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PSYCHOPATHOLOGY AND DOGMATISM IN COLLEGE MALES:
A DESCRIPTIVE ANALYSIS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

by

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1978

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Chapter I

INTRODUCTION

Since publication of The Open and Closed Mind (1960) in which Milton Rokeach reported development and testing of hypotheses regarding open and closed-mindedness, dogmatism, or closed-mindedness, has been the concern of researchers in the fields of counseling psychology, clinical psychology, educational psychology, and personality psychology. The heuristic interest in dogmatism is a product of the recognition that closed-mindedness seems to affect the ways in which people view themselves, the world and the future. Given the assumption that a person's perceptions influence his cognitions, emotions, and behaviors it seems important to acquire fuller understanding of the antecedents, manifestations and methods of evaluation of dogmatism. This study, then, examines psychological correlates of dogmatism as an additional step to furthering such understanding.

Closed-mindedness would appear to be an especially relevant concern for education and counseling. Schools
are concerned with helping children to learn and to relate with others. Learning involves, in part, exposure to, consideration of and processing of new information. Relating with others involves exposure to, interaction with and processing of the experiences with other persons. Information will occasionally be discrepant from what the learner has previously believed. To the extent that the information to which learners are exposed is new or discrepant from prior information, closed-mindedness may become manifest. In such situations learning becomes difficult if not impossible. If the new or discrepant information will not seriously be considered it can not ultimately be accepted. Peters (1977, personal conversation) states that dogmatism increasingly appears to be at the core of personal inability to relate with others and to learn. Tosi, Quaranta, and Frumkin (1968) state that a need exists to have open-minded persons teach in schools in order to facilitate successful functioning in our society.

Closed-mindedness is a concern for professionals in the field of mental health (Webster, 1966). To the
extent that a person's perceptions are filtered through and influenced by existing closed belief systems he may be unable to derive and maximize benefits from counseling settings to in-vivo settings (Tosi, 1970). As the degree of dogmatism increases, that person may experience various cognitive, emotional and behavioral disturbances when confronted with new experiences and information. Further, the dogmatic individual may have difficulty in processing and assimilating information which might otherwise provide alternatives for new ways of thinking, feeling and behaving. In short, the closed-minded person may be in a deficit position from the very beginning of an educational experience or a counseling relationship and may exhibit resistance due to a closed system of beliefs which prevents the consideration of alternative information. Understanding dogmatism as a construct would seem to be an important first step to understanding its impact on functioning in our culture.

Joseph (1974) in a study of Maslow's description
of the attitudes and behavior of deficiency-motivated persons reports parallel attitudes and behavior of closed-minded individuals with those postulated by Rokeach (1960). For example, Maslow stated that deficiency motivated persons would fear their environment because it might thwart their quest to satisfy basic needs. Rokeach indicates that closed-minded persons would see the world as a threatening place. Maslow asserts that deficiency in the basic needs of safety, love and esteem gives rise to neurosis. Rokeach demonstrated a connection between closed-mindedness and anxiety (Discussed in Chapter II). Rokeach suggested that closed-mindedness may result from feelings of aloneness, isolation and helplessness. Maslow's (1954) formulation of the basic needs of safety, love, belongingness and esteem seemed to include those same feelings. Rokeach further stated that the need to ward off threat would encourage the formation of closed belief systems. This seems to suggest that the need for safety might be involved the development of closed-mindedness. Thus, dogmatism or closed-mindedness appears to be related to
a need for order or structure in a person's life and the resultant efforts to minimize anxiety and threat through incorporation of information into a relatively rigid and defensive belief system.

Rogers (1951) reported that disparity between perceived self and ideal self is a threat to self-integration and that anxiety is the affective response to threat. Fromm (1947) stated that individuals may become disposed to accept or to form closed systems of thinking and believing in proportion to the degree to which they are made to feel alone, isolated, and helpless in the world in which they live and thus anxious of what the future holds in store for them. Such a state of affairs should lead to pervasive feelings of self-inadequacy and self-hate. The implications of these theoretical formulations would seem to be important for the school and mental health professional.

Tosi and Carlson (1970) in a study of client dogmatism in counseling settings report that psychological openness refers to a relatively high degree of self-communication and the extent to which one understands
the thoughts and feelings of others. These writers add that persons higher in dogmatism seem to have greater difficulty in perceiving counselor qualities of empathy, unconditional acceptance and congruence in counseling settings. Tosi and Carlson add support to Allen's (1967) position that closed-minded persons experience more difficulty in establishing facilitative interpersonal relationships because of their resistance to affective involvement and free communication with others.

Additional clarification of the dogmatism construct is given by Silverman and Tosi (1969) in which they observe that one's ability to be highly sensitive to the specific elements of a situation would largely be a function of one's personal degree of openness. Further, negative affective states such as excessive anxiety and fear tend to interfere with the ability to approach problem situations. With these formulations of theoretical importance to understanding dogmatism as a construct it is appropriate to turn now to the definition of open and closed-mindedness as given by Rokeach (1960):
The extent to which the person can receive, evaluate and act on relevant information received from the outside on its intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside.

Rokeach elaborates open-closed mindedness in terms of operational characteristics by stating that he attempted to find a single set of concepts, a single language, that was equally appropriate to the analysis of personality, ideology and cognitive behavior. He conceptualized personality as an organization of beliefs having a definable and measurable structure. Similarly, ideology and cognitive behavior were seen as an organization of beliefs and processes that take place within a person who has already formed a system of beliefs which we can describe and measure. Rokeach theorized that acceptances and rejections take three distinct forms; the acceptance and rejection of ideas, of people and of authority. He further stated that these acceptances and rejections all go together, that they are but different facets of the same thing, interrelated in a one-to-one fashion in the belief system.

Thus, closed-mindedness is presented as a condition which is reflected in the way the individual perceives, and has been conceptualized as having possible origins
in anxiety, isolation and fear of the environment, all of which create stress and often maladaptive coping processes (Lazarus, 1976).

**Purpose of Study**

The nature and extent of maladjustment in any population is difficult to determine. In the past, attempts to identify and integrate the psychological aspects of dogmatism have met with conflicting and inconclusive results. Lazarus (1976) emphasizes that one of the important questions regarding dogmatism is how the different belief systems originate and what the life experiences and consequences are on which they are based.

This research project will examine the relationship between degree of dogmatism in male university graduate students and various psychological subscales of the *Minnesota Multiphasic Personality Inventory* (MMPI). Hopefully, this study will add to a growing body of theory and research regarding dogmatism and its psychological correlates.
Hypothesis

Groups of subjects defined in terms of low, medium and high dogmatism as determined by total score on the Dogmatism Scale E will not differ significantly on mean factor scores representing various weighted combinations of criterion variables defined by the subscales of the MLPI.

Need for Study

Dogmatism, or closed-mindedness, is a selective phenomenon. Rokeach (1960) states that individuals who are closed-minded tend to be so with respect to some beliefs and not so with respect to other beliefs. Both common observation and logic attest to the unlikelihood of any individual (save the severest pathological cases) being totally and completely closed-minded, that is, refusing to change any belief regardless of circumstances. Thus, a problem for researchers and theorists in human behavior is through rigorous methodology to develop plausible hypotheses which deal with the characteristics and attributes of persons who are closed-minded (Tosi and Carlson, 1970). Addressing the need for more knowledge
concerning the levels of client dogmatism in counseling situations, Tosi and Carlson state that more research is necessary to augment existing evaluation practices. Tosi, Fagan and Frumkin (1968) state that further research on the nature of open and closed-mindedness seems warranted.

The literature on dogmatism includes references to various psychological factors being related to closed-mindedness; for example, isolation, low self-worth, anxiety and threat. To date, only one known study has attempted to directly establish correlation of dogmatism and psychopathology as determined by the MMPI. Norman (1966) found significant correlations between dogmatism and psychoneurosis as measured by the MMPI. Norman, however, used only females as subjects thus limiting the generalizability of his findings to male subjects.

There is a growing literature which includes dogmatism as a primary variable (Vacchiano, Strauss, and Hochman, 1969; Ehrlich and Lee, 1969). In comprehensive reviews of dogmatism studies, the above researchers note publications which make references, directly and
indirectly, to the underlying psychological state of the dogmatic person. A lack of methodologically sound information prevails relating to correlation of psychopathology and dogmatism. There are no known studies which accomplish this correlation on male subjects.

The present research was undertaken to study the psychological make-up of dogmatic males with recognition of the need for rigorous and interpretable statistical procedures.

Limitations of the Study

Several limitations of the present study need to be mentioned at the outset. First, this study is limited to a sample of 52 male volunteers from graduate level courses at The Ohio State University. Second, the sample consists of persons representing the 25 to 30 age range. Third, both instruments used in this study have the limitations which characterize all self-report inventories which are:

(1) ability to read the questions with understanding, 
(2) self-insight and self-understanding, and 
(3) willingness to reveal oneself frankly (Thorndike and Hagen, 1977).
Fourth, a limitation of the study lies in the number of subjects within each dogmatism group and the total N of 52.

Definition of Terms

The language used in the literature to refer to dogmatism is not fixed and rigid. High scorers on the Dogmatism Scale are referred to as 'high dogmatics', 'closed-minded' or simply 'dogmatic' or 'non-dogmatic'. These terms are misleading, because they suggest a discreet and dichotomous arrangement in which people are either dogmatic or not dogmatic. A more accurate representation would be through the use of terms which suggest the gradations of closed-mindedness, the 'more or less' concept of a continuum.

Closed-mindedness
A term defined by Rokeach as a relative lack of the ability to receive, evaluate and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from within the person or from the outside. It is a closed way of thinking which could be associated with any ideology regardless of content, an authoritarian outlook on life, an intolerance of those with opposing beliefs, and a sufferance of those with similar beliefs.

Open-mindedness
A term defined by Rokeach as the ability to receive, evaluate and act on relevant information received from the outside on its own intrinsic merits, unencumbered by irrelevant factors in the situation arising from
within the person or from the outside.

**High Dogmatics**
Operationalized as those subjects whose scores on the Dogmatism Scale range from 188 to 266.

**Medium Dogmatics**
Operationalized as those subjects whose scores on the Dogmatism Scale range from 148 to 185.

**Low Dogmatics**
Operationalized as those subjects whose scores on the Dogmatism Scale range from 86 to 142.

**Psychological adjustment and stress**
Operationalized as that which is measured by the subscales of the KMPI. Elevations on subscales, in combination, will be considered indicators of psychological stress.
Chapter II

REVIEW OF LITERATURE

A review of theory and supporting research may help orient the reader to the context in which this study was conceived. Aspects of the literature relating to dogmatism reviewed in this study include the cognitive structure of dogmatism, antecedents of dogmatism, behavioral correlates of dogmatism and personality factors which research has shown to be correlated with dogmatism.

This study presents a grouping of the correlates of dogmatism which the literature seems to suggest are related to psychological adjustment and interact to form characteristics which define the dogmatic personality. A single taxonomy is useful for understanding dogmatism as a construct rather than as a collection of individual factors to be studied separately. Thus, this chapter presents a selective review of the literature. Specifically, the literature deals with structure of belief systems, origins of dogmatism, cognitive and behavioral aspects of dogmatism, and personality factors associated with dogmatism.
Theoretical Basis of Dogmatism

Rokeach (1960, 1968, and 1973) has been the major theoretician and researcher of open and closed mindedness (Lazarus, 1976). To facilitate understanding of much of the research on dogmatism Rokeach's formulations are presented at the outset.

--Cognitive Structure of Dogmatism--

Rokeach (1968) proposes that a dynamic reciprocal relationship exists between the way a person thinks and the way he acts. An understanding of how a person thinks leads to a better understanding of how he behaves. An individual's beliefs are not isolated but 'hang together' in systems of beliefs and disbeliefs. Rokeach states:

The **Belief System** is conceived to represent all of the beliefs, sets, expectancies or hypotheses, conscious and unconscious, that a person at a given time accepts as true of the world he lives in. The **Disbelief System** is composed of a series of subsystems rather than merely a single one and contains all the disbeliefs, sets, expectancies, conscious and unconscious, that to a degree or another, a person at a given time rejects as false...it is far more than the mere opposite of the belief system.

'System' as used here refers to a psychological system, the parts of which may be interrelated but not necessarily logically interrelated. Further, some parts may be
isolated or segregated from each other. Rokeach (1960) has defined the distinguishing characteristics of open and closed belief-disbelief systems:

**A Belief-Disbelief System is**

**Open**

A. to the extent that, with respect to its organization along the belief-disbelief continuum,

1. the magnitude of rejection of disbelief subsystems is relatively low at each point along the continuum,

2. There is communication of parts within and between belief and disbelief systems;

3. there is relatively little discrepancy in degree of differentiation between belief and disbelief systems;

4. there is relatively high differentiation within the disbelief system;

**Closed**

1. the magnitude of rejection of disbelief subsystems is relatively high at each point along the disbelief continuum,

2. there is isolation of parts within and between belief and disbelief systems;

3. there is relatively great discrepancy in the degree of differentiation between belief and disbelief systems;

4. there is relatively little differentiation within the disbelief system;

B. to the extent that, with respect to the organization along the central-peripheral dimension;

1. the **specific content** of primitive beliefs (central region) is to the effect that the world one lives in, or the situation one is in at a particular moment, is a friendly one;

2. the **structure** of beliefs

1. the **specific content** of primitive beliefs (central region) is to the effect that one sees his world or situation at a particular moment as a threatening one;

2. the **structure** of beliefs
and disbeliefs perceived to emanate from authority (peripheral region) is such that its substructures are in relative communication with each other, and finally:

C. to the extent that, with respect to the time-perspective dimension, there is a

1. relatively broad time-perspective.

