.327)." Turner summarizes his position as follows:

> In general, then, it appears that the concepts of reference group and role-taking are closely related...The terms 'reference group' and 'relevant other' refer to essentially the same phenomena. The reference group is a generalized other which is viewed as having member roles and attributes independently of the individuals who compose it. (57, p. 328).

What,we may reasonably ask, is the theory or conceptualization of personality underlying these various theorized functions of the reference group concept? Why

is there a need on the part of the individual for reference groups in the first instance? One answer to these questions is readily found in the work of Sherif (46, 47, 48, 50), around whose thinking much of the current theorizing and research revolves.

Reference groups, to Sherif, are essential in the formation and change of a person's "directive" or "ego" attitudes which

> ...pertain to his central concerns: to having some place in the scheme of human relations, being accepted, being somebody who counts, setting goals for achievement. Expressing the same idea in more technical language, reference groups provide the main anchorings in the formation and change of ego-attitudes, in the erection of future goals. When these anchorings come in as factors in given situations, we say the individual is ego-involved. And when he is ego-involved, the result is a characteristic consistency of the person's behavior. (50, p.448).

These "ego attitudes" are elsewhere defined (by Sherif and Cantril) as

> ...the effective fixations which determine, delimit, focus, and shape the selectivity of experience and response to various stimulus situations...are connected with the individuals, situations, or instructions to which the person is in some way related...since the ego is a genetic formation, the particular attitudes that become its major components will vary according to the situations to which an individual is exposed, the particular constellation of social values or norms which have served as stimulus situations. (45, pp. 7-58).

Sherif's analysis appears to proceed as follows:

the person has certain "ego attitudes" which are acquired during his life from his social referents; these "ego attitudes" in turn determine which groups and individuals the person will turn to as referential points; these new referents thus become the determinants of a new, expanded set of "ego attitudes" which, in turn, structure the world of the person, and delimit a new set of social referents available to the individual. The process is endless.

This analysis has two obvious shortcomings. Unless an investigator is able to define exactly the current "ego attitudes" of the person, prediction of present or future reference groups is indeed difficult. In addition, the problem of "ego attitude" delineation is also quite unwieldy.

An evaluation of these theoretical notions of the reference group concept and its psychological underpinnings will be attempted following a survey of the research in this area.

Review of the Literature on Reference Group Research

The first to use this concept to interpret experimental findings was Newcomb (30, 31, 32) who reanalyzed his Bennington College data in terms of reference groups. In essence, his results indicated that individuals, while belonging to some membership group, did not necessarily use that group as a point of reference in the formation or confirmation of attitudes, but often used some other group (s) as referential points. In addition, he posited the existence of both positive and negative reference

groups; the former being those toward which the person was attracted or which served as referential points in attitude development and maintenance, the latter being those which the individual rejected as sources of new attitudes or confirmers of existing attitudes. (32).

In another early study, Charters and Newcomb (6) found (for one of the three religious groups used in their design) that it was possible to experimentally increase the salience of one membership group, used by their subjects as a reference group, so that attitudinal responses were made in line with this group's norms. It seems clear that this is essentially the same finding noted previously by Hyman and by Chapman and Volkmann, except that in this case, attitudinal identification rather than level of aspiration or self-status was found to fluctuate according to the referential point used by the subject.

Turner, in a recent study (58), has evolved a method of determining whether an individual regards the level of behavior in any particular group as being acceptable to serve as a standard on evaluating his own achievement. Following this method, he reports exploratory findings about the relations between these measures of group "relevance" and individual attitudes about participation in these groups. He notes "the tendency for groups to have <u>segmental</u> rather than uniform relevance to the individual's self-evaluation..." and reports that, "Groups are not of equivalent relevance as standards for evaluating occu-

pational success and for evaluating ethical and moral behavior. To a considerable extent individuals may invest different group with relevance for different values." (p. 135).

Much of the work done on the reference group concept appears to have been accomplished by the sociologists. Stern and Keller (54), using the reference group concept as an explanatory variable in comparing the United States and the French societies, tabulated the frequency of individual references to both membership and non-membership groups in a French sample. They define reference groups as "groups representative of social strata outside of one's social environment." Thirty-one per cent of the total responses were to non-membership groups, and sixty-nine per cent of the references were to membership groups. Their conclusion is that French values, beliefs, and behavior are not substantially influenced by the values of non-membership or "reference" groups. Pointing to the differences between these data and the use of non-membership reference groups in the American society, they stress the need of comparative rather than universal reference group concepts.

In another sociological analysis using the reference group concept as an explanatory variable, Killian (20) theorized that conflicting group loyalties and contradictory roles, resulting from multiple group membership and/or reference, were significant factors affecting individual behavior in a crisis or disaster situation. Other

analyses by Killian (cited in 50) suggest the same variable in operation.

Rosen, in two related investigations (43, 44), studied the effects of simultaneous membership in two groups on the attitudes of a group of adolescents. Using the attitude area of religious beliefs and practices, he found that both groups--family and peers--exerted "cross pressures" on his subjects. There was a significant relationship existing between the attitudes of the adolescents and the attitudes of their family and peer groups, a relationship which was even more marked when the membership group also served as the reference group. In cases where there was conflict between the attitudes of the two groups, that group with which the subjects agreed tended to be the reference group for attitude substantiation (43).

In a related study, Rosen (44) demonstrated that adolescents perceived their parents as "significant others," and found a significant relationship between parental expectations and adolescent attitudes. A significant correlation was also found between parent-child religious attitudes and behavior. Rosen concludes that "the reference group approach provides a conceptual framework within which relationships can be explained" and calls for a "further development of reference group theory, particularly as it deals with that complex process in which the individual resolves the conflicting expectations of his membership groups..."(pp. 143-144).

Only two other empirical studies were found in a survey of the relevant literature. One of these utilizes

the reference group concept in an explanatory manner, while the other attempts a limited experimental attack upon the concept itself.

In a study of the effects of various reference group affiliations on voting behavior, Kaplan (17) found that most individuals were aware of the voting norms of each of their reference groups. He also found that there was more agreement with the norms of the "primary" reference groups (family, friends, associates, etc.) than with "secondary" reference groups (political parties, unions, etc.). The norms of these secondary reference groups were used, however, through the mediation of the primary referents. According to Kaplan, the individual's present reference groups seem to take precedence over past or older ties, and most persons come to utilize the norms of their social referents mainly as a result of "interpersonal interaction."

Gerard (12) has presented an analysis of two categories of attitude or opinion referents--the "internal" or personality referents, and the "external" or "other person referents." He further sub divides the latter category into "prestige referents" and "social referents." In the former, the greater the prestige of another individual, the greater his influence on the person's opinions and beliefs; by "social referents," he is referring to any group of persons to which the individual may refer for evidence in the formation of opinions and beliefs.

His research dealt with one category of "social referents" or reference groups--the face-to-face membership group. Experimentally varying both attraction to the group

and amount of agreement of the group with the individual, he found that both variables were significant determinants of the processes of incorporation and maintenance of new beliefs.

An Evaluation and Reformulation of the Reference Group Concept

In light of the theoretical and empirical analyses presented heretofore, it is clear that the reference group concept has two essentially different meanings or connotations in current research. In the first usage, the reference group has a comparative function: the person uses the standards or norms of a social group to evaluate his own performance and behavior. In this context, the reference group is a sociological extension of the frame of reference, and has the meaning originally ascribed to it by Hyman (14) and the other early workers in this area. Turner's (56) recent study falls within this conceptual framework.

As the source for an individual's values, perspectives, attitudes, or beliefs, the reference group appears to be serving another master. This referential function, described by Newcomb (31), Sherif (50), Shibutani (51), and others, describes the reference group as constituting the well-spring of the person's modes of thought and belief. The work of Newcomb(32), Rosen (43, 44), and Kaplan (17) is within this framework.

A third possible function of reference groups--as aspiration groups--seems not dissimilar to the comparative use described earlier, and has been described as the mechanism underlying all reference group activity by Turner (57).

Unfortunately, similar descriptive terms have been used by various theorists to describe these alternative approaches to the concept. For example, Merton and Kitt (25) describe the reference group as a "frame of reference" in the processes of self-evaluation, while Shibutani (51) and Sherif (46, 50) state that the reference group constitutes the "frame of reference" of the individual in the processes of attitude-formation. Such conceptual looseness does not make for theoretical precision or ease of empirical substantiation or elaboration. Only Gerard (12) appears to have attacked this conceptual definition problem directly, by redefining the concept of reference group itself, and experimentally examining two of the parameters of the term.

It is this writer's belief that the main reason for this conceptual unclarity lies in the lack of an adequate definition of the role of the individual in referent activity. The idea that man is a social organism, and as such derives most of his concepts, beliefs, and values from the social community in which he lives, seems to have been accepted throughout the recorded historical development of man. Man in some way, and for some reason, adopts the ways of thinking of those with whom he associates, physically or psychologically. His beliefs are those of some of his fellowmen.

Sherif (46, 50) and Sherif and Cantril (45) have attempted to interpret these processes of attitude or belief trans-

mission in terms of their dynamic theory of ego- or directive-attitudes. The individual accepts the values and beliefs of his associates in order to promote his psychological integrity. He becomes "somebody" by believing as others do. He is accepted and wanted. Some of the difficulties inherent in this approach have already been put forward. It is questionable if these ego-attidues can be specified or pinned-down; even if they could be the processes by which the transmission and acceptance of beliefs occurs are still undefined in the Sherif-Cantril model.

An alternate conceptual explanation is available in the models proposed by some of the cognitive theorists, notably Krech and Crutchfield (22) and Rokeach (37, 39). In these approaches, the person views the world in terms of his acquired beliefs, expectancies, hypotheses, or concepts, all of which describe cognitions or systems of cognitions, in terms of which the external world is comprehended. A reference group, or more generally, any social referent, may be interpreted as the <u>authority</u> for these cognitions. As Krech and Crutchfield point out:

> It is inevitable that in the complex world in which we live no single individual can hope to ascertain, at first hand, all the objective facts pertaining to any given object. He must necessarily depend, in considerable degree, upon what the 'experts' tell him...For all individuals, then, facts are frequently mediated by other people as authorities, and the amount of discrepancy between the real facts and the individual's perception of those facts will be dependent upon the validity of the authorities assertations." (22, p. 187).

Trueblood (55) has stated the case in a similar fashion:

> Most of what we believe about the external world is received at second hand and rests on the prior belief that some men are more trustworthy reporters than others...The area of immediate experience open to any individual is extremely slight--a mere slit in the world's expanse...when we rely on authority, we are not, for that reason, guilty of credulity. There is a reason for our reliance. We trust men and institutions presenting the most reason to be trusted...(cited in 39).

In the present investigation, we will take the position that other people, individually and collectively, may be viewed as the authorities for a person's beliefs about the external world and that the process of belief transmission is a cognitive one. The remainder of the present investigation will consist of an attempt to elaborate some of the dimensions or parameters of these authorities or "belief referents," using an existing theoretical model.

CHAPTER III

THE BELIEF REFERENT CONCEPT

The Concept of the Belief-Disbelief System

In the present formulation, the social referents of the individual will be viewed in terms of his own system of expectations and hypotheses about the world in which he lives- his "belief-disbelief system," as it has been termed by Rokeach (36, 37, 38, 39).

In this theoretical model, the personality is seen as a cognitive system, consisting of interdependent belief and disbelief systems, and located on a structural continuum ranging from open at one extreme to closed at the other. Rokeach has elaborated some of the details of this conceptualization of personality structure as follows:

> A cognitive system is considered to be closed to the extent that there is (a) isolation of parts within the belief system and between the belief and disbelief systems, (b) a discrepancy in the degree of differentiation between belief and the disbelief systems, (c) dedifferentiation within the disbelief system, (d) a high degree of interdependence between central and peripheral beliefs, (e) a low degree of interdependence among peripheral beliefs, and (f) a narrowing of the time perspective. (36, p. 195).

To summarize those of the structural dimensions of closed cognitive systems important for the present analysis: the various parts of the belief system are relatively isolated from the sub-parts of the disbelief system. To the extent that the various disbelief sub-systems are part of a closed system, they are assumed to be relatively less differentiated than the belief system. Finally, in a rela-

tively closed system, there is a narrowing, or selective avoidance of contact with facts, events, and ideas which are incongruent or incompatible with the belief system.

Closed cognitive systems are seen by Rokeach as "a total ideological defense against threat and at the same time a cognitive framework for satisfying one's need to know and to comprehend the world one lives in." Through the maintenance of a closed belief-disbelief system, the individual makes it possible "to ward off threatening aspects of reality and at the same time give one the satisfaction of feeling that one understands it." (38).