Rokeach (1960) asserts that every person has countless beliefs that he can not verbalize in addition to those that he states as beliefs verbally and openly. The former can be inferred from one's behavior; for example, from a slip of the tongue, a compulsive act, an expressive gesture or a mannerism. In the latter case, we should not assume that what a person says he believes is necessarily a belief that he actually holds.

We have to infer what a person really believes from all the things he says and does. (Rokeach, 1960)

A person's belief-disbelief system is marked by the above tabulated attributes that are common to all belief systems, regardless of the substantive content of the system. These attributes seem to emphasize certain major qualities deserving of closer attention.
The major qualities of the belief-disbelief continuum are isolation, differentiation, and comprehensiveness. Not every individual will have these properties to the same extent (Rokeach, 1960).

Isolation refers to the lack of communication between two beliefs that are intrinsically related to each other. To the extent that a person is reluctant to see two beliefs as interrelated, the beliefs are said to be isolated from each other. Indicators of isolation will be (1) the coexistence of logically contradictory beliefs within the belief system, (2) the accentuation of differences and minimization of similarities between belief and disbelief systems, (3) the judgment that something is irrelevant to something else when by objective standards it is relevant, and (4) the outright denial of contradiction (Rokeach, 1960).

Differentiation refers to the articulation or richness of detail which characterizes a belief-disbelief system. Rokeach speculates that most people know more facts, ideas, events and interpretations consistent with their belief system than with their
disbelief system, which is a way of saying that one would expect the belief system to be more differentiated than any one of the disbelief subsystems. Disbelief subsystems relatively close to the belief system will be relatively highly differentiated while those farther away will be poorly differentiated. Rokeach adds that differentiation may be predicted by knowledge of a person's belief system and that individual differences abound (Rokeach, 1960).

**Comprehensiveness** refers to the total number or range of disbelief subsystem within a given belief-disbelief system. Thus, as an example, Mohammedanism and Taoism may be represented in the belief-disbelief system of one person and be meaningless words to another person.

Research which has focused on the validity of theory regarding the structure and nature of belief-disbelief systems has been conducted principally by Rokeach and associates and is reported in detail in *The Open and Closed Mind* (1960) and in *Beliefs, Attitudes and Values* (1968). The research reported in those
publications appears to substantially support Rokeach's assertions on the nature of belief systems. Other researchers (Feather, 1969; Franklin and Carr, 1971) have reported mixed results but generally support Rokeach's conclusions regarding the theory of belief-disbelief systems. Feather (1969) tested Rokeach's hypotheses bearing upon the differences in degree of differentiation of belief systems between high and low dogmatics. Specifically, Rokeach suggested that people know more facts, ideas and events which are consistent with their belief system than with their disbelief system, and that high dogmatics will be characterized by a greater discrepancy in the degree of differentiation between belief and disbelief systems than will low dogmatics; and, further, that high dogmatics will know considerably less about their disbeliefs than low dogmatics will know about theirs. Feather tested this assumed tendency toward cognitive consistency using high and low dogmatics as subjects. He hypothesized that the difference between the number of consistent and inconsistent arguments would be greater for high dogmatics than for low dogmatics.
His hypothesis was not supported. The high dogmatics did not know more consistent arguments than inconsistent arguments. Nor was the number of inconsistent arguments by the high dogmatics especially low. These findings were taken to mean that Rokeach's hypothesis about differences in degrees of differentiation in the belief systems of low and high dogmatics was not supported.

Franklin and Carr (1971) were critical of Feather's methodology for determining degree of differentiation and suggested that it may have caused findings contrary to Rokeach's hypotheses. They tested Rokeach's hypotheses concerning differentiation and cognitive isolation, while correcting Feather's alleged mistakes. In general, their findings indicate that the difference in the amount of information possessed about belief versus disbelief systems is greater among high dogmatic subjects than among low dogmatic subjects. The authors state that among low dogmatic subjects belief and disbelief systems are more nearly equally elaborated than among high dogmatic subjects. The hypothesis concerning differentiation within disbelief systems was also substantiated. Low
dogmatics gave more arguments with which they disagreed than did high dogmatics. The data collected in conjunction with the cognitive isolation hypothesis were interpreted as lending tentative support for the assumption that the belief systems of high dogmatic subjects are characterized by greater isolation; that is, more logically contradictory cognitions, than are the belief systems of low dogmatic subjects. In operational terms, according to the authors, this means that the belief systems of high dogmatic subjects are comprised of a more nearly equal number of pro and con arguments. A belief system characterized by all pro or all con arguments would indicate the complete absence of isolation.

In an attempt to ascertain the factors which determine the relative importance of beliefs in a belief system, Rokeach (1960) proposed that the more a belief is connected or in communication with other beliefs, the more implications and consequences it has for other beliefs, and therefore the more important the belief. The assumption is that the more important the belief is within the belief system, the more immune to change
it will be. More connections mean more consequences and implications for other beliefs, which, in turn, mean that more effort will be needed to reorganize the content and structural relations among the beliefs in a system if a belief with many connections is changed. The greater the effort required, the greater the motivation to resist the pressures to change the belief. Thus, beliefs with many connections should be the most difficult to modify. Rokeach (1968) added another factor to the picture of the determinants of important beliefs—whether the belief was learned by direct encounter with the object of the belief or not. The implication is that those beliefs which are so learned will be more resistant to change than those which are not. Since Rokeach contends that primitive beliefs are learned by direct encounter, he makes an even stronger case for the greater resistance to change of those beliefs.

Other writers have proposed somewhat different criteria for ascertaining the importance of a belief in an individual's belief system. Eagly (1967) defined the centrality of an attitude, a related cognitive
component, in terms of the number of other concepts dependent on it, and assumed that an attitude that concerned the self-concept is the most central; and Rosenberg (1960) asserted that the importance of a belief depends on the extent to which the attitude is perceived to be instrumental to the furtherance or hindrance of important values. Other researchers (Ausubel and tenzer, 1970; Costin, 1965, 1966; Christensen, 1963) have used the term 'controversial' to indicate those beliefs which are most resistant to change. Each of these researchers was attempting to account for the inconsistent results of studies examining differences in learning ability between low and high dogmatism. They postulated that dogmatic mechanisms become operative only when an individual is confronted with beliefs in areas that are 'controversial'. The term 'controversial' is used in this sense to indicate those beliefs which to some degree are in dispute at the societal level. It is necessary now to further synthesize the cognitive structure of beliefs and disbeliefs with other cognitive factors which interact with and are influenced by open
and closed belief systems.

Rokeach (1960) reported that low dogmatics were cognitively more complex than high dogmatics. In a study which attempted to test that assertion, Burnett (1973) sought to (1) determine whether there is a significant difference in cognitive complexity between high dogmatics and low dogmatics, and (2) determine whether there is a significant difference in trait anxiety between high dogmatics and low dogmatics. Burnett found no statistically significant difference between cognitive complexity scores for high and low dogmatics. High dogmatics had significantly more trait anxiety than low dogmatics. Males and females showed no significant difference in mean dogmatism scores and cognitive complexity scores. Females had significantly more trait anxiety than males.

Lampl (1968) studied Rokeach's assertion that cognitive complexity is reflected in the amount of an individual's defensiveness of beliefs and level of self-esteem. Lampl investigated the relationship between self-esteem and defensiveness, self-esteem and degree of
manifest anxiety, and the structure of belief systems associated with combined levels of defensiveness and self-esteem. Lampl hypothesized that persons with defensively high self-esteem would have to maintain a closed belief system in order to cope with ambiguity and diffuseness (cognitive complexity) in their overall constellation of beliefs and attitudes. This would be necessary to enable them to maintain a consistent, tightly-knit self-organization with a minimum of tension. The study yielded the following results: (1) self-esteem and defensiveness were found to be positively related, (2) high self-esteem subjects were found to be significantly more defensive than low self-esteem subjects, (3) low self-esteem subjects were higher in manifest anxiety and high self-esteem subjects were lower in manifest anxiety, (4) a positive relationship was found between dogmatism and tolerance of ambiguity and between dogmatism and manifest anxiety. No relationship was found between dogmatism and either self-esteem or defensiveness. Females were lower in defensiveness, less dogmatic, and more ready to admit to the presence of feelings
associated with manifest anxiety. Lampl's study lends partial support to Rokeach's assertion that cognitive complexity is related to defensiveness and level of self-esteem. Related to the concept of cognitive complexity is the accuracy with which an individual perceives others in relation to his level of open and closed-mindedness. Allen (1967) contends that open-mindedness is an essential precondition to the understanding of the thoughts and feelings of other persons.

In a study which examined open and closed-mindedness in counselor trainees, Allen (1967) hypothesized that psychological openness is a higher-order concept which is applicable to the problem of predicting counseling effectiveness of counselor trainees. Remembering that Rokeach uses 'openness' to refer to the extensiveness of communication between various parts of a belief system, it is helpful in grasping the relationship of openness to cognitive complexity. Allen stated that psychological openness of the counselor is an essential factor in the establishment of an interpersonal atmosphere conducive to client exploration. Allen found that the effective
counselor is on relatively good terms with his own emotional experience and that the ineffective counselor is relatively uneasy in regard to the character of his inner life. Specifically, in accord with prediction, a direct relationship was found between the degree to which subjects acknowledged their own feelings regarding their initial experiences in counseling and supervisors' ratings of their competence as counselors. These results support his general hypothesis that effectiveness in counseling is related to the counselor's openness to his own feelings concerning the process. Allen states that psychological openness is the likely place to start looking for the causative effects in good and bad counselors. Thus, cognitive complexity is seen as important in understanding dogmatism, but there are other cognitive components in the construct which merit discussion.

Rokeach has suggested that the dogmatic individual will be threatened by and will avoid exposure to belief-discrepant information. Rosenman (1967) in a test of that assumption reported that high dogmatics are less
accepting of a film which flaunts traditional beliefs of society. White and Alter (1965) noted high dogmatics are more resistant to change with changing stimulus conditions. Pyron (1966) in a factor analysis of various attitudinal scales, reported that dogmatism emerges in a factor involving rejection of stimuli potentially threatening to an individual's perceptual and attitude organization. Tosi, Fagan, and Frumkin (1968a, 1968b) found high dogmatics differed significantly from low dogmatics with respect to the extent to which they perceived a group personality testing situation as threatening.

According to Rokeach (1960), the high dogmatic should reveal less tolerance (and more anxiety) for belief-discrepant information. Kleck and Wheaton (1967) demonstrated that high dogmatics reveal less recall of inconsistent information and a greater tendency to evaluate consistent information more positively. Similarly, Foulkes and Foulkes (1965) found a negative relationship between dogmatism and tolerance of trait inconsistency in impression-formation problems. High
dogmatics, when faced with discrepant information, tended to avoid compromise solutions by either changing greatly or adhering very closely to their original impression. White, Alter, and Rardin (1965) noted, though, that high dogmatics made black-white judgments only in judging syndrome-relevant (undesirable social acts of occupational status) stimuli, suggesting that high dogmatics do not make black-white decisions in all conceptual tasks. Hunt and Miller (1968) also found that high dogmatics show less tolerance for cognitive inconsistency when required to prepare belief-discrepant communications for public review. These findings all point to the processing which high and low dogmatics seem to perform on information which is consistent or inconsistent with belief systems. These findings also have relevance for the attitudes which develop toward the sources of the information.

Rokeach (1960) states the more closed a person's belief system, the more difficulty he has in discriminating between the information received and the source (authority). This would suggest that the dogmatic
individual would confuse the veracity of the authority with the status of the authority (Vacchiano, Strauss and Hochman, 1969). Dependency on authority figures (or perceived environmental expectations) by the high dogmatic has been found in an autokinetic task (Vidulich and Kaiman, 1961); in a counselor-training situation (Kemp, 1962); in a learning situation (Restle, Andrews and Rokeach, 1964); in the evaluation of political statements independent of presidential candidates (Powell, 1962); in the acceptance of official (as opposed to peer) interpretation of the cause of a social demonstration (McCarthy and Johnson, 1962); and in the perceived coercive force of authority figures (Wilson, 1964).

Kemp (1963) noted that the low dogmatic perceived authority figures more realistically than the high dogmatic, recognizing both their negative and positive characteristics. Feather (1967) found a relationship between dogmatism and membership in religious groups that are dependent on authority and tolerate little argument in adherence to basic beliefs. Becker (1967) found that both the high dogmatic and low dogmatic evaluated humorous messages
less on the basis of content and more on the basis of the source (in this case, comedians) than subjects classified as average. Becker suggested that this finding, which contradicts the hypothesis that the low dogmatic would depend more on content than source, was due to his suggestion that the Dogmatism Scale may sometimes be a curvilinear rather than a rectilinear predictor of open-mindedness.

Gray-Little (1974) investigated attitudes toward conflict with authority as a function of sex, introversion-extroversion and dogmatism. She evaluated the extent to which subjects' desirability judgments of California F Scale (Adorno, 1950) "conflict with authority" items would vary as a function of sex and relevant personality variables. She found that women were more disapproving than men of statements reflecting rebellious attitudes and behavior. Rotter's I-E Scale items were unrelated to attitudes toward authority. Subjects who were low in dogmatism expressed greater respect for authority than subjects who were high in dogmatism. High dogmatics also showed higher defensiveness scores based on extracted
K scale items from the MMPI supporting Lampl's (1968) study regarding self-esteem factors. Recall that high defensiveness and high self-esteem may be a way in which high dogmatists tend to preserve the integrity of their belief system, and that low dogmatists who report high self-esteem tend to accept authority on the basis of substantive content and intellectual conviction rather than as a means of keeping intact a comfortable system of beliefs. Persons high in dogmatism differ from those low in dogmatism about the nature of authority and the way to employ authority as a mediating system between the person and the world he is trying to understand.

Rokeach (1960) posited an important assumption that all people have not only a set of beliefs about the positive authority but about the negative authority as well. The former guides us to what is 'true' about the world we live in; the latter tips us off to what is 'false'. As with the continuum of disbelief subsystems, it is helpful to conceptualize a pantheon of negative authorities along a continuum of similarity to positive authority.

Says Rokeach:
When authority is seen to be absolute, for example, it also leads to extreme cognitive distinctions between persons as faithful and unfaithful, orthodox and heretical, loyal and subversive, American and un-American, and friend and enemy. Those who disagree may be rejected as enemies of God, country, mankind and the working class. And those who agree may be accepted, but only so long as, and on the condition that, they continue to agree. This sort of qualified acceptance is not much different psychologically from, and can easily turn into unqualified rejection.

Behavioral Correlates of Closed-mindedness

Closed-mindedness is a psychological construct which assumes its most observable ramifications in the social world. It is in the social world that the effects of presence of closed-mindedness is inferred from observed behavior. Without some behavioral signal it is impossible to know that closed-mindedness is present.

Rokeach and associates (1960) investigated the behavioral manifestations of belief-disbelief systems and concluded that the data all point to the notion that certain kinds of everyday behavior are systematically related to, and presumed to be some function of, the perceived similarity of various belief-disbelief subsystems to one's own. Closed-mindedness can be seen, to name some important areas, in communication behavior, problem-solving behavior, judgment behavior, interperso...
relations, thinking, reasoning, and learning. In many research studies closed-mindedness has resulted in undesirable or inefficient behavior (Ehrlich and Lee, 1969). It has adversely affected the accuracy of perception and judgment, reasoning and thinking, problem-solving, creativity and originality, the ability to face reality, sensory judgment, counseling effectiveness and tolerance for novelty (Vacciano, Strauss and Hochman, 1969).

Rokeach (1960) found that acceptance-rejection behaviors were made primarily on the basis of belief congruence. McGrew (1963) found that high dogmatic leftists agreed with liberal points of view, and high dogmatic rightists agreed with conservative points of view regardless of the race (Caucasian or Negro) of the person espousing the views. Rosenfeld and Nauman (1969) found their subjects more satisfied with peers who were similar in levels of dogmatism. Crano and Sigal (1968) added further support with findings that closed-minded persons accept or reject the belief and the believer in a consistent manner.
Closed-mindedness is apparent in communication behavior. Haiman and Dunns (1964) found that it is possible, with statistical significance, for observers to predict individual dogmatism scores from various forms of communicative behaviors.

High dogmatic persons have exhibited noticeable inaccuracy in perception and judgment when compared to low dogmatics. More specifically, the level of dogmatism present has affected the nature of the judgment rendered. Davis, Frye and Joure (1975) examined perceptions and behaviors of dogmatic subjects in a T-group setting. During 12 hours of training, subjects' behaviors were recorded by observers, and each subject was periodically rated by his peers on his perceived level of contributions to the group process. Significant differences were found between high and low dogmatics in the behaviors exhibited during the T-groups. Low dogmatics were more self-revealing, more attentive to the here-and-now aspects of the group, less apt to give negative feedback and less likely to reject the group.

Greene (1971) in a study of self-disclosure,
dogmatism and sensory acuity, as they relate to humanistic concepts of mental health, found interaction between self-disclosure and dogmatism such that high self-disclosers did well or poorly on the criterion sensory measures depending on whether they were low or high dogmatics, respectively. Protocols of dogmatic subjects were judged "less healthy", and low dogmatics were judged "more healthy". Greene suggests that while self-disclosure may be an important component of optimal psychological functioning, it does not in itself signify mental health.

Goren (1974) found significant relationships between dogmatism, anxiety about time, and parental accuracy in perceiving these attitudes in their children. The data in Goren's study showed a significant correlation between paternal closed-mindedness and accuracy of perception of open-closed mindedness, indicating that open-closed mindedness is related to the direction of inaccuracy of the perception rather than to the magnitude of the inaccuracy. Auxiliary evidence was found of a significant amount of projection, or prediction that
one's child would hold attitudes similar to oneself, among closed-minded fathers. Stimpson and D'Alo (1974) examined the relationship between dogmatism, attitude extremity and the tendency to displace perceptually a neutral communication to a position more discrepant from one's own than it objectively holds. Their results showed that dogmatism was not predictive of displacement tendency but that extremity and intensity were both significantly related to displacement. Their data did show a positive relationship between level of dogmatism and intensity of attitude indicating indirectly that dogmatism may be a contributor to an overall tendency to perceptual displacement. Other researchers have also found significant relationships between level of dogmatism and inaccuracy in perception and judgment (Burke, 1966; Fillenbaum and Jackson, 1961; Fidelman, 1962; Kemp, 1963; Tosi and Carlson, 1970; Tosi, Fagan and Frumkin, 1968; Tosi, 1974; Tosi, 1970). Two research studies failed to find significant relationships between level of dogmatism and perceptual accuracy (White and Alter, 1965; Feather, 1969).
Literature seems to show differences between high and low dogmatics in the area of compromise behavior. Foulkes and Foulkes (1965) determined that in the face of newly received information about others' traits which was discrepant with previously received information, high dogmatics tended to avoid compromise behavior. They either changed their impressions or adhered to previous impressions, both in an extreme way. Druckman (1967) studied the effect of dogmatism on behavior in a simulated bargaining game in which subjects both high and low in dogmatism played the roles of union and management representatives. Conclusions were that highly dogmatic individuals, regardless of their assigned roles, were less yielding than low dogmatics; that high dogmatics were more resistant to compromise than low dogmatics, and that high dogmatics viewed compromise as defeat more often than did low dogmatics. High dogmatics were generally less willing to defect from given positions. Jainias (1964), however, found that high dogmatics were more willing to conform than low dogmatics in a community situation involving attitude toward innovativeness.
The study found that high dogmatics living in communities placing a high value on innovativeness more frequently adopted the recommendations of the agricultural extension agents than did high dogmatics living in communities placing a low value on innovativeness. It appeared to Janias that the behavioral patterns in the high dogmatics were the result of compliance or identification with the social norms, and that the changes in the behavior of the low dogmatics were the result of a generalized receptivity to new information which is routinely internalized according to its correctness and usefulness.

Risk-taking behavior of high and low dogmatics was studied by Tosi, Fagan, and Frumkin (1968). Subjects were given the choice to identify themselves by birthdate or by name. Choice of birthdate as identification was interpreted that subjects felt threatened by the possibility of being identified by name. High dogmatic subjects chose to be identified by birthdate more than did low or middle range dogmatics, and were thus judged to feel more threatened of the three groups. Jacoby (1971) examined the predictive value of dogmatism in situations
involving the adoption of new consumer products. She assumed that changing brands of products usually entails some perceived risk, that the greater the perceived risk the more anxiety induced and that the greater the anxiety the less likely that high dogmatics will consider innovating. The results suggest that low dogmatics do make more innovation responses than do high dogmatics, and that the relationship between dogmatism and innovation proneness is statistically significant.

Rokeach (1960) indicated that dogmatism is likely to have an impact on interpersonal relations behavior. Barker (1963) studied the relationship between dogmatism and political liberalism-conservatism and found that conservative high dogmatics are more likely to censor leftists than are conservative low dogmatics and that liberal high dogmatics are more likely to censor rightists than are liberal low dogmatics. Barker also found that conservative high dogmatics censor both conservatives and liberals, while liberal high dogmatics censor only conservatives. These findings suggest that high dogmatics in general are inclined to judge all men more harshly
than are low dogmatics. Rosenfeld and Nauman (1969) investigated the effects of dogmatism on the development of informal relationships among college women. They found that over time high dogmatics became significantly more negatively evaluated by their peers. Over time, peers agreed that their contacts with high dogmatics became less satisfying while their contacts with low dogmatics became more satisfying. Peer group motivation to engage in social relations with the subject was typically negatively related to the dogmatism of the subject. High dogmatics reported a significant growing satisfaction over time with their peer contacts, while the low dogmatics reported a significant declining satisfaction with peer contacts. The authors hypothesize that the high dogmatic's general lack of sensory acuity may include a failure to recognize negative or indifferent social reactions. Additional support is offered for these findings by the research of Kaplan and Singer (1963), Burke (1966) and Kemp (1963) all of whom found that high dogmatics had lower social acuity than low dogmatics. Research which explored the relationships between
dogmatism, hostility, aggression and gender role was conducted by Heyman (1977). Heyman found that increasing dogmatism carries with it increasing feelings of hostility in both males and females and increasing aggressive behavior in males but not in females. The increase in hostility as dogmatism increases reflects the increasing disaffection and defensiveness of the more dogmatic individual. In males this pattern may allow more easily the increasing expression of aggression, but the integration of this pattern probably is mediated by gender roles. Heyman further suggests that hostility, because more easily integrated with the male behavior repertoire, is less likely to be suppressed due to the effects of social desirability.

Zagona and Zurcher (1964) explored the role of dogmatism in group interaction and participation behavior. Their study was not evaluated statistically but still remains interesting. The authors inferred from observation that dogmatism affected interpersonal behavior in a variety of ways. High dogmatics were more tense and anxious and had more difficulty carrying out a spontaneous
discussion than the low dogmatic groups. Leader selection in the high dogmatic groups was more important and took more time than in the low dogmatic groups. Once selected, the leader in the high dogmatic groups was expected to guide and structure the discussion for its duration.

Leader selection in the low dogmatic groups was rather unimportant and completed with little or no discussion. Once discussion was under way it was difficult to tell who the leader was. The high dogmatic groups also behaved differently from the low dogmatic groups when the subject for discussion was sexual behavior. They were initially silent, then engaged in nervous laughter and finally dealt with the subject in a detached and impersonal manner. Tension, anxiety and embarrassment characterized the group's discussion of sexual material. The low dogmatic groups treated the subject in an open and free manner with little embarrassment and apprehension. They did not seem to fear becoming personally identified with sexual intimacy and were not averse to using personal referents in the discussion. When their consensus report was challenged by an authority figure (the researcher)
the high dogmatics reacted with resistance at first, then group solidarity and cohesion weakened in the face of continuing challenge and they began to criticize one another. They soon acknowledged errors in their decision and became passive listeners. The low dogmatic group treated the researcher's statements as opinion and met his challenges with a consistently unified and logically argumentative defense.

Conway (1967) found that low dogmatic groups were definitely more prone to share ideas and to discuss during group problem-solving tasks than were the high dogmatic groups. The low dogmatic groups were significantly faster than the high dogmatic groups in the amount of time needed to solve the problem. Further, the high dogmatic subjects expressed significantly more rejection of the problem-solving situation, of the group with which they worked, of the researcher and of the study itself. Recalling Frye's (1972) study, results supported the idea of a rather coherent image of the effects of dogmatism on behavior in group situations. Low dogmatic subjects made more statements which revealed their most
fundamental beliefs, which referred to the interaction of the group, and which were positive than did high dogmatics. High dogmatics manifested more signs of stress, such as perspiration, tapping of hands or feet or other nervous mannerisms. After meals, the high dogmatics walked off alone and in silence to await the next session. The low dogmatics talked, laughed and joked during meals and the discussion was frequently about materials that pertained to the group's session. The author concluded that high dogmatics find the unstructured T-group situation uncomfortable, are more prone to anxiety in such situations where they do not have a set of rules to guide their behavior and feel insecure and threatened. Lasell (1969) conducted a study analogous to the Zagona and Zurcher study. He examined the interrelationships of stress, dogmatism and the performance of a stressful task. Specifically, Lasell constructed the study to correlate the task of giving a public speech with galvanic skin response (GSR) and a measure of dogmatism. The findings revealed a significant relationship between dogmatism and the level
of stress indicated by GSR responses. Overall, Lasell reported the major implications of his study to be that subjects who were less dogmatic were significantly more successful in performing the task than those who were more dogmatic.

Harvey (1963) reported on influence, magnitude of discrepancy and degree of dogmatism as determinants of conformity behavior. The primary variables were type of influence (normative vs. informational), level of dogmatism, and the reports of others (one, two or three metronome clicks). Harvey found that high dogmatics tended to conform regardless of the kind of influence exerted, and low dogmatics tended to remain independent regardless of the kind of influence operating. The data also revealed that polarity was not a significant determinant of conformity behavior in the experimental situation.

Dogmatism and opinions about mental illness were examined by Hood (1973). Hood studied opinions of 80 undergraduates classified according to levels of low, medium and high dogmatism. The opinions related to
suicide, homosexuality and general mental illness. Results indicate that highly dogmatic subjects held stereotypical beliefs with greater intensity than low dogmatic subjects. High and low dogmatics did not differentiate between suicide and mental illness but did differentiate homosexuality from both these categories. On evaluative dimensions of a semantic differential, high dogmatics evaluated homosexuality most negatively while low dogmatics evaluated homosexuality least negatively.