Statement of the Problem: Theoretical Formulations

Henceforth, the term "belief referent" shall connote any individual, group, organization, institution or other social collectivity, existent of fictional, which is perceived by the individual as having certain beliefs associated with it. Thus a cultural ideal or value, a church or other institution, or a publicly renowned person would all be considered belief referents in this usage. These belief referents are further assumed to have either positive or negative loadings or valences for the individual. (This is, in many respects, similar to Newcomb's analysis of positive and negative reference groups; this line of reasoning is also a function of Rokeach's analysis of beliefs and disbeliefs.) The positive belief referents of the individual are those referents which he perceives as having beliefs and

disbeliefs similar to those which he himself holds. They are the referents to which he refers his own beliefs for corroboration and substantiation. In essence, they are the authorities of his belief system. The negative belief referents are those referents which the individual perceives as having beliefs and disbeliefs dissimilar to his own. These referents are seen to uphold and communicate belief systems incongruent with those of the individual. They are the authorities of his disbelief systems.

The basic hypothesis of this investigation is that persons with relatively closed cognitive systems will also have relatively closed systems of referents for these beliefs. The more closed the cognitive structure, the more closed should be the configuration of belief referents.

A closed cognitive system will be defined in terms of a relatively high score on the Dogmatism Scale, which was designed for the measurement of openness-closedness of cognitive systems. Narrowing, differentiation, and isolation are three of the structural dimensions of a cognitive system measured by this instrument.

These same three conceptual dimensions will be used in this investigation as the defining characteristics of openness-closedness of the belief referent configuration. An individual will be said to have a closed belief referent configuration if (a) there is a narrowing out of the negative referents, (b) there is increased differentiation of the positive referents, with a concomitant decrease in differentiation of the negative referents, and (c) there is a relatively high degree of isolation between the positive

and the negative referents. We will examine these dimensions of relatively closed belief referent configurations, one at a time, in order to elaborate their relations with the parallel dimensions of relatively closed cognitive systems.

Narrowing: With respect to narrowing, Rokeach asserts that "the greater the dogmatism, the more the avoidance of contact with stimuli--people, events, books, etc.--which threaten the validity of the belief system or which proselyte for competing disbelief systems." (36, pp. 199-200). Following this, it is expected that persons with closed cognitive systems will selectively avoid others who hold beliefs incongruent with their own. This narrowing process may be described in terms of "breadth," referring to the number of referents or authorities used by the person to uphold his beliefs and disbeliefs. Implied here is that such avoidance is a method of limiting contact with those who challenge, and are thus threatening, to one's beliefs.

Differentiation: In persons with closed cognitive systems, "the more differentiated the belief system will be as compared with the disbelief system." (36, p. 198). In addition, "the greater the dogmatism, the greater the discrepancy between degree of knowledge of facts, events, ideas, and interpretations stemming from the belief system and any one of the disbelief systems." (36, p. 198). Thus,

persons with relatively closed cognitive systems should have more knowledge about their positive referents than they have about their negative referents. Again, the lack of knowledge about the authorities for one's disbeliefs is an indication of reliance on the positive authorities or referents as a defense against threat or attack.

Moreover, following Rokeach's postulate that "the greater the dogmatism the more will two or more disbelief sub-systems...be perceived as 'the same'." (30, pp.198-199) there should be less awareness on the part of the closed individual of existing differences among his negative referents. In persons with relatively closed cognitive systems, the negative referents should be perceived as being more similar and as having more in common than is the case for persons with relatively open systems.

Isolation: In Rokeach's analysis of cognitive structure, "the greater the dogmatism, the greater is the assumed degree of isolation or independence between the belief and disbelief systems." (30, p. 197). It may be postulated that one index of this isolation will be the source of the individual's information and knowledge about his negative referents. Since the belief and disbelief systems are perceived by the closed individual as different in content or aim, he will be less likely to pay heed to the pronouncements of the authorities of his disbelief system (his negative referents) and will rely, in large part, on his posi-

tive referents for information about the "disbelievers." By doing so, he will be spared the threat and anxiety which could possibly result from closer contact with his negative referents.

Specific Hypotheses

We will now state these theoretical deductions regarding the dimensions of the belief referents of individuals with relatively closed cognitive structures in terms of specific hypotheses to be tested:

Concerning Narrowing:

1. Persons with relatively closed belief-disbelief systems should have fewer negative referents than persons with relatively open belief-disbelief systems.

Concerning Differentiation:

2. There should be a greater discrepancy in the degree of knowledge about positive referents and negative referents for persons with relatively closed belief-disbelief systems than for persons with relatively open belief-disbelief systems.
3. Persons with relatively closed belief-disbelief systems should perceive greater similarity among their negative referents than persons with relatively open belief-disbelief systems.

Concerning Isolation:

4. Persons with relatively closed belief-disbelief systems should obtain less of their information about their nega-

tive referents directly from these referents than persons with relatively open belief-disbelief systems.

5. Persons with relatively closed belief-disbelief systems should show greater acceptance of the pronouncements of their positive referents and greater rejection of the pronouncements of their negative referents than persons with relatively open belief-disbelief systems.

CHAPTER IV

METHODOLOGY

Population

The initial pool of students, from which the experimental subjects were selected, was composed of one hundred ninety-seven persons enrolled in two introductory psychology courses at Michigan State University during the Spring term of 1958.

Measurement of Open-Closed Belief Systems

The 40-item Dogmatism Scale (Form E), with six-choice Likert-type scoring, was used to measure the degree of openness-closedness of belief systems. This scale was administered to all persons in the initial pool. No filler items were utilized. Subjects were asked to give their names and other biographical information at the end of the scale. 1 These procedures are at variance with those reported in prior studies using the Dogmatism Scale (3, 21, 23, 26, 29, 35, 42, 55, 59), in which the scale was administered under anonymous classroom conditions, and was part of a longer battery with varying numbers of "filler" items designed to cloak the Dogmatism items.

Rokeach (38) has elaborated the characteristics of the Dogmatism Scale, and has reported split-half reliabilities of .78 and .81. Vidulich (59) also reports a split-half reliability of .78. The corrected split-half reliability of this scale as used in the present study is .76, with a sample of 93. This compares favorably with

1 The Dogmatism Scale (Form E) as used in this investigation is presented in Appendix A.

the earlier findings, and suggests that anonymity of administration and "padding" are not as essential as previously supposed.

Subjects

From the preliminary group of 197 students who took the Dogmatism Scale, 30 subjects were selected for individual interviews on the basis of extremely high scores, and 30 subjects were chosen on the basis of extremely low scores, a total of 60 subjects in all. These subjects were assigned to the High and Low Dogmatic groups by an acquaintance of the experimenter, so that, at the time of the interview, the dogmatism score of the subject was unknown to the experimenter.

Measurement of Belief Referent Dimensions

The Pilot Questionnaires. It was the writer's original intent to conduct a correlational study of the relationships between personality structure and belief referents along the total continuum of Dogmatism. With this end in mind, an attempt was made to construct a questionnaire which would tap the various referent dimensions growing out of the theoretical formulations.

This questionnaire went through three revisions in an attempt to evolve a measuring device which was relatively uncomplicated and which did not require too much effort on the part of the subjects. The initial version was tested on twenty-one married students who were neighbors or ac-

quaintances of the writer. The second and third versions were given under anonymous classroom conditions, to students in the introductory Psychology course, utilizing approximately forty subjects for each administration.

Due to the nature of the questionnaire, it turned out that group administration could not give us adequate data. In most cases, subjects would fail to answer questions pertaining to one or more dimensions, responding in a hurried and sketchy manner.

The Interview Schedule. Accordingly, it was decided to collect the data utilizing an individual interview technique with groups of subjects at the upper and lower extremes on dogmatism. It was believed that this interview would minimize the complications arising out of the use of the imposing questionnaire.

An interview schedule, composed of statements and questions very similar to those in the questionnaire was constructed, and administered to each of the sixty subjects individually. This interview took approximately one hour for each subject.

The interview schedule consisted of questions designed to elicit, in as direct a manner as possible, information bearing on each of the major hypotheses.[2] The questions included in the interview were ordered from general to specific to avoid directing the subject's responses. To

2 The complete interview schedule, with the verbatim instructions used, is presented in Appendix B.

ensure standardization, the single topic of desegregation in the public schools was used in this study. This topic was chosen because (1) in the first two pilot administrations of the questionnaire, the subjects were given a choice of topics of current social interest from which to choose, and about which they were to answer questions. Over eighty per-cent of these subjects chose desegregation in the public schools as the topic about which they felt most strongly; (2) the use of this topic in the interview schedule maximized the probability of a subject having strong beliefs about the topic under consideration; (3), standardization of questioning and subject response was achieved with the use of one topic.

Every effort was made to standardize the administration of the interview schedule. Identical phrasing of the questions was used with all subjects. Leading questions were avoided in all cases. When additional information was required, or when responses needed clarification, "nondirective" probing techniques were used.[3]

Scoring of Belief-Referent Dimensions. As will be noted from an inspection of the interview schedule (Appendix B), the questions utilized are amenable to objective categorization and quantification. We will now outline the scoring scheme for each question category pertaining to the major hypotheses.

---

3 For an excellent discussion of these techniques, the reader is referred to Cannell and Kahn (4), and Kahn and Cannell (16). Examples of the type of statements made are shown in Appendix B.

Early in the interview, each subject was asked to rate himself on intensity of his attitudes about these relations. The direction of this rating (for or against) determined the later scoring of positive and negative referents.

A. Number of Referents. Five main measures of the number of positive and negative referents were scored separately:

1. Total Number of "Salient" Referents. The subject was asked the following open-ended questions: "...How do you personally feel about...", "Why do you feel the way you do...", and "When was the first time you heard about...." These questions typically elicited the mention of a varying number of persons and groups which shared or opposed the subjects beliefs. Each mention of a different person or group which agreed or disagreed with the subject's own beliefs was scored as a positive or a negative referent. The total number of those agreeing with the subject's beliefs served as the index of the total positive "salient" referents; the total number of persons disagreeing with the subject's beliefs was used as the measure of the total negative "salient" referents.

2. Total Number of "Probe" Referents. The subject was asked, "Who else do you know or know of who feels the way that you do(or feels differently) ...","Quite a few public persons have come out

(for and against)...", and "Some a few national and regional groups and organizations have come out (for and against). ...", Each person or group mentioned by the subject following these questions was scored either a positive or negative "interview" referent, depending on whether the subject had indicated himself as favoring or opposing desegregation on the belief-intensity rating scale. The totals for the positive and the negative referents were computed separately.

3. Total Number of "Statement" Referents. The subject was shown 18 statements typed on 3x5 cards (see Appendix F) following the request, "... Here are some statements...look at each one and try to tell me who could have made it..." Each separate person or group named as the author of a statement was scored as a referent. The named authors were identified as positive or negative referents by asking the subject, for each statement attributed

to some author, whether he agreed or disagreed with that statement. The sums of these names were used as the indices of positive and negative "statement" referents.

4. Total Number of "List" Referents. The subject was presented with a list of the names of 54 public persons, half of which had been unanimously judged by two raters as being in favor and half of which had been judged as opposing desegregation. The subject was requested to indicate those persons which he was positive had made some statement for or against desegregation, and to state the direction of the statement made (for or against). The sums of these names were used as the total of positive and negative "list" referents, depending on the subject's previously-rated direction of belief about the topic.

5. "Adjusted" Total Number of Referents. This score was obtained by totaling the names of every person or group that had been mentioned by the subject on all of the preceeding four measures. Names were scored only once; for example, if Faubus was mentioned as a "prove" negative referent, and again as a "list" negative referent, his name was scored only once in obtaining the "adjusted" total number of negative referents. Separate indices were obtained for positive and negative referents.

. Similarity: Following the "probe" portion of the interview, each subject was asked to separately judge the similarity of the positive and the negative referents that had been named during this portion of the interview. A 15-point rating scale was used in making this judgment (see Appendix B). Only the public persons or groups that had been named in the "probe" portion of the interview were used; personal acquaintances were not included in the comparisons. The mean similarity rating assigned to all the possible combinations of pairs of persons or groups named was used as the total similarity score.

For example, a subject who named Fabians, Kasper, and the K.K.K. as negative referents during the "probe" was asked to rate the following pairs on similarity:

Fabians-Kasper (4); Fabians-K.K.K. (8); Kasper-K.K.K. (3). The average of these three ratings was used (= 5.00 in the example) as the total negative similarity score.

In the several cases where no persons or groups were named in the "probe" section as positive or negative referents (3 High Dogmatic, 0 Low Dogmatic), the referents named in the "List" section were used to obtain the similarity indices. For 5 subjects (3 High Dogmatic, 2 Low Dogmatic), no positive referent similarity index was obtainable,

and for 4 subjects (all High Dogmatic), no negative referent similarity index was obtainable. In these cases, only one referent was named by the subject during the "probe" section of the interview.

C. Information: The subject was requested to answer a series of six information questions for each of the public persons and groups named as either positive or negative referents during the "probe" portion of the interview. Personal acquaintances were not used. Separate lists of questions were used for persons and for groups (see Appendix E). The answer to each question was scored either 0, +1, or +2, according to the degree of factual accuracy. Questions answered "don't know," or questions answered incorrectly were scored 0. Partially correct or incomplete answers were scored +1. Answers which followed statements of "don't know" were judged as guesses and were scored +1. The correctness of answers for all questions was checked in standard biographical and historical references.

The information score was computed by totalling the individual question scores for all referents used and dividing by the total number of referents about which the subject had answered questions. This was done separately for the positive and the negative referents. In those cases where no referents were named in the "probe" section; the information score was based on

questions asked about the persons named during the "list" portion of the interview.