Antecedents of closed-mindedness

The antecedents of closed-mindedness are presented as originating in three broad areas: (1) experiential, (2) sociocultural and (3) psychological. The literature reflects that most research has been conducted in the area of early life experiences.

---Experiential---

The search for origins of closed-mindedness can be detected in the studies which have concentrated on family background, childhood experience and early environmental conditions of closed-minded individuals. There are reservations about the accuracy and validity of
studies which require subjects to recall early childhood experience and about the difficulties in conducting longitudinal studies involving several years.

Kikesell and Tesser (1971) investigated the experiential antecedents of authoritarianism. In view of Rokeach's (1960) assertion that dogmatism is a major factor in authoritarianism, their findings assist in seeking clues to the beginnings of closed-mindedness. These researchers used the Biographical Information Blank (Owens, 1960) to ask 700 male subjects to recall early life experiences in a highly structured situation. The results revealed that high authoritarians report a developmental history of idealized parental relations, low ideological intellectual independence, high religious activity and interest. Rebhun (1967) examined the parental attitudes of high dogmatists and found that they held attitudes which tended to encourage heavy reliance on parents, to prohibit clear consideration of competing beliefs and to narrow the child's range of contacts. His conclusion was that these attitudes favor the development of similar closed-mindedness in the children. When
viewed historically, this may mean that many highly
dogmatic adults had highly dogmatic parents. McCashern
(1973) found a positive relationship between democratic
home atmosphere and high self-esteem, as well as a
negative relationship between self-esteem and an author-
itarian home atmosphere. The author interpreted the
results as useful for classroom teachers in understanding
the student's motivation and goals. Bolmeier (1966)
found that maladjustment in high school students (as
measured by the Minnesota Counseling Inventory) was
significantly related to the high dogmatism of their
parents. Wisdom and Walsh (1975) found that dogmatism
score differences were not related to birth order. The
homogeneity of dogmatism scores in firstborns as opposed
to the variance in later borns indicates that firstborns
might be raised more rigidly, and last borns more flexibly.

Jonas and Jonas (1975) discuss how the failure
to develop adequate coping mechanisms in early life leads
to psychosomatic complications later in life. Once a
pattern is set, it becomes the final common path for
many social and physical stimuli. Inadequate coping
mechanisms may originate with the child or with the parents. In the child they arise from ineffective rebellion against rearing practices; in parents, either inconsistency in adhering to established rules or insufficient dominance over offspring are factors. Beatty (1972) investigated dogmatism and alienation and found that a significant correlation exists between high alienation and high dogmatism. Conversely, the same significant relationship exists between low alienation and low dogmatism. Bottenberg and Finster (1974) explored childrearing conditions and anxiety in children. Low but significant correlations were found between maternal childrearing attitudes and child anxiety. Authoritarian personality in the mother correlated to a significant degree. Maternal punitiveness (as reported by the subjects) was significant for girls only. In boys, anxiety was associated primarily with authoritarian attitudes; in girls with attitudes of hostility and rejection.

Horrocks (1969) in his textbook *The Psychology of Adolescence* reports that an adolescent’s level of adjustment, his development as a person and his whole
personality organization are largely dependent upon his parents' attitudes and the psychosocial climate of his home. Horrocks cites other researchers who have reported similar findings, for example, Becker (1959) stated that child-rearing attitudes of parents of a group of adjusted children as compared with parents of a group of maladjusted children showed that the parents of the maladjusted children were themselves maladjusted. Similarly, Willis (1956) reported a positive correlation between a scale measuring demands for obedience and a scale measuring acceptance of authoritarian political practices. Hart (1957) reported a significant relationship between mothers' authoritarianism scores and their admitted use of non-love oriented discipline techniques. In their analysis of the authoritarian personality, Adorno, Frankel-Brunswik, Levinson and Sanford (1950) hypothesized a relationship between childrearing behavior and attitudes, and social and political attitudes. Horrocks summarizes what to him appeared to be the essence of home influence on the child:

But it seems safe to assume that of all the factors involved in the character of most homes, the single
most important factor, one transcending all others, is parental attitude.

Lesser and Steininger (1975) studied family patterns in dogmatism. Some 73 male and 89 female college students and 108 of their fathers and 133 of their mothers were administered the Dogmatism Scale. Scores were calculated for every respondent on total dogmatism and on six dogmatism factors. For all possible family pairs, the correlations for total dogmatism and "belief in one truth" were low, positive and significant. The highest correlations were between husbands and wives. Parents did not differ from each other on any dogmatism factor, but they scored higher than their children on total dogmatism, "one truth", "authoritarianism", and "virtuous self-denial". Both sons and daughters correlated positively with their mothers scores on "self-proselytization", with fathers on "belief in one cause", although fathers also scored higher than sons on this factor. Sons scored higher on "alienation" than their parents. The overall results indicate that the more dogmatic a parent was compared with other parents the more dogmatic his or her child was among other children. Parents were also
more dogmatic than their children.

Hanson and Clune (1973) reported on dogmatism and anxiety in relation to childhood experience. Their data support Rokeach and Restle's (1960) findings that highly dogmatic subjects would report more childhood anxiety symptoms than would low dogmatics but the data did not support the conclusion that low dogmatics would have been more ambivalent toward parents and less likely to glorify them and be influenced by them. Further evidence of the influence of home environment on dogmatism is supplied by Browning (1971). Browning studied socioeconomic status and dogmatism scores of high school graduates as compared to high school dropouts. While no significant difference was found to exist between mean dogmatism scores of dropouts and graduates on the basis of either total groups or individual socioeconomic strata, there was a significant inverse relationship between dogmatism score and socioeconomic status. The data suggested that as one's socioeconomic status was lower the level of dogmatism was higher. Anderson (1962) suggested that a significant positive relationship between dogmatism
in children and socioeconomic status makes plausible the inference that child rearing practices are basic determinants of dogmatism.

Since the literature seems to suggest that dogmatism is related to parent-child relationships, dogmatism could be studied in various developmental stages. Other investigators have demonstrated the existence of dogmatism in an adolescent population utilizing teacher ratings (Lemp and Kohler, 1965) or a modified dogmatism scale (Klein, 1965; Middleton, 1964; Pannes, 1963). Significant decreases in dogmatism have also been found from lower to higher grade levels in high school (Anderson, 1962; Pannes, 1963) and during attendance at college (Foster, Stanek and Krassowski, 1961; Lehmann, 1963; Marcus, 1964; Plant, 1965; Plant and Telford, 1966). Plant (1965) found that decreases in dogmatism occur regardless of duration of attendance at college and suggests that this change is due to intellectual factors of social desirability in responding to items.

--Sociocultural antecedents--

The social environment within which one functions
can and does influence the direction of one's behavior (Jamias, 1964). Recall that Jamias found that high dogmatics living in communities placing high value on innovativeness more frequently adopted recommendations of agricultural extension agents than high dogmatics in communities with a low priority for innovativeness.

Rokeach (1960) posits heightened feelings of powerlessness among the mass of citizens in Western Hemispheric nations. The so-called average man increasingly feels that he lacks control over what happens to him in most spheres of his life. Government, business and indefinable and illusive forces direct his fate. Seligman (1974) reports that actual or perceived loss of control over one's environment will lead to severe anxiety and depression and result in a loss of initiative to cope and adjust to the environment. This feeling of helplessness may be a primary contributor to closed-mindedness as the individual strives to construct a phenomenology which will protect and preserve an orderly and balanced world (Seligman and Maier, 1972).

One of those domains over which virtually powerless
individuals still seem to retain power is the domain of their belief systems (Rokeach, 1960). They can refuse to be influenced by the ideas, thoughts and opinions communicated to them by others. Even the most dominated, the least powerful and the most buffeted individual can generally deny to consider or entertain ideas or beliefs with minimally negative consequences. When circumstances permit, the closed-minded and powerless individual will likely wish to display his rejection rather proudly as one of his few remaining opportunities for self-direction. However, if the rejection of ideas and beliefs takes the more insidious form of repression of unacceptable or threatening ideas or impulses then physiological responses may become apparent, such as psychosomatic reaction or actual psychophysiological illness (Lazarus, 1976).

Still another set of characteristics of contemporary culture suggests other reasons why one might expect closed-mindedness to be more frequent today than in the past. There is much agreement that our society, that is, mainly Western society, is identifiable by
geographical mobility, urban sprawl and impersonality. These factors have been connected with social atomization, isolation and alienation (Horrocks, 1969). These resultant social psychological conditions are theoretically connected to closed systems of thinking.

Another characteristic of our present culture and society which may increase the likelihood of closed-mindedness is described by Lazarus (1976):

The plethora of alternatives available to individuals in our society has dramatically increased over the last two decades, for example, professions, vocations, life styles, marriage and cohabitation, location of residence and so on. The presence of abundance of viable alternatives produces a situation which is more complex and ambiguous than in a previous era.

Research evidence suggests that closed-minded individuals find it difficult to tolerate complexity, uncertainty, ambiguity and the absence of clarity and definiteness in their lives. The tendency is for such individuals confronted with situations of this nature to exhibit closed-mindedness with greater intensity than in situations with relative clarity and simplicity.

Rokeach (1960) posits that people are not simply closed-minded or not closed-minded, but are closed-minded to varying degrees. It is likely that we are
all closed-minded at times and in places, but are not characterized by closed-mindedness unless and until it reaches certain high levels or can be said to be a continuing trait of personality and behavior. Mild (1966) examined the effect of threat on belief systems. Contrary to expectation, high threat conditions did not result in the closing of minds but just the opposite. Thus, individuals in a situation in which a system of rewards and punishments for open-minded behavior is operating, may be expected to display open-mindedness more often than closed-mindedness. If the behavior manifested is the result of threat of punishment and attraction of rewards more than it is a reflection of basic personality dispositions, there is reason to suspect that if the environment's system of rewards and punishments is postulated in the opposite direction the opposite kind of behavior is likely to occur.

Whether occurrences of closed-minded behavior continually increase or eventually decrease in a society that is dominated by change is a difficult question. Norman (1966) investigated the relationship between dogmatism and psychoneurosis in college women. Recall
that he found the two variables were positively related. Since the academic environment of the college which was the context for the study was more open-minded than the general cultural backgrounds of the subjects, Nor man suggested that the high dogmatics were either unwilling or unable to adjust to a new environment which required a general cognitive reappraisal. Further, Norman suggested that the closed-minded female experienced emotional disturbance when she was expected to operate effectively in an open-minded environment. Whether the differences in the personality instrument scores are attributable to basic personality differences on the dogmatism dimension more than to the effect of the context is unclear.

--Psychological Correlates: A Profile--

Several researchers have focused on the relationship of dogmatism to personality factors and maladaptiveness. Plant, Telford, and Thomas (1965) compared high and low dogmatics on the Allport, Vernon, Lindzey Study of Values and five scales of the California Psychological Inventory. Although subjects could not be differentiated
by their value measures, high dogmatics were found to differ on the psychological scales. The high dogmatics were psychologically immature and characterized by impulsiveness, defensiveness and stereotyped in their thinking, whereas the low dogmatics were described as being outgoing and enterprising, calm, mature and forceful, efficient and clear thinking, responsible and more likely to succeed in an academic setting. Korn and Giddan (1968) concluded that the more dogmatic an individual is the more inflexible, intolerant and insecure he is.

Vacchiano, Strauss and Schiffman (1968) demonstrated that three diverse personality instruments (Edwards Personal Preference Schedule, The Sixteen Personality Factor Questionnaire and the Tennessee Self-Concept Scale) yielded clusters of scales which seemed to identify the 'dogmatic personality'. Dogmatism was found to be related to need for Succorance (positively) and to need for Change and Intraception (negatively). Similarly, there was a positive relationship between conformity and dogmatism and between restraint and conservatism on the 16 PF. Sheikh and Koleski (1974) found that a positive
relationship existed between subjects' perceptions of
dogmatism and mental health. The higher the subject's
tended to place dogmatism on a scale of maladaptiveness
the higher they tended to rate it as a mental health
problem. Valai (1974) examined the influence of selected
personality dimensions on counseling effectiveness.
The results revealed differences between effective
and ineffective counselors on the dimensions of self-
acceptance, personal-self, social-self, dogmatism and
manifest anxiety. Effective counselors scored higher
on tolerance of ambiguity, but the difference was not
significant. Montgomery (1972) conducted an analysis
of the relationship between open-closed belief-disbelief
systems and security-insecurity. His findings showed
that open-closed mindedness and security-insecurity,
respectively, have a positive correlational relationship,
and as reported dogmatism increases a related increase
of reported insecurity should also be expected. Mont-
gomery's results seem to support Rokeach's assertion
that a closed belief system is nothing more than a
complex of psychological defense mechanisms organized
together to form a cognitive system and designed to unconsciously shield a vulnerable mind from ever-present feelings of insecurity (Rokeach, 1960).

Tosi (1970) in an examination of dogmatism within the counselor-client dyad reported the major conclusion that client ratings of the relationship were increasingly higher as more openness occurred in the dyad. Tosi added that neuroticism or manipulative behavior may be highly manifest in counseling situations reflecting initial stages of seduction. Drakeford (1969) formed four extreme groups on high and low neuroticism and high and low introversion-extroversion characteristics. The results of interaction showed that low-neurotic-extroverts were considerably lower on dogmatism than the other groups. The high-neurotic extroverts had the highest dogmatism score. Smithers (1970) replicated Drakeford's study and suggested that dogmatism is related to neuroticism but that it is (contrary to Drakeford's finding) independent of extroversion and interactional effects. Smithers also reported that all four personality groups became somewhat more open-minded over the study
period of two years, but that only the changes for the low-neuroticism groups were significant. Smithers also concluded that low-neuroticism may be a psychological correlate of change toward open-mindedness. Watson (1967) earlier investigated the same factors as Drakeford and Smithers. Watson determined the subjects' level of dogmatism from their relative ability to utilize novel or changed responses during the course of a problem-solving task. The high neurotic-introvert group was inferior in its ability to utilize such responses, and thus assumed to be the most dogmatic of the four groups. It is recalled that Zagora and Zurcher (1964) in their nonstatistical study of behavior in study groups judged highly dogmatic individuals to be more tense and anxious than low dogmatic individuals.