D. Sources of Information. Three categories of information source were used. 4

(a) Personal contacts with the referent. For example, having talked to the person or a member of the group, having personally read the person's or group's books or articles on the topic, having personally heard or seen the person or member of the group make pronouncements on the topic on radio or television, etc.

(b) Mass media. For example, having seen or heard about the person or member of the group on television or radio, having heard or read about the person or group in the news-media, etc.

(c) Other positive referents. For example, having talked about the person or group with another person who agreed with the subject about the topic, etc.

These categories are overlapping in that one mention of information source can be placed into more than one category. For example, a subject reporting seeing Faubus speak on television and then discussing this program with a friend who had also seen Faubus speak, would receive mention in all three categories.

4 A fourth category, "negative referents", was originally planned, but no subject reported receiving information about a referent from someone who disagreed with him.

The reported information sources for each subject were tallied into each of the applicable categories. The total number of sources mentioned by the subject was computed, and each category was assigned a fraction of the total number of sources in terms of a percentage. Thus, for a subject with two negative referents, Faubus and John Kasper, who had seen Faubus speak on desegregation on television, and heard about Kasper on a radio news-broadcast and had talked about Faubus with a revered professor, the scoring would be as follows:

	Personal Contact	Mass Media	Positive Referents	Total
Source	1	2	1	4
Percentage	25%	50%	25%	100%

E. Acceptance-Rejection of Referents. Half of the High Dogmatic Group and half of the Low Dogmatic Group were asked to respond to eight statements attributed to Orval Faubus in terms of their agreement or disagreement. The other half of each Dogmatic group responded to identical statements, with identical instructions, attributed to Thurgood Marshall.[5] A six-point, Likert-type rating scale was used (see Appendix B).

The response to each statement was scored according to the formula (-1,-2, and -3 = 1,2, and 3; and 1,2, and 3; - 5,6, and 7 respectively). The total acceptance-rejection score for each subject was the sum

5 At the time of this investigation, Orval Faubus was the Governor of Arkansas and the nominal leader of the segregation sentiment in the Southern States; Thurgood Marshall was the Chief Legal Council for the National Association for the Advancement of Colored People and played an active role in the attempt to integrate the Public Schools of the South.

of these separate question scores.

To summarize the measures obtained for each of the major hypotheses:

A. Number of Referents.

1. Total number of "salient" referents.

2. Total number of "probe" referents.

3. Total number of "statement" referents.

4. Total number of "list" referents.

B. Similarity Score.

C. Information Score

D. Source of Information Score.

(Each of the above measures was obtained separately for the positive and negative referents.)

E. Acceptance-Rejection Score.

CHAPTER V

RESULTS

Composition of the Sample

Dogmatism, Age, and Intelligence. The mean Dogmatism score for the total initial pool of 197 students was 145.21, with a standard deviation of 22.71. From this pool, approximately the upper and lower fifteen per-cent were selected for use as experimental subjects. Table 1 presents the data for these High and Low Dogmatic groups on Dogmatism, age, and intelligence as estimated from the American Council on Education Psychological Examination (ACE).

TABLE 1.

DOGMATISM, AGE, AND INTELLIGENCE OF THE TWO EXPERIMENTAL GROUPS

(N = 30 in each group)

	Dogmatism		Age		ACE	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
High Dogmatic	180.47	9.68	21.09	2.58	5.37	1.47
Low Dogmatic	111.47	9.91	23.30	2.95	6.37	1.54
t	----*		2.31		2.53	
p	----		.05		.05	

*Not computed because of the obvious difference between the two groups.

From Table 1, it is evident that the High and Low Dogmatic groups used in this study differ not only on Dogmatism, but are also different on age and intelligence as measured by the ACE. The High D group is both younger and less intelligent than the Low D. group. In addition, the correlation between age and ACE is +.02, which is not significant. Thus, the data for the major hypotheses could conceivably be a function of either age, or intelligence, or both of these variables operating simultaneously, in addition to Dogmatism. In light of these findings, it was deemed necessary to partial out the effects of these two variables in the statistical analysis of the main hypotheses. The procedures of this statistical analysis will be elaborated shortly.

Other Variables. Data were also collected on several other variables, including socio-economic status, college class, reported college grade point average, sex, marital status, religious affiliation, frequency of church attendance, political preference, and intensity of attitude about desegregation in the public schools. These data are presented in Tables 2 through 10.

Two indices of socio-economic status were employed: estimated yearly parental income as reported by the subject, and the North-Hatt rating of reported parental occupation. The former measure was scaled on a 10-category dimension

(see Appendix B). The latter measure used the reported paternal occupation and was based on the occupational ratings reported in the literature (8, 34), in which the higher ratings are indicative of higher prestige occupation. The obtained correlation between these two measures in the present study is +.65.

The college class index was scaled on a four-category dimension, with 1= freshman at the lower limit, and 4 = senior at the upper extreme. There were no graduate students in the sample.

The college grade-point average was obtained from the subject to at least one decimal place, and the mean is presented.

The categories for religious affiliation were collapsed into Catholic, Protestant, and Other to allow a Chi-square analysis. The exact reported denominational preferences are presented in the footnote to Table 5.

A nine-category scale was used to rate the reported frequency of church attendance, with 1=-attendance more than once a week, to 9 =never attends church.

Two indices of political preference were obtained: presidential choice in the 1956 election, and political party preference.

The intensity of attitude toward desegregation in the public schools was indicated, by the subject, on a 15-point vertical rating scale, on which 1 = very much opposed to

desegregation, and 15 - very much in favor of desegregation. (See Appendix D.)

All analyses employing Chi^2 with 1 df were corrected for continuity, using the correction suggested by Yates as described by Edwards (9, pp. 303-304).

TABLE 2

Two Indices of Socio-Economic Status of High and Low Dogmatic Groups

(N = 30 in each group)

	North-Hatt Occupational Rating		Reported Parental Income	
	Mean	S.D.	Mean	S.D.
High Dogmatic	74.57	10.42	5.93	2.48
Low Dogmatic	70.80	7.96	5.30	2.12
t	1.55		1.04	
p	N.S.		N.S.	

TABLE 3

College Class and Reported College Grade-Point Average of High and Low Dogmatic Groups

(N= 30 in each group)

	College Class		Reported Grade-Point Average	
	Mean	S.D.	Mean	S.D.
High Dogmatic	2.37	.66	2.42	.50
Low Dogmatic	3.00	.62	2.50	.44
t	3.23		1.13	
p	.01		N.S.	

TABLE 4

Sex of High and Low Dogmatic Groups

(N= 30 in each group)

	Male	Female	Chi-square	df	p
High Dogmatic	21	9	.038	1	N.S.
Low Dogmatic	25	5			

TABLE 5

Marital Status of High and Low Dogmatic Groups

(N= 30 in each group)

	Married	Single	Chi-square	df	p
High Dogmatic	4	26	1.867	1	N.S.
Low Dogmatic	10	20			

TABLE 6

Religious Affiliation of High and Low Dogmatic Groups*

(N = 30 in each group)

	Catholic	Protestant	Other	Chi-square	df	p
High Dogmatic	10	17	3			
				3.471	2	N.S.
Low Dogmatic	4	23	3			

*Exact frequencies by denomination are: Catholic-HD10, LD4; Methodist-HD5, LD5; Lutheran-HD4, LD4; Episcopalean-HD1, LD0; Congregational-HD3, LD3; Baptist-HD2, LD1; Presbyterian-HD1, LD5, Unclassified Protestant-HD1, LD5; Ex-Catholic-HD1, LD1; Jewish-HD2, LD1; Atheist-HD0, LD1.

TABLE 7

Frequency of Church Attendance of High and Low Dogmatic Groups

(N = 30 in each group)

	Mean	S.D.	t	p
High Dogmatic	2.10	1.54		
			3.03	.01
Low Dogmatic	4.23	2.03		

TABLE 8

Presidential Political Preference of High and Low Dogmatic Groups

(N = 30 in each group)

	Eisenhower	Stevenson	Chi-square	df	p
High Dogmatic	23	7	1.060	1	N.S.
Low Dogmatic	27	3			

TABLE 9

Political Party Preference of High and Low Dogmatic Groups

(N = 30 in each group)

	Republican	Democratic	No Pref.	Chi-square	df	p
High Dogmatic	17	9	4	.155	2	N.S.
Low Dogmatic	17	10	3			

TABLE 10

Intensity of Attitude Toward Desegregation of High and Low Dogmatic Groups

(N = 30 in each group)

	Mean	S.D.	t	p
High Dogmatic	11.80	3.54	.19	N.S.
Low Dogmatic	11.97	3.29		

Of the several variables on which data has been presented in Tables 2 through 10, only two are significant or approach significance at the .05 level. One of these, college class, is very likely a concomitant of the age differences previously noted between the High and Low Dogmatic groups, with the older, Low Dogmatic group being more advanced in college.

The other difference--that the High Dogmatic group reports a significantly greater frequency of church attendance--could also be a function of the age differences of the two groups. In support of this hypothesis, a small but significant inverse relationship was found between age and church-attendance frequency ($r=.27$, significant at .05). The difference may also be due to the fact that the High Dogmatic group is more predominately Catholic than the Low Dogmatic group (Chi^2 significant at approximately .15).

To test this latter interpretation, the church attendance data was reanalyzed with the Catholic subjects excluded. The results of this analysis is presented in Table 11.

TABLE 11

Frequency of Church Attendance of High and Low Dogmatic Groups with the Catholic Subjects Excluded

	N	Mean	S.D.	t	p
High Dogmatic	20	3.30	1.63	2.18	.05
Low Dogmatic	26	4.54	2.04		

It is apparent that, even with the Catholic portion of the sample excluded, a sizeable difference still exists between the two Dogmatic groups on frequency of church attendance. It thus remains unclear what the main factor contributing to this difference is.

Treatment of the Data-- Statistical Methodology

As was noted earlier in regard to Table 1, the High and Low Dogmatic groups are significantly different on both age and intelligence as measured by the ACE.

In order to eliminate, or partial-out, the effects of these two variables simultaneously, the procedures known as multiple analysis of covariance were employed in several instances. Multiple covariance is an extension of the more widely-used methods of the analysis of variance and simple analysis of covariance. In the case of two concomitant uncontrolled variables (as in the present investigation), the adjustment of the variance is made in terms

of the multiple regression of the final measure upon both of these two variables. These procedures have been succintly noted by Lindquist (24), Coulson (13), and Snedecor (53). In the present study, the computational formulas outlined by Johnson (15, pp. 276-281) have been followed.

In order that the reader may see the statistical effects of partialling-out age and ACE in the present data, both the unadjusted and the adjusted results are shown, if the latter were computed. In most cases, the unadjusted analyses utilized the t-ratio.

The reader is reminded, in these comparisons, that $t^2 = F$, or conversely, that $t = \sqrt{F}$. The homogeneity of variance for all of these comparisons was analyzed. In those cases where heterogeneity of variance existed, the Cochran-Cox approximation (9, p. 274) was employed.

In all analyses utilizing the multiple covariance technique, homogeneity of variance was checked and found to be in accord with the assumptions of the statistic.

In the case of Hypothesis IV, concerning sources of information, the use of t-ratio and multiple covariance techniques was impossible because of the assumption of normality of these procedures. Also, the non-independence of the measures used as a test of this hypothesis obviated the use of Chi-square procedures.

Notwithstanding the directionality of many of the hypotheses in this study, two-tailed tests of significance were used throughout, for both the t-ratio and covariance analy-

ses. Under the confounding conditions of the age and intelligence variations noted above, it was felt that directional statistical tests were not justified.

Findings for the Hypotheses

Hypothesis 1: Persons with relatively closed belief-disbelief systems should have fewer negative referents than persons with relatively open belief-disbelief systems.

Table 12A presents the unadjusted (t -ratio) analysis for the "adjusted" total number of negative referents for the High and Low Dogmatic groups. It is clear from these results that the High Dogmatic group has significantly fewer negative referents than the Low Dogmatic group.

TABLE 12A

"Adjusted" Total Number of Negative Referents for High and Low Dogmatic Groups

(N = 30 for each group)

	Mean	S.D.	t	p
High Dogmatic	5.43	2.99		
			3.19	.01
Low Dogmatic	8.40	4.03		

The High Dogmatic subjects name an average total of 5.43 negative referents, while the Low Dogmatic average 8.40 total negative referents. To partial out the effects of age and intelligence on this difference, a multiple covariance analysis was employed, the results of which are shown in Table 12B.

The hypothesis that the two groups differ on the "unadjusted " total number of negative referents is supported

even with the contributing effects of age and intelligence held constant. It will be noted, however, that the level of significance is lowered by controlling the latter effects, from less than .01 on the unadjusted analysis to .05 on the covariance analysis.

TABLE 123

Analysis of Covariance of the "Adjusted" Total Number of Negative Referents with Age and Intelligence Held Constant

		Adjusted or Reduced			
Source of Variation	D.F.	Sum of y squares	Mean Square	F	p
Within	56	710.93	12.70	4.59	.05
Between	1	58.28	58.28		
Total	57	769.21			

It seems clear that the remaining difference between the two groups is a real difference, and is a function of the degree of closedness of the cognitive systems of the High and Low Dogmatics, and not of the differences in age or intelligence.