Glass and Schoch (1971) reported on the relationship between religious belief and practice, and anxiety and dogmatism in college women. These researchers found that anxiety and dogmatism were inversely related in a group of subjects classified as low, intermediate and high religious belief. The subjects lowest in religious
belief were also lowest in dogmatism but highest in anxiety. The subjects who were in the high religious belief category were highest in dogmatism and lowest in anxiety. Glass and Schoch did not offer the types of religious beliefs that were used in their study.

Levy (1976) studied clinician's judgment of personal adjustment as related to socioeconomic status, authoritarianism, locus of control and age. Levy predicted that low-authoritarian, internal control, and white-collar workers would be rated as having better personal adjustment and job satisfaction. It was also predicted that clinicians would not consider socioeconomic status interactions with authoritarianism and locus of control to be significant. Levy found that low-authoritarianism subjects were significantly better adjusted than high-authoritarianism subjects although there was no such difference with regard to job satisfaction. Internal control persons, similarly, were rated as significantly better adjusted and more satisfied at work than external persons. Butts and Chotlos (1974) studied closed-mindedness in alcoholics and schizophrenics. The authors found
significantly higher dogmatism scores among alcoholics than nonalcoholics and among schizophrenics than among nonalcoholics. They found no significant differences between alcoholics and schizophrenics. Brightman and Urban (1974) reported on the influence of the dogmatic personality upon information processing. They found that the inclusion of personality variables assists in explaining individual differences in information processing studies. Although both high and low dogmatism were conservative processors of information, dogmatism appeared to be related with need for uncertainty reduction and the development of simple strategies for processing information.

Hess and Lindner (1973) investigated the relationship between dogmatism and self-esteem. Their results indicated that a negative relationship exists between dogmatism and self-esteem and the self-esteem items on the dogmatism scale have no impact on the magnitude of the relationship when they are removed from the scale. Blair (1973) in a study of mood, dogmatism, temperament, and mood variance found that dogmatism is related to total
mood score and that the relationship was significant. Blair asserted that his results would seem to indicate first, that there is an important relationship between the cognitive structure of the personality and the amount of mood subjectively assessed by the individual. A second important result indicates that there is a general relationship between mood variances and personality traits, and the similarity and uniqueness of these relationships should be examined in the context of both normal and abnormal behavior. Blair made no attempt to define or cite references to the pertinent 'abnormal' behaviors.

Anderson (1971) examined the relationships among aesthetic sensitivity, dogmatism, art attitudes and art information. Results suggest that persons who score high on a measure of aesthetic sensitivity are more open-minded than persons who score low. It was further suggested that open-minded persons have more positive attitudes toward art and artists than do closed-minded persons.

Some of the characteristics expected of high dogmatists by Rokeach (1960) such as hopelessness, powerlessness,
and alienation suggest the likelihood that high dogmatics will see the locus of control of their lives to be external to themselves. The attachment that high dogmatics have to strong authority figures would seem to strengthen that expectation. Recall that Levy (1976) reported that internal locus of control persons were rated as better adjusted than external locus of control persons. Clooser and Bjelle (1970) found that dogmatism was positively related to external locus of control. However, Milott, Dostick and Lira (1977) found no significant relationships among dogmatism, locus of control and opinion on the Equal Rights Amendment. Participants were shown to be somewhat externally controlled and to demonstrate personality traits that were not characteristically dogmatic. These researchers suggest the disparity of their results with those reported by other researchers was attributable to the matched demographic factors that determined selection and assignment of subjects. Hollander (1967) in a discussion of Rotter's I-E construct stated that one of the underlying determinants of an individual's action is the degree to which he perceives that a reward
follows from his own behavior or is controlled by forces outside of himself. Hallenbeck and Lundstedt (1966) investigated the effect of dogmatism on the ability of blind persons to establish emotional equilibrium after disability. They assumed that disability is a stress which tends to create helplessness, dependency and frustration. They found that high dogmatic subject-patients exhibited beliefs in miraculous cures and supernatural intervention more than did the low dogmatic subject-patients. The inference that high dogmatic subject-patients perceived the locus of control over their lives to be external to themselves appears to be clearcut. It has been shown that a relationship exists between religious interest and activity and dogmatism. The positive relationship between religious interest and dogmatism suggests further evidence for the issue of locus of control (Juan and Haley, 1970; Frumkin, 1961; Plant, Telford and Thomas, 1965; Glass and Schoch, 1971). To the extent that high dogmatics display strong religious orientations, they would seem likely to be believers in external locus of control.
Kemp (1960) alluded to the greater spontaneity of low dogmatics as compared with high dogmatics. Hurley (1970) applied two measures of originality to high and low dogmatics and found that subjects high in dogmatism obtained significantly lower originality scores than did the low dogmatic subjects. Uhes and Shaver (1970) explored the relationship between divergent-convergent abilities and reported that high dogmatics performed convergent operations better than they performed divergent operations. Low dogmatics performed both divergent and convergent operations equally well and performed both better than did high dogmatics. The level of dogmatism was found to be negatively correlated with flexibility, originality, composite divergent and composite convergent ability scores.

Conformity behavior in closed-minded individuals has been discussed both directly and indirectly. Recall that Juan and Haley (1970) found that high dogmatics value conformity and doing what is socially correct more than do low dogmatics. Vacchiano, Strauss, and Schiffman (1968) noted that high dogmatics are more conforming than
low dogmatics, and that they are also more submissive.
Jamias (1964) reported conformity behavior by high dogmatics in communities where innovativeness is highly valued. Zagona and Zurcher (1964) noted that high dogmatics were more concerned with conforming to academic rules and regulations than were low dogmatics in a study focusing on small discussion groups. Wilson (1964) found that high dogmatics conform to what they believe are the judgments of faculty members much more readily than they conform to what they believe are the results of a psychological test. Wilson concluded that it was the perception of the ability to reward and punish that made the difference in the degree of conforming behavior displayed. No studies were found in the literature which offered contradictory evidence to the apparent trait of high conformity behavior in closed-minded individuals.

There is evidence to suggest that if high dogmatics were suffering from self-rejection they would not be inclined to reveal it if concealment were possible. Recall that both Kemp (1961) and Frye (1972) found high dogmatics unwilling to engage in conversation whi...
threatened to expose any of their fundamental beliefs. They avoided exposing that which was most intimate about themselves. Beliefs in one's own worthlessness, inadequacy or incapacities would be among the most private an individual can hold. Research has been reported which leads to the expectation that high dogmatics will possess low feelings of self-esteem. Dogmatism has been shown to be related positively to anxiety (Norman, 1966; Smithers, 1970; Watson, 1967; Fillenbaum and Jackman, 1961). Further, anxiety has been shown to be negatively related to self-acceptance (Filisuk, 1963), thus, dogmatism may logically be negatively related to self-acceptance.

Rokeach's early finding that dogmatism was positively related to anxiety (Rokeach and Fruchter, 1956) has since been corroborated (Norman, 1966; Rebhun, 1966). Other investigators (Ziller, Shear and DeCencio, 1964) believed that dogmatism was a status defense mechanism for clinical psychologists when placed in a competitive situation with trainees. Long and Ziller (1965) interpreted dogmatism as a defense mechanism which interferes with the processing of predecisional information.
Bernhardson (1967) employed the Repression-Sensitization Scale (developed to measure repression and denial) and found that dogmatism was associated with sensitizing rather than repressing defenses.

Summary and Conclusions

The vast amount of research which has been generated as a result of Rokeach's conceptualization of dogmatism has led to a richer understanding of open-and closed-mindedness. Dogmatism has proved to be a useful construct for heuristic purposes. Research has demonstrated that, through work on dependency on authority and political ideology, authoritarianism and closed-mindedness are basically independent of ideological content.

Research relating closed-mindedness to diversified theories of personality functioning, parent-child relationships and interpersonal behavior form a logical pattern which serves to support and extend Rokeach's original hypotheses. The correlations between dogmatism and emotional maladjustment now appear to form a cogent argument for generalization of the dogmatism construct to personality structure. Not all of the findings
concerning cognitive inconsistency, problem solving, learning and time perception are unequivocal, but the research tends to support Rokeach's contention that closed-mindedness characterizes a more general maladaptive state of the organism.

Research findings exist which suggest that differences exist between males and females in defining dogmatism (Anderson, 1962; Becker, 1967; Plant, 1965; Plant and Telford, 1966; Vacchiano, 1967) perhaps due to the different cultural roles imposed on each sex.

While the research studies make patterns of personality appear logical relative to dogmatism, and there is considerable evidence which suggests that dogmatism is the product of parent-child relationships, the precise factors which foster the 'dogmatic personality' are still to be further refined and identified. Research has shown that while the parent-child relationships are crucial to understanding dogmatism there are other factors which combine, interact and produce dogmatism, such as sociocultural and psychological factors. Evidence exists which suggests that the high dogmatic person
reveals various degrees of maladjustment from mild to severe. One explanatory proposal is that dogmatism creates poor adjustment with the counterproposal that dogmatism is an artifact of a more generalized pattern of abnormality. Future research may help to clarify this major area of question.

Dogmatism has shown, in a relatively short period of time, to be a common denominator for such diverse areas as classroom teaching, personality development, interpersonal behavior, counseling effectiveness and employment of defense mechanisms. Future research in dogmatism may provide the answers as to why some people fail to learn, adjust and change in a variety of life situations.
Chapter III

METHOD

This chapter will consist of five sections.
The first section, selection of instruments, will briefly
describe the instruments used, cite references and
explain the rationale behind the use of the instruments.
Second, I will illustrate the sample used in the study,
including numbers and categories of subjects. The third
section looks at the procedure for data collection.
The fourth section describes the research design. The
fifth section discusses the computer program and statisti­
cal procedures to analyze the data. A summary statement
pertaining to the method as a whole is presented at the
end of the chapter.

Selection of Instruments

--Rokeach Dogmatism Scale E (Scale E)

Scale E is designed to provide an objective measure
of individual differences in openness or closedness of
belief systems. Items on the Scale in the first edition
(Scale A, 1952) were chosen to tap what were believed to be characteristics of open or closed systems. The Dogmatism Scale went through five editions designed to take advantage of continuing refinements in theory and to increase reliability (Rokeach, 1960).

The first form (Form A) included fifty-seven items and had a corrected reliability of .70. Following an item analysis, 14 items were dropped and the subsequent form (Form B) had a corrected reliability of .75. After another item analysis and the elimination of seven items, the third form (Form C) produced a corrected reliability of .73. Form D with thirty items more than the previous form resulted in a reliability of .91. The final form (Form E) contained forty items (twenty-six items had been dropped from Form D after an item analysis) and resulted in reliability of .93 (Rokeach, 1960). Rokeach commented on the findings, "These reliabilities are considered to be quite satisfactory..." Other attempts have been made to test the reliability of Scale E, including one by Kemp and Kohler (1960), where coefficients of .82 and .92 were obtained.

The forty items of the Dogmatism Scale E are interspersed with twenty filler items to disguise the
purpose of the Scale. Subjects indicate disagreement or agreement with each item on a scale ranging from -3 to +3, with the 0 point excluded in order to force responses toward agreement or disagreement. After disregarding the filler items, the Scale is converted for scoring purposes to a 1-to-7 scale by adding a constant of 4 to each item score. The total score is the sum of scores obtained on all forty items in the test. A high score is considered closed-minded and a low score open-minded. Subjects normally take the tests without putting their names on them in order to encourage frank and honest answers (Rokeach, 1960). Validation studies using the Method of Known Groups produced generally satisfactory results (Rokeach, 1960). Scale E and the answer sheet used in this study may be found in Appendix A.

---Minnesota Multiphasic Personality Inventory---

The MMPI is designed to provide an objective assessment of some of the major personality characteristics that affect personal and social adjustment (Hathaway and McKinley, 1967). It is for this reason that the MMPI is selected for use in this study. It consists of 566
statements to be answered in a True-False-Cannot Say manner. The time needed for administration of the instrument is between 45 and 90 minutes.

There are ten clinical scales on the MMPI: D (depression), Ma (hypomania), Si (social introversion), Hs (hypochondriasis), Hy (hysteria), Pd (psychopathic deviate), Mf (masculinity-femininity), Pa (paranoia), Pt (psychasthenia) and Sc (schizophrenia). There are three validating scales as well: L (lie), F (validity) and K (correction). These scales, state Hathaway and McKinley (1967), "provide a means for measuring the personality status of literate adolescents and adults together with a basis for evaluating the acceptability and dependability of each test record. The ten clinical scales are not expected to measure pure traits nor to represent discrete etiological or prognostic entities, but they have been shown to possess meaning within the normal range of behavior and will be considered in that manner". For detailed descriptions of each scale, the reader is referred to Marks, Seeman and Haller (1974).

The MMPI offers flexibility both in terms of the number of scales available for descriptive research
and the vast amount of research which has already been accomplished using this instrument. Extensive bibliographies are available in Dahlstrom and Welsh (1960) and in *Psychological Abstracts* (annual).

Test-retest correlations for each scale of the MMPI have been reported by Hathaway and McKinley and are listed below:

<table>
<thead>
<tr>
<th>Scale and Abbreviation</th>
<th>Test-retest reliability coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lie (L)</td>
<td>.46</td>
</tr>
<tr>
<td>Validity (F)</td>
<td>.75</td>
</tr>
<tr>
<td>K (K)</td>
<td>.76</td>
</tr>
<tr>
<td>Hypochondriasis (Hs)</td>
<td>.81</td>
</tr>
<tr>
<td>Depression (D)</td>
<td>.66</td>
</tr>
<tr>
<td>Hysteria (Hy)</td>
<td>.72</td>
</tr>
<tr>
<td>Psychopathic deviate (Pd)</td>
<td>.80</td>
</tr>
<tr>
<td>Masculinity-femininity (Mf)</td>
<td>.91</td>
</tr>
<tr>
<td>Paranoia (Pa)</td>
<td>.56</td>
</tr>
<tr>
<td>Psychasthenia (Pt)</td>
<td>.90</td>
</tr>
<tr>
<td>Schizophrenia (Sc)</td>
<td>.86</td>
</tr>
<tr>
<td>Hypomania (Ma)</td>
<td>.76</td>
</tr>
<tr>
<td>Social Introversion (Si)</td>
<td>.93</td>
</tr>
</tbody>
</table>

During the scale development period, Hathaway and McKinley chose a non-statistical criterion of validity. "The chief criterion of excellence of valid prediction of clinical cases was compared with the neuropsychiatric staff diagnosis, rather than statistical measures of reliability and validity" (Hathaway and McKinley, 1967).
McKinley and Hathaway (1943) indicate high validity for the MMPI stating:

A high score on a scale has been found to predict positively the corresponding final clinical diagnosis or estimate in more than sixty percent of new psychiatric admissions—even in cases in which a high score is not followed by a corresponding diagnosis, the presence of the trait to an abnormal degree in the symptomatic picture will nearly always be noted.

Selection of Sample

Each subject in this research was selected from graduate level courses in the College of Education, The Ohio State University. The sample includes subjects with varying degrees of open-and-closed mindedness (Scale E scores ranging from 86 to 266). Fifty-two subjects who were caucasian, upper-middle class males encompassing the age range of 25 to 30 years were used.

The sampling took place during the month of November, 1977, and participation in this research was completely voluntary. Sixty-four subjects agreed to participate in this study. Out of the 64 subjects, seven were omitted in order to achieve a homogeneous age grouping. Another five subjects responded to
the personality inventory (MMPI) in an invalid manner and were not included. A profile was considered invalid if the difference between the F scale and K scale was greater than twelve ($F - K > 12$).

Table 1

**SAMPLE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Mean</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>27.8</td>
<td>52</td>
<td>100.0</td>
</tr>
<tr>
<td>2. Sex (M)</td>
<td></td>
<td>52</td>
<td>100.0</td>
</tr>
<tr>
<td>3. Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Married</td>
<td>32</td>
<td>61.5</td>
<td></td>
</tr>
<tr>
<td>b. Single</td>
<td>15</td>
<td>28.8</td>
<td></td>
</tr>
<tr>
<td>c. Divorced</td>
<td>5</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>4. Educational Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. 13 years of school and over (college)</td>
<td>52</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>5. Socioeconomic Status*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Upper-middle class</td>
<td>52</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>b. Lower-middle class</td>
<td>0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>6. Degree of Dogmatism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. High</td>
<td>17</td>
<td>32.7</td>
<td></td>
</tr>
<tr>
<td>b. Medium</td>
<td>18</td>
<td>34.6</td>
<td></td>
</tr>
<tr>
<td>c. Low</td>
<td>17</td>
<td>32.7</td>
<td></td>
</tr>
</tbody>
</table>

*Adler (1973) used two formal criteria to determine an individual's social position—educational level and occupation. Based upon Adler's formal criteria, upper-middle class includes high school or over and professional, managerial or trade occupations. Lower-middle class includes 9 years or less of school and unskilled laborer or welfare aid.

**Procedure**

Those who participated in the research study were told that they were cooperating in a project dealing
Number of Subjects

183

75 100 125 150 175 200 225 250 275

LOW MEDIUM HIGH

Level of Dogmatism

Figure 1

HISTOGRAM OF DISTRIBUTION OF DOGMATISM OF SAMPLE
with the psychological characteristics of dogmatism. The subjects were assured that all information thus obtained would remain confidential. The subjects were issued a packet of materials containing a personal data sheet, the Rokeach Dogmatism Scale E, and the Minnesota Multiphasic Personality Inventory. They were instructed to answer all items on the three separate forms and to feel free to ask any questions they wished pertaining to the forms. A total of two and one-half hours were allowed on each of two separate testing sessions. (The Personal Data Sheet may be located in Appendix B.)

Research Design

A one-way factorial design with three levels was used in analyzing the data. All subjects were assigned to one of three groups according to their relative standing along the open-closed minded continuum (See Graph 1). The first seventeen Ss were assigned to group 1 (low dogmatics), the next eighteen subjects were assigned to group 2 (medium dogmatics) and the final 17 Ss were assigned to group 3 (high dogmatics).

Statistical Analysis

The raw data collected in this study were first
analyzed by common factor analysis. For this purpose, a program was selected from the Statistical Analysis System program package (SAS Program Guide, 1976).

The common factor analysis employed the varimax method first proposed by Kaiser (1956). Varimax is now generally accepted as the best analytic orthogonal rotation technique (Harman, 1960; Harris, 1964; Kaiser, 1964; Warburton, 1963).

The orthogonality restriction ensures that factors will delineate statistically independent variation. The orthogonal factors themselves are a mathematically simple description of the data and are amenable to subsequent mathematic manipulation and analysis (Rummel, 1970).

The squared multiple correlation (SMC) was selected for the communality estimate. Rummel (1970) states that the best estimate on theoretical and empirical grounds appears to be the SMC for each variable. Howard and Cartwright (1962) found that, of three communality estimates investigated (unities, $h^2$, resulting from a factor analysis with unitities in the diagonal, and SMC's), the SMC estimate was most stable and that it was the
one toward which other estimates tended to converge.

One final statistical analysis was undertaken to determine the predictive power of the factor scores and thus facilitate interpretation of the data. To determine the predictive power of the factor scores, significant extracted factors were submitted to a step-wise multiple regression analysis via the SAS program Stepwise Multiple Linear Regression (SAS Program Guide, 1976). This offered meaningful information on the factors as predictor variables, therefore establishing a type of predictive profile of a male who was most likely to exhibit high dogmatism.

Outputs for the SAS program consists of means and standard deviations, a correlation matrix, communality estimates, varimax rotated factors and tables of the calculated factors for all observations.

Significant extracted factors were then analyzed by a one-way factorial analysis of variance using mean factor scores representing various weighted combinations of the criterion variables. The Newman-Keuls test, a post-hoc analysis, was used to compare all possible combinations of factor score means following significant
Summary

Chapter III has presented the rationale for the selection of the Dogmatism Scale E and the MMPI and a brief description of the instruments, citing pertinent references, a description and method of selecting the sample, the procedure of data collection, the research design, and the computer program and statistical analysis used to analyze the data. Chapter IV will present the analysis of the data and the findings of the study.
Chapter IV

ANALYSIS OF THE DATA

The analysis of data will be presented in this chapter. This study was undertaken to test the hypothesis stated in Chapter I. Of primary concern was how mean factor scores, as determined by common factor analysis, change, across low, medium and high levels of dogmatism.

The hypothesis of this study was tested by a 1-way factorial analysis of variance with 1 categorical variable (3 levels). The 3 levels were low degree of dogmatism (first 17 subjects), medium degree of dogmatism (second 18 subjects) and high degree of dogmatism (final 17 subjects). Individual F ratios were completed on all significant and interpretable factors. The 1-way analysis of variance was used to compute F ratios for each main effect. Subsequent to F ratios, the Newman-Keuls test was used in post hoc analysis (Winer, 1962; Kirk, 1968).

There were 12 variables included in this study.
All MMPI scales were included in the research except the L scale. This scale was dropped because it is the weakest of all the scales and gives information readily picked up by the K scale (Webb, 1973). The moderator variables of age and socioeconomic status were controlled for since all subjects were in the upper-middle socioeconomic range and all were between 25 to 30 years of age.

A common factor analysis was performed on all 12 variables. The SAS factor analysis program was employed to analyze the 12 X 12 intercorrelation matrix (See Table 9). Instead of extracting all the factors existing in the data, factoring usually stops at the point where no additional significant or meaningful variance remains. Kaiser (1960) has suggested that the number of common factors extracted should run from 1/6 to 1/3 of the total number of variables. In determining the best number of factors, the residual correlations, distribution of loadings, distribution of eigenvalues and interpretability of the factors were considered.

Three separate computer runs were conducted using the SAS program (Common factor analysis with a varimax solution). On the first computer run, 2 factors were
extracted; the second run, 3 factors; and on the final computer run; 4 factors were extracted.

An examination of Factor I (see Table 10) revealed that F, Schizophrenia, Paranoia and Hypomania contained the highest varimax loadings (.70013, .62368, .60784 and .56745 respectively). This profile suggests chronic distress characterized by nervousness, anxiety, and suspiciousness (Lachar, 1974). The high factor loadings of these four variables would indicate the existence of a general factor labeled Schizoid Reaction Syndrome.

Items comprising schizophrenia, F, paranoia and hypomania were: (a) I am never happier than when alone--True, (b) I believe my sins are unpardonable--True, (c) I believe in law enforcement--False, (d) I am sure I am being talked about--True, (e) I have certainly had more than my share of things to worry about--True, (f) I feel anxiety about something or someone almost all of the time--True, (g) I am inclined to take things hard--True, (h) I believe I am a condemned person--True, (i) I have strange and peculiar thoughts--True, (j) I am so touchy on some subjects that I can't talk about them--True.
Factor II was labeled **Histrionic Social Adaptation**.

The highest factor loadings were found on the following scales: Social Introversion (-.70640), K (.66966), Hysteria (.66385) and Masculinity-femininity (.57080).

This profile suggests individuals who exhibit a need to appear well adjusted regardless of the existence of personal problems in combination with shallow, superficial, social extroversion. Further, a passive trend is indicated by a lack of masculine role stereotypy characterized by sensitivity and aesthetic interests (Lachar, 1974). Items comprising social introversion, K, hysteria, and masculinity-femininity were: (a) I find it hard to make talk when I meet new people—False, (b) It takes a lot of argument to convince most people of the truth—False, (c) I have few or no pains—False, (d) I think that I feel more intensely than most people do—True, (e) My feelings are not easily hurt—False, (f) Most people make friends because friends are likely to be useful to them—False, (g) Whenever possible I avoid being in a crowd—True, (h) I am a good mixer—False, (i) People often disappoint me—True.

Analysis of Factor III indicated that Depression
contained the only significantly high varimax loading (.64925). This profile suggests a relatively clearcut and uncomplicated reactive depression of moderate proportions. The individual is likely to possess feelings of inadequacy, guilt and lack of self-confidence (Lachar, 1974). Factor III was labeled Depressive Syndrome. Items comprising depression were: (a) I don't care what happens to me—True, (b) I usually feel that life is worthwhile—False, (c) I cry easily—True, (d) I wish I could be as happy as others seem to be—True, (e) At times I am full of energy—False, (f) Sometimes some unimportant thought will run through my mind and bother me for days—True.

Factor IV was labeled Neurotic Adaptation Reaction. This profile suggests personality difficulties characterized by excessive worry, introspection and over-ideational rumination. Individuals in this grouping are not likely to form stable and warm interpersonal relationships (Lachar, 1974). High varimax loadings were on the following scales: psychasthenia (.81357) and schizophrenia (.66909). Items comprising psychasthenia and schizophrenia were: (a) I am inclined to take things
hard—True, (b) I seldom worry about my health—False,
(c) Life is a strain for me much of the time—True,
(d) Almost every day something happens to frighten me—True, (e) I have several times given up doing a thing
because I thought too little of my ability—True, (f) Most of the time I wish I were dead—True, (g) There
is something wrong with my mind—True, (h) I loved
my mother—False, (i) I cannot keep my mind on one
thing—True.

Analysis of variance for the four factors revealed
a significant $F$ ratio for Factor II (See Table 2).
Factors I, III, and IV did not attain significance
(See Tables 4, 5 and 6).

The ANOVA summary table for Factor II appears in
Table 2. Factor II was labeled Histrionic Social Adapta-
tion. The summary table reveals a significant ($p < .01$)
$F$ ratio for the main effect of groups. This suggests
that the observed mean Factor II scores for subjects
were significantly different than might be expected by
chance.
Table 2

ANALYSIS OF VARIANCE FOR FACTOR II

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>2</td>
<td>12.248</td>
<td>6.124</td>
<td>5.722*</td>
</tr>
<tr>
<td>Groups w/in groups (S/A)</td>
<td>49</td>
<td>52.447</td>
<td>1.070</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>64.695</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .01

The Newman Keuls tests presented on Table 3 reveal a significant pairwise comparison between group means on Factor II.