We need not rely on this one index of the breadth of the negative referential system for substantiation of the first hypothesis, however. The four measures of breadth which enter into the "adjusted" negative total were analyzed separately. The results of these analyses--of the "salient," "prone," "statement," and "list" negative re-

ferents--are shown in Tables 13 through 15. No covariance analysis for the "salient" negative referents was computed because of the evident lack of differences between the two groups on this measure.

TABLE 13A

Total Number of "Salient" Negative Referents for High and Low Dogmatic Groups

(N = 30 for each group)

	Mean	S.D.	t	p
High Dogmatic	.63	.71	1.41	.15
Low Dogmatic	.90	.75		

TABLE 15A

Total Number of "Statement" Negative Referents for High and Low Dogmatic Groups

(N = 30 for each group)

	Mean	S.D.	t	p
High Dogmatic	1.70	1.22		
			1.65	.10
Low Dogmatic	2.30	1.43		

TABLE 15B

Analysis of Covariance of the Total Number of "Statement" Negative Referents with Age and Intelligence Held Constant

Adjusted or Reduced

Source of Variation	D.F.	Sum of y squares	Mean Square	F	p
Within	56	97.19	1.74		
				.53	N.S.
Between	1	.93	.93		
Total	57	98.11			

Let us now attempt to summarize this series of findings about the number of negative referents cited by the High and Low Dogmatic groups. Three of the indices of breadth of the negative referential system--"adjusted" total, total "probe", and total "list" referents--indicate a significantly greater number of negative referents for the Low Dogmatic group, when age and intelligence differences between the two groups are not held constant. These differences are all significant at less than .01.

When age and intelligence are eliminated as contributing variables, however, through the use of covariance techniques, only two of the five negative referent breadth indices indicate significant differences between the two Dogmatic groups. The High Dogmatic subjects have fewer "adjusted" total referents and fewer total "list" referents than the Low Dogmatics. The differences on the "statement" and "probe" breadth indices fall below an acceptable significance level, although the latter comparison approaches significance in the hypothesized direction with age and intelligence partialled-out.

It seems clear from these results that the breadth of the negative referential system may, to some extent, be predicted from a knowledge of the degree of openness-closedness of the cognitive system. Some limitations of this conclusion will be presented shortly.

Even though no hypothesis was formulated concerning the possible differences between the High and Low Dogmatic groups on the number of positive referents, we were interested in comparing the findings for the two groups on this dimension with the just-reported results for the breadth of the negative referential system. These unadjusted findings are presented in composite form in Table 17.

No significant differences between the two Dogmatic groups are apparent from an inspection of Table 17. However, the "adjusted" total and total number of "list" positive referents approach significance at the

TABLE 17

Number of Positive Referents for High and Low Dogmatic Groups
(N = 30 for each group)

		Mean	S.D.	t	p
"Adjusted" Total Referents	High D	10.73	4.64	1.73	.10
	Low D	13.23	5.97		
Total "Salient" Referents	High D	1.47	1.02	.28	N.S.
	Low D	1.40	.92		
Total "Prove" Referents	High D	5.27	2.13	.77	N.S.
	Low D	5.70	2.12		
Total "Statement" Referents	High D	2.83	1.50	.73	N.S.
	Low D	3.00	2.30		
Total "List" Referents	High D	4.00	3.06	1.78	.10
	Low D	6.43	4.02		

.10 level of confidence. Using multiple covariance techniques to partial-out the effects of age and intelligence upon the former index reduced the significance level even further (adjusted F = 1.22). It was impossible to use covariance methods with the "list" positive referents comparison because of heterogeneity of variance of the two sub-groups.

Although no significant differences are apparent between the two Dogmatic groups on the positive referent comparisons, it is of interest to note that a highly significant correlation exists between the "adjusted" total numbers of positive and negative referents for the total sample ($r = \neq .56$).

An additional comparison would appear to be of interest in light of the findings reported thus far. For both the positive and negative referential comparisons, the largest differences (aside from those for the "adjusted" total number of referents) are found between the two Dogmatic groups on the total number of "list" referents. In order to ascertain if the differences between the two Dogmatic groups on the number of persons <u>known</u> or recognized on the list was contributing to these findings, two comparisons were made. The first of these was between the number of names recognized that had been previously rated by independent judges being in favor of desegregation; the second was between the number of names mentioned that had been independently rated as opposing desegregation. These com-

parisons are shown in Table 18.

TABLE 18

Number of Persons Recognized on a List of 54 Names
(Half for Desegregation, Half against Desegregation)

(N = 30 for each group)

		Mean	S.D.	t	p
Persons for Desegregation	High Dogmatic	14.83	2.83	.64	N.S.
	Low Dogmatic	15.43	4.19		
Persons against Desegregation	High Dogmatic	11.50	3.98	1.23	N.S.
	Low Dogmatic	13.07	5.63		

On the basis of these results, it is difficult to attribute the "list" referent differences between the two Dogmatic groups to the general factor of greater recognition of the names of public persons on the part of the Low Dogmatics. For, while the Low Dogmatic subjects do recognize more names of public persons, both for and against desegregation, these differences do not approach significance.

Still another index of group differences in the type of referent used is available from the "probe" portion of the interview, where the subjects were asked separate questions about their use of personal acquaintances, public persons, and public groups and organizations as the referents for their beliefs about desegregation. An analysis of these categories for the two Dogmatic groups for both the positive and negative referents is presented in Table 19.

TABLE 19

Use of Three Types of Referents
by High and Low Dogmatic Groups

(N = 30 for each group)

		Personal Acquaintances		Public Persons		Public Groups	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
Positive Referents	High D	1.73	1.01	2.07	1.14	1.47	1.33
	Low D	1.73	1.14	2.13	1.31	1.83	1.32
	t	0.00		.19		1.05	
	p	N.S.		N.S.		N.S.	
Negative Referents	High D	.83	.85	1.47	.90	1.07	.91
	Low D	1.17	.79	2.37	1.47	1.17	1.05
	t	1.79		2.81		.39	
	p	.10		.01		N.S.	

As we would be expected on the basis of the previously-reported findings concerning the type of referent used, the only significant comparison is that between the High and Low Dogmatic groups on the number of public persons used as negative referents. Once again we find that the High Dogmatic subjects report significantly fewer public persons supporting their disbeliefs than are reported by the Low Dogmatic subjects. A covariance analysis could not be applied to this comparison because of the significant difference between the variances for the two groups. These results tend to corroborate the earlier findings (Tables 12 and 16) which indicated that the main difference between the two groups lies in usage of public authorities as negative referents.

An additional finding which is of interest is that the High Dogmatic subjects also report knowing fewer personal acquaintances than the Low Dogmatics who disagree with them about desegregation. This difference does not reach an acceptable level of confidence, however ($p = .10$).

To summarize the findings with respect to the first hypothesis: With age and intelligence differences between the two Dogmatic groups removed by multiple covariance techniques, the High Dogmatic group is found to have significantly fewer negative referents than the Low Dogmatic group on two negative referent indices--"adjusted" total and total "list"--of the five analyzed. One other index--total "probe" negative referents--approaches significance. Further analyses of these results indicate that the main differentiating comparison between the High and Low Dogmatic groups is on the number of public persons perceived as disagreeing with the subject's beliefs. This finding is apparent throughout the analyses, and does not appear to be a function of a discrepancy in the number of public persons known or recognized by the High and Low Dogmatic subjects.

<u>Hypothesis 11. There should be a greater discrepancy in the degree of knowledge about positive and negative referents for persons with relatively closed belief-disbelief systems than for persons with relatively open belief-disbelief systems.</u>

To test this hypothesis, intra-Dogmatic group comparisons were made, the results of which are presented in Table 20.

TABLE 20

Mean Information Scores for High and Low Dogmatic Groups on Positive and Negative Referents

		N	Mean	S.D.	t	p
High Dogmatic	Positive Referents	29	4.53	1.35	5.05	.01
	Negative Referents	29	2.59	1.57		
Low Dogmatic	Positive Referents	30	4.32	1.34	2.98	.01
	Negative Referents	30	3.20	1.56		

As may be seen from Table 20, the High Dogmatic subjects attain a mean information score of 4.53 for their positive referents but a mean information score of only 2.59 for their negative referents. The difference between these two means is 1.94, and is significant at considerably less than .01.

For the Low Dogmatic group, the mean positive referent information score is 4.32 and the mean negative referent information score is 3.20. In this case, the difference between the means is 1.12, which is also significant at less than the .01 level of confidence.

It will be noted that the distributions are highly skewed in a positive direction, and that the range of scores is limited. For the High Dogmatic group, the scores range from .33 to 7.50 for the negative referents, and from 2.00 to 8.67 for the positive referents. For the Low Dogmatic groups, the negative referent scores range from .57 to 7.00, and the positive referent scores range from 1.50 to 8.75. The importance of these findings will be discussed in Chapter VI.

As a test of the significance of the discrepancy between the two group differences, an information index was computed for each subject individually. This index consisted of the difference between positive and negative referent information scores, to which a constant of 15 was added to render all indices positive. As was hypothesized, the average discrepancy between the amount of information about the positive and negative referents for the Low Dogmatic subjects (D =1.12) is less than the similar mean discrepancy for the High Dogmatics (D =1.94). The difference between the two mean indices is .82, and is significant at the .10 level of confidence (t =1.75) when difference in age and intelligence between the two groups are ignored. The results after these differences are partialled-out with multiple covariance techniques are presented in Table 21.

TABLE 21

Analysis of Covariance of Information Indices with Age and Intelligence Held Constant

		Adjusted or Reduced			
Source of Variation	D.F.	Sum of y squares	Mean Square	F	p
Within	55	183.20	3.33		
				1.23	N.S.
Between	1	4.11	4.11		
Total	56	187.31			

It will be noted that, when age and intelligence differences between the two Dogmatic groups are removed as sources of variation, the remaining difference between the two groups on differential information is non-significant. Thus, the second hypothesis is not substantiated.

Hypothesis III: Persons with relatively closed belief-disbelief systems should perceive greater similarity among their negative referents than persons with relatively open belief-disbelief systems.

Table 22 presents the unadjusted t - ratio analyses of the similarity ratings of positive and negative referents for the High and Low Dogmatic groups. In this table, the lower the mean score, the greater the average reported similarity of the referents. It will be recalled that a 15-point rating scale was used in this analysis, with one, equaling high simi-

larity. The subjects, both High and Low Dogmatic, are tightly grouped at the low, or similar, end of the scale. The possible effects of this polarization on the results will be elaborated in Chapter VI.

TABLE 22

Similarity Ratings of Positive and Negative Referents for High and Low Dogmatic Groups

	N.	Mean	S.D.	t	p
High Dogmatic	27	5.69	1.64		
Positive Referents				.35	N.S.
Low Dogmatic	28	5.90	2.62		
High Dogmatic	26	4.71	3.00		
Negative Referents				1.08	N.S.
Low Dogmatic	30	5.60	3.04		

From Table 22, it is apparent that for neither the positive nor the negative referent comparisons do the High and Low Dogmatic groups differ significantly. On the negative referent analysis (that in which we are mainly interested) we find that the mean similarity rating for the High Dogmatic subjects is 4.71, while that for the Low Dogmatics is 5.60. While this is in the expected direction, the difference is not significant. In order to take into account the age and intelligence differences between the two Dogmatic groups, a multiple covariance analysis for this negative referent comparison was computed. The adjusted results of this analysis are presented in Table 23.

TABLE 23

Analysis of Covariance of the Negative Referent Similarity Ratings with Age and Intelligence Held Constant

		Adjusted or Reduced			
Source of Variation	D.F.	Sum of y squares	Mean Square	F	p
Within	52	509.94	9.81		
				.67	N.S.
Between	1	6.59	6.59		
Total	53	516.53			

Partialling-out age and intelligence reduces the difference between the groups to such an extent that the significance level is lowered from its already non-significant level. On the basis of these analyses, we may conclude that no difference exists between the two Dogmatic groups on the degree of perceived similarity of the negative referents.

Hypothesis IV: Persons with relatively closed belief-disbelief systems should obtain less of their information about their negative referents directly from these referents than persons with relatively open belief-disbelief systems.

A comparison of proportions of information gained from three sources for the positive and negative referents of the High and Low Dogmatic groups is presented in Table 24.

TABLE 24

Source of Information about Positive and Negative Referents for High and Low Dogmatic Groups

(N = 29 for each group)

		Personal Contact	Mass Media	Other Positive Referents
Positive Referents	High Dogmatic	20%	60%	13%
	Low Dogmatic	22%	71%	7%
Negative Referents	High Dogmatic	14%	80%	6%
	Low Dogmatic	20%	73%	7%

This table may be read in the following way: for the negative referents, the High Dogmatic group obtains 14% of its information from personal contact with these referents, 80% from indirect contact through the mass media of communication, and only 6% from talking about the referent with persons agreeing with the subject about the topic. For the Low Dogmatic subjects, these proportions are 20%, 73%, and 7% respectively.