Table 3

RESULTS OF NEWMAN KEULS TEST ON ALL ORDERED PAIRS OF MEANS FOR FACTOR II

<table>
<thead>
<tr>
<th></th>
<th>Group 3</th>
<th>Group 2</th>
<th>Group 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 3</td>
<td>---</td>
<td>.153</td>
<td>1.111*</td>
</tr>
<tr>
<td>Group 2</td>
<td>---</td>
<td></td>
<td>.658</td>
</tr>
<tr>
<td>Group 1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .01
The Group 1 mean is significantly different ($p < .01$) from the Group 3 mean. There were no statistically significant differences between Group 1 and Group 2, nor were there significant differences observed between Group 2 and Group 3 means.

Tables 4, 5 and 6 present complete analysis of variance summary tables for Factors I, III and IV where statistical significance was not observed. These factors were labeled Schizoid Reaction Syndrome, Depressive Syndrome and Neurotic Adaptation Reaction, respectively.

Table 4

ANALYSIS OF VARIANCE FOR FACTOR I

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>2</td>
<td>6.073</td>
<td>3.037</td>
<td>2.162</td>
</tr>
<tr>
<td>Ss w/in groups (S/A)</td>
<td>49</td>
<td>68.814</td>
<td>1.404</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>74.887</td>
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<td></td>
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</tbody>
</table>
Table 5

ANALYSIS OF VARIANCE FOR FACTOR III

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>2</td>
<td>8.380</td>
<td>4.190</td>
<td>2.796</td>
</tr>
<tr>
<td>Ss w/in groups (S/A)</td>
<td>49</td>
<td>73.436</td>
<td>1.499</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>81.816</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6

ANALYSIS OF VARIANCE FOR FACTOR IV

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups (A)</td>
<td>2</td>
<td>.371</td>
<td>.186</td>
<td>.128</td>
</tr>
<tr>
<td>Ss w/in groups (S/A)</td>
<td>49</td>
<td>71.057</td>
<td>1.450</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>51</td>
<td>71.428</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To determine the predictive power of the factor scores it was decided to submit the four factors to a stepwise multiple regression analysis via the SAS program Stepwise Multiple Linear Regression (SAS Program Guide, 1976).
Draper and Smith (1966) state the stepwise multiple regression is the best of the variable selection procedures available. This will offer meaningful information on the factors as predictor variables and thus establish a type of predictive profile of a male who is most likely to exhibit a high level of dogmatism.

Examination of the regression analysis (See Table 12) indicated that two predictor variables (Factors I and II) were selected before the addition of variables dropped the $F$ ratio below 1.00 (Kerlinger and Pedhazur, 1973). Factor II was entered in regression and accounted for 42.02% of the variance ($R^2 = .4202$, $F = 10.72$, $p<.01$). Entering Factor I with Factor II in regression was able to account for 55.97% of the total variance ($R^2 = .5597$, $F = 7.23$, $p<.01$). This would indicate that 55.97% of all the variance in degree of dogmatism is being determined by the combination of Factors I and II. This would further indicate that high varimax loadings on those two factors, in combination, would be the best predictors of degree of dogmatism.
Summary of Results

The major purpose of this study is to examine the relationship between degree of dogmatism in males and various psychological indicators of the Minnesota Multiphasic Personality Inventory. On the basis of data collected from 52 male university subjects, 12 variables have been selected for analysis. A factor analysis (Common factor analysis with a varimax solution) was conducted on all 12 variables which yielded 4 interpretable factors. These factors were:

1. Schizoid Reaction Syndrome (Factor I)
2. Histrionic Social Adaptation (Factor II)
3. Depressive Syndrome (Factor III)
4. Neurotic Adaptation Reaction (Factor IV)

Analysis of variance for mean Factor II scores (Histrionic Social Adaptation) revealed a significant $F$ ratio ($p < .01$). The highest varimax loadings within Factor II were found on the following scales: Social Introversion ($-.70640$), $K$ ($+.66966$), Hysteria ($+.66385$) and Masculinity-femininity ($+.57080$). Post hoc analysis revealed statistically significant differences between Group 1 and Group 3.
There were no statistically significant differences between Group 1 and Group 2, nor were there significant differences observed between Group 2 and Group 3.

Therefore, a need to appear well adjusted regardless of the nature and amount of personal problems, warm and outgoing but superficial interpersonal relationships and a tendency toward passivity would seem to be important psychological correlates of males with a high degree of dogmatism.

To determine the predictive power of the factor scores it was decided to submit the four factors to a stepwise linear regression analysis. While Factor I did not attain a statistically significant level via the analysis of variance, it did increase the total percentage of variance (55.97%) accounted for in combination with Factor II. This would indicate that not only are males with a high degree of dogmatism histrionic, defensive and superficial but also exhibit nervousness, anxiety and suspiciousness.
Table 7
MEAN AND STANDARD DEVIATION FOR 12 DEPENDENT VARIABLES

<table>
<thead>
<tr>
<th>Number</th>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>F</td>
<td>59.807</td>
<td>8.670</td>
</tr>
<tr>
<td>2.</td>
<td>K</td>
<td>50.076</td>
<td>6.964</td>
</tr>
<tr>
<td>3.</td>
<td>Hypochondriasis</td>
<td>54.115</td>
<td>10.560</td>
</tr>
<tr>
<td>4.</td>
<td>Depression</td>
<td>55.596</td>
<td>9.561</td>
</tr>
<tr>
<td>5.</td>
<td>Hysteria</td>
<td>57.442</td>
<td>8.463</td>
</tr>
<tr>
<td>6.</td>
<td>Psychopathic Deviate</td>
<td>55.288</td>
<td>11.022</td>
</tr>
<tr>
<td>7.</td>
<td>Masculinity-Femininity</td>
<td>69.961</td>
<td>9.466</td>
</tr>
<tr>
<td>8.</td>
<td>Paranoia</td>
<td>61.153</td>
<td>9.210</td>
</tr>
<tr>
<td>9.</td>
<td>Psychasthenia</td>
<td>58.096</td>
<td>11.008</td>
</tr>
<tr>
<td>10.</td>
<td>Schizophrenia</td>
<td>59.307</td>
<td>11.593</td>
</tr>
<tr>
<td>11.</td>
<td>Hypomania</td>
<td>66.538</td>
<td>13.265</td>
</tr>
<tr>
<td>12.</td>
<td>Social Introversion</td>
<td>51.019</td>
<td>8.614</td>
</tr>
</tbody>
</table>
Table 8

CORRELATION MATRIX FOR 12, DEPENDENT VARIABLES

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>1</td>
<td>1.0000</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>0.19491</td>
<td>0.20490</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.15420</td>
<td>-0.27602</td>
<td>0.14786</td>
<td>1.0000</td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td>0.01027</td>
<td>0.43288</td>
<td>0.51764</td>
<td>0.13455</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.27489</td>
<td>0.38462</td>
<td>0.18972</td>
<td>0.13396</td>
<td>0.35803</td>
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<tr>
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<td>-0.06627</td>
<td>0.33613</td>
<td>-0.00741</td>
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<td>0.34973</td>
<td>0.28649</td>
</tr>
<tr>
<td>8</td>
<td>0.49780</td>
<td>0.00256</td>
<td>0.21511</td>
<td>0.13809</td>
<td>0.24587</td>
<td>0.20002</td>
</tr>
<tr>
<td>9</td>
<td>0.27485</td>
<td>0.27509</td>
<td>0.34736</td>
<td>0.15332</td>
<td>0.20747</td>
<td>0.37917</td>
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<tr>
<td>10</td>
<td>0.54111</td>
<td>0.23283</td>
<td>0.37335</td>
<td>0.02042</td>
<td>0.22660</td>
<td>0.43043</td>
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<td>11</td>
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<td>-0.13305</td>
<td>0.05379</td>
<td>0.20260</td>
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<tr>
<td>12</td>
<td>0.18485</td>
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<td>0.03963</td>
<td>0.33598</td>
<td>-0.35108</td>
<td>-0.16814</td>
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</tbody>
</table>
Table 8 continued

<table>
<thead>
<tr>
<th>Variable</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<tr>
<td>6</td>
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</tr>
<tr>
<td>7</td>
<td>1.00000</td>
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<td></td>
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<tr>
<td>8</td>
<td>0.07653</td>
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<td>0.71062</td>
<td>1.00000</td>
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<td></td>
</tr>
<tr>
<td>11</td>
<td>-0.08134</td>
<td>0.29651</td>
<td>0.41587</td>
<td>0.65612</td>
<td>1.00000</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>-0.43736</td>
<td>0.17516</td>
<td>0.27641</td>
<td>0.16033</td>
<td>0.16256</td>
<td>1.00000</td>
</tr>
</tbody>
</table>
Table 9
VARIMAX LOADINGS OF 12 VARIABLES ON FOUR FACTORS

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>0.70013</td>
<td>-0.06685</td>
<td>0.11043</td>
<td>0.14499</td>
</tr>
<tr>
<td>K</td>
<td>-0.14986</td>
<td>0.66966</td>
<td>-0.27071</td>
<td>0.35603</td>
</tr>
<tr>
<td>Hypochondriasis</td>
<td>0.15166</td>
<td>0.23471</td>
<td>0.29021</td>
<td>0.43220</td>
</tr>
<tr>
<td>Depression</td>
<td>0.07138</td>
<td>-0.06911</td>
<td>0.64925</td>
<td>0.04504</td>
</tr>
<tr>
<td>Hysteria</td>
<td>0.07191</td>
<td>0.66385</td>
<td>0.27648</td>
<td>0.26525</td>
</tr>
<tr>
<td>Psychopathic Deviate</td>
<td>0.27116</td>
<td>0.42026</td>
<td>0.06677</td>
<td>0.33783</td>
</tr>
<tr>
<td>Masculinity-Femininity</td>
<td>0.03306</td>
<td>0.57080</td>
<td>0.02375</td>
<td>-0.07495</td>
</tr>
<tr>
<td>Paranoia</td>
<td>0.60784</td>
<td>0.11081</td>
<td>0.20966</td>
<td>0.06892</td>
</tr>
<tr>
<td>Psychasthenia</td>
<td>0.20547</td>
<td>-0.01842</td>
<td>0.07581</td>
<td>0.81357</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>0.62368</td>
<td>0.07919</td>
<td>-0.07852</td>
<td>0.66909</td>
</tr>
<tr>
<td>Hypomania</td>
<td>0.56745</td>
<td>-0.12716</td>
<td>-0.21956</td>
<td>0.39136</td>
</tr>
<tr>
<td>Social Introversion</td>
<td>0.16135</td>
<td>-0.70640</td>
<td>0.35632</td>
<td>0.19914</td>
</tr>
</tbody>
</table>
### Table 10
PERCENTAGE OF VARIANCE AND COMMUNALITY ESTIMATE ON FOUR EXTRACTED FACTORS

<table>
<thead>
<tr>
<th>Extracted Factors</th>
<th>$h^2$</th>
<th>Percent of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor I</td>
<td>3.044174</td>
<td>49.20</td>
</tr>
<tr>
<td>Factor II</td>
<td>2.018206</td>
<td>32.60</td>
</tr>
<tr>
<td>Factor III</td>
<td>0.821571</td>
<td>13.30</td>
</tr>
<tr>
<td>Factor IV</td>
<td>0.612828</td>
<td>04.90</td>
</tr>
</tbody>
</table>

*Using principal axis method with minimum eigenvalue of .30 stated by Gorsuch (1974) to be an acceptable method to reduce factor variance.*
Table 11

SUMMARY TABLE FOR REGRESSION COEFFICIENTS, MULTIPLE R AND F RATIO

<table>
<thead>
<tr>
<th>Variable Entered</th>
<th>Std. Reg. Coefficient</th>
<th>$R^2$</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor II</td>
<td>.4202</td>
<td>.4202</td>
<td>10.72 (1.50)**</td>
</tr>
<tr>
<td>Factor II</td>
<td>.4773</td>
<td>.5597</td>
<td>7.23 (2.49)**</td>
</tr>
<tr>
<td>Factor I</td>
<td>.3837</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**p < .01
Chapter V
SUMMARY AND CONCLUSIONS

This final chapter is divided into three sections: (a) a summary of the research study, (b) a discussion of the findings of this study and their implications, and (c) conclusions and recommendations. The recommendations will be presented in two parts: (a) recommendations for further research, and (b) a suggestion for treatment of the closed-minded male.

Summary

The purpose of this study was to examine the relationship between degree of dogmatism in males and various psychological factors, generally considered to be sources of emotional stress.

The review of the literature was undertaken in four areas: (a) the cognitive structure of belief systems, (b) origins of dogmatism, (c) behavioral correlates of dogmatism, and (d) personality factors associated with dogmatism. The search of the literature revealed a
need for more accurate exploration of the psychological make-up of the dogmatic male. This provided a rationale for the present study.

This research was conducted at the campus of The Ohio State University. The sample consisted of subjects with varying scores on the Dogmatism Scale E (56 to 266). Fifty-two subjects who were white, upper-middle class males and encompassed age range of 25 to 30 were used. The sampling took place during the month of November, 1977. All subjects were students in graduate level courses who were willing to participate and devote approximately two and one-half hours to complete the instruments.

The instruments used in data collection were selected on the following rationale. First, the Dogmatism Scale E was used to determine total score or degree of dogmatism of the subject. Second, a Personal Data Sheet (Appendix B) was constructed to extract the needed demographic data (age, educational level, socioeconomic information, etc.). Third, a personality inventory, the Minnesota Multiphasic Personality Inventory, was used to assess
the psychological profiles of the subjects.

All of the data was recorded on IBM cards in accordance with the format instructions contained in the selected computer program (Statistical Analysis System, 1976). MMPI raw scores were converted to T scores adjusted for K. All MMPI scales, excluding the L scale, were included in the analysis. Moderator variables of age and socioeconomic status were controlled for in this research.

Common factor analysis with a varimax solution on all 12 variables yielded 4 significant and interpretable factors. These were: (a) Schizoid Reaction Syndrome, (b) Histrionic Social Adaptation, (c) Depressive Syndrome, and (d) Neurotic Adaptation Reaction.

The research design consisted of a 1-way factorial design with 3 levels. All subjects were assigned to 1 of 3 groups according to their relative standing along the degree of dogmatism continuum. The first 17 subjects were assigned to Group 1 (low degree of dogmatism), the next 18 subjects were assigned to Group 2 (medium degree of dogmatism) and the final 17 subjects were assigned to
Group 3 (high degree of dogmatism).

Results of 1-way analysis of variance across low, medium and high degree of dogmatism in males on the Histrionic Social Adaptation factor revealed a statistically significant \( (p < 0.01) \) \( F \) ratio. The Newman Keuls test, a post hoc analysis, indicated a statistically significant \( (p < 0.01) \) difference between high and low degree of dogmatism on this factor. The remaining 3 factors: Schizoid Reaction Syndrome, Depressive Syndrome and Neurotic Adaptation Reaction did not attain a statistically significant \( F \) ratio.

To determine the predictive power of the factor scores it was decided to submit the 4 factors to a stepwise multiple linear regression. Examination of the regression analysis (see Table 12) revealed that Factors I and II, in combination, were able to account for 55.97% of the total variance. This would indicate that 55.97% of all the variance in degree of dogmatism is being determined by the combination of Factors I and II.

**Discussion and Implications**

This was a descriptive study. The results represent
a selection process wherein relationships between variables could be established. Any conclusions drawn here are not intended to suggest or establish cause and effect relationships. Because closed-mindedness is manifest in the spheres of cognitions, behaviors, and emotions it is presented as a disturbance of the whole person; the findings of this study may therefore be meaningful.

The findings of this study offer meaningful information in light of the fact that: (a) more precise and interpretable statistical procedures were employed; (b) appropriate controls for age and socioeconomic status were used; (c) this is the only known study conducted using an entirely male sample. Thus, research of this nature on a population of dogmatic males is a relatively new consideration.

The findings of this study were that males scoring high on dogmatism were characterized by a need to appear well adjusted regardless of the existence of personal problems, warm and outgoing but superficial interpersonal relationships, and a tendency toward passivity with some anxiety and suspiciousness. These findings would seem
to synthesize the somewhat disparate findings of Rokeach (1960), Lamp1 (1968), Davis et al. (1975), Greene (1971), White and Alter (1965) and Feather (1969). The findings indicate a primary characteristic factor labeled Histrionic Social Adaptation.

The fact that statistically significant differences were observed between Group 1 (low dogmatism) and Group 3 (high dogmatism), but not between Group 1 and Group 2 (medium dogmatism) and Group 2 and Group 3, is possibly a result of the manner of assigning subjects to groups. Due to a lack of established references for categorization, the extreme groups (1 and 3) were likely to reflect low dogmatism and high dogmatism. Group 2 probably included both low and high dogmatists (the reliability of the Dogmatism Scale E does not reach 1.00) and thus accounted for the statistically insignificant differences. Since this study is not intended to suggest cause and effect relationships, it is not possible to discern whether the Histrionic Social Adaptation factor is the cause of high levels of dogmatism or merely a symptomatic manifestation of the state of dogmatism.
The findings that males with a high degree of dogmatism are more likely to exhibit histrionic tendencies, anxiety, suspiciousness and superficial relationships offer support for Rokeach's (1960) hypotheses that high dogmatics would view the world as a threatening place and require order or structure in order to minimize anxiety and threat. Tosi and Carlson (1970) reported that closed-minded persons experience more difficulty in establishing facilitative interpersonal relationships because of their resistance to affective involvement and free communication with others. Lazarus (1976) pointed out that dogmatism has origins in anxiety, isolation, and fear of the environment, all of which create stress and maladaptive coping mechanisms. As the dogmatic person attempts to defend against anxiety he experiences increased isolation due to superficial relationships, and defensiveness and suspiciousness result from the need to keep intact the rigid belief system which provides the order and structure for living. The manifestations become circular and result in ever increasing levels of defensiveness and rigidity.
The finding that Factor I (Schizoid Reaction Syndrome) and Factor II (Histrionic Social Adaptation), in combination, were the best predictors of dogmatism is worth mention. While Factor I did not attain a statistically significant level via the analysis of variance, it did increase the total percentage of variance accounted for when combined with Factor II. This would indicate that not only are males with a high degree of dogmatism significantly defensive, superficial, and somewhat passive, but also display anxiety, nervousness and suspiciousness. Factors I and II, in combination, thus, support the hypotheses of Rokeach that persons who are closed-minded would have a rigid, distrustful view of the world, with tendencies toward defensiveness, superficiality and anxiety.

Recommendations

Recommendations derived from this study will be presented in two parts. The first regards future research into the psychological correlates of dogmatic males. Second, a recommendation will be made for clinicians for possible use of these findings.
In this dissertation a broad descriptive study has been conducted, while offering some answers, has generated additional questions. The following are suggested areas of further research:

(1) A need exists to conduct controlled experiments in order to establish some cause-effect relationships in closed-mindedness. This would probably necessitate longitudinal studies.

(2) Further studies into dogmatism should properly control for other age groupings since theoretical positions indicate that age is a moderator variable and related to psychological indicators.

(3) Due to the small sample size \( N = 52 \) employed in this study, there is a need for replication of the present research. This will allow for improved understanding of the importance of each psychological variable.

(4) There is a need for research into the factors which contribute to the onset of closed-mindedness. This would probably necessitate research with young children.

(5) High levels of dogmatism should be regarded as a clinical concern with a need to determine which specific life-style patterns will facilitate change via
counseling and psychotherapeutic techniques.

Careful analysis of the findings (Chapter IV) and review of the literature (Chapter II) provide a foundation for the following recommendations for treatment of the closed-minded male. Clinicians should adopt a multidimensional approach in treating the high dogmatic male. Since the closed-minded male displays higher levels of defensiveness, anxiety, superficiality, nervousness, and passiveness, a broad spectrum, cognitive behavior therapy could be a beneficial treatment modality.

It is unlikely that the dogmatic male will present himself for treatment of 'dogmatism'; rather, the symptoms of closed-mindedness will create difficulties for the client in the areas of interpersonal relations, educational pursuits, counseling relationships, high levels of anxiety and occasional depression associated with a lowered level of self-esteem.

Initially, the clinician should establish a supportive and facilitative relationship to deal with the dogmatic person's tendency toward suspiciousness and anxiety. A central component of therapy will be the view that
psychological problems arise from faulty or irrational patterns of thinking. Therapy then becomes a method of clarifying and restructuring irrational thinking toward more rational ways of thinking, feeling, and behaving.

Numerous researchers have corroborated the concept of cognitive mediation in the induction of emotions both pleasant and unpleasant (Velten, 1967, 1968; Schachter, 1966; Zeisset, 1968; Rimm and Litvak, 1972; Raiman, 1975).

Meichenbaum and Cameron (1974) demonstrated the potential of modifying a client's self-verbalizations in a variety of clinical disorders. It seems likely that excessive levels of negative emotions such as anxiety, nervousness and suspiciousness could be sufficiently affected through a cognitively oriented approach based on cognitive restructuring of irrational belief systems. The notion that one must have a highly structured and ordered world in order to function could probably be successfully modified through therapeutic attention to the client's 'musts', 'shoulds' and 'oughts' (Ellis, 1973).

Tosi (1974) cites various techniques of a cognitive behavioral nature which could be used within rational-
cognitive treatment settings. Those techniques include: the Promack Principle in which the client may allow himself to experience previously uncomfortable behaviors in return for a more highly valued reinforcer; modeling based on Bandura (1969); assertive training; and thought control (Lazarus, 1971); imagery (Tosi, 1974); and systematic homework assignments. These techniques would be helpful adjuncts to the cognitive restructuring process in modification of rigid and defensive belief systems.

The emerging relevance of hypnosis within a cognitive behavioral therapeutic paradigm (Zimbardo, 1969, 1972) would seem to be helpful in heightening awareness and increasing feelings of self-control over cognitive—affective—physiological—behavioral processes. Zimbardo (1969, 1972) stated that hypnosis is (a) a state in which the effects of cognitive processes on bodily functions are amplified, (b) enabling of the subject to perceive the locus of causality for mind and body control as more internally centered and volitional, (c) often accompanied by a heightened sense of visual imagery, and
(d) facilitative of intensive concentration and elimination of distractions.

Tosi and Karzella (1975) have researched and developed a Rational Stage Directed Therapy (RSDT) approach which offers a method for restructuring of the cognitive appraisal of a variety of situations or events. Further, RSDT offers the potential benefits of cognitively induced relaxation or hypnosis, heightened imagic process, behavioral rehearsal and a reduction of tension and anxiety which significantly facilitates learning and results in greater treatment generalization. In RSDT the client is directed through various growth stages. These stages are self-awareness, exploration, commitment to rational action, implementation of rational action, internalization of rational action and change or redirection. In each stage, the client is acquiring, developing, and refining behavioral modifying skills. The client is provided with a logical strategy to use in his approach to problematic events involving both internal and external stimuli. The client is enabled to monitor his progress in therapy and to more clearly
recognize and implement his improved skills in rational and behavioral self-management.

Rational Stage Directed Therapy has been found to be effective in a number of research studies to enable clients to modify behaviors and ameliorate pathology (Tarzella, 1975; Boutin and Gwynne, 1975; Reardon, Gwynne, and Tosi, 1975).

In summary, a multidimensional approach using a variety of cognitive behavioral techniques might be helpful in treating closed-mindedness in males, remembering that closed-mindedness is viewed as a construct which may have clinical manifestations in a variety of the client's everyday activities. Rational Stage Directed Therapy would offer a wide range of intervention strategies to reduce emotional stress and pathology associated with the client's need for highly structured and ordered belief-disbelief systems. Such a multidimensional approach should not be viewed as a panacea for closed-mindedness, but would be a start toward development of a comprehensive treatment mode.
APPENDIX A

PERSONAL DATA SHEET

Please answer all questions. All answers to this data sheet will remain strictly confidential.

1. Male ___ Female ___

2. Age ___

3. Married ___ Single ___ Divorced ___ Separated ___

4. Education level of the head of your household:
   ___ 13 years of school and over (college)
   ___ high school
   ___ 6 to 9 years
   ___ 0 to 5 years (some or no elementary)

5. Occupation of the head of your household:
   ___ professional, managerial
   ___ trade, skilled labor
   ___ common labor, helper
   ___ welfare

6. Income level of the head of your household:
   ___ over $20,000 per year
   ___ between $10,000 and $20,000 per year
   ___ less than $10,000 per year
APPENDIX B

DOGMATISM SCALE (E)

The following is a survey of the opinions of people in general about a number of social and personal questions. Of course, there are many different answers. The best answer to each statement below is your own personal opinion. 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 as you do.

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

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

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. ____ I wish people would be more definite about things.

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

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

6. ____ A person who has bad manners, habits, and breeding can hardly expect to get along with decent people.

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

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

9. ____ I work under a great deal of tension at times.

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

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

12. Whether it's alright to manipulate people or not, it is certainly alright when it's for their own good.

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

14. 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.

15. If people would talk less and work more, everybody would be better off.

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

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

18. It is when a person devotes himself to an ideal or cause that he becomes important.

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

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

21. The business man and the manufacturer are much more important to society than the artist and the professor.

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

23. While I don't like to admit this even to myself, I sometimes have the ambition to become a great person, like Einstein, or Beethoven, or Madame Curie.

24. Plain common sense tells you that prejudice can be removed by education, not legislation.

25. Even though freedom of speech for all groups is worthwhile, it is unfortunately necessary at times to restrict the freedom of certain political groups.
26. If a man is to accomplish his mission in life it is sometimes necessary to gamble "all or nothing at all".

27. A person must be pretty stupid if he still believes in differences between races.

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

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

30. Do unto others as they do unto you.

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

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

33. The trouble with many people is that they don't take things seriously enough.

34. 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.

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

36. It bothers me when something unexpected interrupts my daily routine.

37. Once I get wound-up in a heated discussion I just can't stop.

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

39. What the youth needs is strict discipline, rugged determination, and the will to work and fight for family and country.

40. Man on his own is a helpless and miserable creature.
41. The United States and Russia have just about nothing in common.

42. I set a high standard for myself and I feel others should do the same.

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

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

45. Appreciation of others is a healthy attitude, since it is the only way to have them appreciate you.

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

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

48. People who seem unsure and uncertain about things make me feel uncomfortable.

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

50. 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.

51. In general, full economic security is bad; most men wouldn't work if they didn't need the money for eating and living.

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

53. 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.

54. The American defense program is clear and positive proof that we are willing to sacrifice to preserve our freedom.

55. Most of the ideas which get published nowadays aren't worth the paper they are printed on.
56. It is only natural for a person to be rather fearful of the future.

57. Most of the arguments or quarrels I get into are over matters of principle.

58. My blood boils whenever a person stubbornly refuses to admit that he's wrong.

59. 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.

60. America may not be perfect, but the American way has brought us about as close as human beings can get to a perfect society.
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