Using the data presented in Table 24, we may also compare the two Dogmatic groups separately with regard to changes in the source of information from the positive to the negative referents. Whereas the High Dogmatic subjects obtain an average of 20% of their information about their

positive referents from "personal contact" with these referents (i.e., seeing or hearing them speak on the topic, reading their statements, etc.), only 14% of the High Dogmatic groups' information about their negative referents is obtained directly from these referents. There is a similarly large reduction in the usage of other positive referents as information sources for their negative referents by the High Dogmatics (from 14% for the positive referents to 6% for the negative referents). Also, a fourteen per cent increase in the use of the mass media as an indirect source of information about their negative referents is reported by the High Dogmatic subjects (from 66% for the positive referents to 80% for the negative referents.) In the case of the Low Dogmatic subjects, practically no changes in the source of information about their positive and negative referents are apparent.

The data on the sources of information used by the High and Low Dogmatic groups was separately analyzed by means of White's t, a rank-order statistic (9, pp.417-422). For all comparisons, these analyses are non-significant: for the comparison between High and Low Dogmatic groups on the use of the personal contact source for negative referents, z =1.33; for the comparison between High and Low Dogmatic groups on the use of the mass media source for negative referents, z = 1.24; for the comparison between the use of the personal contact source for positive and for negative referents by the High Dogmatic subjects, z=1.42; for the comparison between the use of the mass media source for positive and

negative referents by High Dogmatic subjects z=1.83.

To briefly summarize these findings: The High Dogmatic subjects do not obtain significantly less of their information about their negative referents directly from these referents than is the case for the Low Dogmatic subjects. Nor are the changes in the usage of the various sources of information from the positive to the negative referent significantly different. Thus, we may consider the fourth hypothesis unsubstantiated.

Hypothesis V. Persons with relatively closed belief-disbelief systems should show greater acceptance of the pronouncements of their positive referents and greater rejection of the pronouncements of their negative referents than persons with relatively open belief-disbelief systems.

To test this hypothesis, half of each Dogmatic group responded to eight statements attributed to Orval Faubus, while the remaining half of each Dogmatic group responded to the same eight statements attributed to Thurgood Marshall. Only those subjects in each sub-group for whom these men were either positive or negative referents were used in the statistical analysis, the results of which are presented in Tables 25 and 26. In these tables, the higher the mean score, the greater the acceptance, and conversely, the lower the mean score, the greater the rejection of the statements.

TABLE 25

Response to Statements Attributed to a Positive Referent (Marshall) by High and Low Dogmatic Groups

	N	Mean	S.D.	t	p
High Dogmatic	13	40.77	6.23		
				1.35	N.S.
Low Dogmatic	12	37.50	5.87		

TABLE 26

Response to Statements Attributed to a Negative Referent (Faubus) by High and Low Dogmatic Groups

	N	Mean	S.D.	t	p
High Dogmatic	12	39.67	5.38		
				1.75	.10
Low Dogmatic	13	35.62	6.21		

The hypothesis that the High Dogmatic subjects will show greater acceptance than the Low Dogmatics of positive referent statements is not borne out by the results in Table 25. Although the mean acceptance score for the High Dogmatic group is 40.77 and that for the Low Dogmatic group is 37.50, this difference is clearly not significant ($t = 1.35$).

Contrary to our expectations, the High Dogmatic group also shows greater acceptance (or less rejection) than the Low Dogmatic group of the negative referent statements (Table 26). This difference--between a mean acceptance score of 39.67 for the High Dogmatics and a mean acceptance score of 35.62 for the Low Dogmatic group--more closely

approximates a satisfactory significance level than the previous comparison (t = 1.75).

Multiple covariance analyses were completed for each comparison in order to remove the age and intelligence differences between the two Dogmatic groups. The adjusted results are presented in Tables 27 and 28.

TABLE 27

Analysis of Covariance of Response in Statements Attributed to a Positive Referent (Marshall) with Age and Intelligence Held Constant

		Adjusted or Reduced			
Source of Variation	D.F.	Sum of y squares	Mean Square	F	p
Within	21	639.85	30.47		
				3.07	N.S.
Between	1	93.62	93.62		
Total	22	733.47			

TABLE 26

Analysis of Covariance of Response to Statements Attributed to a Negative Referent (Faubus) with Age and Intelligence Held Constant

		Adjusted or Reduced			
Source of Variation	D.F.	Sum of y squares	Mean Square	F	p
Within	21	707.11	33.67		
				3.04	N.S.
Between	1	102.25	102.25		
Total	22	809.36			

The adjusted results are amazingly similar for both comparisons. When age and intelligence differences are removed as sources of variation, the High Dogmatic group responds with considerably greater acceptance to statements attributed to both a positive and a negative referent. The adjusted F. in each case is non-significant (F=3.07 for the Marshall statements; F=3.04 for the statements attributed to Faubus).

An attempt to interpret these unexpected findings will be made in Chapter VI. At present, we may state that the fifth hypothesis is clearly not substantiated by the data.

CHAPTER VI

DISCUSSION

In this chapter, we shall review the findings of the present investigation, noting which of our hypotheses have been upheld by the data, and commenting on the obtained discrepancies between hypothesis and results. An attempt will be made to relate these results back to their theoretical roots and to ascertain if the conceptual position taken earlier is fruitful for further research.

Let us look first at the significant discrepancies between the High and Low Dogmatic groups on intelligence and age.

To this writer's knowledge, this investigation marks the first occasion where such differences have appeared in research utilizing Rokeach's Dogmatism measure. In fact, in only one previous study has age been a variable, and in only six (21, 29, 41, 42, 55, 59) of the many previously-completed investigations with this scale have intelligence differences between dogmatic groups been analyzed. In each of the four studies where intelligence differences between High and Low Dogmatics were analyzed by t-ratio techniques (29, 41, 55, 59), the High Dogmatic subjects were found to score lower than the Low Dogmatics on the ACE or the Wonderlic intelligence tests. These differences were in the same direction as that found in the present study, but were non-significant.

Rokeach, in commenting on these earlier investigations, states:

> With the samples we have employed, our findings show that intelligence is negligibly related to the degree of openness-closedness of cognitive organizations...It seems to us that we are dealing here with intelligence which is measured by current intelligence tests. Apparently, intelligence tests do not tap the so called 'non-intellective' personality determinants of cognitive functioning... (39, MSS p. 41).

He calls for a re-appraisal of the present conceptualizations of intelligence, suggesting that these are not broad enough to include all aspects of cognitive functioning.

We might suggest here an alternate way of looking at this problem. In the previous research with the Dogmatism Scale, relatively crude measures of intelligence have been used, such as the ACE, the Wonderlic, and the Ohio State Psychological Examination. All of these are group-administered examinations with less precision than individual tests. The measure of intelligence most often employed in these investigations--the ACE--is used with a decile scoring system at this university, a system which has repeatedly been criticized as being insensitive to slight variations in ability. These intellectual indices do not appear to be precise or sensitive enough to provide an adequate test of the relation between openness-closedness of cognitive organization and intelligence. What appears to be re-

quired is some empirical research using the best available measures of "intelligence," as usually conceptualized, to tap this relationship. Only in this way can the need for a total re-appraisal of the "intelligence" concept be ascertained. The present investigation points up the fact that some relationship does seem to exist between Dogmatism and intelligence, even when the ACE is used as an index of the latter variable.

With regard to the relation between Dogmatism and age, there is considerably less prior work upon which to base our interpretations. Only Mikol (29) has previously measured the age of subjects extreme in dogmatism, although Koons (21) matched his dogmatic groups on the basis of age computed in unit years. The former writer found his Low Dogmatic subjects to be non-significantly older than the High Dogmatic subjects, with differences of approximately a half-year reported. In the present study, a difference of twenty months (1.69 years) has been noted, with the Low Dogmatic subjects being significantly older.

Two alternative explanatory hypotheses are possible for the large age difference between High and Low Dogmatic groups in the present sample. It is possible, that, as the college student grows older and is increasingly exposed to the skepticism and sophistication of university life (including that associated with test-taking and psychological experimentation), he becomes increasing-

ly "test-wise." He tends to agree less with any statement or position presented to him, being more critical of phrasing and implied content. The other alternative concerns the possibility of a genuine decrease in the degree of closedness of cognitive organization with increased age and continuing higher education. This writer would presume that this is one of the desired effects of any university instructor's classroom techniques. Both of these alternatives would result in a lower score on the D Scale for the older, more advanced, student.

Turning now to the main body of results, we find support for only one of the five proposed hypotheses about the dimensions of belief referents of persons with open and closed cognitive organizations.

There is some evidence for the theoretical deduction of reduced breadth of negative referents for persons with relatively closed cognitive organizations (Hypothesis 1). A generalized statement about increased narrowing-out of negative referents is not possible, however; the obtained data strongly suggest that the narrowing process occurs mainly with regard to the awareness of <u>public persons</u> opposing one's beliefs. There is an indication that fewer personal acquaintances with opposing beliefs are also perceived by the High Dogmatic subjects, but this remains a non-significant trend.

It has been reasonably demonstrated that decreased breadth of the closed person's negative referents is not

a function of a reduced awareness of people in general; that is, of poorer recognition or recall of the names of public persons. It is assumed that the organizational determinants suggested by Rokeach--namely, that the narrowing process serves as a protective device for relatively closed individuals--are the factors producing the differences between Dogmatic groups which we have noted.

A related, but unhypothesized, finding is of interest here inasmuch as it furnishes indirect evidence for the theoretical assumptions just noted. From the theory of belief-disbelief systems, we should expect the narrowing process to be in operation only in the disbelief sub-systems. That is, it is assumed that open and closed persons will not differ in the breadth of positive referents or authorities. This is borne out by the present data; no significant differences between the two Dogmatic groups were found on this dimension. The obtained correlation of .56 between breadth of positive and negative referent configurations strongly suggests that some narrowing occurs irrespective of the open-closed dimension, however.

The findings for Hypothesis V are in complete contradiction to what was predicted. As a test of the isolation dimension, it was expected that persons with relatively closed cognitive organizations would show greater acceptance of the pronouncements of positive referents and greater rejection of statements emanating from negative

referents. The data indicated that these closed individuals tend to accept the statements of both positive and negative referents more than persons with relatively open systems. Contrary to expectations, it was the High Dogmatics who responded to the statements without regard to their source; the Low Dogmatic subjects appeared to utilize the source as the basis for judgment to a greater extent. While these data are not statistically significant, they demand some explanation.

It is possible that a methodological oversight may have contributed to these negative results. From the work of Asch on prestige suggestion (1, pp. 419-442), it is evident that no person is considered an authority in all areas. Statements are evaluated within the context of their authorship and the interpretation placed on any statement is a result of the joint effect of statement and imputed author. Statements with dubious authorship are rejected. Following this, the use of statements outside the two referents' area of authority may have been unfortunate. More meaningful data might have resulted from the use of statements within the segregation issue.

It is also possible that some variable extraneous to the stimulus situation, such as a form of acquies-

cence, was operating to produce the consistency of response among the High Dogmatic subjects. In support of this hypothesis, we note that there is less decrement in the amount of agreement from the Marshall to the Faubus statements for the High Dogmatics than for the Low Dogmatic subjects (Tables 25 and 26). The former subjects appear to agree with the statements of any authority, whether or not they agree with this authority. It may be said that they are unselective; the pronouncements of <u>any</u> authority elicits agreement.

As traditionally used, "acquiescence" refers to the habit of agreeing with statements, irrespective of content. In this usage, acquiescence is merely a specific form of the general concept of response set, which describes any consistency in test behavior. Described in this way, acquiescence is equated with agreement, as indeed the linguistic definition demands.

The behavior of the closed subjects in the present study may be illustrative of acquiescence used in a second way. Acquiescence here is with reference to authority; it is an act of submission, of giving in to someone who is viewed as wiser than the person himself. Rather than referring to the habit of agreeing with <u>statements</u> or test items, acquiescence in this usage is in reference to the act of agreeing with <u>authorities</u>. In terms of a distinction made earlier by Rokeach, it is not a rigidity variable, but a dogmatism variable,

occuring when an authoritative source is perceived and submitted to by an individual.

Rokeach may well be correct in asserting (38, MSS pp. 478-480) that the differential response on the Dogmatism scale cannot be accounted for in terms of general response set or acquiescence. The present findings, when interpreted in the above manner, in no way contradict these assertions.

The findings for Hypotheses 11, 111, and 1V are also singularly unimpressive. There is no significant indication that the relatively closed individuals know less about their negative referents (Hypothesis 11). In terms of the Rokeachean model, there is no less differentiation between belief and disbelief referents by these persons. With respect to Hypothesis 111, there are no differences apparent in the data regarding the source of information used by the closed individuals for their positive and negative referents. Nor do the closed persons differ from their more open counterparts in the utilization of the negative referents as direct sources of information. Significant differences between the open and closed subjects are also lacking on the degree of similarity perceived among the negative referents. There is no evidence for the operation of reduced differentiation (or dedifferentiation) among the negative referents (Hypothesis 1V).

Our caution in interpreting the findings for the proposed hypotheses has been dictated by several considerations. The masking effects of age and intelligence have been previously noted. Perhaps it would have been desirable to have conducted the present analysis with relatively "pure" experimental sub-groups; i.e., High and Low Dogmatic groups matched on age and intelligence. There are two arguments against this position, however. First, the unexpected discovery of the relation of age and intelligence variables with dogmatism should provide the impetus for clarifying research in this area. Second, the comparisons resulting from the multiple covariance procedures, which removed the effects of age and intelligence variability, are as "pure" as any which could have been accomplished by matching techniques, if not more so. It will also be noted that several of the comparisons (e.g., those on similarity, information, and source of information), are not significant prior to the partialling-out of age and intelligence differences. It is thus apparent that the obtained lack of significance must be sought out elsewhere; it cannot be attributed to the operation of extraneous variability.

To account for the findings of the present investigation, we must look at both the theory from which the hypotheses were derived and at the methodology of the

study itself. The former holds few clues for our purposes. The present study is the first attempt to analyze the differentiation, isolation, and narrowing dimensions. It is difficult to ascertain the empirical utility of these theoretical dimensions, since there are no prior findings with which to compare our results. In light of this, the present study must be considered exploratory in nature.

With regard to methodology, the use of the desegregation issue as the focal topic of this investigation may be criticized. It will be noted first that the desegregation issue is strongly polarized for all of our subjects (Table 10). Both High and Low Dogmatic subjects rate themselves strongly in favor of integrating the public schools; only ten of the sixty subjects used were opposed to integration. It may be argued that this positive polarization to the topic and the high intensity of attitude about the issue served to mask the differences between the two groups on the dogmatism dimension. We may hypothesize that beliefs about desegregation, because of the intensity with which they are held by most Northern college students (among others), constitute a closed system irrespective of cognitive structure variations. We should expect similar results for any other intensely polarized issue; e.g., Communism, but should not expect this masking effect with less "loaded" belief areas, such as politics or religion.

Some evidence for this polarization hypothesis is found in the referent-similarity data (Table 22). Here, both the High and Low Dogmatic groups display polarized estimates of the common attributes of their negative referents. The mean ratings for both groups are toward the highly similar end of the 15-point scale used. With a more neutral and less polarized topic, we should expect the Low Dogmatic subjects to perceive more dissimilarity among their negative referents. Mid-scale ratings would ensue, allowing individual and group differences to become more apparent. The polarization effects are also apparent in the data on amount of information (Table 20.). Again, there is little difference between the two groups on degree of knowledge about the negative referents, although it was anticipated that the Low Dogmatics would have considerably more information than they do. In this case also, the range of scores is limited, and a lack of individual differences is apparent. A more neutral and knowledgeable topic should reduce this artifact.

A fair test of the theoretical dimensions used in the present investigation would utilize belief topics which are (1) relatively neutral, i. e., held with more moderate intensity, and (2) allow for a broader range of belief and disbelief, from extreme agreement to extreme disagreement.

A related point concerns the extent to which desegregation beliefs are systematic, or embedded in a broad

framework of related beliefs and disbeliefs. The three theoretical dimensions used in this study are system variables and are postulates of a theory of belief-disbelief systems. It is possible that an adequate analysis of these dimensions could not be accomplished using the desegregation issue.

Some would argue that a person's beliefs about school segregation are unitary, that they stand in isolation from all other beliefs. It is granted that the belief-disbelief system of which beliefs about desegregation are part is relatively restricted; that is, that it does not necessarily include a great number of related beliefs about other areas or that it does not allow for shadings of disbelief. It is this writer's observation that for most individuals, school desegregation is a polarized issue; they are either for desegregation or opposed to it. There are only disbelievers; no system of disbelievers seems to exist.

It is, however, difficult for this writer to think of this belief as completely unitary. School desegregation beliefs do not appear to stand in complete isolation from other beliefs. Nor are they completely black or white. There does seem to be some continuum in the disbelief system; persons are seen as opposing desegregation (or segregation) for differing reasons. As Martin has illustrated in a journalistic account (25),

one's beliefs about school integration are intimately tied to beliefs about law, state's rights, religion, economics, tradition, democracy, and even sex. And Southerners opposing integration are able to differentiate those who oppose their views into several categories. The accounts of our subjects also point to these conclusions.

The crucial point at issue here is not whether beliefs about desegregation are isolated or systematic, however. At issue is the question of whether this belief area is as systematic as some other which could conceivably have been used. Did the belief area of school desegregation allow for a sufficient range of beliefs and disbeliefs to adequately test the theoretical dimensions? Would some other belief system have provided a more adequate test? In retrospect, an affirmative answer to the latter question seems to be in order. It is quite possible that the use of another belief system (such as beliefs about religion would have allowed greater freedom for the operation of the theoretical dimensions. What is required in analyses of this type is the use of an area where the existence of disbelief sub-systems is assured, and where the authorities for these sub-systems (the negative referents) are assumed to be more discrepant than in the present case.

The present investigation was not only directed at the Rokeach model of belief-disbelief systems. It can also be viewed as a preliminary attack on the broader theoretical problem outlined in Chapter II. Ignoring the dogmatism dimension momentarily, to what extent can social referents be thought of and examined as the authorities for one's beliefs? Is the proposed reformulation of any greater utility than the "reference group" concept?

Some evidence for the belief referent concept is apparent from the present data. Contrary to the sociological notion of group influences on attitude-formation and maintenance, we have noted the repeated use of individuals as referential points by our subjects. Indeed, the use of the beliefs of a reference "group" appears to be relatively uncommon (Table 19). Nor are the groups cited as referents always seen as unitary organizations; the group more often seems to be the identifying label for its individual members. A remark made by one of the subject exemplifies this trend: "The Catholic Church must be opposed to segregation...I remember reading about that Catholic bishop in Louisiana who ordered his people to obey the court order."

The most salient (first-noted) referents are, in most cases, parents or siblings, followed by personal acquaintances, usually peers. These are sometimes grouped; e.g., "All the guys in my fraternity feel the way I do." More often, however, they are treated as isolated referents; e.g., "My mother is from the South and feels strongly against integration, but I agree with my father that it is wrong to treat the Negroes the way they are treated."

The proposed notion of the use of both positive and negative referents is also strongly supported by the data (Tables 12 through 19). Most subjects could readily cite persons who agreed and persons who disagreed with their own beliefs.

In conclusion, individuals are aware of the social reference points for their beliefs and disbeliefs, and this awareness is tempered by divergences in the extent to which persons are relatively open or closed in cognitive organization, and by age and intellectual factors. The theoretical assumption of identity between the cognitive awareness of others who agree of disagree with one's beliefs, and the utilization of these others as the authorities for one's beliefs remains an assumption, however. It has been given no direct test in the present investigation. An adequate experimental attack on this problem would require an analysis of the changes in beliefs and disbeliefs following exposure to the beliefs or new referents or authorities.

CHAPTER VII

SUMMARY

The purpose of the present investigation was to study three parameters of the social referents of persons with open and closed cognitive systems. The "reference group" concept was reformulated within a cognitive-theoretical framework. "Belief referents" were conceptualized as the authorities used by the individual to substantiate his systems of beliefs (positive referents) and disbeliefs (negative referents). Three dimensions on which belief referents could vary-- narrowing, differentiation, and isolation-- were derived from Rokeach's cognitive theory, which deals with open-to-closed cognitive (belief) systems. It was generally hypothesized that persons with relatively closed cognitive systems would manifest increased narrowing, decreased differentiation, and increased isolation of their belief referents, in comparison with individuals with relatively open cognitive systems.

One-hundred ninety-seven introductory Psychology students were given the Dogmatism scale, the index of openness-closedness of cognitive systems. The obtained split-half reliability of .76, using a signed scale with no filler items, is comparable to previously-obtained reliabilities with padded scales administered under anonymous conditions.

From the total pool, extreme groups of thirty High and thirty Low Dogmatic subjects were selected and tested with

an hour-long interview schedule designed to provide measures of the three conceptual dimensions of belief referents. The topic of this schedule was public-school desegregation. Standard procedures were used for all subjects. Multiple analysis of covariance was used to remove age and intelligence variations between the two groups.

As a measure of the narrowing dimension, all subjects named, on five separate indices, all personal acquaintances, public persons, and groups who were perceived as favoring or in opposition to their own position on the integration topic. In accord with the proposed hypothesis, subjects with relatively closed cognitive systems were found to have fewer negative belief referents than subjects with relatively open cognitive systems. This discrepancy was mainly a function of reduced awareness of public persons opposing the closed subjects' beliefs.

To test the differentiation dimension, (1) all subjects were given information tests about the public persons and groups who served as positive or negative belief referents. The finding that subjects with relatively closed cognitive systems had no less knowledge about their negative belief referents relative to their positive referents than did persons with relatively open cognitive systems did not support the proposed hypothesis. (2) All subjects rated their negative belief referents on degree of similarity. No significant differences were found between the two groups in the extent to which negative referents are perceived as similar, or undifferentiated.

The proposed hypothesis was thus unsubstantiated.

Two indices were also obtained for the isolation dimension: (1) All subjects cited the sources of information about their negative belief referents. Three source-categories were used: "personal contact" with the negative referent or his statements, mass media, or other positive referents. There was no significant support for the hypothesis that persons with relatively closed cognitive systems should obtain less information about their negative referents directly from these referents than persons with relatively open cognitive systems. The results, however, indicated that the relatively closed subjects tended to use direct sources less for negative belief referents than for positive referents. (2) One-half of each group rated identical statements, attributed to either a positive or a negative belief referent, on an acceptance-rejection scale. It was hypothesized that persons with relatively closed cognitive systems would show greater acceptance of pronouncements of a positive referent and greater rejection of pronouncements of a negative referent than subjects with relatively open cognitive systems. Findings in the opposite direction from that anticipated were obtained. Relatively closed subjects showed greater acceptance of statements attributed to both positive and negative referents.

Thus, significant evidence was obtained for only one

of the three proposed conceptual dimensions. High polarization of belief on the desegregation issue was evident in the sample used; this tended to confound variations on the cognitive dimension of openness-closedness used to isolate the experimental groups. While the lack of prior analyses of the three conceptual dimensions used also limits the generalization of these results, the investigation provides inferential evidence for the utility of the proposed reconceptualization of reference groups as cognitive belief referents.

REFERENCES

1. Asch, S. E. Social psychology. New York: Prentice-Hall, 1952

2. Asch, S. E. Effects of group pressure upon the modification and distortion of judgments. In: Swanson, G. E., Newcomb, T. M., and Hartley, E.L., Readings in social psychology. New York: Holt, 1952, pp.2-11.

3. Bonier, R. J. A study of the relationship between time perspective and open-closed belief systems. M.A. Thesis, Michigan State University Library, 1957.

4. Cannell, C. F., and Kahn, R. L. The collection of data by interviewing. In: Festinger, L., and Katz, D. (eds) Research methods in the behavioral sciences. New York: Dryden, 1953, pp.327-380.

5. Chapman, D. W., and Volkman, J. A social determinant of the level of aspiration. J. abnorm. soc psychol., 1939 34, 225-238.

6. Charters, W. W., and Newcomb, T. M. Some attitudinal effects of experimentally increased salience of a membership group. In: Swanson, G. E., Newcomb, T. M., and Hartley, E. L. (eds), Readings in social psychology. New York: Holt, 1952, pp.415-414.

7. Davis, J. H. The disbelief gradient and frame of reference. Unpublished M. A. Thesis. Michigan State University Library, 1956.

8. Dynes, R. R. Interpolations for the North-Hatt scale. Mimeographed paper, Ohio State University.

9. Edwards, A. L. Statistical methods for the behavioral sciences. New York: Rinehart, 1954.

10. Ehrlich, H. J. Dogmatism and intellectual change, Unpublished M. A. Thesis, Ohio State University Library 1955.

11. Frichter, B., Rokeach, M., and Novak, E. G. A factorial study of dogmatism, opiniation, and related scales. Psychol. Reports, 1958, 4, 19-22.

12. Gerard, H. B. The anchorage of opinions in face-to-face groups. Hum. Relations, 1954, 7, 313-329.

13. Goulden, C. H. Methods of statistical analysis. New York: Wiley, 1956.

14. Hyman, H. H. The psychology of status. Arch. Psychology., 1942, No. 269.

15. Johnson, P. O. Statistical methods in research. New York: Prentice-Hall, 1949.

16. Kahn, R. L. and Cannell, C. F. The dynamics of interviewing. New York: Wiley, 1957.

17. Kaplan, M. Reference group theory and voting behavior. Dissert. Abstracts, 1955, 15, 1456.

18. Kelley, H. H. Two functions of reference groups. In: Swanson, G. E., Newcomb, T. M., and Hartley, E. L. (eds), Readings in Social psychology. New York: Holt, 1952 pp. 410-414.

19. Kemp, C. G. Changes in patterns of personal values in relation to open-closed belief systems. Ph.D. Dissertation, Michigan State University Library, 1957.

20. Killian, L. M. The significance of multiple group membership in disaster. Amer. J. Sociol., 1952, 37, 309-314.

21. Koons, P. B. Situational stress and dogmatism as determinants of problem solving. Unpublished M. A. Thesis, Michigan State University Library, 1956.

22. Krech, D., and Crutchfield, R. S. Theory and problems of social psychology. New York: McGraw-Hill, 1948.

23. Laffey, J. J. A theoretical and empirical analysis of loyalty to and defection from a belief system. M. A. Thesis, Michigan State University Library, 1957.

24. Lindquist, E. F. Statistical analysis in educational research. New York: Houghton Mifflin, 1940.

25. Martin, J. B. The deep south says never. New York: Ballentine Books, 1957.

26. Maryo, Joanne S. Factors related to similarity, rejection and religious affiliation. Unpublished M. A. Thesis, Michigan State University Library, 1958.

27. Mead, G. H. Language and the development of the self. In: Swanson, G. E., Newcomb, T. M., and Hartley, E. L., Readings in social psychology. New York: Holt, 1952, pp. 44-54.

28. Merton, R. K. and Kitt, Alice S. Contributions to the theory of reference group behavior. In: Swanson, G. E., Newcomb, T. M., and Hartley, E. L. (eds), Readings in social psychology. New York: Holt, 1952, pp. 430-444.

29. Mikol, B. Open and closed belief systems as correlates of the acceptance of new music and its composers. Ph.D. Dissertation, Michigan State University Library, 1955.

30. Newcomb., T. M. Personality and social change. New York: Dryden, 1943.

31. Newcomb, T. M. Social psychology. New York: Dryden, 1950.

32. Newcomb, T. M. Attitude development as a function for reference groups: The Bennington study. In: Swanson, G. E., Newcomb, T. M., and Hartley, E. L., Readings in social psychology. New York: Holt, 1952, pp.420-430.

33. Newcomb, T. M. Some patterned consequences of membership in a college community. In: Katz, D. (ed), Public opinion and propaganda. New York: Dryden, 1954, pp. 435-446.

34. North, C. C., and Hatt, P. K. Jobs and occupations: a popular evaluation. Opinion News, 1947, Vol. 9, pp. 3-13. (Also in: Bendix, R. and Lipsit, S. M. (eds), Class, status, and power. Glencoe, Illinois: Free Press, 1953 pp. 411-426.

35. Oram, A. Some determinants of the formation and modification of new belief systems. M. A. Thesis, Michigan State University Library, 1957.

36. Rokeach, M. The nature and meaning of dogmatism. Psychol. Rev., 1954, 61, 193-204

37. Rokeach, M. On the unity of the mind and belief. J. Personality. 1956, 25, 224-239

38. Rokeach, M. Political and religious dogmatism: an alternative to the authoritarian personality. Psychol. Monogr., 1956, 70, No. 18, (Whole No. 425).

39. Rokeach, M. The organization of belief systems. New York: Basic Books, (In press).

40. Rokeach, M., and Fruchter, B. A factorial study of dogmatism and related concepts. J. Abnorm. soc. Psychol., 1956, 53, 356-360.

41. Rokeach, M., Gladin, L., and Trimble, D. A. Two validation studies with high and low dogmatic subjects. In: Rokeach, M., The organization of belief systems. New York: Basic Books (In press), MSS pp. 117-124.

42. Rokeach, M. McGovney, W. C., and Denny, M. R. A distinction between dogmatic and rigid thinking. J. abnorm. soc. Psychol., 1955, 51, 67-73.

43. Rosen, B. C. Conflicting group membership: a study of parent-peer group cross-pressures. Amer. sociol. Rev., 1955, 20, 155-161.

44. Rosen, B. C. The reference group approach to the parental factor in attitude and behavior formation. Social Forces, 1955, 34, 137-144.

45. Sherif, M. A study of some social factors in perception. Arch. Psychol., 1935, No. 187.

46. Sherif, M. An outline of social psychology. New York: Harpers, 1948.

47. Sherif, M. The problem of inconsistency in intergroup relations. J. Soc. Issues. 1949, 5, 32-37.

48. Sherif, M. The concept of reference groups in human relations. In: Sherif, M., and Wilson, M.O. (eds), Group relations at the crossroads. New York: Harper, 1953.

49. Sherif, M. and Cantril, H. The psychology of ego-involvements. New York: Wiley, 1947.

50. Sherif, M. and Sherif, C. W. An outline of social psychology. New York: Harper, 1956.

51. Shibutani, T. Reference groups as perspectives. Amer. J. Sociol., 1955, 60, 562-569.

52. Smith, Patricia W. Race and belief as determinants of discrimination. M. A. Thesis, Michigan State University Library, 1957.

53. Snedecor, G. W. Statistical methods. Ames, Iowa: Iowa State College Press, 1956.

54. Stern, E., and Keller, S. Spontaneous group references in France. Publ. opin. quart., 1953, 17, 208-217.

55. Swanson, T. S. Problem solving as related to dogmatism, depersonalization, and familiarity with chess. M. A. Thesis, Michigan State University Library, 1956.

56. Trueblood, D. E. The logic of belief. New York: Harper.

57. Turner, R. H. Role-taking, role standpoint, and reference-group behavior. Amer. J. Sociol., 1956, 61, 316-328.

58. Turner, R. H. References groups of future-oriented men. Soc. Forces, 1955, 34, 130-136.

59. Vidulich, R. N. The integration of multiple sets into a new belief system. M. A. Thesis, Michigan State University Library, 1956.

APPENDIX A

THE POSNATISH SCALE

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 the statements 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 other people feel the same way you do.

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

+1	1 AGREE A LITTLE	-1	1 DISAGREE A LITTLE
+2	1 AGREE PRETTY MUCH	-2	1 DISAGREE PRETTY MUCH
+3	1 AGREE VERY MUCH	-3	1 DISAGREE VERY MUCH

_____1. A person who thinks primarily of his own happiness is beneath contempt.

_____2. The main thing in life is for a person to want to do something important.

_____3. In a discussion, I often find it necessary to repeat myself several times to make sure I am being understood.

_____4. Most people just don't know what's good for them.

_____5. In times like these, a person must be pretty selfish if he considers his own happiness primarily.

_____6. A man who does not believe in some great cause has not really lived.

_____7. I'd like it if I could find someone who would tell me how to solve my personal problems.

_____8. Of all the different philosophies which have existed in this world, there is probably only one which is correct.

_____9. It is when a person devotes himself to an ideal or cause that his life becomes meaningful.

_____ 10. In this complicated world of ours, the only way we can know what is going on is to rely upon leaders or experts who can be trusted.

_____ 11. There are a number of persons I have come to hate because of the things they stand for.

_____ 12. There is so much to be done and so little time to do it in.

_____ 13. It is better to be a dead hero than a live coward.

_____ 14. A group which tolerates too much difference of opinion among its own members cannot exist for long.

_____ 15. It is only natural that a person should have a much better acquaintance with ideas he believes in than with ideas he opposes.

_____ 16. While I don't like to admit this even to myself, I sometimes have the ambition to become a great man, like Einstein, or Beethoven, or Shakespeare.

_____ 17. Even though freedom of speech for all groups is a worthwhile goal, it is unfortunately necessary at times to restrict the freedom of certain political groups.

_____ 18. If a man is to accomplish his mission in life, it is sometimes necessary to gamble "all or nothing at all."

_____ 19. Most people just don't give a "damn" about others.

_____ 20. Any person who gets enthusiastic about a number of causes is likely to be a pretty wishy-washy sort of person.

_____ 21. To compromise with our political opponents is dangerous because it usually leads to the betrayal of our own side.

_____ 22. If given the chance, I would do something that would be of great benefit to the world.

_____ 23. In times like these, it is often necessary to be more on guard against ideas put out by certain people or groups in one's own camp than by those in the opposing camp.

_____ 24. In a heated discussion I usually become so absorbed in what I am going to say that I forget to listen to what the others are saying.

_____ 25. Once I get wound up in a heated discussion, I just can't stop.

_____ 26. There are two kinds of people in this world; those who are on the side of truth, and those who are against it.

_____ 27. Man on his own is a helpless and miserable creature.

_____ 28. The United States and Russia have just about nothing in common.

_____ 29. In the history of mankind there have probably been just a handful of really great thinkers.

_____ 30. The highest form of government is a democracy and the highest form of democracy is a government run by those who are most intelligent.

_____ 31. The present is all too often full of unhappiness; it is the future that counts.

_____ 32. Unfortunately a good many people with whom I have discussed important social and moral problems don't really understand what is going on.

_____ 33. Fundamentally, the world we live in is a pretty lonely place.

_____ 34. 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.

_____ 35. The worst crime a person can commit is to attack publicly the people who believe in the same thing he does.

_____ 36. 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.

_____ 37. Most of the ideas that get published nowadays aren't worth the paper they are printed on.

_____ 38. It is only natural for a person to be rather fearful of the future.

_____ 39. My blood boils whenever a person stubbornly refuses to admit he is wrong.

_____ 40. 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.

Name_____. Sex:_____.

Date of birth:_____, Place of birth:_____.

Political preference_____. Religion:_____.

Father's occupation:_____. Number of brothers & sisters _____.

College class:_____. MSU grade point average _____.

Major field:_____. Marital status:_____.

APPENDIX B

THE INTERVIEW SCHEDULE

1. Introductory Section.

(Explanation of purposes and objectives of the research).

"My name is Bob Vidulich, and I am collecting the data for my Ph.D. dissertation. What I am interested in is the social attitudes that a person has. Social attitudes are those that a person holds in common with a lot of other people. For example, public opinion polls have shown that many people answer with the same attitude when asked how they feel about Communism, or a certain presidential candidate, or tax cuts, or other similar topics.

The social attitude that we will be talking about for the next hour or so is your feelings about the problem of desegregation in the public schools. As you probably realize, this topic has been in the news quite a bit in the last few years.

The reason that we chose this as an example of a social attitude topic is that, on the basis of some testing we did last term, we found that this topic was the one selected by most college students when they were asked 'Which one of these topics do you feel most strongly about one way or the other?' about a list of several topics. We do not have any interest in the problem of desegregation for its own sake. We are not interested in prejudice, or anything else like that in this research. What we are interested in is the attitudes that the typical college student has, and why he has them. By using this topic, there is less chance that we will get people who have no attitudes at all about it."

(Description of the method of selection of the subject).

"I suppose you are curious about how and why you were chosen as a subject for this research. Well, I went through the class lists of several psychology sections and gave everyone on these lists a number from 1 on. Then I went through a table of random numbers like this one (subject was shown a table of random numbers and was told how it is used.) and randomly selected sixty people for subjects. I do have some other information on you, or will have, when it is scored after I collect all the data.

That's the questionnaire you filled out in Dr._____'s class a few weeks ago. When we finish, I'll try to explain how this will be used, and what we are trying to find out."

(Emphasis of the anonymous and confidential nature of the research)

"As you probably already know, when we use subjects in psychological experiments, the material we get from them is strictly confidential. I am using your name now only as a way of identifying your data. As soon as the data is coded and entered on the data sheets, your name disappears, and you, as a person, are forgotten. What we are interested in is the averages for the whole group of subjects, not something that any one person says."

(Collection of biographical information).

"Before we start talking about your attitudes about dese regation, I need a little back round information about you. When we finish, I'll tell you how we plan to use this." (Each S was then asked the following questions, and the responses were entered on a data sheet.) (The coding information is presented for parent's income and religious activity, and the coding categories are shown for the remainder of the categories.)*

"When were you born?"
(Date of birth_____).

"Where were you born?"
(Place of birth_____).

"What year are you in at MSU?"
(College class_____).

"What is your religion?"
(Religious affiliation: Protestant, what denomination,_____: Jewish_____; Other_____ "To what religious group did you formerly belong?")

---

* Instructions given to, or questions asked of, the S are given in quotes"__"; descriptive comments are given in parentheses(--).

"Exactly what does your father do for a living?"
(Father's occupation_____).

"Approximately how much would you estimate your parents earned during the past year?"
(Parents' income: 1 Under $2000; 2 $2000-4000; 3 $4000-6000; 4 $6000-8000; 5 $8000-10,000; 6 $10,000-12,000; 7 $12,000-14,000; 8 $14,000-16,000; 9 $16,000-18,000 10 over $18,000.)

"I'm not going to ask you if you did or didn't vote, but if you had voted, for which presidential candidate would you have voted for in the last election?" (Political preference presidential: _____Stevenson:____Eisenhower: _____Other.)

"For which non-presidential candidates would you have voted? That is, what do you call yourself politically?"
(Political preference-non presidential:____Democratic: _____Republican:_____Other.)

"How often do you go to church services?"
(Religious activity: 1 More than once a week; 2 Once a week; 3 Twice a month; 4 Once a month; 5 Four to six times a year; 6 Once a year; 7 Less than once a year; 8 Almost never; 9 Never.)

II. "Self-Concept."

(Evocation of social beliefs and social references from subject).

"As I mentioned earlier, the purpose of this research is to try to find out how the typical college student feels about the problem of desegregation in the public schools.

"Let me ask you now--How do you personally feel about desegregation in the public schools?"

(All remarks made by the S were recorded verbatim, as completely as possible by the E. No other questions were asked of the S. In the event the E desired a more complete response, 'non-directive' clarifying comments were used, such as 'I see, could you tell me a little more about that?" "I wonder if you would tell me a little more about how you felt?", etc.)

"How strongly do you feel about this? I'd like you to read me the one number of this scale which would indicate how you feel?" (S was given the following vertical rating scale in order to make his rating.)

Very much opposed to desegregation	1
	2
	3
Much opposed.	4
	5
Somewhat opposed.	6
	7
Slightly opposed.	8
	9
Slightly in favor.	10
	11
Somewhat in favor	12
	13
Much in favor.	14
	15
Very much in favor of desegregation.	

"Why do you feel the way you do about desegregation?"

"When was the first time you heard about the problem of desegregation in the schools?"

"Where did you first hear about this problem?"

(As before, all responses to each of these questions were recorded verbatim, and 'non-directive' questioning was used.)

III. "Probe" Section.

(Direct questioning about positive and negative referents)

"Who else do you know or know of that feels the same way that you do about desegregation?"

"Who else do you know or know of that feels differently than you do about desegregation?"

(For each of these two questions, two additional "probes" were used. These were asked as follows: "Is there anyone else that you can think of that feels the way (feels differently than) you do?" The two probes were used for each S for each question, even though he had not mentioned any referent on the preceeding question or probe.)

"Quite a few public persons have come out in favor of, or in opposition to, desegregation in the past few years. I wonder if you can recall who any of these public people were?"

(For this question, four additional "probes" were used, two each for the referents in favor of and opposed to desegregation. These probes were used in the same way as for the preceeding questions.)

"Quite a few national and regional groups and organizations have come out for or against desegregation. I wonder if you can tell me who some of these groups or organizations are?"

(For this question, four additional "probes" were used, two each for the referents in favor of and opposed to desegregation. These probes were used in the same way as above.)

IV. "Source" Section.

(Direct questioning about the sources of information or knowledge about positive and negative referents mentioned in the "probe" section. For each public person or group mentioned by the S in the "probe" section, the following question was asked:)

"How did you find out that (name of referent) was in favor of (opposed to) desegregation?"

(Following the S's response to this question) "Have you ever seen him (or a member of the group or organization) in person? Have you ever read directly anything he has written?"

V. "Information" Section.

(Evocation of information about positive and negative referents. The S was handed a 5x7 card containing the following questions which he was requested to answer about each of the public persons he had mentioned in the "probe" section:)

1. Exactly what public position does he presently hold?
2. What other public positions does he now hold or has he held in the past?
3. Where was he born?
4. What is his religion?
5. Has he written any books or articles? If he has, what are they?
6. Is he married? If so, how many children has he?

"I'd like you to try to answer each of these questions for (first public person.") (The S was asked to answer the same questions for all other public persons named with the request:)

"O.K. Now how about_____?"

(The identical procedure was followed to evoke information about the groups and organizations named by the S, except that the following questions were utilized, handed to the S on a 5x7 card:)

1. Who is the president or head of this group?
2. Who is the second in command of this group?
3. Where are the executive offices of this group?
4. Does this group distribute any literature? If so, what is it?
5. When was this group formed?
6. By whom was this group formed?

VI. "Similarity" Section.

(Rating of similarity of positive and negative references. The S was presented with the following vertical rating scale.)

Extremely similar	1
	2
Very similar	3
	4
Somewhat similar	5
	6
Slightly similar	7
	8
Slightly dissimilar	9
	10
Somewhat dissimilar	11
	12
Very dissimilar	13
	14
Extremely dissimilar	15

"I'm going to read you pairs of names. I'd like you to give me the one number from the scale that best indicates how much those two people have in common or are different, how similar or dissimilar they are. Don't judge them only on their attitudes about desegregation, but try to think of them using all that you know about them."

(All possible pairs of public persons and groups named in the "probe" section were used; those in favor of and those opposed to desegregation were presented separately.)

VII. "Acceptance-Rejection" Section.

(Rating of degree of acceptance or rejection of statements attributed to positive or negative referents).

"Now I'm going to show you some statements that were made by Governor Faubus of Arkansas in the past couple of months. All of these statements were taken from TIME or similar newsmagazines. Read the instructions and then tell me how you personally feel about each statement."

(The S was presented with the following sheet of instructions and statements:)

Each of the following statements was taken from national news-magazines of the past few months. Each statement was made by Orval Faubus, the Governor of Arkansas, who, as you probably already know, took the extreme stand against the Supreme Court order to integrate the public schools of Little Rock in September 1957. Since that time, he has become an important spokesman for the segregationists, and has made many speeches about many varied aspects of the American scene, from which the following statements have been taken.

Read me the one number that best indicates how you feel about each statement.

+1	1 AGREE A LITTLE	-1	1 DISAGREE A LITTLE
+2	1 AGREE PRETTY MUCH	-2	1 DISAGREE PRETTY MUCH
+3	1 AGREE VERY MUCH	-3	1 DISAGREE VERY MUCH

1._____ Congress should appropriate money to finance construction of an extensive nationwide superhighway program in the near future.

2._____ The United States and Russia should engage in a "summit" conference immediately.

3._____ There should be an immediate tax cut to get the United States through the recession.

4._____ The proposed budget for the coming fiscal year does not contain a large enough appropriation for the school building program.

5._____ Immediate atomic disarmament is imperative if the world is to be spared from the effects of radioactive fallout.

6._____ One of the most important problems before the United States at the present time is the need for conservation of our dwindling natural resources.

7._____ There should be a relocation of our important military plants away from the cities to less congested areas, because of the dangers of atomic attack.

8._____ The president's recent decision to unify the armed services was a long-awaited and much-needed step.

(One-half of each of the High and Low Dogmatic groups were given the above sheet with the statements attributed to Faubus. The remaining one-half of each of the High and Low Dogmatic groups were given the same statements, attributed to Thurgood Marshall, as follows.)

Each of the following statements was taken from national newsmagazines of the past few months. Each statement was made by Thurgood Marshall, an executive officier of the NAACP, who, as you probably already know, was strongly in favor of enforcing the Supreme Court order to integrate the public schools of Little Rock in September, 1957. Since that time, he has become an important spokesman for the integrationists, and has made many speeches about many varied aspects of the American scene, from which the following statements have been taken.

(The assignment of these S's was randomly accomplished by a friend of the E, so that during the interview, he did not know to which Dogmatism group the S belonged.)

VIII. "Statement" Section.

(Indirect estimation of number of positive and negative referents from anonymous statements).

(Eighteen statements, representing nine viewpoints, were given to the S, one at a time, typed on 3x5 cards. One-half of the statements were worded in opposition to the desegregationist position. These statements, in the order in which they were presented to the S, are as follows:)

Immediate desegregation of the schools is our only alternative. We do not want delayed, gradual integration. It is too late for that.

The calling out of Federal troops in the Little Rock crisis was the only thing that could be done under the circumstances.

If we allow integration in the schools, mixed marriages, and worse will almost certainly follow.

There is nothing in the Bible which says that integrated schools are in opposition to the word of God.

We do not care what the Communists make of our practices in our southern schools. It is the integrity of the South that counts.

We have found that Negro-White relations in mixed schools in the North are very good. There is no reason to expect them to be any different in the South.

The present policy of segregation in the public schools in the South is in opposition to our democratic ideals.

Integration in the public schools will never work in the South.

The use of Federal troops in Little Rock was an attempt to force integration down the throats of the Southerners.

Our religious principles do not condone the present practices of segregation of the schools in the South.

The claim that integrated schools leads to an increase in mixed marriages is ridiculous. A glance at the history of integrated schools in the North immediately shows that this is in no way the case.

The historical ideals of the South are opposed to integration of the public schools.

If dese[illegible]ation of the public schools is enforced, the place of the [illegible] in U. S. society will be advanced beyond our wildest [illegible]ations.

I am not opposed to integration of the public schools as long as it is gradual. But it must be at our own pace. It cannot be accomplished immediately.

The integration of Negroes into the public schools of the South would give them more rights than they deserve.

Our children should not be forced to mix with coloreds in mixed schools. It will only lead to violence and hatred.

Integration in the public schools has worked for years in the North. There seems to be no reason why it shouldn't work in the South.

Segregation, as practiced in the Southern Schools, is only so much ammunition for the Communist propagandists. Every inhabitant of Asia and Africa is watching to see what our remedy for this blight will be.

(The S was given the following instructions, prior to the presentation of the first card:)

"Here are some statements that have been taken from TIME magazine. Each of them was made by someone in favor of or opposed to desegregation. I'd like you to look at each one and try to tell me who could have made it. Let's start with this one. Who could have made this statement?"

IX. "List Section.

(Indirect estimation of number of positive and negative referents from a list of segregationists and desegregationists.)

(The S was presented with the following list of 54 names, half of which were independently judged to be in favor of segregation and half of which were independently judged to be opposed to segregation. The raters' judgments are shown for each person; they were not presented on the list shown to the S:)

+	Thomas Brennan	-	John Rasper
+	Ralph Bunche	+	John F. Kennedy
-	Harry Byrd	+	Martin Luther King
-	James Byrnes	+	George F. Leader
+	Everett Case	-	Earl Long
-	A. B. Chandler	-	Russell Long
-	Frank Clement	+	Thurgood Marshall
-	LeRoy Collins	-	John McClellan
-	Price Daniel	+	H. L. Mencken
+	Thomas E. Dewey	+	Wayne Morse
+	Everett Dirksen	+	Richard Neuberger
-	George Eastland	+	Adam Clayton Powell
-	Orval Faubus	+	Jackie Robinson
+	William Faulkner	+	William P. Rogers
-	James Folsom	+	Eleanor Roosevelt
-	Felix Frankfurter	-	Richard Russell
-	J. William Fulbright	+	Carl Sandburg
-	Walter George	-	Allan Shivers
-	Marvin Griffin	-	George Smathers
+	John Hannah	-	John Sparkman
+	John Marshall Harlan	-	Herman Talmadge
+	Averell Harriman	-	J. Strom Thurmond
-	Lister Hill	+	Robert Wagner
-	Luther Hodges	+	Earl Warren
-	Orval Hubbard	+	Robert Penn Warren
+	Jacob Javits	+	Roy Wilkins
-	Olin Johnson	+	T. Mennen Williams

(The S was given the following instructions:)

"This is the last thing I'll ask you to do. Here is a list of person's names. I'd like you first of all to go through this list and read off any name which you have heard of. I'm not going to ask you any questions about these. I'd just like to know which of these names you are familiar with."

(When the S had completed this task, he was asked:)

"Now I want you to go through the list again, and this time read me the name of those persons who you are <u>certain</u> have made some statement either for or against desegregation. Don't guess! Tell me only those that you are positive has taken a public stand on desegregation, and that you have heard a out making a statement about it."

+	Thomas Freeman	-	John Kasper
+	Ralph Bunche	+	John F. Kennedy
-	Harry Byrd	+	Martin Luther King
-	James Byrnes	+	George F. Leader
+	Everett Case	-	Earl Long
-	A. B. Chandler	-	Russell Long
-	Frank Clement	+	Thurgood Marshall
-	LeRoy Collins	-	John McClellan
-	Price Daniel	+	H. L. Mencken
+	Thomas E. Dewey	+	Wayne Morse
+	Everett Dirksen	+	Richard Neuberger
-	George Eastland	+	Adam Clayton Powell
-	Orval Faubus	+	Jackie Robinson
+	William Faulkner	+	William P. Rogers
-	James Folsom	+	Eleanor Roosevelt
-	Felix Frankfurter	-	Richard Russell
-	J. William Fulbright	+	Carl Sandburg
-	Walter George	-	Allan Shivers
-	Marvin Griffin	-	George Smathers
+	John Hannah	-	John Sparkman
+	John Marshall Harlan	-	Herman Talmadge
+	Averell Harriman	-	J. Strom Thurmond
-	Lister Hill	+	Robert Wagner
-	Luther Hodges	+	Earl Warren
-	Orval Hubbard	+	Robert Penn Warren
+	Jacob Javits	+	Roy Wilkins
-	Olin Johnson	+	G. Mennen Williams

(The S was given the following instructions:)

"This is the last thing I'll ask you to do. Here is a list of person's names. I'd like you first of all to go through this list and read off any name which you have heard of. I'm not going to ask you any questions about these. I'd just like to know which of these names you are familiar with."

(When the S had completed this task, he was asked:)

"Now I want you to go through the list again, and this time read me the name of those persons who you are <u>certain</u> have made some statement either for or against segregation. Don't guess! Tell me only those that you are positive has taken a public stand on segregation, and that you have heard about making a statement about it."

~~AUG 15 1962~~

[redacted]

MAR 2 1961

~~ret 3-11-61~~

~~JUN 1 1961~~

~~JAN 5 1962~~

~~JUL 7 1963~~

~~JUL 19 1963~~

AUG 17 1963

~~AUG 23 1963~~

~~FEB 20 1964~~

~~FEB 20 1965~~

~~FEB 16 1966~~ 12C

MICHIGAN STATE UNIVERSITY LIBRARIES
3 1293 03177 7117